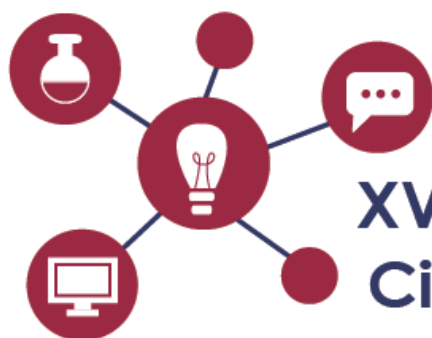
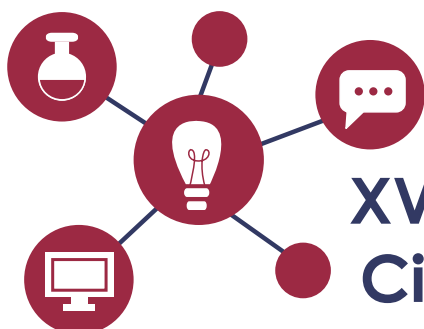


Anais do XVIII Encontro de Iniciação Científica da Unifran



XVIII Encontro de Iniciação
Científica da UNIFRAN



XVIII Encontro de Iniciação Científica da UNIFRAN

Data: 28 e 29 de agosto de 2025

Horário: 28/08 – 13h às 19h – 29/08 – 8h30 às 10h30

Local: Teatro Central da Universidade de Franca

Objetivos do Evento:

Proporcionar a interação dos estudantes de Iniciação Científica entre os diferentes campos científicos, por meio de apresentações, discussões, trocas de experiências e ampliação do conhecimento dentro da Instituição.

Homepage:

<https://www.unifran.edu.br/pesquisa/iniciacao-cientifica-pibic-e-pibid/xviii-encontro-de-iniciacao-cientifica-da-unifran-2025/>



XVIII Encontro de Iniciação Científica da UNIFRAN

COMISSÃO ORGANIZADORA

Presidente do evento:

Profa. Dra. Alessandra Marieli Vacari (PPG Ciência Animal – UNIFRAN)

Membros:

Prof. Dr. Jair Camargo Ferreira (PPG Ciência Animal – UNIFRAN)

Profa. Dra. Luciana Carmona Garcia (PPG Linguística – UNIFRAN)

Profa. Dra. Marilurdes Cruz Borges (PPG Linguística – UNIFRAN)

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Prof. Dr. Thércius Oliveira Tasso (Secretário de Pós-graduação Stricto Sensu)

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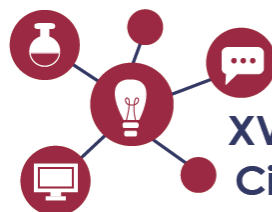
Membros:

Prof. Dr. Marcus Antônio Rossi Feliciano – FZEA-USP (PPG Ciência Animal)

Prof. Dr. Antônio Eduardo Miller Crotti – FFCLRP-USP (PPG Ciências)

Profa. Dra. Nanci Soares – FCHS-UNESP (PPG Promoção de Saúde)

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XVIII Encontro de Iniciação Científica da UNIFRAN

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Coordenador PIBIC-EM:

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Profa. Dra. Luciana Carmona Garcia (PPG Linguística – UNIFRAN)

Prof. Dr. Sérgio Ricardo Ambrósio (PPG Ciências - UNIFRAN)

Apoio:

Universidade de Franca (UNIFRAN)

Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq)



XVIII Encontro de Iniciação Científica da UNIFRAN

PROGRAMAÇÃO XVII ENCONTRO DE INICIAÇÃO CIENTÍFICA DA UNIFRAN

Dia 28 de agosto de 2025:

10:00 - 12:00h: 13h - Credenciamento e fixação dos pôsteres

13h30 - Abertura do evento:

Local: Teatro Central

13h45 - Apresentação musical (viola caipira):

Com o músico Enrico Fioreli Barbieri (USP - Ribeirão Preto).

14h - Palestra de abertura:

“Do Perfil à Contratação: Estratégias no LinkedIn para Jornada Profissional” proferida pelo especialista em LinkedIn Alex Silva (Mentor de carreira, Ribeirão Preto, SP).

16h às 18h30 - Apresentações de pôsteres:

Obrigatória para todos os trabalhos aprovados.

19h - Palestra:

“Admirável futuro novo: a iniciação científica na construção de uma carreira que transforma o mundo” proferida pela docente e pesquisadora Profa. Dra. Raquel Alves dos Santos (UNIFRAN, Franca, SP).

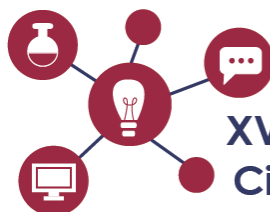
Dia 29 de agosto de 2025:

8h30 - Apresentações orais:

Local: Bloco Lilás

Obrigatórias apenas para bolsistas PIBIC CNPq e Unifran; bolsistas PIBIC EM não precisam realizar apresentação oral).

10h30 - Encerramento e divulgação dos trabalhos premiados



XVIII Encontro de Iniciação Científica da UNIFRAN

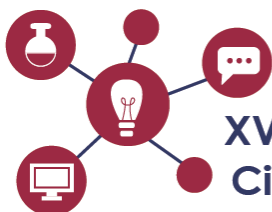
Catálogo na fonte - Biblioteca Central da Universidade de Franca

Encontro de Iniciação Científica da Unifran, (18. : 2025 : Franca, SP.
E46 Anais do XVIII Encontro de Iniciação Científica da Universidade de Franca, 28 - 29 ago. 2025 / organização, Alessandra Marieli Vacari ; vários autores. - Franca, SP : Universidade de Franca, 2025. Recurso digital. 131 p.

ISBN: 978-65-80120-39-0

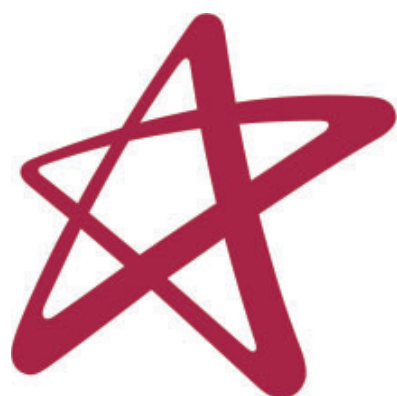
1. Iniciação científica - Anais. 2. Pesquisa científica. 3. Produção científica. 4. Produção acadêmica. 5. Resumos. I. Título.

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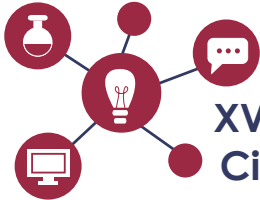


XVIII Encontro de Iniciação
Científica da UNIFRAN

Anais do XVIII Encontro de Iniciação Científica da Unifran



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XVIII Encontro de Iniciação Científica da UNIFRAN

LIGHTS, CAMERA, EMOTION: the passionate effects of cinematic photography in *Oppenheimer*

Alice Siena Souza dos Reis^{1*}, Igor Gabriel dos Reis Vasconcelos¹, Luana Ferraz¹.

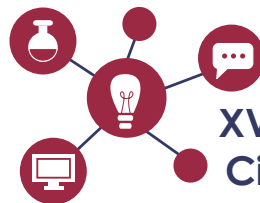
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: alicereis_end@icloud.com

Purpose: This study aims to investigate the persuasive, and more specifically, passionate effects generated by the cinematic photography in *Oppenheimer* (2023), directed by British filmmaker Christopher Nolan. **Methods:** The corpus of this research consists of stills from *Oppenheimer*, which serve as the basis for analyzing photographic elements responsible for evoking emotional responses. This is a qualitative, bibliographic, and descriptive study grounded in the principles of classical rhetoric and Aristotle-based neo-rhetorics, primarily drawing from Aristotle (2000) and Meyer (2000). Additional insights are drawn from Ribeiro (2009) to explore non-Aristotelian passions, and from Munsterberg (1983) to reflect on emotional responses elicited by cinema. For the specific analysis of photographic elements, we reference Barthes (1984) and Block (2010). **Results:** The analysis reveals that various visual components of the cinematography in *Oppenheimer* act as tools for evoke passions outlined in Aristotelian rhetoric, such as indignation and compassion, as well as passions identified by contemporary theorists, like honor. **Conclusion:** These findings confirm the construction of a paradoxical affective argument that aligns with the controversial ethos of the film's central character. This supports a non-deterministic thesis within the film's overarching discourse.

Keywords: rhetoric, pathos, cinematic photograph, visual elements, *Oppenheimer*.

Acknowledgments: CNPq, CAPES (finance code 001).



HIGH-RESOLUTION IMAGING OF *Diaphorina citri* TO SUPPORT FIELD IDENTIFICATION AND INTEGRATED PEST MANAGEMENT IN CITRUS

Aline Cristina Monteiro Oliveira Matos^{1*}, Larissa Borges Morais¹, Kamila Gabrielly Ribeiro Alves²,
Júlia Lara Nogueira², Alessandra Marieli Vacari².

¹Doctor Júlio Cardoso State Technical School (ETEC), Franca, Brazil, 14400-500.

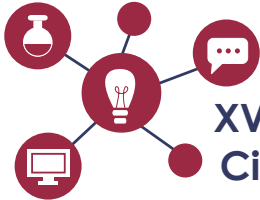
²University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: alinecristinamonteiromatos@gmail.com

Purpose: The project aims to deepen understanding of *Diaphorina citri*, the primary vector of Huanglongbing (HLB), a devastating disease in citrus cultivation. It emphasizes the importance of an integrated approach that combines biological control, judicious use, and continuous monitoring to support pest identification, mitigate its impact, and promote sustainable citrus production. **Methods:** Images were captured using a BEL[®] SZT trinocular stereomicroscope equipped with a 12-megapixel camera and the Capture2.1 application employing a 1 μm scale. **Results:** High-resolution images of *D. citri* at the egg, nymph and adult stages were obtained, revealing fine details of the insect's external morphology. These morphological features enhance the ability to accurately identify and recognize the pest in the field. **Conclusion:** The detailed visual documentation of *D. citri* provides a clearer understanding of its developmental stages and distinguishing characteristics, supporting more effective identification and aiding growers in pest management strategies.

Keywords: citrus pest, Huanglongbing, psyllid.

Acknowledgments: FAPESP (2023/14014-5), CAPES (finance code 001) and CNPq.



EVALUATION OF SENSORY ORIENTATION IN POSTURAL CONTROL IN ACTIVE ELDERLY PEOPLE IN A COEXISTENCE CENTER

Aline Cristina Sliuzas Servino^{1*}, Vitória dos Passos de Oliveira¹, Ana Paula Oliveira Borges¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

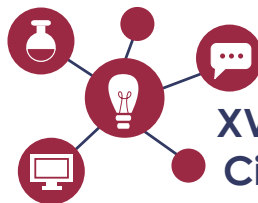
*E-mail: alinesliuzas1985@gmail.com

Purpose: The Mini-BESTest is an assessment tool used to evaluate dynamic balance in elderly people and an important tool for predicting the risk of falls. One of the components of the Mini-BESTest is sensory orientation. The goal was to screen sensory orientation in postural control in active elderly people in a community center. **Methods:** Study conducted with 66 individuals. Data were collected through an individual interview and application of the Mini-BESTest. Twenty-seven men (mean age: 68.35 ± 4.9) and 39 women (mean age: 71.51 ± 6.28), active and with preserved mobility, participated in the study. The scale consists of 14 items that focus on balance and the maximum score obtained is 28 points. Sensory orientation is performed in three tasks: on a firm surface, with feet together and eyes open; on a foam surface, with feet together and eyes closed; and tilt with eyes closed and are equivalent to 6 points. **Results:** The individuals evaluated scored 19.2 points (± 3.9) in the general evaluation. In the sensory orientation domain, they scored 2.7 (± 1.4), with the foam surface and tilt with eyes closed tasks being the most deficient. Thus, the evaluation showed scores below those expected for this population. **Conclusion:** The evaluation of sensory orientation is essential to understand postural control and identify possible deficits that can lead to falls and instability. The application of this instrument at the Senior Citizens' Community Center was a valuable tool to assess the risk of falls, as it can identify dynamic balance deficits before they manifest in falls.

Keywords: elderly, postural balance, geriatric assessment.

Approval CEPE/CEUA: 5.792.659

Acknowledgments: CAPES (finance code 001), CNPq, UNIFRAN.



OBTAINING CRUDE EXTRACTS OF *Pereskia aculeata* MILL AND *Pereskia grandifolia* HAW (CACTACEAE) FOR IN VIVO EVALUATION OF ANTI-INFLAMMATORY AND HEALING ACTIVITY

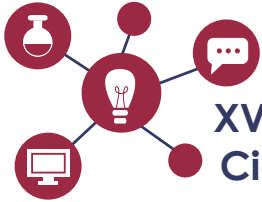
Amanda Gomes da Silva^{1*}, Guilherme Otoni Francisco¹, Leticia Amaral¹, Elisa Gomes Lucas¹,
Lauane Luiza Fernandes¹, Marcela Androvani Rodrigues¹, Márcio Luis Andrade e Silva¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: a25g06s24@gmail.com

Purpose: The aim of this study is to evaluate the anti-inflammatory and healing activities of ora-pro-nóbis from its crude ethanolic extract (EEB) associated with a hydrogel. **Methods:** The biological material was collected in the rural area of Minas Gerais, in Alpinópolis (20°49'28.3"S 46°27'29.6"W). After collection, the leaves were dehydrated in an oven with forced air circulation at a constant temperature of 40°C. Subsequently, the dried material was pulverized until fine particles were obtained, facilitating the extraction process. To obtain the extracts, ethanol was used as a solvent. The plant extracts were prepared by macerating the pulverized samples in the solvent for 72 hours, ensuring efficient extraction of the bioactive compounds. After the maceration period, the samples were subjected to filtration to remove solid residues. The liquid extract obtained was concentrated in a rotary evaporator under reduced pressure, allowing controlled elimination of the solvent without compromising the integrity of the bioactive compounds. The EEBs of the species *Pereskia aculeata* Mill. and *Pereskia grandifolia* Haw were stored in bottles with lids and kept under an exhaust hood until the biological tests were performed. Subsequently, the EEBs were incorporated into the collagen hydrogel, to begin the in vivo tests, which would be conducted with Swiss albino mice, with an average weight of approximately 25 g, distributed into three experimental groups containing 10 animals each. **Results:** The incorporation of EEBs from *P. aculeata* and *P. grandifolia* into the collagen hydrogel did not show satisfactory results, since the chemical composition and texture of the hydrogel were altered, making it impossible to start in vivo tests. On the other hand, tests with EEBs incorporated into the alginate hydrogel showed satisfactory results, and this formulation is considered promising for in vivo evaluation. **Conclusion:** Preliminary results indicate that, although the collagen hydrogel formulation proved to be inadequate due to physical-chemical instability after incorporation of the extracts, the use of alginate hydrogel demonstrated greater compatibility with the EEBs of *P. aculeata* and *P. grandifolia*. Thus, this formulation represents a viable alternative for conducting in vivo tests, aiming to evaluate the potential anti-inflammatory and healing activities of ora-pro-nóbis.

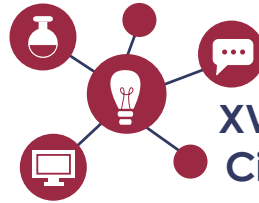
Keywords: ora-pro-nóbis, medicinal use, *Pereskia aculeata*, *Pereskia grandifolia*, healing, wounds.



XVIII Encontro de Iniciação Científica da UNIFRAN

Approval CEPE/CEUA: 6.061.231.118

Acknowledgments: FAPESP (process: 2009/05049-2), CAPES (finance code 001), CNPq and Unifran (University of Franca).



INCIDENCE OF NEOPLASMS IN DOGS AND CATS TREATED AT THE VETERINARY HOSPITAL OF THE UNIVERSITY OF FRANCA FROM 2021 TO 2024

Ana Carolina de Oliveira Campagnoli^{1*}, Isabela Rodrigues Caetano¹, Jhuan Luiz Silva¹, Lucas de Freitas Pereira¹, Maysa Barbosa de Almeida¹, Marcela Aldrovani Rodrigues¹, Fernanda Gosuen Gonçalves Dias¹.

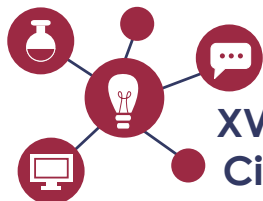
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: anacarolinadeoliveiracampagnoli@hotmail.com

Purpose: Benign and malignant neoplasms show a high incidence in canine and feline species, directly compromising the quality of life and survival of affected animals. Therefore, a definitive diagnosis allows for the correct and early therapeutic approach, favoring the prognosis. The present study aimed to perform a retrospective analysis of histopathological biopsies from dogs and cats treated at the Veterinary Hospital of the University of Franca (UNIFRAN, SP) between 2021 and 2024. **Methods:** During this recommended period, the frequencies were described and grades of the different diagnosed neoplasms and relating them to breed and sex. **Results:** A total of 666 histopathological biopsy reports of neoplastic lesions were recorded, with 655 cases diagnosed in dogs and 11 in cats. Carcinoma was the most prominent type of neoplasm in both dogs (194 cases, 29.61%) and cats (9 cases, 81.82%). Regarding the sex of the animals, among the 655 dogs, 169 were male (25.81%) and 486 were female (74.19%), while all cats were female. As for canine breeds, mixed-breed dogs were the most prevalent (414 dogs, 63.20%), followed by 45 Pit Bulls (6.87%). Of the 11 cats, 10 were non-purebred (90.91%) and 1 was Siamese (9.09%). **Conclusion:** Retrospective clinical investigations such as this one are essential to update the frequencies of different neoplasms that may affect domestic animals and to determine possible factors involved in neoplastic processes.

Keywords: retrospective study, histopathology, veterinary oncology, tumor.

Acknowledgments: UNIFRAN, CAPES (finance code 001) and CNPq.



EVALUATION OF DYNAMIC BALANCE IN POSTURAL CONTROL IN ACTIVE ELDERLY PEOPLE IN A COEXISTENCE CENTER

Ana Carolina dos Santos Gamba^{1*}, Denise Miquelin Ribeiro¹, Gabriel Augusto Lisboa¹, Larissa Vitória Gica Moreira¹, Mariana Ananias Teixeira¹, Ana Paula Oliveira Borges¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

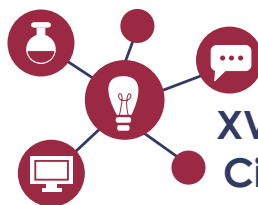
*E-mail: anacarolinasantos.1503@gmail.com

Purpose: The Mini-BESTest is an assessment tool used to evaluate balance in elderly people and an important tool for predicting the risk of falls. One of the components of the Mini-BESTest is dynamic balance. The goal was screen dynamic balance in postural control in active elderly people in a community center. **Methods:** Study conducted with 66 individuals. Data were collected through an individual interview and application of the Mini-BESTest. Twenty-seven men (mean age: 68.35 ± 4.9) and 39 women (mean age: 71.51 ± 6.28), active and with preserved mobility, participated in the study. The scale consists of 14 items that focus on balance and the maximum score obtained is 28 points. Gait stability with and without a cognitive task was assessed by the ability to walk safely and stably in changes of speed, horizontal head movement, turns, obstacles; associated with the dual task and equivalent to 10 points. **Results:** The individuals evaluated scored 19.2 points (± 3.9) in the general assessment. In the dynamic balance domain, they scored 6.4 (± 1.2), with the tasks of walking and turning on the axis and gait with cognitive task being the most deficient. Thus, the assessment showed scores below those expected for this population. **Conclusion:** The assessment of dynamic balance is essential to understand postural control and identify possible deficits that can lead to falls and instability. The application of this instrument in the Senior Citizens' Community Center was a valuable tool to assess the risk of falls, as it can identify dynamic balance deficits before they manifest in falls.

Keywords: elderly, postural balance, geriatric assessment.

Approval CEPE/CEUA: 5.792.659

Acknowledgments: UNIFRAN.



EVALUATION OF ACUTE ORAL TOXICITY AND GENOTOXICITY OF THE ETHANOLIC EXTRACT OF THE STEM BARK OF *Vochysia divergens*

Ana Claudia Oliveira Vilas Boas^{1*}, Pedro Henrique Oliveira dos Santos¹, Wanderson Zuza Cosme¹, Nathália Oliveira Acésio¹, Maria Júlia Teles Garcia¹, Marcos Antônio Soares², Denise Crispim Tavares¹, Arthur Barcelos Ribeiro¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

²Federal University of Mato Grosso, UFMT, Brazil, 78060-900.

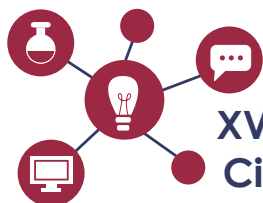
*E-mail: anac85420@gmail.com

Purpose: This study aimed to continue the chemical study of the ethanolic extract of the stem bark of *Vochysia divergens* through the purification and structural elucidation of the isolated compound and evaluate its in vivo toxicity and genotoxicity. **Methods:** The crude ethanolic extract, obtained by cold maceration, was fractionated by combining exclusion and adsorption chromatography resulting in the purified fraction VC-18F. Chemical characterization was carried out by UV and NMR spectroscopy analyses (¹H, ¹³C, and DEPT-135). Toxicological evaluation was performed using mammalian models (*Mus musculus* and *Rattus norvegicus*). In rodents, acute oral toxicity assays were conducted in accordance with OECD guidelines, while genotoxicity was assessed through the micronucleus assay in peripheral blood erythrocytes. **Results:** HPLC analyses of VC-18F revealed a simplified chromatographic profile with a retention time (tR) of 20.49 min and λ_{max} at 260 nm. NMR spectra confirmed the chemical structure of VC-18F as ethyl- β -D-glucopyranoside. In toxicity assays, the ethanolic extract showed no clinical signs of toxicity or genotoxicity in rodents under the experimental conditions. **Conclusion:** The study successfully isolated ethyl- β -D-glucopyranoside from *V. divergens* and demonstrated that the ethanolic extract is non-toxic under the experimental conditions evaluated, supporting its potential safety for further pharmacological investigations.

Keywords: cambará, natural products, phytochemical analysis, safety assessment, *Vochysiaceae*.

Approval CEPE/CEUA: 5.440.051.223

Acknowledgments: FAPESP, CAPES (finance code 001) and CNPq.



SELECTIVITY OF INSECTICIDES USED IN COFFEE CULTIVATION FOR THE PREDATOR *Chrysoperla externa* (NEUROPTERA: CHRYSOPIDAE)

Ana Julia Cintra^{1*}, Guilherme Conceição Gonçalves², Kamila Gabrielly Ribeiro Alves¹, Leonardo Fontoura Jardim¹, Julia Lara Nogueira¹, Pedro Sandoval dos Santos Ribeiro Cavallari¹, Maria Madalena Umbelina Chiarelo da Silva¹, Marcelo Jordão Filho³, Alessandra Marieli Vacari¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

²Ihara, Sorocaba, SP, Brazil, 18087-170.

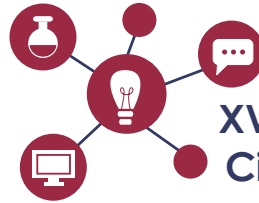
³Fundação Procafé, Franca, SP, Brazil, 14409-652.

*E-mail: acintra186@gmail.com

Purpose: This study aimed to evaluate the impact of selective and non-selective insecticides, recommended for pest control in coffee crops, on the predator *Chrysoperla externa*. **Methods:** The experiment was conducted in a completely randomized design with ten replicates. Predator mortality was recorded daily for three consecutive days following adult capture, noting the number of dead and surviving individuals. **Results:** The insecticides Hangar[®], Altacor[®], Porcel[®], Bold[®], and Abamectin[®] did not significantly affect adult longevity, which ranged from 22.4 to 13.4 days, with values similar to those observed in the control. Females exposed to Porcel[®], Bold[®], Abamectin[®], and Hangar[®] showed reduced fecundity compared to the control; however, no significant differences were detected among these insecticides. In contrast, exposure to Voliam Targo[®] and Altacor[®] resulted in severely reduced fecundity, with only two females laying eggs. Due to the low number of ovipositing females, these treatments were excluded from the statistical analysis. **Conclusion:** Based on the observed effects, Altacor[®] is classified as slightly harmful (IOBC class 2) to adults of the predator *Chrysoperla externa*.

Keywords: *coffea arabica*, sustainable management, integrated pest management.

Acknowledgments: FAPESP (2020/02182-2), CAPES (Finance code 001) and CNPq.



EVALUATION OF REACTIVE POSTURAL CONTROL IN ACTIVE ELDERLY PEOPLE IN A COEXISTENCE CENTER

Ana Júlia Soares^{1*}, Heloisa Felizardo Croisfelt¹, Rafaela Moreti Santos¹, Ana Paula Oliveira Borges¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

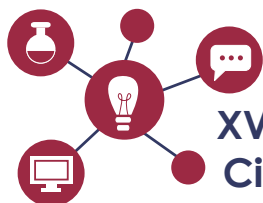
*E-mail: sanajulia538@gmail.com

Purpose: The Mini-BESTest is an assessment tool used to evaluate dynamic balance in elderly people and is an important tool for predicting the risk of falls. One of the components of the Mini-BESTest is reactive postural responses. The goal was to screen reactive postural control in active elderly people in a community center. **Methods:** Study conducted with 66 individuals. Data were collected through an individual interview and application of the Mini-BESTest. Twenty-seven men (mean age: 68.35 ± 4.9) and 39 women (mean age: 71.51 ± 6.28), active and with preserved mobility, participated in the study. The scale consists of 14 items that focus on balance and the maximum score obtained is 28 points. Reactive postural responses, in particular, are assessed by correction with compensatory step in three different directions – anterior, posterior and lateral and are equivalent to 6 points. **Results:** The individuals evaluated scored 19.2 points (± 3.9) in the general assessment. In the APAs domain, they scored 3.6 (± 1.3), with reactive postural responses to the front being the most deficient. Thus, the assessment showed scores below those expected for this population. **Conclusion:** Assessments of reactive postural responses are essential to understand postural control and identify possible deficits that can lead to falls and instability. The application of this instrument at the Senior Citizens' Community Center was a valuable tool to assess the risk of falls, as it can identify dynamic balance deficits before they manifest in falls.

Keywords: elderly, postural balance, geriatric assessment.

Approval CEPE/CEUA: 5.792.659

Acknowledgments: CNPq, CAPES (finance code 001), UNIFRAN.



SYNTHESIS AND CHARACTERIZATION OF FLEXIBLE MEMBRANES BASED ON POLYUREA FOR CONTROLLED RELEASE

Ana Laura Nogueira Braz^{1*}, Eduardo Ferreira Molina¹

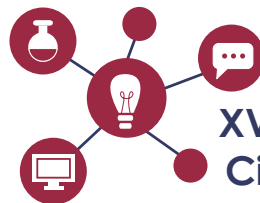
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

*E-mail: analauranbraz@gmail.com

Purpose: The aim of the project was to evaluate the use of polyurea membranes containing gallic acid (GA) as a controlled release system for active agents. GA is a natural polyphenol that can be extracted from various plants and has been shown to have antioxidant, antibacterial and antitumor activities. **Methods:** The polyurea was obtained through the reaction between a phase containing isocyanate (crosslinking agent hexamethylene triisocyanate - HDI) and a polyetheramine based on poly(ethylene oxide) (PEO) of molecular mass (MM = 500 g/mol). The molar ratio between the reagents was 1:1 PEO:HDI. The GA was added during synthesis by dissolving it in the PEO polymer phase. The materials obtained - pure polyurea (PU) and containing the AG (PU-AG) - were characterized in this work. **Results:** The PU and PU-AG samples showed characteristics such as transparency, flexibility and being insoluble in water. The results of the Fourier transform infrared spectroscopy (FTIR) confirmed the formation of the urea group, showing characteristic bands between 1600-1700 cm⁻¹. GA release tests showed an increase in the absorption band at 263 nm as a function of time, demonstrating the release of this molecule by the PU membrane. The amount of GA released is currently being analyzed and the percentage released over time will soon be reported. **Conclusion:** The PU and PU-AG polymer-based membrane was successfully obtained, and the release of the active agent was evidenced by the UV-Vis technique. The membrane is promising for applications in the medical field and could be used as a bioadhesives.

Keywords: polyurea, biomaterials, controlled release.

Acknowledgments: FAPESP (2021_06552-1), CAPES (finance 001) and CNPq.



EGG-STAGE APPLICATION OF BOTANICAL AND BIOLOGICAL INSECTICIDES DISRUPTS DEVELOPMENT OF *Leucoptera coffeella* IN *Coffea arabica*

Ana Victória Morais Guidotti Luz^{1*}, Mônica Cristina Alves Soler¹, Wenderson Henrique Simões Silva¹, Pedro Henrique Carrijo Birnbaum¹, Alessandra Marieli Vacari¹.

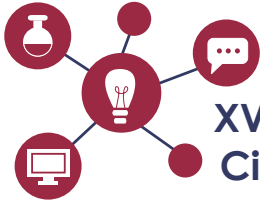
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: guidotti.ana@gmail.com

Purpose: *Leucoptera coffeella* (coffee leaf miner) is one of the most damaging pests in Brazilian coffee production, causing significant economic losses due to the foliar damage inflicted by its larvae. In pursuit of more sustainable management strategies, this study evaluated the effects of biological and botanical insecticides applied directly to the pest's eggs, assessing their impact on subsequent stages. **Methods:** The experiment was conducted under laboratory conditions using *Coffea arabica* 'Catuaí' plants, artificially infested with two pairs of *L. coffeella* adults confined in voile fabric cages. After oviposition, leaves containing eggs up to 24 hours old were immersed for 10 seconds in one of the following insecticide treatments: Bometil[®], Isaria[®], Celtic[®] + Bometil[®], Routen[®] + Ravel[®] + Bometil[®], Routen[®] + Ravel[®] + Celtic[®]. Distilled water and flupyradifurone were used as a negative and positive controls, respectively. The experimental design was completely randomized with seven treatments and ten replicates. Leaves remained on the plants throughout the 15-day evaluation period, which was carried out in a climate-controlled room (28 ± 1 °C, 70 ± 10% RH, 12h:12h light:dark photoperiod). The following parameters were recorded: egg incubation period, hatching rate, number of mines per leaf, and larval and pupal survival. **Results:** Isaria[®] and Celtic[®] + Bometil[®] prolonged the egg incubation period, similarly to the positive control. The mixture Routen[®] + Ravel[®] + Bometil[®] significantly reduced hatching. Bometil[®] and flupyradifurone completely prevented mine formation, while Routen[®] + Ravel[®] + Bometil[®] reduced larval survival by 38.7%. None of the treatments, except the negative control, allowed adult emergence, indicating total pupal mortality. **Conclusion:** The application of biological and botanical insecticides at the egg stage of *L. coffeella* significantly disrupts pest development and represents a promising tool for integrated pest management in coffee production.

Keywords: *Leucoptera coffeella*, biological control, integrated pest management, insecticidal activity, sustainable agriculture.

Acknowledgments: FAPESP (2020/02182-2), PIBIC, CAPES (finance code 001) and CNPq.



STUDYING THE ARCHITECTURE OF SOCIAL INTERACTION: HOW SHARED SPACES IN MULTIFAMILY COMPLEXES INFLUENCE URBAN BEHAVIOR

Ana Vitória Del Rio Alves^{1*}, Luciano de Andrade de Sousa¹.

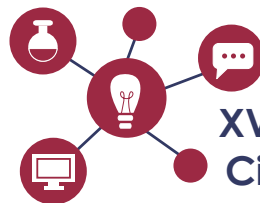
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: aninhadelrio@uol.com.br

Purpose: This research investigates how the architecture of shared spaces in multifamily housing complexes influences the environmental and social behavior of residents, fostering or hindering social interaction and sense of belonging. **Methods:** Employing an interdisciplinary approach that integrates architecture, urbanism, and social sciences, the study seeks to understand how the configuration and quality of these spaces affect social interaction, sense of belonging, and the collective appropriation of the urban environment. The methodology comprises physical-spatial surveys, direct observation of common area usage, and questionnaires and interviews with residents. **Results:** Preliminary findings identify key architectural and social factors that facilitate or hinder the appropriation and effective use of collective spaces. **Conclusion:** This ongoing research underscores the critical role of architectural design as a tool for urban and social transformation, aiming to propose projects that effectively foster community and a strong sense of belonging among residents of shared living spaces.

Keywords: multifamily projects, housing complexes, shared spaces, urban space.

Acknowledgments: CNPq, CAPES (finance code 001), UNIFRAN.



PERCEPTIONS OF EXCLUSION PROCESSES EXPERIENCED BY LGBTQIA+ PEOPLE AT UNIVERSITY

Anderson Felix de Queiroz Junior^{1*}, Rangel de Andrade Silva¹, Regina C. de Souza Beretta¹.

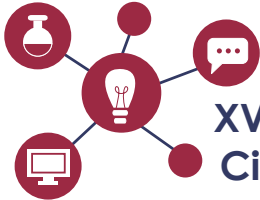
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: anderson.f.queiroz.junior@gmail.com

Purpose: The university environment is marked by conflicts and insecurities when it comes to sexual diversity, as it is not seen as a place where sexuality should be expressed or discussed. To investigate exclusion processes experienced by LGBTQIA+ people at university. **Methods:** This is qualitative research, with a literature review, carried out in the BVS and Scielo databases, with the descriptors: LGBTQIA+ people; universities; human rights, which resulted in 11 selected articles. **Results:** LGBTQIA+ students represent only 0.02% of university students, due to school dropouts. The Report on Homophobic Violence in Brazil (2016) revealed that 50% have felt excluded and rejected in the academic environment and 72% do not reveal their sexual orientation. Despite few studies in the area, a growing increase in discrimination against gender identity has been observed. It is urgent to promote debates and reflections on sexual diversity, which aim to transform the university environment into a more egalitarian and welcoming space. **Conclusion:** The university needs to implement inclusive actions with minority groups, becoming a space of citizenship and respect for human rights, which can guarantee the permanence of LGBTQIA+ students in academic spaces.

Keywords: LGBTQIA+ people, universities, human rights.

Acknowledgments: CNPQ, CAPES (finance code 001), and PIBIC.



BIOINFORMATIC ANALYSIS OF THE EXPRESSION OF MICRORNAS HSA-MIR-101, -124a, -138, -155, AND -1275 IN GLIOBLASTOMA MULTIFORME USING TCGA DATA

Anny Keller dos Santos Lopes^{1*}, Beatriz Vitória Rodrigues de Moura¹, Andressa Romualdo Rodrigues¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

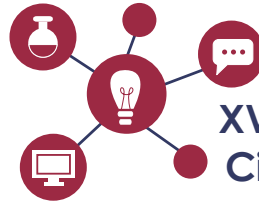
*E-mail: lopesannykeller@gmail.com

Purpose: This study aims to perform a bioinformatic analysis of the expression patterns of microRNAs hsa-miR-101, -124a, -138, -155, and -1275 in glioblastoma multiforme using TCGA data, in order to investigate their potential roles in tumorigenesis, progression, and recurrence. Furthermore, the study explores the applicability of these microRNAs as molecular biomarkers for diagnosis, prognosis, and future therapeutic targeting.

Methods: Data from TCGA-GBM were analyzed, including microRNA expression and clinical information. Samples were grouped by IDH status. Expression of miR-101, miR-124a, miR-138, miR-155, and miR-1275 was compared using limma-voom with FDR adjustment. Correlations with age and survival were assessed using Spearman's test. Overall survival was analyzed using univariate Cox regression. Pathway enrichment analysis was performed using KEGG and Reactome databases. Additionally, the DIANA-miRPath and TargetScan platforms will be used for target gene prediction and functional enrichment analysis to identify associated molecular pathways. **Partial results:** Five microRNAs were analyzed in IDH-mutant vs. IDH-wildtype glioblastomas. miR-101, miR-155, and miR-1275 showed significant overexpression ($p < 0.05$), while miR-124a and miR-138 were slightly underexpressed. No significant correlations were found with age or overall survival. In the survival analysis, miR-101 (HR = 1.78), miR-124a (HR = 2.07), and miR-1275 (HR = 1.28) were associated with worse prognosis ($p < 0.05$). Functional enrichment revealed involvement in metastasis-related pathways (miR-101, miR-155), immune response (miR-124a, miR-1275), DNA damage response (miR-124a, miR-155), and cell cycle regulation (miR-124a, miR-155, miR-138). **Conclusion:** The expression patterns of specific microRNAs in glioblastoma differ according to IDH mutation status and are associated with distinct biological pathways. miR-101, miR-124a, and miR-1275 were significantly associated with worse overall survival. These findings suggest potential roles for these microRNAs as prognostic biomarkers and possible therapeutic targets in glioblastoma.

Keywords: glioblastoma, microRNAs, carcinogenesis, bioinformatics.

Acknowledgments: CNPq, CAPES (finance code 001), PIBIC Unifran.



PRELIMINARY STUDY BY COMPRESSION ELASTOGRAPHY OF THE ORGANS OF THE COELOMATIC CAVITY OF PIRANGA TORTOISES (*Chelonoidis carbonaria*)

Antonio Augusto Borges Sales^{1*}, Isabela Rodrigues Caetano¹, Daniel Paulino Júnior¹, Marcela Aldrovani Rodrigues¹, Fernanda Gosuen Gonçalves Dias¹.

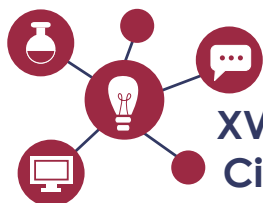
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: antonio.as673@gmail.com

Purpose: The coelomic cavity of reptiles is prone to various diseases, and their diagnosis particularly in chelonians-poses a challenge due to the protective shell, which hinders organ palpation. As a result, imaging techniques that accurate and minimally invasive evaluation are essential. Compression elastography, a technique that assesses tissue stiffness through mechanical deformation caused by external pressure, has emerged as a promising tool for the early detection and monitoring of soft tissue lesions. However, studies focusing on coelomic tissues remain scarce. The standardization of access windows and imaging protocols is therefore critical to ensure diagnostic reliability. This study aimed to describe the preliminary application of compression elastography for evaluating coelomic organs in *Chelonoidis carbonaria*. **Methods:** Using cephalic and prefemoral access windows, and without sedation, animals positioned on a suspended platform while a single operator manually applied compression. A transducer attached to an ultrasound system was used to acquire simultaneous B-mode images and color elastograms. **Results:** The prefemoral access window presented limitations due to the animals' resistance to keeping their limbs extended, which compromised image quality. In contrast, the cephalic window allowed clear visualization of the liver, gallbladder, and spleen, with good spatial resolution of tissue stiffness differentiation. **Conclusion:** This study demonstrated the feasibility of compression elastography as a complementary diagnostic tool for evaluating the coelomic organs in *C.s carbonaria*, highlighting its potential for future applications in both physiological assessments and pathological investigations.

Keywords: elastogram, cephalic and prefemoral access windows, chelonian, tissue stiffness.

Acknowledgments: UNIFRAN, CAPES (finance code 001) and CNPq.



ANTIMICROBIAL ACTION OF ALGINATE/TOFU-BASED HYDROGELS LOADED WITH OZONATED SUNFLOWER OIL AGAINST SKIN BACTERIA

Bianca Vietro Barbosa Reis^{1*}, Cristiane Marissa Piacitelli Prado Ferreira², Maria Eduarda Abib Fonseca², Larissa Maia Barbosa², Heber Eduardo Andrada², Eduardo Ferreira Molina², Jair Camargo Ferreira².

¹Doctor Júlio Cardoso State Technical School (ETEC), Franca, Brazil, 14400-500.

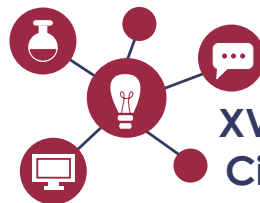
²University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: biancavietrobrabosareis@gmail.com

Purpose: The objective of the present study was to evaluate the antimicrobial potential the hydrogel based on sodium alginate (SA), tofu and ozonized sunflower oil against bacteria associated to skin infections. **Methods:** SA/tofu based-hydrogel was enriched with ozonized sunflower oil at weight ratios of 3:1, 2:1 and 1:1 (O3-1, O3-2 and O3-3 SA/tofu, respectively). Antibiotic susceptibility testing (AST), minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) against four skin bacteria (*Staphylococcus aureus* ATCC 6538, *S. epidermidis* ACTT 29213, *Streptococcus pyogenes* ACTT 12345, *Escherichia coli* ATCC 25922) were performed to determine the antimicrobial property of the ozonized and non-ozonized hydrogels. Non-ozonized hydrogel (SA/tofu) and 50% chlorhexidine (Clorex) were used as controls. **Results:** Independently of the pathogen, inhibition zones were visualized around the discs soaked with ozonized formulations (O3-1, O3-2 and O3-3 SA/tofu hydrogels) and Clorex. Both gram-positive and gram-negative bacteria were resistant to the SA/tofu hydrogel. The CBM was inversely proportional to the dose of ozonized oil incorporated into the hydrogel for *S. aureus*, *S. epidermidis* and *E. coli* (MIC and CBM <25.0%). The three ozonized SA/tofu hydrogels had similar antibacterial potential against *S. pyogenes* (MIC and CBM = 6.12%). SA/tofu hydrogel had MIC and MBC>100%. **Conclusion:** The alginate/tofu-based hydrogel enriched with ozonized oil exhibits bactericidal activity. Considering their biocompatibility with human fibroblast cell, ozonized-loaded formulations have potential for application in the treatment of skin infections.

Keywords: biomaterials, ozone, polymer, protein gel.

Acknowledgments: FAPESP (2021/06552-1), CAPES (finance code 001) and CNPq (001; 307696/2021-9).



AGRICULTURAL INSURANCE IN MITIGATING ECONOMIC LOSSES DUE TO CLIMATIC EVENTS IN BRAZILIAN COFFEE: A SYSTEMATIC REVIEW

Brenda Suelen da Silva^{1*}, Gilson Silverio da Silva¹.

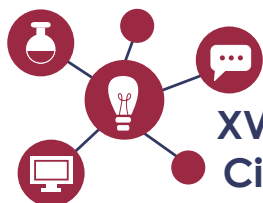
¹ University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: agro.brendasuelen@outlook.com

Purpose: This study aimed to evaluate the importance of agricultural insurance in mitigating economic losses caused by climatic events in Brazilian coffee farming, focusing on how insurance supports farmers' resilience and production continuity. **Methods:** A systematic bibliographic review following PRISMA guidelines analyzed 18 documents, with 11 meeting inclusion criteria. Sources included scientific articles from SciELO, technical bulletins, researchers' publications, and online materials from the last ten years, all centered on Brazilian coffee production and climate risks. Official national coffee production data were also considered. The qualitative and exploratory approach emphasized financial impacts of prolonged droughts, frosts, and excessive rainfall—events increasingly affecting yields and recovery costs. **Results:** The analysis confirmed agricultural insurance's vital role in mitigating risks by providing financial support for recovery and production stability. However, a significant gap was identified: the lack of insurance products tailored to the biennial coffee cycle, limiting coverage effectiveness. Additionally, the review highlighted insufficient dissemination of clear, accessible information about insurance benefits among coffee growers, hindering wider adoption. The 2023 General Report of the Rural Insurance Premium Subsidy Program (PSR) revealed that 12% of new policyholders were coffee growers, showing both the crop's participation in the program and growing demand for protection. **Conclusion:** This study contributes to the literature by mapping these gaps and emphasizing the need for customized insurance solutions and better communication strategies to strengthen the insurance culture within Brazil's coffee sector.

Keywords: agricultural insurance, economic losses, coffee growing, climate change, resilience.

Acknowledgments: CNPq, CAPES (finance code 001).



EVALUATION OF PRECURSOR INFLUENCE ON THE SYNTHESIS OF MAGNESIUM OXIDE NANOPARTICLES BY THE CO-PRECIPIATION METHOD

Bruno Bertoldi Pimenta Maia^{1*}, Lauany Mazzon Pontes¹, João Vitor Gonçalves de Faria¹, Lucas Alonso Rocha¹.

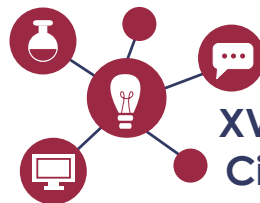
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: bertoldibruno7@gmail.com

Purpose: This study aimed to evaluate the influence of precursor type on the synthesis of magnesium oxide nanoparticles. **Methods:** The synthesis was carried out using the co-precipitation method, which offers several advantages such as operational simplicity, low cost, and the ability to obtain nanoparticles with high purity and homogeneity. Magnesium chloride and magnesium sulfate were used as precursors. The reagents employed were: 20 mL of alcohol, 7.394 g of magnesium sulfate, 6.077 g of magnesium chloride, and 23.05 g of citric acid, the latter divided between the precursors. The synthesized materials were characterized by X-ray diffraction (XRD), dynamic light scattering (DLS), and zeta potential analysis. **Results:** XRD analysis revealed characteristic peaks of magnesium oxide obtained from the magnesium chloride precursor, confirmed by standard 00-004-0829 corresponding to the periclase phase. However, DLS analysis indicated significant differences in particle size: 660 nm for the magnesium sulfate precursor and 568 nm for the magnesium chloride precursor. **Conclusion:** The results demonstrated the successful formation of the magnesium oxide matrix using the magnesium chloride precursor, also highlighting the influence of precursor type on the size of the synthesized nanoparticles.

Keywords: nanoparticles, co-precipitation, magnesium oxide.

Acknowledgments: FAPESP, CAPES (finance code 001), and CNPq.



EVALUATION OF COPPER-BASED NANOPARTICLES ON THE CONTROL OF COFFEE LEAF RUST SEVERITY

Camaro C Alves, Fausto E M Oliveira^{1*}, Eduardo Jose Nassar¹, Alessandra Marieli Vacari¹, Lucas A Rocha¹.

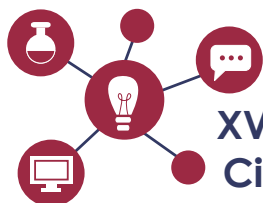
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: camaroalves2809@gmail.com

Purpose: This study aimed to assess the impact of copper-based nanoparticles (CuNPs) at different concentrations on the control of coffee leaf rust severity. **Methods:** A total of 225 Catuai 99 coffee plants were used, divided into five treatments with five replicates each. Treatment 1 (control) received only the base solution (water + Tween). Treatment 2 was treated with the commercial product Cuprazol 380H at 2500 ppm. Treatment 3 received 750 ppm of the CuNPs solution, Treatment 4 received 2250 ppm, and Treatment 5 was treated with 3750 ppm of the same CuNPs formulation. **Results:** The control group (Treatment 1) exhibited 16.5% of affected leaf area, while the commercial product (Treatment 2) showed 14.5%. The CuNPs treatments resulted in affected leaf areas of 14.5%, 14.0%, and 9.0% for Treatments 3, 4, and 5, respectively. **Conclusion:** The findings indicate a progressive reduction in disease severity with increasing concentrations of CuNPs. Notably, the highest concentration (3750 ppm) provided the most effective control, likely due to the enhanced bioavailability and interaction of nanoparticles with the pathogen compared to conventional formulations.

Keywords: copper-based nanoparticles, leaf, rust, severity.

Acknowledgments: UNIFRAN, CAPES (finance code 001), PIBIC and CNPq.



EVALUATION OF SNACKING BEHAVIOR IN ADOLESCENTS

Carla Barros Santos^{1*}, Amanda Santos Silva¹, Marina Garcia Manochio Pina¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

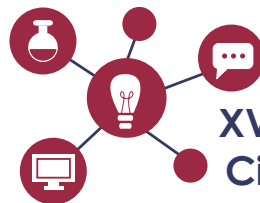
*E-mail: carlabarrossantossantos@gmail.com

Purpose: To identify whether snacking behavior is present in female adolescents between 11 and 15 years old and its possible association with nutritional status. **Methods:** Cross-sectional, quantitative, observational and descriptive study, carried out in two public schools in the interior of São Paulo. It was used the Rep(eat)-Q continuous snacking questionnaire, containing 12 self-administered items, and also the sociodemographic questionnaire answered by the parents or guardians of the girls who were part of an intervention project for the prevention of eating disorders. Nutritional status was assessed using the Body Mass Index and World Health Organization curves. **Results:** 33 girls participated, with an average age of 12.82 years. With regard to family income, 48.48% had between one and two minimum wages per capita. Regarding eating habits, 36.36% consumed fruits and vegetables 3 to 4 times a week, while 45.45% consumed ultra-processed products 1 to 2 times a week and around 60.61% of the adolescents consumed protein 5 times a week. It was observed that 19 (57.58%) had adequate nutritional status. Of the 33 participants, 7 (21.21%) presented snacking behavior, with 4 (57.14%) having an adequate BMI and 3 (42.85%) being overweight or obese. **Conclusion:** It can be concluded that snacking behavior is more present in eutrophic girls and may represent a way of masking feelings such as stress and anxiety. This finding is worrying, since adolescence is characterized by intense emotional activity, which reinforces the importance of studies like this to support programs to prevent eating disorders.

Keywords: snacking, adolescents, obesity.

Approval CEP: 63453822.8.0000.5495.

Acknowledgments: CAPES (finance code 001), CNPq.



CONTRIBUTION OF SCIENTIFIC RESEARCH INITIATIVES TO THE ACADEMIC DEVELOPMENT OF HIGH SCHOOL STUDENTS

Carlos Eduardo Donzeli Ferreira^{1*}, Letícia Natália Oliveira², Lilian Cristina Gomes do Nascimento¹.

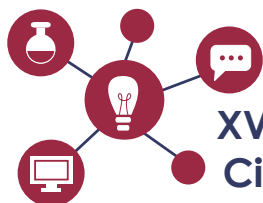
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: caduedferreira@gmail.com

Purpose: The aims to analyze the effects of the Junior Scientific Initiation Program (PIBIC-EM) on high school students, focusing on the academic and professional development of scholarship holders. **Methods:** A systematic search was conducted in the Scielo, PubMed, and CAPES Journals databases using the descriptors "PIBIC-EM," "junior scientific initiation," "academic impact," and "professional development." Empirical studies and reviews published within the last ten years that directly addressed the effects of the program or similar initiatives were included. Unpublished articles and studies not directly related to the topic were excluded. The qualitative analysis prioritized the identification of recurring themes and consolidated results. **Results:** The reviewed studies indicate that participation in PIBIC-EM provides significant benefits, such as increased motivation for scientific careers, the development of research skills — critical thinking, academic writing, and problem-solving — and improvements in self-confidence and academic performance. In addition to the positive impacts, challenges were identified, including the need for greater institutional support and enhancement of the guidance provided to scholarship holders. **Conclusion:** The findings suggest that PIBIC-EM plays a fundamental role in early academic development, representing an effective strategy for fostering young talents in science and technology. The results of this review may inform public policies and educational practices aimed at expanding and improving the program, thereby ensuring broader opportunities for emerging researchers.

Keywords: education, high school, research

Acknowledgments: CAPES (finance code 001) and CNPq.



CHEMICAL INVESTIGATION OF *Dolichandra unguis-cati* CRUDE EXTRACT

Carolayne Cavalcante Brasil^{1*}, Viviani Motta¹, Valéria Maria Melleiro Gimenez², Patrícia Mendonça Pauletti¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

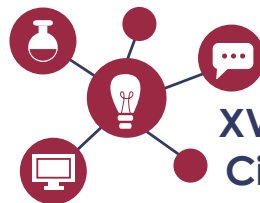
²Faculdade de Zootecnia e Engenharia de Alimentos, FZEA, USP, Pirassununga, 13635-900.

*E-mail: carolayne-cb@hotmail.com

Purpose: The objectives of this study were to investigate the chemical composition of the crude ethanolic extract of *Dolichandra unguis-cati* (Bignoniaceae) leaves and to obtain subfractions of this extract. **Methods:** The dried leaves (620 g) were subjected to extraction by maceration with ethanol, yielding 23.9 g of crude extract. An aliquot of 1 mg of the extract was analyzed by Ultra-High-Performance Liquid Chromatography coupled with High-Resolution Mass Spectrometry (UPLC-HRMS/MS), employing an ESI ionization source in negative mode with data acquisition in the m/z range of 100–1500. The resulting data were processed through molecular networking using the GNPS platform. The extract (13.5 g) was subjected to liquid-liquid partitioning with the solvents hexane, ethyl acetate and n-butanol, resulting in the following fractions: hexane (1.5 g), ethyl acetate (3.6 g), n-butanol (7.4 g), and aqueous (12.4 g). The ethyl acetate fraction (3.6 g) was purified by Sephadex LH-20 column chromatography, collecting 91 fractions. These were grouped by similarity by Thin Layer Chromatography (TLC) and analyzed by High Performance Liquid Chromatography Diode Array Detector (HPLC-DAD). **Results:** UPLC-HRMS/MS dereplication allowed the annotation of the following compounds: quinic acid, verbascoside, isoverbascoside, baicalin, and oroxylin glucuronate. Among these, verbascoside had been previously reported in the species. **Conclusion:** Chemical analysis of *D. unguis-cati* leaves confirmed the presence of relevant secondary metabolites, suggesting potential for the development of extracts with pharmacological properties. Additional studies are needed to investigate the biological activities of these compounds.

Keywords: dereplication, *Dolichandra*, molecular networking.

Acknowledgments: CAPES (finance code 001), CNPq and FAPESP (2024/00915-3).



ASSESSMENT OF CYTOTOXICITY OF THE MYCOTOXIN BEAUVERICIN IN THE CELL LINE CHO-K1

Daniel Furini Vanin^{1*}, Naomi Nalini de Melo Taveira¹, Roberto Gomes de Souza Berlinck², Raquel Alves do Santos¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

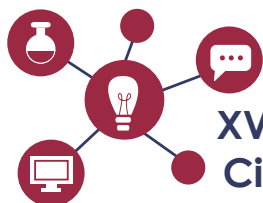
²Institute of Chemistry, State University of São Paulo, São Carlos, Brazil, 13566-590.

*E-mail: danielfurinivanin@gmail.com

Purpose: This study has the objective of assessing the cytotoxicity of the mycotoxin Beauvericin in the Chinese Hamster Ovarian cell line CHO-K1. **Methods:** The chosen methodology consisted of the determination of cell viability using XTT, a colorimetric assay; in this assay, cells were plated in a 96 well plate. After 24 hours cells were treated with Beauvericin in concentrations ranging from 0.78 μ M to 50 μ M. After 24h treatment, the cells were incubated with a XTT kit composed of tetrazolium salt solution and electron coupler solution. The absorbance was measured using a spectrophotometer after 4 hours. **Results:** The previously mentioned assay demonstrated that concentrations \geq 25 μ M ($p < 0.0001$) reduced the frequency of viable cells significantly, when compared to the negative control. **Conclusion:** These preliminary results showed that the mycotoxin Beauvericin induces cytotoxicity in concentrations equal or higher than 25 μ M. Further studies elucidating its cytotoxic potential in short and long exposure times should be conducted to obtain a cytotoxic panel of Beauvericin. Its genotoxic potential *in vitro* and *in vivo* will also be analyzed based on the previously obtained data.

Keywords: beauvericin, cytotoxicity, mycotoxin.

Acknowledgments: FAPESP (2019/17721-9), CAPES (finance code 001), CNPq and Cruzeiro do Sul Educacional.



INFLUENCE OF SYNTHESIS TEMPERATURE ON THE PERIODIC STRUCTURE OF EUROPIUM-DOPED TITANIUM ISOPROPOXIDE-BASED MATERIALS

Daniele Paula Reis^{1*}, Lauany Mazzon Pontes¹, Eduardo José Nassar¹, João Vitor Gonçalves de Faria¹, Lucas Alonso Rocha¹.

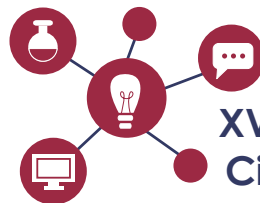
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: danielepaulareis123@gmail.com

Purpose: This study aimed to analyze the influence of precursor synthesis temperature on the formation of periodic structures in materials obtained from europium-doped titanium isopropoxide. **Methods:** The synthesis was performed using the sol-gel method, which involves hydrolysis and condensation reactions of the alkoxide precursor, allowing material formation at relatively low temperatures. Five synthesis temperatures were employed: 40 °C, 50 °C, 60 °C, 70 °C, and 80 °C. The reagents used were: 4.1 mL of water, 46.68 mL of ethanol, 5.68 mL of ammonia, 0.299 mL of europium solution (1%), and 0.906 mL of titanium isopropoxide (99%). The synthesized materials were characterized by X-ray diffraction (XRD), Fourier-transform infrared spectroscopy (FTIR), dynamic light scattering (DLS), zeta potential analysis, scanning electron microscopy (SEM), and photoluminescence spectroscopy. **Results:** XRD analysis revealed characteristic peaks of titanium dioxide (TiO₂), confirming the formation of the anatase phase (JCPDF # 00-004-0477), with similar results across the different synthesis temperatures. Infrared spectroscopy confirmed the formation of TiO₂, evidenced by bands at 1627 cm⁻¹ and a band at 3290 cm⁻¹ corresponding to O-H bonds from water molecules. Photoluminescence spectroscopy indicated the presence of europium, with characteristic bands in the excitation spectrum at 394 and 464 nm, and an emission band at 612 nm. **Conclusion:** The results demonstrated the consistent formation of the europium-doped titanium dioxide matrix, regardless of synthesis temperature variations between 40 °C and 80 °C, while preserving the structural and optical properties of the material.

Keywords: periodic structures; sol-gel; titanium oxide.

Acknowledgments: FAPESP (2024/03839-6), CAPES (finance code 001), and CNPq.



ASSISTIVE TECHNOLOGY FOR USERS OF HEARING AID (HA)

Davi Rodrigues Marques^{1*}, Renata Sales¹.

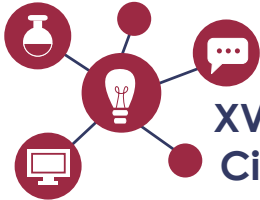
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: davirodriguesmarquess@gmail.com

Purpose: To discuss assistive technologies for users of individual sound amplification devices, highlighting the benefits and barriers associated with their use. **Methods:** This study conducted a literature review of the last seven years by surveying scientific articles from the PubMed and SciELO databases. The search employed the descriptors Hearing Aids, Assistive Technology, Cochlear Implantation, and Hearing Loss, combined using the Boolean operator "AND." Inclusion criteria comprised articles published in Portuguese, English, or Spanish within the specified timeframe, focusing on assistive technologies for the hearing impaired. Accepted publication types included original articles, case reports, and brief communications. Exclusion criteria eliminated irrelevant abstracts, studies published over seven years ago, and articles in languages other than those predefined. From an initial pool of 20 articles, eight were excluded based on established criteria, resulting in 12 articles being selected for final inclusion in this review. **Results:** The selected studies indicate that assistive technology enhances speech recognition in individuals with hearing loss and emphasize the need for public policies, trained professionals, and ongoing support for this population to advance these technologies. **Conclusion:** The findings confirm that assistive technologies have a positive impact on speech recognition among individuals with hearing loss. However, sustained technological advancements and improved accessibility to these devices for the hearing-impaired population remain crucial. Political commitment is essential to develop more inclusive public programs and enhance professional training in this field, thereby ensuring better quality of life for people with hearing disabilities.

Keywords: individuals with hearing loss, assistive technologies, social inclusion, FM system.

Acknowledgments: CAPES (finance code 001) and CNPq.



XVIII Encontro de Iniciação Científica da UNIFRAN

MICRONUTRIENT RELEASE FROM POLYETHERAMINE-EPOXIDE-BASED NANOGELS

Enzo Ernani da Silva^{1*}, João Vítor de Jesus Damante¹, Bruno Andrade Fico¹, Felipe Breda Alves¹, Eduardo Ferreira Molina¹.

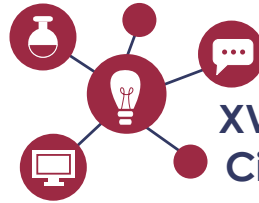
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: enzoernanidasilva@gmail.com

Purpose: This study aimed to investigate, in this initial period, an amine-epoxide-based nanogel (called NGel) as a potential formulation for soil applications, aiming to evaluate its toxicity. **Methods:** Soybean seeds were previously germinated and then planted in soil treated with the synthesis of amine-epoxide-based NGel. After planting, inoculation with *Bradyrhizobium japonicum* was performed to evaluate the interaction between the gel, the plant and the bacteria. **Results:** Initial results demonstrate the potential of NGel as an innovative technology to enhance the symbiosis between soybeans and nitrogen-fixing bacteria, providing advances in sustainable agriculture. NGel was shown to be approximately 300 nm in diameter, have a positive surface charge (+24 mV) and be spherical in shape with smaller clusters. The results indicated that the gel is biocompatible, positively influences plant growth and favors the formation and maintenance of bacterial nodules. **Conclusion:** The study evaluated the application of amine-epoxide-based NGel in soybeans and its interaction with the bacteria *Bradyrhizobium japonicum*.

Keywords: polymer particles, soil, nanotoxicology.

Acknowledgments: FAPESP (2024/16617-1), CAPES (finance code 001) and CNPq.



FEMALE BREAST CANCER MORTALITY IN THE SOUTHEAST REGION: A TIME SERIES ANALYSIS

Ester Lucena Garcia^{1*}, Fabiana Marques Cunha Andrade¹, Geovanna Alvim Ribeiro¹, Marcelo Ballaben Carloni¹, José Alexandre Bachur¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

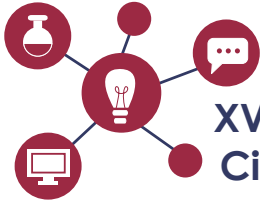
*E-mail: esterlucenagarcia@gmail.com

Purpose: To analyze data regarding the regional occurrence of female mortality from breast cancer, during the period from 1996 to 2023. **Methodology:** Data were collected and analyzed through a time series analysis in search of information on mortality in the southeast region of women from breast cancer. **Results:** Mortality in the Southeast region of Brazil during the time series under study was continuously increasing, making mortality in this region the highest rate in the entire country, amid a high annual percentage variation in the mortality rate, with a predominance of deaths in the age group between 50 and 69 years and a predictability of continuous growth in the coming years. **Conclusion:** Female mortality from breast cancer is a phenomenon of harm to life that has been continuously increasing for 28 years and is expected to continue growing in the coming years.

Keywords: deaths, breast carcinoma, women's health.

Approval CEPE/CEUA: As this is a study based on secondary public data, without the identification of the respective subjects, this type of study does not require prior approval from an Ethics Committee, as stated in resolution no. 466/2012 of the National Health Council (CNS).

Acknowledgments: CAPES (finance code 001) and CNPq.



BETWEEN OMISSION AND LAW: PARENTAL NEGLECT AND ITS IMPACTS ON MENTAL HEALTH IN LIGHT OF THE ECA

Evellyn Helen Leite Lacerda^{1*}, Danilo Bulgo¹, Camila Letro Tozati¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

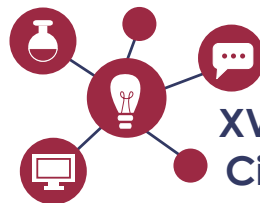
*E-mail: evellyn.lacerda01@gmail.com

Purpose: The aim of this study was to understand parental neglect by analyzing the social responsibility of parents in the development of their children. Parenting must ensure survival and a safe place for a child, or teenager, develop, offering conditions of care, safety, education, and affection. Failures of the carers in assuring basic childhood needs can compromise aspects of identity construction and the psyche of the individual.

Methods: The research was built from a literature review, exploring the impacts of parental neglect on childhood and adolescence. Supported by academic materials that link negligent parental behavior and the consequences for the psychosocial development of one. In addition, the work has as reference the standards by the Statute of Children and Adolescents to contextualize the issue and highlight children's rights. **Results:** Despite parents' legal obligation to guarantee fundamental conditions for a child development, neglect remains a serious issue that is still happening. It is noted that problems of mistreatment, including abuse and neglect, have an impact on children's well-being and, consequently, on their mental health. Therefore, negligent behavior causes harm to the health and/or physical and psychosocial development of the child or youth (Magalhães, 2002 apud Nunes 2023). **Conclusion:** This study highlights the psychological impacts that affect children and adolescents who are victims of parental neglect. Understanding the issue makes it possible to identify the factors that contribute to the perpetuation of the problem. This makes it possible to formulate strategies to prevent physical and mental health in childhood and adolescence.

Keywords: parental neglect, parental abandonment, psychological impacts, child maltreatment.

Acknowledgments: CAPES (finance code 001) and CNPq.



MORTALITY IN THE SOUTHERN REGION OF WOMEN DUE TO BREAST CANCER: A TIME SERIES ANALYSIS

Fabiana Marques Cunha Andrade^{1*}, Ester Lucena Garcia¹, Geovanna Alvim Ribeiro¹, Marcelo Ballaben Carloni¹, José Alexandre Bachur¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

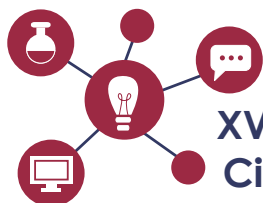
*E-mail: fabiana.med.2023@gmail.com

Purpose: This study aims to analyze female mortality from breast cancer in this region from 1996 to 2023. **Methods:** A broad ecological study of time series analysis of data on female mortality recorded in the DATASUS system due to breast cancer throughout the national territory was used as a basis. The mortality rate was calculated by dividing the absolute number of deaths by the size of the female population residing in the South region, the mean and standard deviation of deaths from data extracted on January 9, 2025. Deaths were classified by age group, underlying cause, place of residence, and female sex between 1996 and 2023. Tables and figures with trend lines and identification of the value of the coefficient of determination for polynomial regression were prepared. **Results:** There was a progressive increase in the number of deaths over the 28 years, which was statistically proven by trend analysis and confirmed the increasing linear behavior for the next three years. There was a predominance of continued growth based on the polynomial trend pattern parameter of this outcome during the period of the time series under study, which resulted in an annual average of $15.0 + 4.1$ deaths. **Conclusion:** Female mortality from breast cancer in the southern region of Brazil shows increasing behavior with statistically proven predictability of an increase in the coming years, a fact that indicates an urgent demand for health care in the region.

Keywords: neoplasia, Brazil, lethality.

Approval CEPE/CEUA: As this is a study based on secondary public data, without the identification of the respective subjects, this type of study does not require prior approval from an Ethics Committee, as stated in resolution no. 466/2012 of the National Health Council (CNS).

Acknowledgments: CAPES (finance code 001) and CNPq.



APPLICATION OF COPPER NANOPARTICLES (CUNPS) FOR COFFEE RUST CONTROL, *Hemileia vastatrix*, AND FOLIAR MICRONUTRITION

Fausto E. Martins Oliveira^{1*}, Camaro Capanema Alves¹, Alessandra Marieli Vacari¹, Lucas Alonso Rocha¹, Eduardo J. Nassar¹

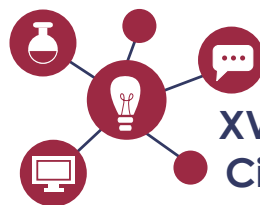
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: faustomarolli@hotmail.com

Purpose: The aim of this study is to investigate the effect of copper nanoparticles (CuNPs) application on controlling the incidence of coffee leaf rust, *Hemileia vastatrix* fungus, and foliar micronutrition in coffee plantations. **Methods:** Five types of treatments were conducted: TR1, TR2, TR3, TR4, TR5. All treatments were applied using a mixture of 20 liters of water and Tween 80, referred to as the base solution. TR1 consisted solely of the base solution, while TR2 involved the base solution with the addition of 50 ml of the commercial product Cuprazol 380HC at 2250 ppm. TR3 used the base solution with the inclusion of CuNPs at 750 ppm, TR4 involved the base solution with CuNPs at 2250 ppm, and TR5 involved the base solution with CuNPs at 3750 ppm. The evaluation of all treatments was conducted every 15 days with specific reports. Applications were performed using a Brudden SS-20B electric backpack sprayer on the Catuaí 99 cultivar, with a pump pressure flow rate regulated to 960 mL per treatment, and a duration of 12 seconds using 192 mL per plot. **Results:** The observed percentage of rust incidence was 1.9% for TR1, 2.0% for TR2, 1.4% for TR3, 1.7% for TR4, and 1.2% for TR5. **Conclusion:** This study has been conducted for three years and presented promising results for treatments containing CuNPs in controlling rust incidence compared to the commercial product. Additionally, no product residue was found, and visually, growth was observed in plants that underwent treatments with CuNPs. After the completion of applications, specific laboratory analyses will be conducted on the leaves collected from each treatment to study product residuals and nutrient content.

Keywords: coffee, rust, incidence, copper nanoparticles.

Acknowledgments: Unifran, NanoBoost, CAPES (finance code 001), and CNPq.



EVALUATION OF THE GENOTOXIC POTENTIAL OF GREEN COFFEE OIL (CONDIRE KWMAX®) IN SWISS MICE

Fernanda de Freitas Noronha¹, Gabriella Rocha Vicente de Souza¹, Matheus Reis Melo¹, Letícia Helena dos Reis¹, Tábata Rodrigues Esperandim¹, Pedro Henrique Oliveira dos Santos¹, Agnaldo Toniato², Denise Crispim Tavares¹, Arthur Barcelos Ribeiro¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

²AG Toniai - Condire Indústria Comércio Ltda., Dois Córregos, SP, Brazil.

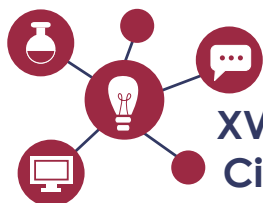
*E-mail: fernoronha09@gmail.com

Purpose: This study aimed to evaluate the genotoxic potential of Condire KWmax[®] green coffee oil in peripheral blood erythrocytes of Swiss mice. **Methods:** The study was conducted in accordance with OECD Guideline 474 (2016) for the mammalian erythrocyte micronucleus test. Animals were randomly assigned to five groups (n = 5 per group). Condire KWmax[®] was administered orally by gavage at doses of 500, 1000, and 2000 mg/kg body weight (0.2 mL/animal), as recommended by the OECD. A vehicle control group (Tween 80 at 2.5%) and a positive control group (doxorubicin hydrochloride, DXR; Bergamo[®], 0.9 mg/kg body weight, administered intraperitoneally at 0.3 mL/animal) were included. All test solutions were freshly prepared immediately prior to administration. Treatments were administered in two consecutive doses, with a 24-hour interval between them. Forty-eight hours after the second administration, animals were euthanized with an overdose of Tiopentax[®] (840 mg/kg body weight), and peripheral blood samples were collected for analysis. **Results:** Condire KWmax[®], administered at doses ranging from 500 to 2000 mg/kg body weight, did not induce genotoxicity or systemic toxicity in any of the treated groups compared to the vehicle control (Tween 80 at 2.5%). **Conclusion:** Under the experimental conditions employed, Condire KWmax[®] green coffee oil exhibited no genotoxic or systemic toxic effects in Swiss mice.

Keywords: *Coffea arabica*; natural products; micronucleus test; OECD guideline 474.

Approval CEUA: 3.260.150.421

Acknowledgments: FAPESP (2022/00806-4), CAPES (finance code 001), CNPq and Condire Indústria Comércio.



CINDERELLA RETELLINGS: DIALOGUES AND REINTERPRETATIONS

Fernanda da Silva Ulian^{1*}, Marilurdes Cruz Borges¹.

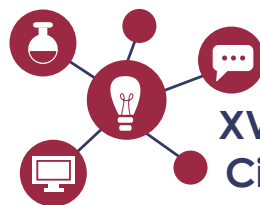
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

*E-mail: ffernanda.ulian@gmail.com

Purpose: To analyze the classic fairy tales *Cinderella* by Charles Perrault and *Aschenputtel* (Cinderella) by the Brothers Grimm in order to observe how they engage with their historical and cultural contexts of production and are reinterpreted in the contemporary retelling *Geekerella* by Ashley Poston. **Method:** This qualitative research presents a bibliographic and analytical study, grounded in the concepts of dialogism and chronotope as proposed by Bakhtin (2011, 2018). Analyzing the linguistic and visual elements that construct the main characters and their identities allows for an understanding of how classic themes in children's and young adult literature take on new ideological values and adapt to different readers and age groups. **Results:** : Although the three narratives share the same archetypal structure of the fairy tale, they reflect ideological reinterpretations shaped by the chronotope of their respective productions. In Perrault's version, there is a clear emphasis on obedience and female docility, aligning with the values of aristocratic society. The Brothers Grimm's version adopts a darker tone, with a strong moralistic influence, highlighted by the punishment of the wicked stepsisters and a stronger connection to the sacred, reinforcing religious elements and the concept of divine justice. In *Geekerella*, the narrative is infused with pop culture, and the values shift toward themes such as identity, belonging, and female empowerment. **Conclusions:** The two classic tales and the contemporary retelling reveal thematic dialogue and reflect the cultural and ideological values of their respective eras. *Geekerella* represents a critical and modern response to the classic fairy tales. As such, literary retellings contribute to the formation of critical readers, aligning with the principles of the 2030 Agenda, particularly SDG 4, which advocates for quality education.

Keywords: retelling, cinderella, dialogues, reinterpretations, bakhtin.

Acknowledgments: CAPES (finance code 001) and CNPq.



PHYTOCHEMICAL STUDY OF *Litchi chinensis* SEEDS CRUDE EXTRACT AND ANTIFUNGICAL ACTIVITY EVALUATION

Gabriele Sousa Trovo^{1*}, Jaqueline Stabile Gouveia¹, Viviani Motta Ferreira¹, Regina Helena Pires¹, Patrícia Mendonça Pauletti¹.

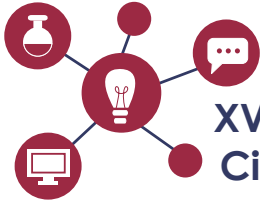
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: gabriele.strovo@gmail.com

Purpose: The aims of this study were to investigate the chemical composition and evaluate the antifungal properties of *Litchi chinensis* Sonn. seeds crude extraction and obtained fractions. **Methods:** The seeds material (2.7 kg) was extracted with ethanol, furnishing 158.1 g of crude extract. The extract (80 g) was submitted to a liquid-liquid partition. This process furnished the fractions: n-hexane, ethyl acetate, n-butanol, and aqueous. The minimum inhibitory concentrations (MIC) were obtained for extract and fractions against *Candida tropicalis* (ATCC 13803), *C. albicans* (ATCC 90028), *C. glabrata* (ATCC 2001), *C. krusei* (ATCC 6258), *C. orthopsilosis* (ATCC 96141) and *C. parapsilosis* (ATCC 22019). The fraction ethyl acetate (3 g) was chosen and submitted to a column yielding six subfractions. The subfraction 4 (1.2 g) was applied to a Sephadex LH-20 column chromatographic, the obtained subfractions were grouped according to their similarity determined by Thin Layer Chromatography (TLC) and High Performance Liquid Chromatography (HPLC). **Results:** The extract presented the best MIC values, 31.25 µg/mL and 125 µg/mL against *C. orthopsilosis* and *C. metapsilosis*, respectively. The ethyl acetate showed activity against *C. tropicalis* (250 µg/mL). Additionally, the MIC for *C. albicans*, *C. parapsilosis* and *C. glabrata* were 500 µg/mL. The other fractions were inactive. Regarding the chemical composition, the HPLC and TLC analysis indicated the presence of phenolic compounds. **Conclusion:** Ethyl acetate fraction and extract indicate capacity to combat *Candida* strains. However, further studies are required to better understand their therapeutic potential.

Keywords: antifungal, *Candida*, *Litchi*.

Acknowledgments: CAPES (finance code 001), CNPq and FAPESP.



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MORTALITY IN THE NORTHEAST REGION OF WOMEN DUE TO BREAST CANCER: A TIME SERIES ANALYSIS

Geovanna Alvim Ribeiro^{1*}, Fabiana Marques Cunha Andrade¹, Ester Lucena Garcia¹, Marcelo Ballaben Carloni¹, José Alexandre Bachur¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

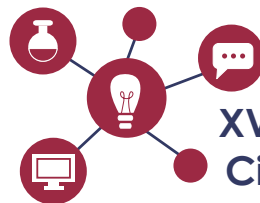
*E-mail: geovannaalvimribeiro@gmail.com

Purpose: To analyze data on the regional occurrence of female mortality from breast cancer between 1996 and 2023. **Methods:** Deaths were selected based on the underlying cause, by place of residence, female gender, and classified by age group from 1996 to 2023. The methodology includes the collection of deaths from breast cancer, segmented by age group and place of residence, with calculation of the mortality rate, averages, standard deviations, and annual percentage variations. **Results:** Data on breast cancer mortality in the Northeast showed a pattern of increasing evolution over the years, both in absolute values and in relation to the values referring to the mortality rate, despite a high annual percentage variation. Something of even greater relevance is the predictability that this phenomenon of harm to life tends to be maintained in an increasing way, especially in women aged between 40 and 69 years. **Conclusion:** The increasing female mortality from breast cancer in the Northeast over 28 years, associated with the predictability of continued growth in the coming years, should be observed as an important and urgent health demand with lethal consequences for life.

Keywords: deaths, pathology, epidemiological indicators.

Approval CEPE/CEUA: As this is a study based on secondary public data, without the identification of the respective subjects, this type of study does not require prior approval from an Ethics Committee, as stated in resolution no. 466/2012 of the National Health Council (CNS).

Acknowledgments: CAPES (finance code 001) and CNPq.



THEATER OF THE OPPRESSED IN THE PREVENTION AND REDUCTION OF VIOLENCE: AN INTEGRATIVE LITERATURE REVIEW

Giovanna Borges de Alencar^{1*}, Rodolfo José Feliciano de Almeida¹, Jorge Luiz da Silva¹.

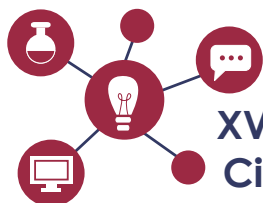
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: gioborgesalencar@gmail.com

Purpose: To identify the potential of the Theatre of the Oppressed methodology in interventions aimed at preventing and reducing violence and to analyze the outcomes of these actions. **Methods:** An integrative literature review was conducted, guided by the question: "Is the Theatre of the Oppressed used in interventions to prevent and reduce violence? If so, what results does it yield?" The PICO strategy (Population or Problem, Phenomenon of Interest, and Context) was applied. The following databases were consulted: SCOPUS, Web of Science, PUBMED, BVS, SCIELO, and EMBASE. The search terms used were: "Theater of the Oppressed" OR "Theatre of the Oppressed" AND "Violence." Only articles published in English, Portuguese, or Spanish were included. **Results:** Eleven articles out of the 160 identified met the inclusion criteria and were selected for analysis. The Theater of the Oppressed was applied in interventions addressing various forms of violence, including physical and sexual aggression, moral harassment, intimate partner violence, and school bullying. Most interventions demonstrated positive effects, such as increased awareness, critical reflection, and participant engagement in challenging social and cultural norms related to violence in different contexts and among diverse populations. Two studies reported limitations in interventions targeting school bullying, noting that not all aspects were significantly impacted. **Conclusion:** The majority of the reviewed studies indicate that the Theater of the Oppressed is an effective methodology for preventing and reducing various forms of violence.

Keywords: Theater of the Oppressed, violence, prevention.

Acknowledgments: CAPES (finance code 001) and CNPq.



***IN VIVO* EVALUATION OF THE ANTIMELANOMA EFFECT OF THE RUTHENIUM COMPLEX [Ru(2mq)(dppen)₂]PF₆**

Giovanni Tozzi Nogueira^{1*}, Fernanda de Freitas Noronha¹, Matheus Reis Melo¹, Marcos Vinícius Palmeira de Mello²; Alzir Azevedo Batista², Denise Crispim Tavares¹, Heloiza Diniz Nicolella^{1,2}.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

²Federal University of São Carlos, UFSCar, São Carlos, Brazil, 13565-905.

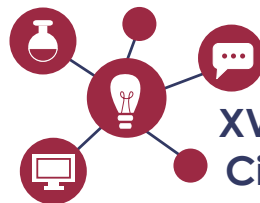
*E-mail: giovanninogueira28@gmail.com

Purpose: Cancer is a group of diseases characterized by the uncontrolled proliferation of cells with DNA mutations and metastatic potential, which can lead to premature death. Among the most common types of cancer, skin cancer stands out, with melanoma being the most aggressive and lethal subtype. Melanoma arises from the uncontrolled proliferation of melanocytes and has a higher incidence in young and middle-aged adults. Furthermore, it tends to develop acquired resistance to conventional therapies, highlighting the need to explore alternative treatments for this type of cancer. In this context, ruthenium complexes have emerged as potential chemotherapeutic agents due to their favorable biochemical properties. Thus, the present study aimed to evaluate the antitumor effect and toxicity of the ruthenium complex [Ru(2mq)(dppen)₂]PF₆ in a murine melanoma model. **Methods:** To this end, B16F10 cells were inoculated into the dorsal region of C57BL/6 mice, which received intratumoral treatment with [Ru(2mq)(dppen)₂]PF₆ at a dose of 5 mg/kg of body weight for five consecutive days. Toxicological parameters, such as body weight gain and tissue mass, were also evaluated. **Results:** The results showed a significant reduction in tumor mass in treated animals compared to the control group and no signs of toxicity. **Conclusion:** Based on these findings, it can be concluded that, under the experimental conditions used, the ruthenium complex exhibited *in vivo* anti-melanoma activity, highlighting the importance of further studies to understand the mechanisms of action involved in this therapeutic effect.

Keywords: metal complexes, melanoma, toxicity, ruthenium.

Approval CEPE/CEUA: 2.862.141.124

Acknowledgments: Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP #24/14628-6), Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES, finance code 001) and Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq).



HYDRATION STATUS ASSESSMENT OF BEACH TENNIS PRACTITIONERS IN A CITY FROM THE INTERIOR OF SÃO PAULO

Guilherme Ferreira Corrêa^{1*}, Daniel dos Santos¹.

University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

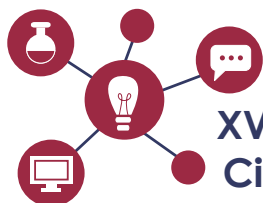
*E-mail: guilhermecorrea044@gmail.com

Purpose: To assess the hydration status of amateur beach tennis athletes before and after two consecutive matches. **Methods:** Eight male athletes participated in the study, with a mean age of 29.5 ± 13.35 years, body weight of 87.44 ± 12.01 kg, height of 1.83 ± 2.45 m, training experience of 3.5 ± 0.76 years, training frequency of 4.13 ± 1.55 days/week, and weekly training volume of 6.5 ± 4.17 hours. Each match lasted 50 minutes. Urine specific gravity (USG) was measured using a portable refractometer before each match to determine hydration status. Body weight was recorded before and after the matches to estimate fluid loss. **Results:** Matches were played under an average ambient temperature of 26.64 ± 0.99 °C and relative humidity of $62.71 \pm 3.49\%$. Perceived exertion at the end of each match, assessed using the Borg scale (0–10), was 4.5 ± 2 , indicating low-intensity effort. Pre-match USG was 1026 ± 3.77 , ranging from 1020 to 1030, indicating that most athletes began in a hypohydrated state (USG >1020 g/mL). The mean percentage change in body weight from pre- to post-match was $-1.0 \pm 0.88\%$, ranging from 0 to -2.8%. Mean fluid intake during matches was only 0.21 ± 0.20 liters. **Conclusion:** Athletes began matches in a state of hypohydration and did not adequately replace fluid losses, resulting in mild dehydration. These findings highlight the importance of individualized hydration strategies before and during exercise to maintain thermoregulation, cardiovascular function, and physical performance.

Keywords: hydration, beach tennis, urine specific gravity, physical performance, fluid loss.

Approval CEPE: 84598024.0.0000.5495

Acknowledgments: CAPES (finance code 001), CNPq.



INTEGRATED MANAGEMENT OF COFFEE RUST: EFFICACY OF CHEMICAL, COPPER-BASED, AND BIOLOGICAL PRODUCTS IN *Coffea arabica*

Guilherme Nunes Martins^{1*}, Anne Elise Cesarin¹, Andriely Borges da Silva¹, Alessandra Marieli Vacari¹.

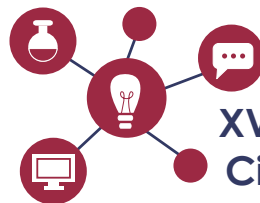
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: mariaferreirafreitas01@gmail.com

Purpose: Coffee cultivation holds great economic significance for Brazil and globally. However, it faces phytosanitary challenges, with coffee rust, caused by the fungus *Hemileia vastatrix*, being the most serious disease. This pathology leads to premature leaf drop, which may result in branch dieback and reduced future productivity. Rust control primarily relies on synthetic fungicides with preventive or curative action, depending on their chemical class. This study aimed to identify the most effective management strategy for coffee rust through the rotation of different products: the chemical fungicide Sphere Max[®] (triazole + strobilurin), the copper-based Tutor[®] (copper hydroxide), and the biological product BIO-Imune[®] (*Bacillus subtilis*). **Methods:** Eight treatments were evaluated—applied individually or in combination—with three replicates each, totaling 24 plots in a randomized block design. The experiment was conducted in Cristais Paulista, SP, and applications followed the recommended intervals product labels. Disease incidence, severity, and defoliation were assessed every 30 days following first application. **Results:** Sphere Max[®], both alone and in combination with BIO-Imune[®], showed the highest efficacy in rust control. Tutor[®] demonstrated intermediate performance and is more suitable for preventive applications. The biological product applied alone did not show significant control. **Conclusion:** Product rotation strategies—particularly those including Sphere Max[®]—proved effective in managing coffee rust and should be considered in integrated disease management programs.

Keywords: *Coffea arabica*, biological control, foliar diseases, fungicides, integrated disease management.

Acknowledgments: FAPESP (2020/02182-2), CAPES (finance code 001) and CNPq.



IN VITRO EVALUATION OF THE ANTIMICROBIAL ACTIVITY OF CIS- AND TRANS-COMMUNIC ACIDS AGAINST CARIOGENIC BACTERIA

Guilherme Araújo Ferreira^{1*}, Taís Mito Siqueira¹, Maria Anita Lemos Vasconcelos Ambrósio¹, Rodrigo Cassio Sola Veneziani¹.

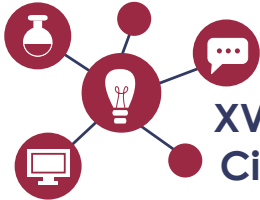
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: guilhermeaferreira12@gmail.com

Purpose: The aim of this study was to evaluate the *in vitro* antimicrobial activity of *cis*- and *trans*-communic acids (two natural products from *Araucaria* brown propolis) against a representative panel of bacteria related to dental caries (*Streptococcus mutans*, *Streptococcus mitis*, *Streptococcus sanguinis*, *Streptococcus sobrinus*, *Lactobacillus casei*, *Streptococcus salivarius*, and *Enterococcus faecalis*). **Methods:** The microdilution method in microplates was used to determine the Minimum Inhibitory Concentration (MIC) and the Minimum Bactericidal Concentration (MBC), using chlorhexidine digluconate as a positive control and resazurin as an indicator of bacterial growth. **Results:** Both *trans*- and *cis*-communic acids showed MIC values ranging from 3.12 to 50 µg/mL. Against *S. mutans*, *S. mitis*, and *S. sanguinis*, MIC values were 3.12 µg/mL, 6.25 µg/mL, and 6.25 µg/mL, respectively. MBC values for both acids were equal to the MICs, indicating that bacteriostatic and bactericidal concentrations did not differ. **Conclusion:** Based on the results obtained, it can be concluded that *trans*-communic and *cis*-communic acids show promising activity against bacteria that cause dental caries.

Keywords: *cis*-communic acid, *trans*-communic acid, antibacterial, caries.

Acknowledgments: FAPESP (17/04138-8), CAPES (finance code 001) and CNPq.



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ANALYSIS OF THE DESIGN PROCESS AND ITS INFLUENCE ON THE RESULT IN THE SUSTAINABILITY OF ARCHITECTURE

Gustavo Pereira Gomide^{1*}, Luciano de Andrade de Sousa¹.

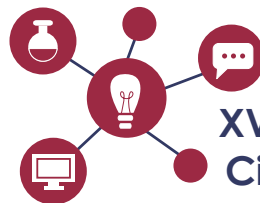
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: gustavo.p.gomidi@gmail.com

Purpose: This study evaluates how architectural design processes, including methods and decision-making strategies, influence the alignment of the final built work with the core pillars of sustainability. **Methods:** Based on Bryan Lawson's theoretical framework, this study defines a design method and interprets sustainability through its triple pillars (social, environmental, and economic), relevant laws, and building certifications (such as LEED). These elements are applied to a case study to analyze how design methods and decision-making influence a building's sustainability performance. **Results:** The analysis revealed that decisions made during the early stages of architectural design play a crucial role in determining a building's environmental, social, and economic performance, thereby significantly impacting its overall sustainability. **Conclusion:** The design process is key to addressing climate change. The chosen design methods and decisions made throughout the process have the potential to effectively align construction practices with the three pillars of sustainability: environmental, social, and economic.

Keywords: project methodology, sustainability, architecture.

Acknowledgments: CAPES (finance code 001) and CNPq.



EFFECTIVENESS OF INTERVENTIONS AIMED AT PREVENTING OR REDUCING CYBERBULLYING AMONG SCHOOLCHILDREN: A SYSTEMATIC LITERATURE REVIEW

Igor Fernandes de Castro^{1*}, Micaele Ribeiro Rodrigues Heitor¹, Jorge Luiz da Silva¹.

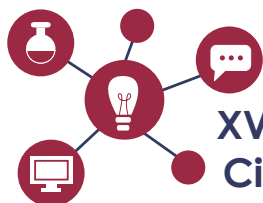
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: igorfdcc@gmail.com

Purpose: To analyze the effectiveness of interventions aimed at preventing or reducing cyberbullying among schoolchildren. **Methods:** This systematic literature review involved a bibliographic search across seven databases, using the following keywords: *cyberbullying AND schools AND "randomized controlled trial."* The guiding question, formulated according to the PICO strategy (Patient or Problem, Intervention, Control or Comparison, Outcomes), was: "What is the effectiveness of interventions aimed at preventing or reducing cyberbullying among schoolchildren?" Only randomized controlled trials (RCTs) published in the last five years (2020–2024), in article format and written in Spanish, English, or Portuguese, were included. Two independent reviewers conducted the search and selected the studies. The full texts of the selected articles were read and their data analyzed. **Results:** A total of 56 articles were initially identified. Of these, 28 were duplicates and 20 did not meet the inclusion and exclusion criteria. As a result, eight articles were included in the review. Of these, six reported effective results in preventing or reducing the victimization and perpetration of cyberbullying. **Conclusion:** The RCTs analyzed showed varied outcomes, likely due to differences in the procedures adopted and the influence of sociocultural contexts. Further research is needed to identify interventions with the potential to be effective across diverse settings.

Keywords: cyberbullying, schools, randomized controlled trial.

Acknowledgments: CAPES (finance code 001) and CNPq.



ANTIMICROBIAL ACTIVITY OF MICROENCAPSULATED *BURSERA GRAVEOLENS* ESSENTIAL OIL AGAINST MULTIDRUG- RESISTANT *PROTOTHECA BOVIS* FROM BOVINE MASTITIS CASES

Isabelly Moreira Colombo^{1*}, Amanda Marques de Figueiredo¹, Sabrina Valadão Vilela dos Reis^{2,3}, Leandra Maria Diniz Batista Leite³, Alex Alves Rodrigues⁴, João Victor Baldin Neder^{4,5}, Isabela Cristina Gomes Honório³, Silvio de Almeida Junior^{1,2}.

¹Graduate Program in Animal Science, University of Franca, Franca, Brazil, 14404-600.

²Biosciences and Health Laboratory, Department of Biosciences, State University of Minas Gerais, Passos, Brazil, 37074-094.

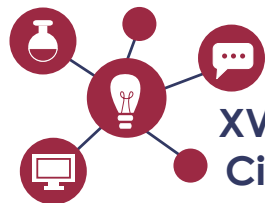
³HortGen, Department of Agrarian and Earth Sciences, State University of Minas Gerais, Passos, Brazil, 37074-094.

⁴Institute for Energy and Nuclear Research, São Paulo, Brasil, 05508-000.

⁵School of Veterinary Medicine, São Judas Tadeu University, São Paulo, Brazil, 05503-001.

*E-mail: isa.collombo@gmail.com

Purpose: To evaluate the antimicrobial activity of microencapsulated *Bursera graveolens* essential oil against multidrug-resistant *P. bovis* strains isolated from clinical mastitis cases in dairy cattle. **Methods:** The essential oil of *B. graveolens* was commercially acquired and chemically analyzed using gas chromatography coupled to mass spectrometry (GC-MS). Microencapsulation was performed under constant stirring and temperature control. Particle size and dispersion were evaluated by dynamic light scattering (DLS) using the Litesizer 500 (Anton Paar GmbH, Austria). Antimicrobial activity was initially screened through the disk diffusion method (15 μ L/pure essential oil). Subsequently, broth microdilution assays were used to determine the minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC), in a concentration range of 0.195–200.0 μ g/mL. **Results:** GC-MS analysis identified D-limonene (38.70%; RT: 8.91) and α -terpineol (17.31%; RT: 15.21) as major constituents of the essential oil. DLS revealed nanostructures with a mean hydrodynamic diameter of 179.4 ± 51.7 nm and a polydispersity index (PDI) of $28.6 \pm 3.7\%$, indicating a relatively homogeneous distribution. The average light scattering intensity (280.34 kcps) indicated good colloidal stability. The pure essential oil showed MIC and MBC values of 1.56 μ g/mL. The microencapsulated formulation (containing 30% essential oil) maintained the same MIC (1.56 μ g/mL) and had a slightly higher MBC (3.12 μ g/mL), indicating effective antimicrobial activity even after encapsulation. **Conclusion:** Microencapsulated *B. graveolens* essential oil retained strong antimicrobial activity against multidrug-resistant *P. bovis* and demonstrated suitable physicochemical characteristics. These findings support its potential use as an alternative therapeutic strategy for controlling bovine mastitis in veterinary practice.

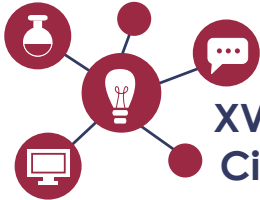


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Keywords: dynamic light scattering, microbiology, natural products, plants, phytotherapy.

Approval CEPE/CEUA: UEMG 03/2025.

Acknowledgments: CAPES (finance code 001), PIBIC-AF/CNPq (13/2023), PIBIC-AF/CNPq (14/2024), PQ (13/2024), PIBIC/UNIFRAN, IPEN SP.



BULLYING AND ITS ASSOCIATIONS WITH ACCESS TO TECHNOLOGY AND MENTAL HEALTH OF SCHOOL CHILDREN

Izabella Galo Marques^{1*}, Jorge Luiz da Silva¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

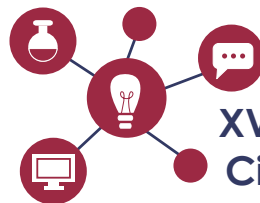
*E-mail: iza.galomarques@gmail.com

Purpose: To identify the prevalence of aggression and bullying victimization among Brazilian students and analyze its association with mental health variables, as well as access to and use of mobile phones, computers, and the Internet. **Methods:** This cross-sectional, population-based study used data from the National School Health Survey. A total of 165,838 students from 7th to 12th grade in public and private schools located in urban and rural areas participated. Data were collected via self-administered questionnaires and statistically analyzed using logistic regression with odds ratio estimates. **Results:** The prevalence of bullying was 12% for perpetration and 22% for victimization. Male students aged 13 to 17 and female students aged 18 or older were more likely to perpetrate bullying. Victimization was lower among students over 13 years of age, regardless of gender. Having more friends was associated with perpetration among girls. Longer screen time was associated with victimization for girls and perpetration for both sexes. Having a mobile phone and Internet access at home was negatively associated with both perpetration and victimization for boys and girls. Having a computer was negatively associated with victimization for boys and with perpetration for girls. All mental health variables were associated with both victimization and perpetration for both sexes, except feeling very worried, which showed a negative association. **Conclusion:** The variations in the results highlight the importance of implementing contextualized strategies to prevent and reduce bullying among male and female students.

Keywords: bullying, smartphone, internet, mental health.

Approval CEPE/CEUA: According to CNS Resolution 510/2016, public data do not require ethics committee approval.

Acknowledgments: FAPESP (2025/02909-3), CAPES (finance code 001) and CNPq.



TECHNICAL ASSISTANCE AS AN INSTRUMENT OF URBAN EQUITY: A STUDY ON LAW 11.888/2008 IN FRANCA/SP

Jhenifer Aparecida de Souza Milani^{1*}, Mauricio de Azevedo Valentini¹.

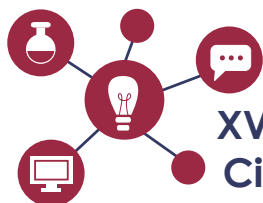
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: jhenifermilane@gmail.com

Purpose: This research aims to analyze the role of architects in the implementation of Law No. 11.888/2008, which guarantees free public technical assistance for low-income families in the design and construction of social housing projects. Although this law represents a significant milestone in securing the right to adequate housing, its application remains limited in many Brazilian municipalities, including Franca/SP—a mid-sized city in the interior of São Paulo marked by urban segregation processes and unregulated peripheral expansion. **Methods:** This is a qualitative, exploratory, and descriptive study, divided into three stages: (1) literature and documental review on social housing and public policies; (2) case study analysis in Franca/SP, focusing on local experiences related to Technical Assistance for Social Housing (ATHIS); and (3) data interpretation through content analysis, aiming to identify patterns and challenges in the professional practices of architects. **Results:** The study aims to identify specific obstacles to the implementation of Law No. 11.888/2008 in Franca, such as the absence of municipal ATHIS programs, weak institutional coordination, and lack of effective public policies. Additionally, it seeks to highlight best practices and potential strategies to strengthen technical assistance initiatives within peripheral communities. **Conclusion:** When architects engage with public policies and interdisciplinary strategies, their work can play a vital role in reducing urban inequalities and enhancing the right to the city in local contexts such as Franca.

Keywords: ATHIS, Law 11.888/2008, social housing, architecture, urban equity, Franca-SP.

Acknowledgments: CAPES (finance code 001) and CNPq.



EVALUATION OF SOYBEAN PRODUCTIVITY WITH INOCULATION AND COINOCULATION OF *BRADYRHIZOBIUM JAPONICUM* AND *AZOSPIRILLUM BRASILENSE*

João Pedro Melo do Nascimento^{1*}, Eduardo Barbosa Morais Ferroni¹, Alessandra Mariele Vacari¹,
Eduardo Ferreira Molina¹, Bruno Andrade Fico¹.

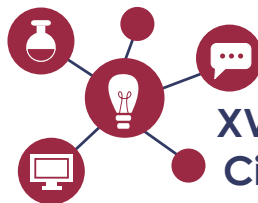
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

*E-mail: jmelo338@yahoo.com / moraiseduardo788@gmail.com

Purpose: The aim of this study was to evaluate the effects of inoculation with *Bradyrhizobium japonicum* and coinoculation with *Azospirillum brasilense* on the growth and productivity of soybean (*Glycine max*) under field conditions. **Methods:** The experiment was conducted in Itirapuã-SP using a completely randomized design with three treatments and eight replicates: T (control, no inoculant), T1 (inoculated with *Bradyrhizobium japonicum*), and T2 (coinoculated with *Bradyrhizobium japonicum* + *Azospirillum brasilense*). Variables evaluated included number of internodes, root depth, plant height, pod length, and final yield. Treatments were applied at recommended commercial doses during seed treatment. **Results:** Treatment T2 (coinoculation) promoted the most vigorous plant development, with superior root system expansion, taller plants, and a significantly greater number of internodes compared to the control. In yield performance, T2 reached an average of 40.23 sacks/ha, while T1 yielded 35.56 sacks/ha and the control 33.3 sacks/ha. Statistical analysis confirmed that the differences between T2 and the other treatments were significant ($p < 0.05$). The 17.3% increase in productivity over the control highlights the effectiveness of coinoculation in enhancing biological nitrogen fixation (BNF) and improving nutrient uptake and plant vigor under field conditions. **Conclusion:** Coinoculation with *Bradyrhizobium japonicum* and *Azospirillum brasilense* proved to be an efficient agronomic strategy for increasing soybean productivity. In addition to improving plant development, it contributes to sustainable agriculture by reducing the need for nitrogen fertilizers.

Keywords: biological nitrogen fixation, plant growth-promoting microorganisms, sustainable agriculture, agronomic performance, seed treatment.

Acknowledgments: CAPES (finance code 001) and CNPq.



POLYMERIC NANOGELS OBTAINED BY CLICK REACTION

José Eduardo da Silva, Gustavo Tosta^{1*}, Eduardo Ferreira Molina¹, Heber Eduardo Andrada¹.

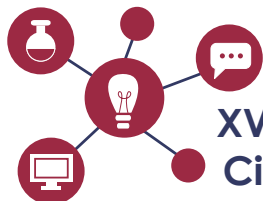
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: gtosta08@gmail.com / dsgm203@gmail.com

Purpose: The aim of this study was to develop and evaluate polymeric nanogels obtained via click reaction for cucumber seed priming, aiming to enhance the synergistic effect of micronutrients, particularly Fe and Zn. **Methods:** Polymeric nanogels were synthesized using Jeffamine ED-600 and diepoxy polyethylene glycol (DPEG) through a catalyst-free, one-pot aqueous polymerization. The resulting Nano500 nanogels were characterized using DLS (hydrodynamic diameter, ζ potential), TEM, and SAXS techniques. Cytotoxicity and biocompatibility were evaluated through XTT assay in human fibroblast cells. Cucumber seeds (*Cucumis sativus*) were primed with nanogel solutions containing Fe or Fe/Zn and compared to conventional treatments using Fe-EDTA and water controls. Germination performance (root and shoot growth), as well as elemental uptake and distribution, were assessed through μ -XRF analysis. **Results:** Nano500 nanogels displayed nanometric size, negative ζ potential, and spherical morphology. XTT assays confirmed biocompatibility at working concentrations. Seed priming with Nano500-Fe and Nano500-Fe/Zn improved root and shoot development compared to free Fe treatments. μ -XRF analysis revealed efficient encapsulation and tissue-specific delivery of Fe in the embryo and cotyledon. **Conclusion:** The click-synthesized nanogels (Nano500) represent a simple, scalable, and eco-friendly platform for micronutrient delivery in agriculture. Their use improved seed germination and micronutrient uptake, demonstrating potential for sustainable seed technologies.

Keywords: polymeric nanogels, click reaction, seed priming, nanocarriers, micronutrients.

Acknowledgments: FAPESP, CAPES (finance code 001), CNPq.



SYNTHESIS AND CHARACTERIZATION OF POLYMERIC PARTICLES: PERSPECTIVES AS MULTIFUNCTIONAL CARRIERS

Júlia Botelho Pucci^{1*}, Enzo Ernani¹, Vanessa Silveira de Alencar Silva¹, João Vitor Damante¹, Bruno Andrade Fico¹, Felipe Breda Alves¹, Eduardo Ferreira Molina¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: juliabotelho855@gmail.com

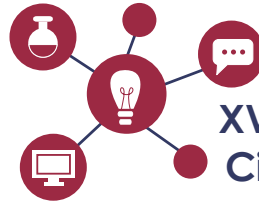
Purpose: To synthesize structured polymeric systems of micro or nanometric size for agricultural applications. After obtaining the polymeric particles, characterize them using different techniques such as dynamic light scattering (DLS) and evaluate the surface charge through zeta potential. Next, the possibility of incorporating nutrients into the polymers was evaluated, initially with copper-based species. The copper complex used acts as a plant growth stimulant, promoting greater photosynthesis and plant vigor. In foliar applications, it contributes to a more intense coloration of the leaves, reflecting a general improvement in plant health. The aim of this study was to evaluate the incorporation and release of the copper-based biostimulant encapsulated in polymeric nanogel particles.

Methods: Polyetheramine (PPO) based monomers and an epoxide Poly(ethylene glycol) diglycidyl ether) were used to obtain the polymeric gels. The systems were characterized by TEM - Transmission Electron Microscopy and the particle size and surface charge were obtained using the dynamic light scattering (DLS) technique and zeta potential.

Results: The particles obtained, pure polymer and containing copper showed sizes of 400 nm and 309 nm and positive surface charge values of +20 mV and +22 mV, respectively. TEM analysis showed the formation of spherical particles in both samples with and without copper. **Conclusion:** In future trials, the aim of this incorporation will be for foliar application to various crops, promoting the controlled release of the nutrient to improve plant vigor.

Keywords: amine-epoxide, nanogels, sustainable agriculture.

Acknowledgments: FAPESP (2021/06552-1), CAPES (Finance Code 001) and CNPq.



EPIDEMIOLOGICAL PROFILE OF PREGNANT WOMEN IN BRAZILIAN REGIONS (2020-2021)

Júlia Goulart Oliveira^{1*}, Marisa Afonso de Andrade Brunherotti¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

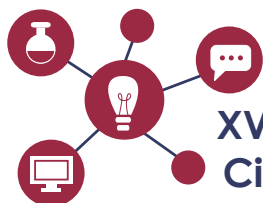
*E-mail: juliagoulartoliv@gmail.com

Purpose: To characterize the profile of pregnant women in Brazilian regions between 2020 and 2021. **Methods:** This ecological study used public data from the Live Birth Information System (SINASC). The variables analyzed were: age, education level, marital status, number of prenatal visits, month of prenatal care initiation, type of delivery, Robson classification, and Apgar scores at the 1st and 5th minutes. Data were organized into frequency distribution tables and statistically evaluated. **Results:** There was a predominance of single pregnant women (47.70%) and those with 8 to 11 years of education (62.57%) nationwide. The most frequent age groups varied: 20-24 years in the North (28.44%) and Northeast (25.74%), and 25-29 years in the Central-West (25.18%), Southeast (24.40%), and South (25.33%) regions. Cesarean section was the most common type of delivery in Brazil (57.11%), except in the North, where vaginal delivery predominated (51.00%). Most pregnant women started prenatal care in the 2nd month (39.31%) and had seven or more visits (72.06%). Apgar scores at the 1st and 5th minutes were mostly between 8 and 10 (91.67%), indicating good vitality at birth. Robson Classification Group 5 (previous cesarean) predominated in the Central-West (28.24%), Southeast (25.24%), and South (26.67%). **Conclusion:** The profile of Brazilian pregnant women showed regional variations, especially regarding age and type of delivery. The high prevalence of cesarean sections highlights the need to review obstetric practices and strengthen regional maternal health policies.

Keywords: pregnancy, epidemiology descriptive, epidemiological profile, Brazil.

Approval CEPE/CEUA: According to CNS Resolution 510/2016, public data do not require ethics committee approval.

Acknowledgments: FAPESP, CAPES (finance code 001) and CNPq.



EVALUATION OF *Handroanthus impetiginosus* EXTRACTS FOR THE DEVELOPMENT OF A BOTANICAL INSECTICIDE AGAINST *Diaphorina citri*

Júlia Lara Nogueira^{1*}, Pedro Sandoval dos Santos Ribeiro Cavallari¹, Samarah Gomes de Almeida¹, Ana Júlia Cintra¹, Maria Madalena Umbelina Chiarelo da Silva¹, Kamila Gabrielly Ribeiro Alves¹, Alessandra Marieli Vacari¹.

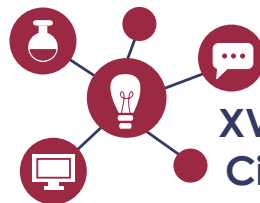
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: julialaranogueira@hotmail.com

Purpose: This study aimed to evaluate the insecticidal activity of extracts obtained from the bark, flowers, leaves, fruits, and seeds of *Handroanthus impetiginosus* against the Asian citrus psyllid, *Diaphorina citri* (Hemiptera: Psylloidea: Liviidae), with the goal of developing a new botanical insecticide for use in the management of *D. citri*. **Methods:** Preliminary tests were conducted using ethanolic extracts prepared from different plant parts—bark, flowers, leaves, fruits, and seeds of *H. impetiginosus*—to identify the most promising candidates for *D. citri* control. Based on the screening results, extracts that caused the highest mortality were selected for further bioassays to estimate the LC₅₀ and LC₉₀ values (lethal concentrations required to kill 50% and 90% of the adult insects, respectively). In addition, LT₅₀ values (lethal time to kill 50% of the population) will be determined using selected concentrations based on the mortality data obtained. **Results:** In the bioassays conducted to assess lethal time, the seed extract supernatant caused a cumulative mortality of 55% after 10 evaluations conducted at 30-minute intervals. These findings indicate a significant insecticidal effect of the *H. impetiginosus* seed extract against *D. citri*, demonstrating its potential for future application in integrated pest management (IPM). **Conclusion:** The seed extract of *Handroanthus impetiginosus* exhibits notable insecticidal activity against *Diaphorina citri*, supporting its potential as a natural alternative for sustainable pest control in citrus crops.

Keywords: integrated pest management, botanical insecticide, citrus psyllid.

Acknowledgments: FAPESP (2023/14014-5), CAPES (finance code 001) and CNPq.



DEVELOPMENT AND SURVIVAL OF *Chrysoperla externa* FED ON *Diatraea saccharalis* EGGS AND LARVAE: IMPLICATIONS FOR BIOLOGICAL CONTROL

Kamila Gabrielly Ribeiro Alves^{1*}, Samarah Gomes de Almeida¹, Maria Madalena Umbelina Chiarelo da Silva¹, Julia Lara Nogueira¹, Leonardo Fontoura Jardini¹, Pedro Sandoval dos Santos Ribeiro Cavallari¹, Alessandra Marieli Vacari¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: kamila.gabrielly.ribeiro.alves@gmail.com

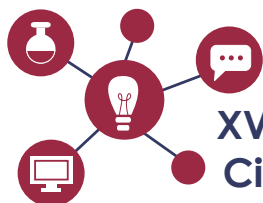
Purpose: Species of the genus *Chrysoperla* (Neuroptera: Chrysopidae) are among the most voracious natural enemies used in biological control. This study aimed to evaluate the predatory potential of *Chrysoperla externa* against *Diatraea saccharalis* (Lepidoptera: Crambidae), a major pest of sugarcane, in order to support future control programs.

Methods: For each treatment, 50 larvae of *C. externa* were used. The following treatments were applied: (1) control group fed non-viable eggs of *Ephesia kuehniella*, (2) larvae fed clutches of 20 *D. saccharalis* eggs, and (3) larvae fed 20 first-instar *D. saccharalis* larvae. Larvae were monitored daily until adult emergence, and developmental parameters were recorded. **Results:** When fed on *D. saccharalis* eggs, *C. externa* larvae exhibited a mean larval period of 9.7 days and a pupal period of 8.9 days, with a survival rate of 50% to adulthood. When fed on *D. saccharalis* larvae, the predator showed a longer larval period of 12.6 days and a shorter pupal period of 6.56 days, with 44% of individuals reaching adulthood. In the control group, fed non-viable *Anagasta kuehniella* eggs, the larval and pupal periods averaged 9.4 and 9.0 days, respectively, with a survival rate of 66%.

Conclusion: These results indicate that *D. saccharalis* is a viable, though suboptimal, prey for *C. externa*, supporting its potential use in biological control programs. However, further studies are needed to evaluate its efficiency under field conditions and to optimize rearing protocols and application strategies.

Keywords: *Coffea* spp., green lacewing, biological control.

Acknowledgments: FAPESP (2023/14014-5), CAPES (finance code 001) and CNPq.



INTERCROPPING STRATEGIES FOR MANAGING *Ascia monuste orseis* IN KALE CULTIVATION: A FIELD ASSESSMENT

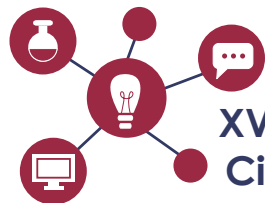
Karolayne Geloni^{1*}, Adryelle Gyovana Candido¹, Samarah Gomes de Almeida¹, Alessandra Marieli Vacar¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: karolaynegeloni7944@gmail.com

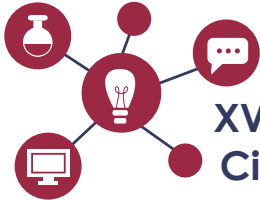
Purpose: Pest management in vegetable crops, particularly in family farming systems, faces challenges such as the intensive use of pesticides. Intercropping is a sustainable practice aimed at optimizing resource use and reducing environmental impacts, while promoting beneficial biological interactions for pest suppression. This study evaluated the effect of intercropping kale (*Brassica oleracea* var. *acephala*) with chives (*Allium schoenoprasum*) and coriander (*Coriandrum sativum*) on pest dynamics and crop productivity. **Methods:** The experiment was conducted in 21 beds in a rural area of Orlandia, São Paulo, using three treatments: sole-cropped kale, kale intercropped with chives, and kale intercropped with coriander, with seven replicates each. Pest evaluations were conducted biweekly. Statistical analyses included ANOVA to compare variables such as fresh mass, dry mass, number of *Ascia monuste orseis* eggs and larvae, and kale productivity. **Results:** ANOVA revealed no significant differences between treatments for fresh mass ($p = 0.6956$), dry mass ($p = 0.3335$), total eggs ($p = 0.9661$), total larvae ($p = 0.1973$), or productivity ($p = 0.9720$). *Ascia monuste orseis* larvae were predominant during the first 45 days. From day 30 onward, aphid infestations increased, and by day 50, *Alternaria* leaf spot (a common Brassica disease) had become widespread, causing severe damage and plant mortality. These effects were exacerbated by rain and high humidity late in the experiment. Lady beetle populations were sparse and irregular. The overall average productivity was 1,738 g/m². **Results:** ANOVA revealed no significant differences between treatments for fresh mass ($p = 0.6956$), dry mass ($p = 0.3335$), total eggs ($p = 0.9661$), total larvae ($p = 0.1973$), or productivity ($p = 0.9720$). *Ascia monuste orseis* larvae were predominant during the first 45 days. From day 30 onward, aphid infestations increased, and by day 50, *Alternaria* leaf spot (a common Brassica disease) had become widespread, causing severe damage and plant mortality. These effects were exacerbated by rain and high humidity late in the experiment. Lady beetle populations were sparse and irregular. The overall average productivity was 1,738 g/m². **Conclusions:** Under the conditions of this study, intercropping kale with chives and coriander did not significantly reduce *Ascia monuste orseis* populations nor improve kale productivity. High aphid pressure and especially the severity of *Alternaria* leaf spot were major limiting factors that likely masked any potential benefits of intercropping.

Keywords: intercropping, *Brassica oleracea* var. *acephala*, *Ascia monuste orseis*, pest management.



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Acknowledgments: FAPESP (2020/02182-2), CAPES (finance code 001) and CNPq.



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CHILDHOOD AND GENDER: MEANINGS FOR MASCULINITIES IN THE CHILDREN'S BOOKS "OS HOMENS NÃO CHORAM" AND "O PEQUENO PRÍNCIPE PRETO"

Kellen Karthunay Fradique^{1*}, Aline Fernandes de Azevedo Bocchi¹.

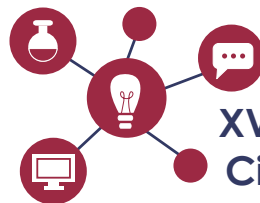
University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: karthunay@gmail.com

Purpose: To investigate how the processes of meaning attributed to children's bodies relate to discourses about what it means to be a man that are formulated and circulated in society, and which are established based on observable divisions in the different ways girls and boys play, also present in children's books. **Methods:** Analyze two children's books to understand the processes of meaning production about masculinities and what it means to be a man for a child. They are: *Homens não choram* and *O Pequeno príncipe preto*. Theoretically anchored in materialist discourse analysis, articulated with categories from gender studies and Lacanian psychoanalysis. **Results:** Given that this is ongoing research and we are currently in the bibliographic review phase, there are no analysis results to be presented at this time. However, we conducted a theoretical-critical discussion on the topic, which considers the articulation between the constitution and structuring of the subject in childhood and the values, norms, and standards offered to boys by culture, which guide the processes of identification that signify them as men. **Conclusion:** We intend to produce a reflection that can reframe issues from a critical perspective of society and gender roles, with contributions related mainly to Sustainable Development Goals 3 (health and well-being) and 5 (gender equality) of the United Nations (UN) 2023 Agenda.

Keywords: childhood, gender, masculinities, structuring of the subject.

Acknowledgments: CNPq, CAPES (finance code 001).



MISOGYNY IN HIGH DEFINITION: A READING OF ADOLESCENCE (NETFLIX) AND INSTITUTIONAL COLLAPSE. Analysis of institutional failures and the naturalization of hate speech in the adolescent digital environment.

Kharen Silveira Nascimento^{1*}, Luciana Carmona Garcia¹.

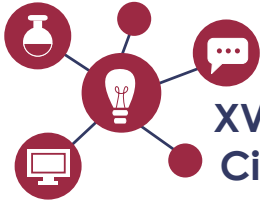
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: kharen.silna@gmail.com

Purpose: The study aims to analyze adolescent vulnerability in the digital environment, the rise of extremist discourses in the so-called "Manosphere," and the institutional failures related to this issue. **Methods:** Using the series *Adolescence* (Netflix) as a case study and drawing from a sociological and discursive perspective, this research synthesizes how the absence of adults—familial, pedagogical, and institutional—and the immoderate nature of digital platforms contribute to the fragility of adolescents and the rise of extremist and misogynistic discourses. The article is structured into three main sections: Introduction, Theoretical and Contextual Overview, and Series Analysis. Utilizing theoretical frameworks such as Welzer-Lang (2001), Fernandes (2019), and Weselovski (2022), the study further explores how adolescents construct their identities based on specific discursive formations, re-signifying meanings and progressively distancing themselves from traditional authority figures. **Results:** Based on the analysis, it was possible to identify the breakdown in parental authority and the intergenerational communication gap as substantial factors for adolescent vulnerability in the digital world. The immoderate nature of digital platforms contributes to this fragility and to the rise of extremist discourses. **Conclusion:** Throughout this analysis, it became evident that social media, when used without adult supervision, moderation, or responsibility, catalyzes society's deeper problems.

Keywords: adolescence, social media, misogyny, extremist discourses.

Acknowledgments: CAPES (finance code 001), CNPq.



ADOLESCENTS' SOCIODEMOGRAPHIC AND FOOD PROFILE IN AN EATING DISORDER PREVENTION PROJECT

Lara David Solino Bosco^{1*}, Amanda Santos Silva¹, Marina Garcia Manochio Pina¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

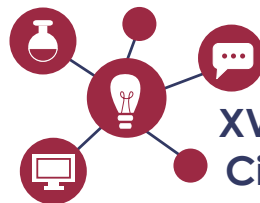
*E-mail: laradsb2002@gmail.com

Purpose: To analyze the sociodemographic and dietary profile of adolescents aged 11 to 15 years from public schools in the countryside in the state of São Paulo who participate in an eating disorder prevention program. **Methods:** Quantitative, observational, descriptive study. Anthropometric data consisted of weight and height, to calculate the Body Mass Index (BMI), according to the WHO curves. Sociodemographic data were collected through a questionnaire prepared by the authors, with information for parents/guardians to answer about themselves and their daughters, including questions about their eating habits. **Results:** Thirty-three girls aged 11 to 15 participated in the study, of which 33.33% were 12 years old. Approximately 88.24% of the questionnaires were answered by the adolescents' mothers. Regarding family income, 48.48% receive one to two minimum wages per person. Regarding eating habits, 51.51% of family members go to the supermarket more than once a week and 72.72% consider that there is a variety of fruits, vegetables, meats, eggs and milk and dairy products, while 45.45% consume ultra-processed foods three to four times a week. According to those guardians, 60.60% have already followed some type of diet, while 15.15% reported having had an eating disorder. Regarding their daughters, 9.09% have also had some type of eating disorder. **Conclusion:** The presence of natural foods in the diet was observed, but with frequent consumption of ultra-processed foods, in addition to reports of dieting practices. These findings reinforce the importance of implementing effective strategies for prevention and health promotion.

Keywords: eating and food intake disorders, profile, adolescent.

Approval CEPE/CEUA: 5.755.439

Acknowledgments: CAPES (finance code 001), CNPq.



PHYSICOCHEMICAL AND BIOCOMPATIBILITY CHARACTERIZATION OF ALGINATE/TOFU-BASED HYDROGELS LOADED WITH OF OZONATED SUNFLOWER OIL WITH A FOCUS ON CUTANEOUS APPLICATION

Larissa Maia Barbosa^{1*}, Cristiane Marissa Piacitelli Prado Ferreira¹, Julia Mirian Paulino¹, Manuela Pugliesi Assis Lima¹, Raquel Alves dos Santos¹, Eduardo Ferreira Molina¹, Jair Camargo Ferreira¹.

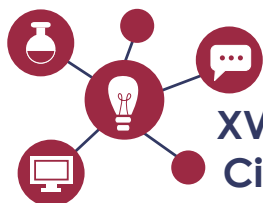
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: contato.larissamb@outlook.com

Purpose: Our goals were to characterize the effect of adding ozonized sunflower oil on the physicochemical properties of the hydrogel based on sodium alginate and tofu (SA/tofu) and to determine its biocompatibility with human fibroblast cells. **Methods:** SA/tofu based-hydrogel was enriched with ozonized sunflower oil at weight ratios of 3:1, 2:1 and 1:1 (O_3 -1, O_3 -2 and O_3 -3 SA/tofu, respectively). The absorbs at each wavelength of the different functional groups present in the structure of the hydrogels were determined FTIR. The cytotoxic potential of the hydrogels on the human fibroblasts (GM07492-A) were performed using XXT and Wound Healing assays. **Results:** SA/tofu was colorless and inodorous, while the ozonated formulations were white and have a characteristic odor. A distinct absorption peak at 1743 cm^{-1} appears in the spectra of the ozonized hydrogels regardless of the oil concentration. GM07492-A cells persisted viable after the treatment with $\leq 50\text{ }\mu\text{g/mL}$ of O_3 -3 SA/tofu or $\leq 100\text{ }\mu\text{g/mL}$ of the remained formulations (SA/tofu, O_3 -1 SA/tofu and O_3 -2 SA/tofu). Complete wound retraction occurred within 48 hours post-treatment with SA/tofu and O_3 -1 SA/tofu. **Conclusion:** The physicochemical properties of the hybrid hydrogel remain unchanged following the incorporation of ozonized sunflower oil. The three ozonized SA/tofu-based hydrogels are biocompatible with human fibroblast cells.

Keywords: biomaterials; ozone; polymer; protein gel.

Acknowledgments: FAPESP (2021/06552-1), CAPES (finance code 001) and CNPq (001; 307696/2021-9).



HIGH-RESOLUTION IMAGING OF *Spodoptera frugiperda* TO SUPPORT FIELD IDENTIFICATION AND INTEGRATED PEST MANAGEMENT IN CORN

Larissa Borges Morais^{1*}, Aline Cristina Monteiro Oliveira Matos², Kamila Gabrielly Ribeiro Alves², Alessandra Marieli Vacari².

¹Mário D'Elia, Franca, Brazil, 14400-280.

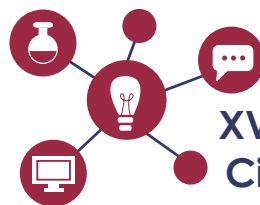
²University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: bm2101422@gmail.com

Purpose: The objective of this study is to understand the biology and agricultural relevance of *Spodoptera frugiperda*, a pest with a major economic impact, especially in corn crops. Its destructive potential and adaptability make it essential to adopt sustainable measures for its control. Thus, the study reinforces the relevance of Integrated Pest Management (IPM), which combines different tactics, such as biological control, rational use of insecticides and continuous monitoring, promoting a balanced and effective approach to combating infestation of the species. **Methods:** The images were captured using a BEL® SZT trinocular stereomicroscope equipped with a 12 megapixel camera and the Capture2.1 application, using a scale of 1 μm . **Results:** High-definition images representing the egg, larva, pupa and adult stages of *S. frugiperda* were obtained. The records showed distinct morphological features, such as the inverted "Y" mark on the larva's head and the longitudinal stripes on the body, important characteristics for identifying the pest in the field. **Conclusion:** Detailed visual analysis of the different stages of development of *Spodoptera frugiperda* contributes significantly to its early detection in crops. This makes it possible to implement faster and more assertive actions in pest management, reducing losses and promoting more sustainable agricultural practices.

Keywords: *Spodoptera frugiperda*, corn pest, agroecosystem.

Acknowledgments: FAPESP (2020/02182-2), CAPES (finance code 001) and CNPq.



OBTAINING CRUDE EXTRACTS OF *Pereskia aculeata* MILL (CACTACEAE) FOR *IN VITRO* EVALUATION OF ANTIBACTERIAL AND CYTOTOXIC ACTIVITY

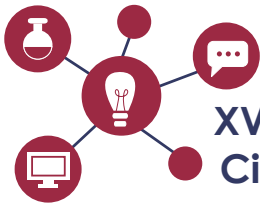
Lauane Luiza Fernandes^{1*}, Amanda Gomes da Silva¹, Guilherme Otoni Francisco¹, Leticia Amaral¹,
Elisa Gomes Lucas¹, Wilson Roberto Cunha¹, Márcio Luis Andrade e Silva¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: lauaneluiza@gmail.com

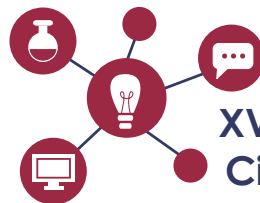
Proposal: The aim of this study was to investigate the antimicrobial potential of crude extracts from *Pereskia aculeata* Miller against *Streptococcus mutans* and other oral bacteria, as well as to assess the cytotoxic effects of the compounds on normal epithelial cells, thereby contributing to the characterization of the safety and therapeutic potential of this species. **Methodology:** The leaves of *Pereskia aculeata* were dehydrated and subjected to mechanical agitation extraction using ethanol. The crude extracts were tested for antimicrobial activity through determination of minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) using broth microdilution. Cytotoxicity was evaluated in epithelial cells using the MTT cell viability assay. Extraction yield was also calculated, and IC₅₀ was estimated. **Results:** The extract of *P. aculeata* demonstrated moderate antimicrobial activity compared to the positive control. For *Streptococcus mutans*, MIC and MBC values of 125 µg/mL were observed, while chlorhexidine showed values of 0.461 µg/mL for both parameters. Against *Streptococcus mitis*, the extract exhibited MIC and MBC of 250 µg/mL, whereas chlorhexidine maintained superior efficacy with values of 0.922 µg/mL. For *Lactobacillus casei*, the extract presented MIC and MBC of 250 µg/mL, in contrast to chlorhexidine's 0.922 µg/mL. In the cytotoxicity analysis, the extract significantly reduced cell viability from 250 µg/mL onwards, with an IC₅₀ of 524.50 µg/mL, suggesting a dose-dependent effect. The extraction yield was 7.8%, with approximately 39 g of dry extract obtained from 500 g of leaves. **Conclusion:** The findings of this research demonstrate that *Pereskia aculeata* has remarkable potential as a natural antimicrobial agent, particularly against *Streptococcus mutans*, in addition to showing controllable cytotoxic effects compatible with therapeutic applications. The expressive extraction yield and identified IC₅₀ further support the pharmacological viability of this species. These results not only confirm the biological efficacy of the extract but also highlight the relevance of this research for the development of effective and safe phytotherapeutic alternatives to combat microbial resistance, promoting the continuation and appreciation of studies involving promising plant species such as *P. aculeata*.

Keywords: Ora-pro-Nobis, medicinal use, *Pereskia aculeata*, cytotoxic activity, antibacterial activity.



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Acknowledgments: FAPESP, CAPES (finance code 001), CNPq and Unifran (University of Franca).



ANALYSIS OF KNOWLEDGE ABOUT SPIRITUALITY AND ITS APPLICABILITY BY TEACHING DOCTORS

Mariana Coelho Avelino^{1*}, Laura da Silva Araújo¹, Lays Sousa Paiva¹, José Alexandre Bachur², Márcia Simei Zanovello Duarte², Cynthia Kallás Bachur².

¹Medical Students University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

²Teachers Medical Faculty at the University of Franca, Brazil

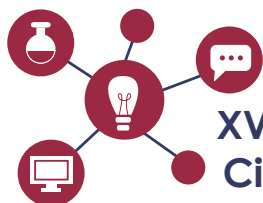
*E-mail: laurasilvaaraujo09@gmail.com

Purpose: The role of spirituality for health professionals is essential to guarantee biopsychosocial coverage and improve comprehensive patient care. To evaluate knowledge about spirituality and its applicability among teaching doctors. **Methods:** The present study was characterized by an exploratory, descriptive and cross-sectional, population-based, virtual field approach. Convenience sample and the population was made up of doctors teaching medicine at a private university. The instrument to analyze knowledge about spirituality was composed of 8 closed questions and its application in professional practice was evaluated through 5 closed questions, sent via an electronic form. **Results:** 41 teaching doctors participated, with an average age of 46 + 11.59 years. Regarding the concept of spirituality, 24 (55.8%) responded to the alternative that is "the search for meaning and importance for human life" and 24 (55.8%) also responded to the alternative "Belief in something that transcends matter". It was found that, although most participants recognized the importance of a spiritual approach in the illness process (83.7%), the minority (23.3%) felt prepared to address this issue in their daily care. **Conclusion:** It was observed that there is still divergence in the definition of spirituality and religiosity. Regarding practice, the most common barriers that discourage discussing religion/spirituality with patients is the lack of time in consultations.

Keywords: spirituality, doctor, knowledge.

Approval CEPE/CEUA: CAAE: 79066424.9.0000.5495

Acknowledgments: CAPES (finance code 001) and CNPq.



EFFECT OF DRUPANIN ON CHROMOSOMAL DAMAGE INDUCED BY THE CHEMOTHERAPY DRUG DOXORUBICIN IN RODENTS

Lavínia Cabral Lima^{1*}, Tábata Rodrigues Esperandim¹, Fernanda de Freitas Noronha¹, Letícia Helena dos Reis¹, Aparecida Cristiane Oficiati Anholetto¹, Matheus Reis Santos de Melo¹, Fernanda Rafacho Badoco¹, Stéfane D'Júlia Peixoto¹, Sérgio Ricardo Ambrósio¹, Denise Crispim Tavares¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

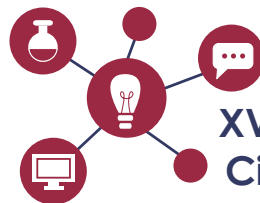
*E-mail: laviniacabrallima@gmail.com

Purpose: The present study aimed to evaluate the antigenotoxic potential of drupanin (DRP), present in green propolis, against damage caused by chemotherapy drug doxorubicin in rodents (DXR). **Methods:** The antigenotoxic activity of DRP was assessed through the micronucleus (MN) test in peripheral blood of Swiss mice. The doses used for DRP and DXR were selected based on the literature, being 0.2, 0.4, and 0.8 mg/kg body weight (b.w.) for DRP and 5 mg/kg b.w. for DXR. The frequency of MN was determined by counting 4,000 polychromatic erythrocytes (PCEs) per treatment group, and cytotoxicity was evaluated by the ratio PCEs on the total erythrocytes, analyzing 2,000 erythrocytes per treatment. **Results:** The results showed that DRP at a dose of 0.8 mg/kg b.w. led to a significant reduction (87.23%) in the frequency of DXR-induced MN when compared to the DXR control group. Additionally, groups treated with DRP and/or DXR showed PCE/TE rates that did not differ significantly from those not treated. **Conclusion:** The data obtained indicate the antigenotoxic effect of drupanin. Further studies should be conducted to better understand the mechanisms of action of DRP.

Keywords: green propolis, drupanin, micronuclei, antigenotoxicity, doxorubicin.

Approval CEPE/CEUA: 7.263.030.624

Acknowledgments: FAPESP (2017/04138-8, 2018/05080-6), CAPES (finance code 001), and CNPq.



SELECTIVITY OF INSECTICIDES TO *Chrysoperla externa* IN COFFEE CROPS: IMPLICATIONS FOR INTEGRATED PEST MANAGEMENT

Leonardo Fontoura Jardimi^{1*}, Guilherme Conceição Gonçalves², Kamila Gabrielly Ribeiro Alves¹, Marcelo Jordão Filho³, Alessandra Marieli Vacari¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

²Ihara, Sorocaba, SP, Brazil, 18087-170.

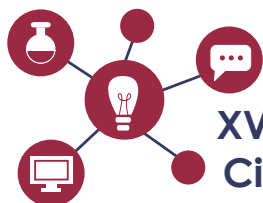
³Fundação Procafé, Franca, SP, Brazil, 14409-652

*E-mail: leonardofontourajardini@gmail.com

Purpose: This study aimed to evaluate the selectivity of various insecticides on the predator *Chrysoperla externa* (Neuroptera: Chrysopidae) in coffee-growing areas, providing valuable insights for integrated pest management (IPM) strategies. **Methods:** Bioassays were conducted at the Entomology Laboratory of the University of Franca. The following insecticides, recommended for coffee pest control, were tested: novaluron (Rimon Supra[®] - 0.5 L ha⁻¹), teflubenzuron (Nomolt[®] 150 - 0.5 L ha⁻¹), cyclaniliprole (Hayate[®] - 0.6 L ha⁻¹), methoxyfenozide + spinetoram (Revolux[®] - 0.3 L ha⁻¹), flupyradifurone (Sivanto[®] Prime 200 SL - 0.75 L ha⁻¹), etofenprox (Trebond[®] 100 SC - 2.0 L ha⁻¹), indoxacarb + novaluron (Plethora BR[®] - 0.7 L ha⁻¹), cyantraniliprole (Benevia[®] OD - 1.5 L ha⁻¹), and ethiprole (Curbix[®] 200 SC - 2.0 L ha⁻¹). The evaluation focused on both lethal and sublethal effects on *C. externa* adults. Mortality was recorded following exposure to treated leaves, and sublethal effects were assessed by counting the number of eggs and larvae produced by surviving females. Statistical analyses were conducted to determine insecticide selectivity, with classifications based on IOBC standards. **Results:** Among the insecticides tested, novaluron, chlorantraniliprole, abamectin, acetamiprid + fenpropathrin, and pyriproxyfen allowed *C. externa* females to produce offspring. These insecticides were classified as moderately harmful (class 3) due to the observed reduction in female fecundity compared to the control. **Conclusion:** The results indicate that the insecticides allowing offspring production are comparatively safer for *C. externa*. However, applications of the more harmful insecticides should be timed to periods of low predator activity to reduce direct exposure and preserve biological control agents in coffee agroecosystems.

Keywords: biological control; integrated pest management; green lacewings.

Acknowledgments: FAPESP (2024/20332-2), Capes (finance code 001) and CNPq.



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EFFECT OF PATCHOULI ESSENTIAL OIL ON *Canis familiaris*

Letícia de Faria Amaral^{1*}, Eveline Maria de Melo¹, Marcela Aldrovani Rodrigues¹, Roberta Martins Crivelaro², Marina Garcia Manochio Pina¹, Ricardo Andrade Furtado¹.

¹University of Franca, UNIFRAN, Franca, São Paulo, Brazil, 14404-600.

²Universidade Federal do Pará, Pará, Brazil, 66075-110.

*E-mail: leticia161003@gmail.com

Purpose: Aromatherapy, with essential oils such as patchouli, has been explored as a therapeutic alternative for the management of behavioral problems in animals. This study aimed to evaluate the effect of patchouli essential oil on the behavior of dogs.

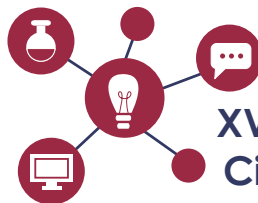
Methods: The study was conducted in two kennels, with 23 participating dogs. Patchouli essential oil was applied to the cheek region of the animals for 21 days. Behaviors were assessed before and after treatment using an adapted behavioral questionnaire and the Composite Stress Score (CES). Mice were used to assess cortisol. The animals were Control (no treatment) and Patchouli oil (inhalation/ 30 min), and cortisol was induced by immobilization for 2 hours. After this period, blood was collected for analysis.

Results: The results showed reductions in vocalization, changes in mounting behavior, improvements in emotional state, and a reduction in CES. Regarding the evaluation of cortisol, the study is in the final phase. Thus, it is evident that aromatherapy can be a useful tool in the management of anxiety and stress behaviors in dogs, and further research with different essential oils with therapeutic potential is essential.

Keywords: aromatherapy, cortisol, canine well-being.

Approval CEPE/CEUA: 6.657.240.524

Acknowledgments: CAPES (finance code 001), CNPq, and UNIFRAN.



IMPACT OF THE GLYCOALKALOID SOLAMARGINE ON U-87MG GLIOBLASTOMA CELLS: EVALUATION OF VIABILITY, MORPHOLOGICAL ALTERATIONS, AND PROTEIN EXPRESSION PROFILES

Leticia Helena Dos Reis^{1*}, Marcela de Melo Junqueira¹, Ricardo Andrade Furtado¹, Jairo Kenupp Bastos², Denise Crispim Tavares¹, Arthur Barcelos Ribeiro¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

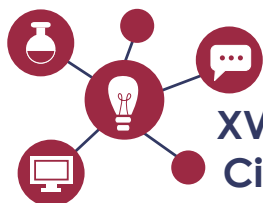
²University of São Paulo, Ribeirão Preto, SP, Brazil, 14040-900.

*E-mail: hleticia108@gmail.com

Purpose: This study evaluated the effects of the glycoalkaloid solamargine (SM) on cell viability, fluorescence-based morphological changes, and protein expression in U-87MG glioblastoma cells. **Methods:** U-87MG cells were treated with SM (2.5–20 μM) for 24 hours, and cell viability was assessed using the XTT assay, with the half-maximal inhibitory concentration (IC_{50}) determined using GraphPad Prism. For morphological analysis, cells were exposed to 20 μM SM for 1 hour or 7.68 μM for 24 hours, stained with acridine orange/ethidium bromide, and examined under fluorescence microscopy. Western blotting was performed to evaluate the expression of p53, γH2AX , and cleaved CASP-3 in cells treated with 7.68 μM SM for 24 hours, with band intensities quantified using ImageJ. **Results:** SM significantly reduced U-87MG cell viability, with IC_{50} equivalent to 7.68 μM . Morphological analysis revealed cytoplasmic retraction, irregular contours, and membrane damage after 1 hour with 20 μM SM, while 24-hour exposure to 7.68 μM SM led to cell rounding, multinucleation, and disrupted adhesion. Treatment with SM resulted in increased levels γH2AX , indicating DNA damage, without significant changes in p53 or cleaved CASP-3, suggesting a non-apoptotic cytotoxic effect. **Conclusion:** SM induces cytotoxicity in U-87MG cells, primarily through DNA damage without prominent activation of apoptosis, highlighting its potential as an anti-glioblastoma agent.

Keywords: antiproliferative, cytotoxicity, DNA damage, non-apoptotic cell death, natural product.

Acknowledgments: FAPESP (2022/00806-4), CAPES (finance code 001) and CNPq.



EVALUATION OF AWARENESS AND PRACTICES OF USE AND DISPOSAL OF MEDICATIONS: ENVIRONMENTAL IMPACT AND EDUCATIONAL PERSPECTIVES IN A CITY IN THE INTERIOR OF SÃO PAULO

Leticia Oliveira Silva^{1*}, Liziane Marçal¹.

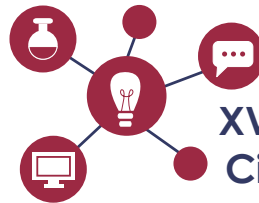
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: leticia.os.2013@gmail.com

Purpose: This study aims to outline the profile of the population with regard to the sustainable use of pharmaceuticals and its relationship with water and environmental contamination. **Methods:** This is a quantitative and qualitative study that combines a literature review and a cross-sectional field study conducted through interviews. The questions address aspects such as self-medication, types of medications used, disposal methods, knowledge about collection points and the impacts of micropollutants. Micropollutants are chemical substances that, even in low concentrations, pose risks to living beings, such as pharmaceuticals. After disposal, these compounds and their active metabolites can remain in the environment, compromising the ecosystem. Contamination occurs directly or indirectly, especially through contaminated water and food, since traditional water and sewage treatment systems are insufficient to remove them. Mitigating the impacts of these pollutants on public health involves, among other factors, raising public awareness about the issue and adopting appropriate practices for disposing of medications. **Results:** This study is expected to highlight society's lack of knowledge about the topic, as well as inadequate practices related to the handling and disposal of medicines and their packaging. **Conclusion:** Mobilizing and involving the population in the face of this problem contributes to raising awareness about rational use, storage, proper disposal, reverse logistics and understanding of environmental impacts, thus favoring the preservation of the environment and the promotion of public health.

Keywords: contaminants, reverse logistics, medicines.

Acknowledgments: FAPESP, CAPES (finance code 001) and CNPq.



Alternate Dissyllable Dichotic test in Portuguese- SSW: description of use and contribution to Brazilian research

Lígia Ribeiro Cardoso^{1*}, Isabella Cristina Silva e Silva¹, Mônica Pires de Castro¹.

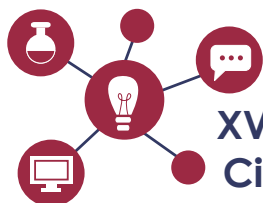
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: ribeirocardosoligia@gmail.com

Purpose: In recent years, audiologists have discussed which tests that assess central auditory processing (CAP) skills are the most appropriate to compose the protocol for assessing different auditory skills for all age groups. Some claim that tests with a greater linguistic load are more objective for the final diagnosis; however, others state that battery tests with a greater linguistic component are important to aid in the investigation of how the individual transforms sound detection into meaningful information. This research aimed to survey Brazilian studies on central auditory processing that used the Alternate Dissyllable Dichotic test in Portuguese – SSW, in order to identify the contribution of the aforementioned test in the diagnosis and direction of intervention in central auditory processing disorders. **Methods:** This is an integrative literature review on Central Auditory Processing assessment procedures, described in studies carried out in Brazil, from 2004 to 2024. The sample consisted of 20 articles collected from the database platforms of the Virtual Health Library – Bireme (PubMed, Lilacs, Index Psychology) and the CAPES Portal, from the combination with the “AND” baller between the descriptors: hearing, auditory processing, SSW test. **Results:** The results demonstrated that the Alternate Dissyllable Dichotic test – SSW was used in the evaluating central auditory processing skills process in different age groups: children, from 7 years old, adults and seniors; as well as in the evaluation of individuals with different clinical conditions (no clinical complaints; attention and memory difficulties; speech development and school learning difficulties; hearing loss; autism; Parkinson’s disease; traumatic brain injury; and kidney disease. The studies of the present sample demonstrated that the SSW test helped in the observation of the performance of the studied populations, correlating the findings with the different clinical conditions studied, as well as the improvement in the performance of the population that participated in auditory training or rehabilitation protocols. **Conclusion:** In the present research it was observed that Alternate Dissyllable Dichotic test in Portuguese – SSW contributes to the diagnostic analyses of central auditory processing disorders, as well as to the observation of the effects of auditory Skills training procedures.

Keywords: hearing, auditory processing, dichotic test of alternating disyllables in portuguese, childhood - SSW.

Acknowledgments: UNIFRAN, CAPES (finance code 001) and CNPq.



PREPARATION OF DIGITAL PAMPHLET FOR PRODUCE AND FRUIT FOODS WITH ELECTRONIC ACCESS VIA QR-CODE

Lorena Pereira Morais^{1*}, João Paulo Pini Sanches², Marina Garcia Manochio-Pina².

¹São Paulo State School, Carmem Munhoz Coelho, Franca, Brazil, 14411-220

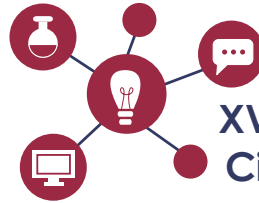
²University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: lorenapereiralp328@gmail.com

Purpose: This study aimed to develop a digital informational leaflet about fresh produce using Augmented Reality (AR) technology via QR codes. The goal was to provide users with instant access to key information including nutritional content, health benefits, seasonality, and consumption tips through smartphones, ultimately encouraging the consumption of whole, unprocessed foods. **Methods:** The project used carrots (*Daucus carota*) as a model. Data were sourced from reputable references such as the Brazilian Food Composition Table (TACO) and CEAGESP. The AR experience was built using WebAR technology, allowing users to interact with the content directly through their browsers without the need to install any apps. Scanning a QR code gives users access to layered content, including nutritional information, recipes, and seasonal availability, all supported by audio narration to enhance accessibility. **Results:** The digital leaflet provides comprehensive information about carrots, highlighting their health benefits, nutritional profile (e.g., 34 kcal and 3.2g of fiber per 100g), and culinary uses. It also includes a recipe suggestion and encourages the use of often-discarded parts, such as the leafy tops. The AR interface significantly increased user engagement and made the information more accessible and interactive when accessed via smartphones. **Conclusion:** Incorporating AR technology into digital leaflets proves to be an effective strategy for promoting healthier eating habits. It offers a dynamic, user-friendly way to deliver valuable food-related information, helping consumers make more informed dietary choices.

Keywords: augmented reality, nutritional information; eating behavior.

Acknowledgments: CAPES (finance code 001) and CNPq.



EVALUATION OF ANTICIPATORY POSTURAL CONTROL IN ACTIVE ELDERLY PEOPLE IN A COEXISTENCE CENTER

Lorraine Victoria de Medeiros^{1*}, Junio Eduardo Piza¹, Ana Paula Oliveira Borges¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600

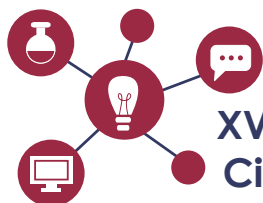
*E-mail: lorrainemedeiros20@gmail.com

Purpose: Mini-BESTest is a validated evaluation instrument used to evaluate postural control in elderly people and an important instrument for predicting the risk of falls. One of the components of Mini-BESTest is the anticipatory postural adjustments (APA). Perform the tracking of anticipatory postural control in elderly active people of a Geriatric Living Center of Franca. **Methods:** Study with 66 individuals. The data were collected through an individual interview and application of Mini-BESTest. 27 men participated in the study (average age: 68.35 ± 4.9) and 39 women (average age: 71.51 ± 6.28), active and preserved mobility. The scale consists of 14 items that focuses on the balance and the maximum score obtained is 28 points. Prior postural adjustments, in particular, are evaluated through three tasks that require limb movement before a disturbance to maintain stability and equivalent to 6 points. **Results:** The evaluated individuals scored 19.2 points (± 3.9) in the overall evaluation. In the APAS domain, they scored 3.7 (± 1.1), and the task was at the end of its foot and the unipodal support were the most deficit. Thus, the evaluation showed scores below that expected for this population. **Conclusion:** APAS evaluation is critical to understanding postural control and identifying possible deficits that can lead to falls and instability. The application of this instrument at the Elderly Living Center was a valuable tool to evaluate the risk of falls, as it can identify postural control deficits before they speak out in falls, for further health education and their surroundings.

Keywords: elderly, postural balance, geriatric assessment.

Approval CEPE/CEUA: 5.792.659

Acknowledgments: UNIFRAN, CAPES (finance code 001) and CNPq.



THE CENTURY'S MALAISE: representation of sensations and feelings of the youth in the nineteenth century

Lucas Senuk Valerio^{1*}, Marilurdes Cruz Borges¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

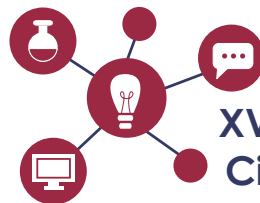
*E-mail: volkiharnuk@yahoo.com

Purpose: The aim of this study was to investigate the representation of the sensations and feelings of the young poet youth in the nineteenth century, phenomenon known as *The Century's Malaise*, in the Brazilian ultra-romantic movement, to comprehend how the epoch's historical context impacted the youth's emotions, leading to a production of various work of art marked by melancholy, sentimentalism and existentialism.

Methodology: Qualitative approach by means of bibliography research with focus on theoretical contributions: Friedrich Nietzsche's nihilism (2001), Karl Marx's historical materialism (2001); Albert Camus's absurdism (2018) and Mikhail Bakhtin's dialogism. The analysis's *corpus* counted on two poems written by Álvares de Azevedo. **Results:** The analysis reveals characteristics of the nineteenth century's sentimentalism when observed in the poem "Soneto", those being the idealization of the female figure by the lyric self as well the lack of self-love, revealing a posture filled with abnegation. In another poem called "Jó", even immersed in pain and melancholy, the self-lyric remembers moments of beauty and pleasure lived, highlighting an attempt to resignify his own anguish. **Conclusion:** This study showed that the analyzed poems express traits from *The Century's Malaise* when talking with the romantic sensibility's path through the valorization of idealized love and pain resignification. Through them it was possible to observe the tragic consciousness that aligns with nihilism, materialism, absurdism and dialogism. The philosophical assumptions selected allowed a look at other layers of signification in the texts, highlighting the human emotions in the face of existential emptiness common in nineteenth century youth.

Keywords: The Century's Malaise, Friedrich Nietzsche, Karl Marx, Albert Camus, Bakhtin.

Acknowledgments: CAPES (finance code 001) and CNPq/ UNIFRAN.



DIALOGISM ON LITERARY JOURNALISM PODCAST – THE CASE OF “THE WOMAN IN THE ABANDONED HOUSE”

Luís Filipe B. Dos Santos^{1*}, Assunção Cristóvão².

¹Escola Estadual Ângelo Scarabucci, Franca-SP,

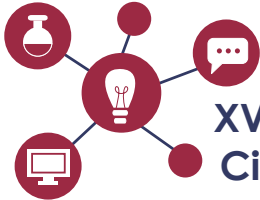
²University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: luisfilipebonifacio1@gmail.com

Purpose: The objective of this research is to apply the understanding of language developed by Russian philosopher Mikhail Bakhtin to a genre in transformation due to the advent of new technologies—the literary journalism podcast. The podcast *A Mulher da Casa Abandonada* (The Woman in the Abandoned House), considered a landmark in the investigative/literary journalism podcast genre, represents an evolution of investigative radio journalism. **Methods:** To develop the analysis, the podcast *A Mulher da Casa Abandonada*, published by the digital newspaper *Folha de S.Paulo* and directed by journalist Chico Felitti, was selected. A case study was conducted in which the “dialogues” of the utterance with various discourses and texts—both internal and external—were identified and analyzed. The work *Speech Genres and Other Late Essays* (M. Bakhtin, 1960) was used as the main theoretical reference. Parallels were drawn between the theory presented in the book and the podcast under study, until a satisfactory response to the research questions was achieved. **Results:** Bakhtin’s theory on speech genres proved to be particularly effective. Its practical application was observed on several occasions within the chosen object of study. **Conclusion:** Bakhtin’s theories, although written in the first half of the 20th century, remain relevant and applicable even to modern speech genres, as exemplified by a prototypical case of the impact of new technologies on a century-old sphere of activity—investigative/literary journalism—which initially developed through written records, then radio, and now through the podcast genre.

Keywords: dialogism, literary journal, podcast.

Acknowledgments: PIBIC-EM, CAPES (finance code 001), and CNPq.



EVALUATION OF POSTURAL CONTROL IN ACTIVE ELDERLY PEOPLE IN A COEXISTENCE CENTER

Maiana Simões Taveira^{1*}, Ana Paula Oliveira Borges¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

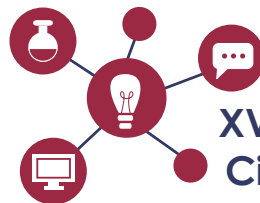
*E-mail: mstaveira@unifran.edu.br

Purpose: The Mini-Balance Evaluation Systems Test (Mini-BESTest) is a clinical assessment instrument used to assess dynamic balance in elderly individuals and is an important tool for predicting the risk of falls. It measures a person's ability to perform tasks that require changes in position and movement, such as anticipatory transitions, postural responses, and gait. The goal was to screen postural control in active elderly individuals at a community center. **Methods:** Study conducted with 66 individuals. Data were collected through an individual interview and application of the Mini-BESTest. Twenty-seven men (mean age: 68.35 ± 4.9) and 39 women (mean age: 71.51 ± 6.28) participated in the study, who were active and had preserved mobility. The Mini-BESTest was applied. Each item is scored from (zero – two). Each item is scored on a three-point scale: from zero (worst performance) to two (best performance). The maximum score obtained is 28 points. **Results:** The individuals evaluated scored 19.2 points (± 3.9) in the assessment, showing scores below those expected for this population. Reactive postural responses (in four different directions – anterior, posterior, lateral-lateral) were the most deficient. **Conclusion:** The assessment of postural control is essential to identify possible deficits that can lead to falls and instability. The application of this instrument at the Senior Citizens' Community Center was a valuable tool to assess the risk of falls, as it can identify dynamic balance deficits before they manifest in falls.

Keywords: elderly, postural balance, geriatric assessment.

Approval CEPE/CEUA: 5.792.659

Acknowledgments: UNIFRAN, CAPES (finance code 001) and CNPq.



PROMOTING CHILD HEALTH: an educational and play-based guide to early stimulation and neuropsychomotor development

Maiana Simões Taveira^{1*}, Letícia Natália de Oliveira¹, Danilo Cândido Bulgo¹.

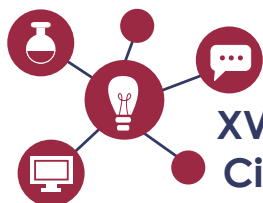
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: maianaasimoes@gmail.com

Purpose: To develop and disseminate early stimulation strategies supported by physical therapy through the creation of a playful and educational resource. **Methodology:** This is a descriptive, exploratory, and qualitative study based on theoretical reconstruction using documentary sources, with an emphasis on the development of an educational resource. The material was cataloged and registered with an International Standard Book Number (ISBN) and was designed to be informative and easily understandable regarding early stimulation practices. It was developed using psychomotor neurodevelopmental approaches and physiotherapeutic strategies, aiming to promote autonomy, holistic development, and an improved quality of life for children. The content was based on publicly available data concerning policies and public strategies targeted at this population. With regard to ethical considerations, since this is a review of secondary sources publicly available online and does not involve human participants, the study did not require evaluation by an ethics committee, in accordance with Resolution 466/12. **Results:** educational and play-based materials such as this promote a better understanding of the importance of early stimulation—particularly through physical therapy—among parents, caregivers, and healthcare professionals. The use of these resources helps prevent developmental delays, supports multidimensional child development, and emphasizes active growth centered on children's quality of life, ensuring a healthy start in life. **Conclusion:** The implementation of accessible, effective, and low-cost educational practices is of clear importance and contributes to the dissemination of knowledge in support of child development. This research provides a solid foundation for future initiatives aimed at promoting child health and strengthening evidence-based educational practices in early childhood.

Keywords: early stimulation, health promotion, human development, playfulness.

Acknowledgments: FAPESP, CAPES and CNPq.



PHYTOCHEMICAL STUDY OF *Fridericia craterophora* (DC.) L.G. LOHMANN AND EVALUATION OF ANTIFUNGAL ACTIVITY

Maísa Felício David^{1*}, Juliana Helena Fernandes Delfino¹, Jaqueline Stabile Gouveia¹, Valéria Maria Melleiro Gimenez², Regina Helena Pires¹, Patrícia Mendonça Pauletti¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

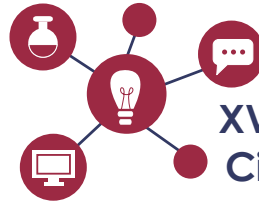
²Faculdade de Zootecnia e Engenharia de Alimentos, FZEA, USP, Pirassununga, 13635-900.

*E-mail: faleirosmarial@gmail.com

Purpose: The aim of this study was to evaluate the antifungal activity and chemical composition of the ethyl acetate fraction of *Fridericia craterophora*. **Methods:** The phytochemical analysis was performed by High-Performance Liquid Chromatography-Diode Array Detector (HPLC-DAD), Ultra-Performance Liquid Chromatography Electrospray Ionization Quadrupole-Time-of-Flight Mass Spectrometry (UPLC-ESI-QTOF-MS/MS), liquid-liquid partitioning, vacuum liquid chromatography (VLC), and structural elucidation by Nuclear Magnetic Resonance (NMR) spectroscopy. The antifungal activity was determined through the Minimum Inhibitory Concentration (MIC) assay against *Candida albicans* (ATCC 90028), *C. glabrata* (ATCC 2001), *C. krusei* (ATCC 6258), *C. metapsilosis* (ATCC 2001), *C. orthopsilosis* (ATCC 96141), *C. parapsilosis* (ATCC 90018), *C. rugosa* (INCQ 4028) and *C. tropicalis* (ATCC 13803). **Results:** After purification of the ethyl acetate fraction by VLC, ursolic acid was identified in subfraction VLC-3 by NMR. Analysis of the UPLC-ESI-QTOF-MS/MS data allowed us the annotation of triterpenes, flavonoids, and chlorophyll derivatives in the ethyl acetate fraction. This fraction exhibited antifungal activity against *C. orthopsilosis*, and *C. glabrata* (MIC 62.5 µg/mL). Among the VLC subfractions, VLC-3 showed good antifungal activity against *C. tropicalis* (MIC 62.5 µg/mL); VLC-4 demonstrated similar activity (MIC= 62.5 µg/mL) against *C. glabrata*, *C. orthopsilosis*, and *C. tropicalis*; while VLC-5 also displayed activity with MIC values of 62.5 µg/mL and 31,25 µg/mL against *C. metapsilosis* and *C. parapsilosis*, respectively. **Conclusion:** The purification of the ethyl acetate fraction led to the isolation of ursolic acid and the obtainment of subfractions with antifungal properties.

Keywords: antifungal, *Candida*, *Fridericia craterophora*, ursolic acid.

Acknowledgments: CAPES (finance code 001), CNPq, and FAPESP (2016/10313-4).



DEVELOPMENT OF A CATEGORIZED DIGITAL ATLAS FOR VETERINARY GENERAL PATHOLOGY EDUCATION ALIGNED WITH AGENDA 2030 AND QUALITY EDUCATION GOALS

Maisa Teofilo Esper^{1*}, Sophia de Melo Acra¹, Jhuan Luiz Silva¹, Caio Rafael Siqueira Vasconcelos¹, Maysa Barbosa de Almeida¹, Fernanda Gosuen Gonçalves Dias¹, Marcela Aldrovani Rodrigues¹.

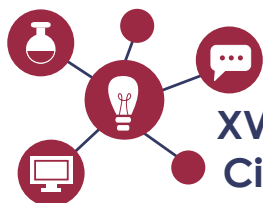
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: maisaesper37@gmail.com

Purpose: General pathology is a cornerstone of veterinary education, providing essential knowledge of pathological processes in animals. The advancement of digital technologies enables the development of digital atlases as effective pedagogical tools, enhancing access to high-resolution images and detailed descriptions. These resources support autonomous learning, improve interactivity, and increase flexibility. Furthermore, they contribute to the United Nations Agenda 2030 by promoting quality education and equitable access to digital learning materials. **Methods:** We selected and digitized representative histological slides from a teaching collection used in veterinary general pathology courses. High-resolution images were organized within a digital platform after evaluating established atlas models for usability and lesion classification. Lesions were categorized based on their nature and morphological features to facilitate navigation and comprehension. **Results:** The atlas is structured into lesion categories reflecting primary pathological types in veterinary practice, including inflammatory, degenerative, neoplastic, vascular, and infectious lesions. Each category contains representative images with detailed descriptions, enhancing visual-conceptual integration. This classification optimizes learning by allowing exploration of lesion patterns linked to differential diagnoses. The digital format ensures continuous content updates and preserves the physical collection. **Conclusion:** The digital atlas represents a significant advancement in veterinary pathology education by providing an accessible, organized, and technology-aligned resource. It improves comprehension of pathological processes and lesion types, preparing students for professional demands. This work supports the Agenda 2030 goals by advancing quality education through inclusive and technology-enhanced learning environments.

Keywords: digital resource development, sustainable development (SDG 4), veterinary pathology education.

Acknowledgments: CAPES (finance code 001) and CNPq.



EFFECT OF SUPPLEMENTATION WITH STANDARDIZED GREEN PROPOLIS EXTRACT ON DNA DAMAGE IN HIGH-PERFORMANCE ATHLETES

Manuela Pugliesi Assis Lima^{1*}, Gustavo Henrique Gonçalves¹, Naiara Cristina da Silva Boaretto¹, Andresa Berretta², Rodrigo Cássio Sola Veneziani¹, Sérgio Ricardo Ambrósio¹, Natalia Nascimento Silveira¹, Raquel Alves dos Santos¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

²Apis Flora, Ribeirão Preto, Brazil, 14020-670.

*E-mail: manuelapugliesial@gmail.com

Purpose: This study aims to evaluate the effects of supplementation with a green propolis extract (GPE) on genetic damage markers in high-performance athletes.

Methods: Participants were divided into two groups: one supplemented with GPE and another with a placebo. Buccal mucosa samples were collected for the micronucleus test, and peripheral blood samples were collected for the comet assay, both before and after 14 days of oral supplementation with GPE. DNA damage was assessed through micronucleus formation and migration of damaged DNA strands in the comet assay.

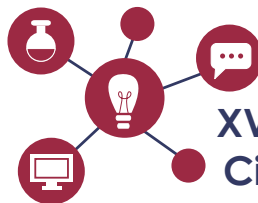
Results: The results showed a reduction in the frequency of micronuclei in the group supplemented with GPE, with statistical significance according to the p value (<0.05).

Conclusion: Under the experimental conditions, supplementation with green propolis showed a protective effect against DNA damage caused by oxidative stress induced by intense physical exercise. However, further studies are necessary for a better understanding of how this protection occurs at molecular level.

Keywords: comet assay, green propolis, micronucleus, oxidative stress.

Approval CEPE/CEUA: 65814722.8.0000.5495

Acknowledgments: FAPESP (2017/04138-8), CAPES (finance code 001), CNPq and Cruzeiro do Sul Educacional.



IN VITRO ANTIMICROBIAL ACTIVITY OF TWO NATURAL COMPOUNDS AGAINST ENDODONTIC PATHOGENS

Marcelly Canuto de Almeida Silva^{1*}, Gabriel de Pádua Cintra Medeiros¹, Arthur Alves Ragozoni¹, Júlia Gomes Teixeira², Sterferson Roberto Guimarães Melazzo², Carlos Henrique Gomes Martins², Wilson Roberto Cunha¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

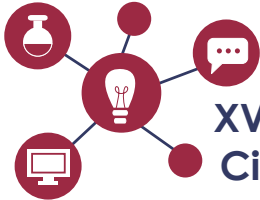
²University of Uberlândia (UFU), Uberlândia (MG), Brazil, 38405-320.

*E-mail: marcellycanuto2323@gmail.com

Purpose: The aim of the present work was to evaluate the *in vitro* antimicrobial activity of two compounds (ursolic acid and oleanolic acid) isolated from natural sources against endodontic pathogens. **Methods:** The compounds were isolated by HPLC of extract obtained from *Miconia* specie. To determine the antimicrobial activity, the broth microdilution technique was used to obtain the Minimum Inhibitory Concentration (MIC) and then the Minimum Bactericidal Concentration (MBC). The *in vitro* antimicrobial activity was assessed against microorganisms from the American Type Culture Collection (ATCC), associated with endodontic infections: *Fusobacterium nucleatum* (ATCC 10953), *Actinomyces naeslundii* (ATCC 19039), *Porphyromonas asaccharolytica* (ATCC 25260), *Porphyromonas gingivalis* (ATCC 49417), *Porphyromonas endodontalis* (ATCC 35406) and *Peptostreptococcus anaerobius* (ATCC 27337). **Results:** The compounds were effective against all tested endodontic microorganisms, with promising MIC values ranging from 3.12 to 25.0 µg/mL. **Conclusion:** The results of this study show the antimicrobial potential of the isolated compounds against endodontic microorganisms and can be used to develop new strategies for the development of new preventive and therapeutic products for endodontics.

Keywords: ursolic acid, oleanolic acid, Minimum Inhibitory Concentration.

Acknowledgments: FAPESP (2016/22228-1), CAPES (finance code 001) and CNPq.



Modelling Rainfall Intensity-Duration-Frequency (IDF) for the Municipality of Franca - SP

Marcos Rafacho Badoco^{1*}, Gabriela Laila de Oliveira², Guilherme Da Cunha Mendonça¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

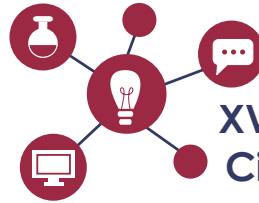
²Federal University of Triângulo Mineiro, Uberaba, Brazil, 38025-180.

*E-mail: marcosbadoco@gmail.com

Purpose: This research aimed to develop Rainfall Intensity-Duration-Frequency (IDF) equations for the municipality of Franca-SP, providing an essential tool for hydraulic infrastructure design and urban planning. Franca has historically faced recurrent flooding and drainage challenges, highlighting the need to better understand local rainfall patterns to mitigate hydrological risks and enhance urban resilience. **Methods:** The methodology involved collecting daily rainfall data from the National Institute of Meteorology (INMET) station located at Franca's airport, covering the period from 1974 to 2023. The maximum annual daily rainfall values were selected and statistically analyzed using the Gumbel distribution to estimate precipitation for various return periods: 2, 5, 10, 25, 50, and 100 years. Subsequently, rainfall disaggregation for shorter durations was conducted based on CETESB (1986) guidelines, enabling the calculation of intensities for different time intervals and the construction of the IDF curves. The parameters of the IDF equation were then determined through logarithmic regression. **Results:** The results revealed that the adjusted parameters are consistent with those reported for regions with similar climatic characteristics. Notably, the decay parameter ($d = 0.6421$) indicated a typical reduction in intensity with increasing duration, while the concentration time parameter ($c = 8.72$ minutes) reflected a rapid hydrological response in the study area. Model validation showed low relative errors, below 5% for most durations, confirming its accuracy and practical applicability. **Conclusion:** Therefore, the developed IDF equation represents a reliable tool for hydraulic engineering projects and urban flood prevention in Franca-SP, contributing to sustainable urban development.

Keywords: IDF equation, gumbel distribution, urban planning, drainage, Franca-SP.

Acknowledgments: UNIFRAN and CNPq.



SNOW WHITE IN DIALOGUE: Different Perspectives in the Retellings of the Classic Narrative

Maria Carolina Oliveira Gomes Ferreira^{1*}, Marilurdes Cruz Borges¹.

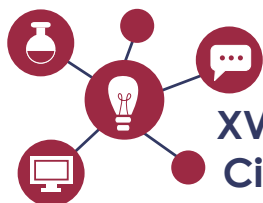
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: mariacarolinagomes961@gmail.com

Purpose: This study analyzes how four literary and audiovisual productions, created in independent contexts, engage in dialogue with the classic work *Snow White*. Although these productions convey distinct messages, they require the audience to recognize the original reference from which they aim to diverge. To investigate this dialogue, the concept of dialogism was employed. The historical context of each work also influences its perspective, which is why productions from different eras were selected: the books *Snow White* (Brothers Grimm, 1812) and *Poison* (Sarah Pinborough, 2013); the films *Snow White and the Seven Dwarfs* (Disney, 1937), *Snow White and the Huntsman* (Universal Pictures, 2012), and *Snow White and the Seven Dwarfs* (Disney, 2025). **Methods:** This qualitative research is based on a literature review of the concepts of dialogue and chronotope in the works of Mikhail Bakhtin and Brazilian scholars. It also includes an investigation into the origins and psychoanalysis of fairy tales. **Results:** The analyzed productions reinvent the main events of the classic narrative according to the intent of each retelling. Over time, the characters become more complex, enabling new reflections and approaches to the theme. **Conclusion:** Despite their unique enunciative features, all the works engage in dialogue with the original tale. The retellings bring new textures and narrative structures, as they address a new target audience.

Keywords: dialogues, retellings, chronotope, Snow White, Bakhtin.

Acknowledgments: CAPES (finance code 001) and CNPq.



PROPOSAL OF OZONATED INTRAMAMMARY FORMULATIONS TO COMBAT BOVINE MASTITIS: ANTIMICROBIAL ACTION AGAINST MULTIDRUG-RESISTANT PATHOGENS AND BIOCOMPATIBILITY WITH MAMMARY GLAND CELLS

Maria Eduarda Abib Fonseca^{1*}, Cristiane Marissa Piacitelli Prado Ferreira¹, Julia Mirian Paulino¹, Mário Fernando Estorino Moreno¹, Raquel Alves dos Santos¹, Eduardo Ferreira Molina¹, Jair Camargo Ferreira¹.

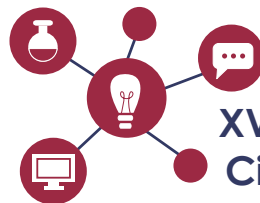
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: mariaeduarda.abibfonseca@gmail.com

Purpose: The goals were a) to evaluate the effectiveness of ozonized hydrogels in inactivating multidrug-resistant pathogens of clinical mastitis, and b) to assess their cytotoxicity against bovine mammary gland cells. **Method:** Sodium alginate/tofu (SA/tofu) based-hydrogel were loaded with ozonized sunflower oil at weight ratios of 3:1, 2:1 and 1:1 (O₃-1, O₃-2 and O₃-3 SA/tofu, respectively). Methicillin-resistant *Staphylococcus aureus* and *Prototheca zopfii* (four strains/pathogen) isolated from bovine mastitis were used in the antimicrobial assays (AST, MIC and MBC). The cytotoxic potential of the hydrogels on bovine mammary gland cells (MAC-T) was determined by XXT assay. **Results:** Regardless of the pathogen, all strain were sensitive to O₃-1, O₃-2 or O₃-3 SA/tofu in the AST. Against MRSA, the three ozonated hydrogels presented MIC=3.13% and MBC≤6.25%. The MIC and MBC of the ozonated hydrogels were equal to 1.56 and 3.13%, respectively, against *P. zopfii* strains. Non-ozonated AS/tofu had MIC and MBC>100%. The viability of MAC-T cells exposed to ≤50 µg/mL of the ozonized formulations for 24, 48 or 27 hours remained similar (P>0.1) to the untreated cells. However, 100 µg/mL of O₃-1, O₃-2 or O₃-3 SA/tofu were cytotoxicity to MAC-T cells. **Conclusion:** The three hydrogels loaded with ozonized sunflower oil had germicidal action against multidrug-resistant pathogens isolated from clinical mastitis and were biocompatible with mammary gland cells of dairy cows.

Keywords: biomaterials, ozone, polymer, protein gel.

Acknowledgments: FAPESP (2021/06552-1), CAPES (finance code 001), and CNPq (001; 307696/2021-9).



QUANTITATIVE MORPHOMETRIC AND HISTOLOGICAL ANALYSIS OF THE HEART IN CAIMAN LATIROSTRIS WITH IMPLICATIONS FOR CARDIOVASCULAR PHYSIOLOGY AND REPTILE HEALTH

Maria Eduarda Natal Nascimento^{1*}, Gabriela Nogueira Maggio¹, Caio Rafael Siqueira Vasconcelos¹, Maysa Barbosa de Almeida¹, Marcela Aldrovani Rodrigues¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

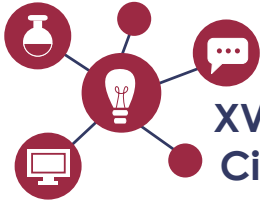
*E-mail: marianatacim@gmail.com

Purpose: To perform a detailed biometric, morphometric, and histological analysis of the heart in juvenile male *Caiman latirostris*, highlighting structural differences between cardiac chambers and major vessels that reflect adaptations relevant to the species' cardiovascular physiology and ecological niche. **Methods:** Hearts from four clinically healthy juvenile males were ethically obtained from a licensed breeding facility. Biometric measurements were conducted using digital calipers. Histological sections stained with hematoxylin-eosin and reticulin were analyzed to assess tissue architecture and fiber distribution. Morphometric and stereological analyses quantified cardiomyocyte volume density, cross-sectional area, and muscle fiber thickness. Statistical tests compared right and left atria, ventricles, and aortic wall thickness, with significance at $P < 0.05$. **Results:** The heart is centrally positioned within the coelomic cavity, consisting of four chambers and a conus arteriosus. The right atrium was significantly larger than the left atrium, while the left ventricle was larger than the right ventricle ($P < 0.05$), reflecting their distinct circulatory functions. A thick pericardium was observed, likely providing mechanical protection. Reticulin fibers were more abundant in right chambers, indicating structural reinforcement for pulmonary circulation. The left ventricle exhibited greater cardiomyocyte volume density and larger fiber cross-sectional area, consistent with its role in systemic circulation. Wall thickness did not differ significantly between right and left aortas. **Conclusion:** This study provides quantitative data on cardiac morphology in *C. latirostris*, contributing to understanding cardiovascular adaptations in crocodylians. The findings have implications for reptile medicine and conservation by enhancing knowledge crucial for managing health and survival of this ecologically important species.

Keywords: cardiovascular adaptations, life on land (SDG 15), reptile conservation.

Approval CEPE/CEUA: not applicable. SISBIO/ICMBio: protocol number 27489-8.

Acknowledgments: CAPES (finance code 001) and CNPq.



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CLINICAL, HEMATOLOGICAL, IMMUNOLOGICAL, AND MOLECULAR CHARACTERIZATION OF NATURALLY *ANAPLASMA SP.*-INFECTED HOLSTEIN CALVES

Maria Eduarda Souza Mendonça^{1*}, Lorryne Carrenho Pedro¹, Luiz Gabriel Silva Otoni¹, Daniel de Castro Rodrigues².

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

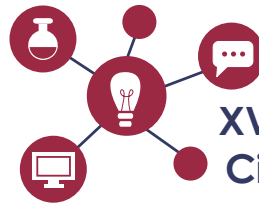
*E-mail: mesmendoncavet@gmail.com

Purpose: Among the diseases considered relevant in tropical herds, bovine anaplasmosis caused by *A. marginale* stands out, causing direct losses in production due to the incidence and intensity of clinical signs. **Methods:** The experiment will be carried out at the Santa Rita farm with thirty cows or heifers and 30 calves of the Black and White Holstein (HPB) breed, from the day of birth to 180 days of age born between January 10 and February 10, 2025. Physical and laboratory tests will be carried out such as: blood count, serological test for *A. marginale* and real-time PCR to quantify the number of DNA copies. **Results:** The findings of this study, obtained through parasitological, serological, and molecular analyses, provide valuable insights into the epidemiology of anaplasmosis in dairy herds and its potential impact on animal productivity. These results are crucial for informing evidence-based strategies and recommendations aimed at the effective control and prevention of this disease. **Conclusion:** The partial results obtained through parasitological, serological, and molecular analyses provide relevant information on the epidemiology of bovine anaplasmosis and its potential impacts on dairy herd productivity. These findings are fundamental for supporting control and prevention strategies for the disease.

Keywords: cattle, *Anaplasma marginale*, PCR.

Approval CEPE/CEUA: 2025/03-01

Acknowledgments: CAPES (finance code 001) and CNPq.



RELIGIOUS SPACE INTERVENTION PROJECT: COMPARATIVE STUDY AND RENOVATION PROPOSAL FOR THE CHAPEL OF THE UNIVERSITY OF FRANCA

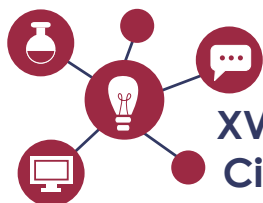
Maria Fernanda Maia Barbosa^{1*}, Luciano Andrade de Sousa¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: arq.mariambarbosa@gmail.com

Purpose: This study aims to develop an architectural renovation project for the Chapel of the University of Franca, seeking to restore its symbolic and functional value and enhance the users' transcendent experience. The proposal will integrate theoretical references, such as sacred aesthetics, psychic-spiritual frameworks, and Church liturgical documents, to generate concrete solutions for the Diocese. **Methods:** The research begins with a diagnosis of the chapel's current state, including photographic records and spatial-liturgical analysis. Concurrently, a literature review on religious architecture and spirituality will be conducted, alongside case studies of university and parish chapel renovations. Based on this comprehensive data, a detailed architectural project will be developed, comprising floor plans, three-dimensional representations, and a descriptive report, to be validated by the advisor, the Diocese, and space users. **Results:** The project aims to deliver a viable architectural proposal that meets liturgical and aesthetic requirements without compromising the symbolic essence of the space. This work is also expected to serve as a reference for similar interventions, reinforcing architecture's role in fostering spirituality. **Conclusion:** This study seeks to demonstrate that architecture, when integrated with symbolic and spiritual dimensions, can transform neglected environments into sacred spaces, significantly contributing to holistic development within the university context.

Keywords: religious architecture, catholic christian spirituality, intervention project, University of Franca, beauty, transcendent element.



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GUIDEBOOK OF *Mikania glomerata*

Maria Laura Brito Garcia^{1*}, Gabriele Sousa Trovo¹, Patrícia Mendonça Pauletti¹.

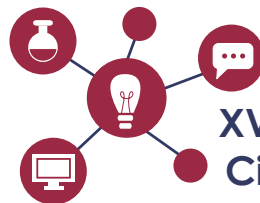
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: marialaurabritogarcia061@gmail.com

Introduction: The aims of this study were to present instructions, recommendations and best practices, throw a clearly and directly way, regarding the benefits of the uses of *Mikania glomerata*, commonly known as guaco, with focus on its therapeutic applications, preparation methods, and safety considerations. **Methods:** The information compiled and exposed on the guidebook were acquired through reviews of existing literature *Memento Fitoterápico* and the *Manual de Plantas Mediciniais*. The selected data focused on the plant's medicinal properties, traditional applications, common preparation methods (particularly teas and syrups), and potential toxicological concerns. In addition, scientific articles and pharmacological studies, such as those available on PubMed, were consulted for evidence-based validation. **Results:** This study has reconfirmed clearly that *Mikania glomerata* contains several bioactives including essential oil, tannins and flavonoids. This compounds exhibit expectorant, bronchodilator, and anti-inflammatory effects. However, excessive consumption, in sensitive populations, may present risks due to its coumarin content, which is associated with hepatotoxic and anticoagulant effects at high doses. Additionally, clinical investigations have demonstrated its potential to improve pulmonary function and attenuate airway inflammation managing some respiratory disorders such as cough, asthma, and bronchitis. **Conclusion:** This medicinal plants guidebook provided accessible information about *Mikania glomerata*, promoting information about the responsible use of it. Furthermore, it encourages the integration of traditional knowledge with scientific information, contributing to safe and effective phytotherapeutic practices.

Keywords: benefits, medicinal properties, *Mikania glomerata*, respiratory disorders.

Acknowledgments: CAPES (finance code 001), CNPq and FAPESP (2016/10313-4).



SELECTIVITY OF COPPER-BASED FUNGICIDES ON THE PREDATOR *Chrysoperla externa* IN COFFEE CULTIVATION

Maria Madalena Umbelina Chiarelo da Silva^{1*}, Italo Gabriel Faleiros Peraro¹, Kamila Gabrielly Ribeiro Alves¹, Ana Júlia Cintra¹, Julia Lara Nogueira¹, Isabela Andrade Costa¹, Lucas Alonso Rocha¹, Eduardo José Nassar¹, Alessandra Marieli Vacari¹.

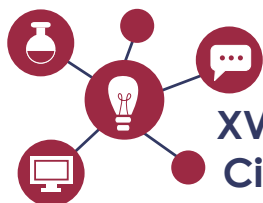
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: mariamadalenachsilva@hotmail.com

Purpose: Copper-based fungicides are widely used in agriculture due to their broad-spectrum activity and long-lasting protective effects. This study aimed to assess the selectivity of copper-based fungicides commonly applied in coffee cultivation on *Chrysoperla externa*, a key predator used in biological control. **Methods:** Fifty *C. externa* larvae were individually exposed to each treatment. The tested products included the commercial fungicides Supera[®] (copper hydroxide, 0.1 mL) and Cuprazol[®] 380H (copper oxychloride, 0.125 mL), along with three formulations of copper + zinc nanoparticles: 0.24824 g (concentration 01), 0.24776 g (concentration 02), and 0.05686 g of copper nanoparticles. All treatments were applied once, and larval development was monitored daily until adult emergence. **Results:** Among the tested treatments, the copper + zinc nanoparticles at concentration 02 were the most selective, yet still caused mortality rates above 50%. The remaining treatments resulted in over 70% mortality, indicating high toxicity to the predator. **Conclusion:** Most copper-based fungicides tested exhibited significant toxicity to *C. externa*, rendering them unsuitable for integrated pest management strategies that aim to conserve natural enemies. These results highlight the need for more selective and environmentally sustainable alternatives in coffee pest management.

Keywords: greenlacewings, selectivity, nanopesticides, fungicides.

Acknowledgments: FAPESP (2020/02182-2), CAPES (finance code 001), CNPq.



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SCIENTIFIC DISSEMINATION THROUGH INSTAGRAM: DOCUMENTING THE ROUTINE OF A RESEARCH LABORATORY

Maria Rita Trevizan Pereira Monteiro Godinho^{1*}, Natália Nascimento Silveira¹, Júlia Mirian Paulino¹, Naomi Nalini Taveira¹, Raquel Alves dos Santos¹.

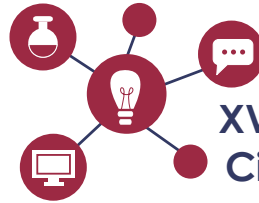
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: mariaritatpmg2009@gmail.com

Purpose: This study aimed to leverage Instagram as a platform for scientific dissemination by developing engaging posts (Stories and Reels) for the Genetics and Molecular Biology Laboratory. The goal was to highlight the everyday activities and research conducted in a scientific laboratory while assessing the engagement and reach of these posts among the online community. **Methods:** A series of posts were created following the laboratory's predefined color palette to ensure brand consistency and visual appeal. The content was crafted using accessible language and visual elements that facilitated easy communication, specifically tailored to engage a younger audience. Imagery and narratives were selected to make scientific concepts more relatable and intriguing. Engagement metrics were collected and analyzed using Instagram's built-in analytics tools, focusing on metrics such as views, follower growth, and interaction rates. **Results:** Over the period from February to May 2025, the Instagram profile garnered a total of 12,488 views. Significantly, 54.1% of these views came from users who were not followers of the profile, indicating a successful reach beyond the existing audience. During this time frame, there was an 8.5% increase in the number of followers, and overall profile activity surged by 37.5% compared to the period preceding the project. **Conclusion:** The findings suggest the effectiveness of a structured and visually appealing posting schedule in enhancing audience engagement and increasing follower numbers. This approach has proven to be an effective tool for promoting scientific knowledge and public interest in scientific activities, fostering broader scientific literacy among the community.

Keywords: instagram, science, laboratory routine.

Acknowledgments: CAPES (finance code 001), CNPq and Cruzeiro do Sul Educacional.



ARCHITECTURAL HERITAGE AND CONTEMPORARY USE: ANALYSING THE ANNEXES OF THE LOUVRE MUSEUM AND THE SÃO PAULO MUSEUM OF ART

Mariana Silva Antunes^{1*}, Marcio Ronan Policarpo.

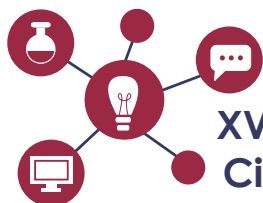
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: masilvaantunes2809@gmail.com

Purpose: To understand the relationship between architectural heritage preservation and contemporary demands in museums, based on restoration theories and an analysis of the annexes of the Louvre and MASP. **Methods:** Bibliographic survey, documentary analysis and comparative study, based on the theoretical principles of Viollet-le-Duc, Riegl, Brandi and Giovannoni, with a literature review and analysis of the projects for the Louvre and MASP annexes, comparing their impact on the original projects. **Results:** Museums, as a relevant typology in terms of their use and function, when inserted into historic buildings, raise discussions about heritage preservation and adapting buildings to contemporary demands. In this scenario, the addition of the Louvre pyramid and the extension of Masp by the Pietro Bardi annex have raised discussions about the impacts on the original buildings. In this context, the discourses of restoration thinkers present complementary and contrasting aspects regarding the value of architectural use. Viollet and Riegl defend the need to adapt the building to technological innovations and maintain the utilitarian value of the work, while Cesare states that the adaptation of buildings defined as works of art should not interfere with the appearance of the work, while Giovannoni seeks to find an intermediate solution. **Conclusion:** The predominant values vary according to the theoretical line, however, the compatibility of the use attributed to the value of the work prevails as the greatest recommendation for interventions. The annexes reveal that, although different in context and language, they dialogue with the original buildings in design choices that articulate the past and the present and the compatibility of their uses.

Keywords: museum, heritage, architecture, MASP, Louvre.

Acknowledgments: UNIFRAN, CAPES (finance code 001) and CNPq.



DEVELOPMENT OF CURCUMIN ANALOGUES FOR THE TREATMENT OF LEISHMANIOSE: *IN VITRO* EVALUATION AGAINST THE GENUS *Leishmania* spp

Mariana Zaramello da Paixão^{1*}, Nicole Dias¹, Guilherme Cecílio Lima¹, Richard Hermogenes Lima², Antônio Eduardo Miller Crotti², Lizandra Guidi Magalhães¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

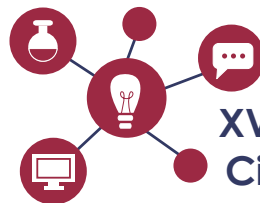
²School of Pharmaceutical Sciences of Ribeirão Preto, USP, Ribeirão Preto, Brazil, 14040-903.

*E-mail: mariana.zaramello.da.paixao@gmail.com

Purpose: This study evaluated, *in vitro*, the leishmanicidal activity of piperidone analogues of curcumin against *Leishmania infantum* on its promastigote forms. Cytotoxicity was also assessed in J774-A1 macrophage cells to identify compounds with high efficacy and low toxicity. **Methods:** Parasites were cultured in RPMI medium, and leishmanicidal activity was assessed after 24 and 48 hours. The activity against promastigote forms was determined by counting viable parasites using a Neubauer chamber under light microscopy. **Results:** Among the eleven compounds screened, nine exhibited over 60% inhibition at a concentration of 50 μ M. Compounds 3, 9, 10, and 11 showed IC₅₀ values below 1.6 μ M at 24 hours, while compounds 1, 6, and 8 reached IC₅₀ values below 1.6 μ M at 48 hours. No cytotoxic effects were observed at the concentrations between 1.56 – 50 μ M after 24 hours of exposure. **Conclusion:** Piperidone analogues of curcumin demonstrated promising leishmanicidal activity. These findings highlight their potential as new therapeutic candidates for leishmaniasis and underscore the need for further investigations, particularly on amastigote forms and extended cytotoxicity profiling, which are currently in progress.

Keywords: analogues; drug screening; leishmaniasis; piperidone derivatives.

Acknowledgments: FAPESP (2025/01404-5), CAPES (finance code 001) and CNPq.



EVALUATION OF THE ANTI-INFLAMMATORY POTENTIAL OF *Copaifera duckei* RESIN OIL IN RODENTS

Marina Rezende Granzoto^{1*}, Bruna Lorrani Cardoso¹, Samarah Gomes¹, Sérgio Ricardo Ambrósio¹, Ricardo Andrade Furtado¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

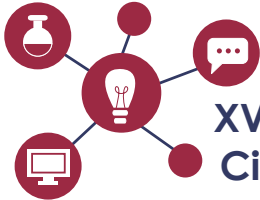
*E-mail: marinagranzoto84@gmail.com

Purpose: Copaibas, popularly known as copaibeiras, are native to the Amazon and Central-West regions of Brazil. The oleoresin of *Copaifera duckei* Dwyer is one of the most representative among the Amazonian copaibas. Most studies on copaiferas emphasize their anti-inflammatory properties. This study aimed to evaluate the anti-inflammatory potential of the *C. duckei* oleoresin and its major constituents, polyalctic acid and dihydro-agatic acid. **Methods:** The anti-inflammatory activity was assessed using the formalin-induced nociception test in mice. A volume of 20 μ L of 2.5% formalin was injected to induce nociceptive behavior. The oleoresin was administered at doses of 100 and 200 mg/kg, alongside negative control and positive control group treated with dexamethasone (1 mg/kg). **Results:** In the neurogenic phase, *C. duckei* oleoresin did not significantly reduce nociception response. However, in the inflammatory phase, both doses produced a significant reduction in response time—53% at 100 mg/kg and 85% at 200 mg/kg—when compared to the control. The evaluation of the isolated major compounds is still ongoing. **Conclusion:** These preliminary findings indicate that the oleoresin of *Copaifera duckei* exhibits promising anti-inflammatory activity, particularly in the late (inflammatory) phase of the formalin test, supporting its potential as a natural anti-inflammatory agent.

Keywords: *C. duckei*, anti-inflammatory activity, formalin assay.

Approval CEPE/CEUA: 8.933.171.122

Acknowledgments: FAPESP 2017/04138-8, CAPES (finance code 001), CNPq and Unifran.



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REVOLUTIONIZING HISTOLOGY LEARNING AT UNIFRAN THROUGH A DIGITAL RESOURCE ALIGNED WITH SUSTAINABLE DEVELOPMENT GOALS

Marina Santos Silva^{1*}, Jhuan Luiz Silva¹, Caio Rafael Siqueira Vasconcelos¹, Maysa Barbosa de Almeida¹, Fernanda Gosuen Gonçalves Dias¹, Marcela Aldrovani Rodrigues¹.

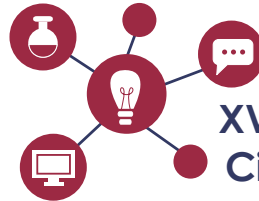
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: marinasantossilva29@gmail.com

Purpose: Digital transformation is revolutionizing health sciences education, particularly histology, where digital atlases surpass the limitations of traditional physical slides. Advanced technologies, including high-definition imaging, interactive platforms, and remote access, provide an immersive and flexible learning environment. This approach enhances comprehension of tissue microstructure and systemic organization while supporting the United Nations Agenda 2030 by promoting inclusive, equitable, and quality education. **Methods:** A collection of 99 histological slides essential for health courses was digitized, organized, and categorized into two main sections: Tissue Biology, encompassing fundamental cells and tissues, and Systemic Histology, detailing tissue organization within organ systems. Slide selection emphasized didactic representativeness and relevance across medicine, dentistry, and nursing programs. High-resolution imaging and a user-friendly digital platform were employed to facilitate autonomous learning, enable continuous content updates, and preserve the original collection. **Results:** The digital atlas delivers high-quality images arranged to support progressive and integrated learning. The clear division between Tissue Biology and Systemic Histology allows students to understand concepts from cellular composition to complex system functions. The platform incorporates detailed descriptions, search capabilities, and interactive features that enhance engagement and knowledge retention. Furthermore, digital access democratizes education, fitting hybrid and fully online learning models increasingly adopted worldwide. **Conclusion:** This digital atlas marks a significant advancement in histology education within health sciences by integrating cutting-edge digital tools that improve educational quality and accessibility. It modernizes content delivery and broadens access to knowledge, preparing future health professionals in alignment with Agenda 2030's commitment to quality education.

Keywords: autonomous learning, digitized histological slides, sustainable development (SDG 4).

Acknowledgments: CAPES (finance code 001) and CNPq.



EVALUATION OF GENOMIC INSTABILITY RESULTED FROM *Schistosoma mansoni* INFECTION IN BALB/C MICE

Mário Fernando Estorino Moreno^{1*}, Julia Mirian Paulino¹, Guilherme Cecílio Lima¹, Matheus Henrique Marques Zago¹, Lizandra Guidi Magalhães¹, Raquel Alves dos Santos¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

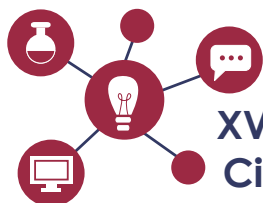
*E-mail: mmariomoreno@gmail.com

Purpose: The main aim of this project is to use the comet assay to evaluate *in vivo* the genomic instability caused by *Schistosoma mansoni* in different organs during its passage through the body of BALB/c mice, the definitive hosts. **Methods:** This study will use female BALB/c mice, divided into control and infected groups. Infection will be carried out by subcutaneous inoculation of 50 cercariae. The animals will be euthanized at different stages of infection to analyze the possible genetic damage induced by the parasite in the acute and chronic phases, which will be measured in the lungs, spleen, intestine and liver and will undergo mechanical cell disaggregation. During the comet assay, the cells will undergo lysis so that the DNA is free and can migrate during electrophoresis. The fluorescence microscope will assess the size of the DNA tail, the larger the tail, the greater the damage to the genetic material. **Results:** The methods described previously are being standardized. **Conclusion:** Schistosomiasis is the second most common parasitic disease in the world. For this reason, it is essential to standardize the comet assay for the analysis of possible single or double strand breaks DNA and their relationship or not with the parasite's infection.

Keywords: comet assay, *Schistosoma mansoni*, damage DNA, BALB/C mice.

Approval CEPE/CEUA: 2.359.041.022

Acknowledgments: FAPESP (2025/14300-3), CAPES (finance code 001), CNPq and Cruzeiro do Sul Educacional.



EVALUATION OF PROTEASOME INHIBITORS AGAINST *Leishmania amazonensis*

Melissa Miyuki Mizoe^{1*}, Guilherme Cecilio Lima¹, Carlos Henrique Tomich de Paula da Silva², Lizandra Guidi Magalhães¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

²School of Pharmaceutical Sciences of Ribeirão Preto, USP, Ribeirão Preto, Brazil, 14040-903.

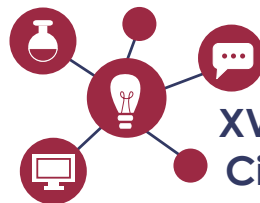
*E-mail: melissamizoe@gmail.com

Purpose: In an effort to advance the discovery of proteasome-inhibiting molecules based on LXE408 analogues, this study evaluated two new candidate compounds for their activity against the promastigote forms of the *Leishmania amazonensis* parasite. **Methods:** *L. amazonensis* promastigotes were cultured in RPMI 1640 medium and exposed to the compounds for 24 and 48 hours. Dose–response assays were conducted to determine antileishmanial activity by counting viable parasites using a Neubauer chamber under light microscopy. Cytotoxicity was assessed using the XTT assay on the J774A.1 murine macrophage cell line. **Results:** Compounds 1 and 2 showed no significant leishmanicidal activity, with IC₅₀ values exceeding 50 µM at both 24 and 48 hours. Cytotoxicity assays revealed CC₅₀ values greater than 50 µM after 48 hours, indicating low toxicity toward host cells at the tested concentrations. **Conclusion:** The proteasome inhibiting compounds 1 and 2 did not exhibit effective in vitro activity against the promastigote forms of *L. amazonensis*, suggesting limited potential for further development in this context.

Keywords: proteasome inhibitory molecules, *Leishmania amazonensis*.

Approval CEPE/CEUA: 2.061.190.421

Acknowledgments: FAPESP, CAPES (finance code 001) and CNPq.



EFFECTIVENESS OF BIOLOGICAL AND BOTANICAL INSECTICIDES APPLIED TO COFFEE LEAF MINER (*LEUCOPTERA COFFEELLA*) IN *COFFEA ARABICA*

Mônica Cristina Alves Soler^{1*}, Ana Victória Morais Guidotti Luz¹, Wenderson Henrique Simões Silva¹, Pedro Henrique Carrijo Birnbaum¹, Alessandra Marieli Vacari¹.

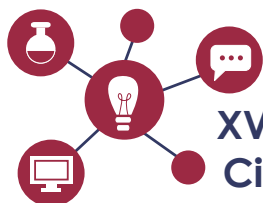
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: solerbaby@hotmail.com

Purpose: This study aimed to evaluate the effectiveness of biological and botanical insecticides applied directly to coffee leaf miner, *Leucoptera coffeella* in *Coffea arabica* plants. **Methods:** The experiment was conducted under laboratory conditions using *C. arabica* 'Catuai' plants. Two adult pairs of *L. coffeella* were confined per plant in voile fabric cages for five days to allow oviposition. Once mines formed, leaves were immersed for 10 seconds in the following insecticide treatments: Bometil[®], Isaria[®], Celtic[®] + Bometil[®], Routen[®] + Ravel[®] + Bometil[®], and Routen[®] + Ravel[®] + Celtic[®]. Distilled water and flupyradifurone served as negative and positive controls, respectively. A completely randomized design was adopted, with seven treatments and ten replicates. The number of mines per leaf, larval survival rate, larval period duration, and pupal survival were assessed every 24 hours. Environmental conditions were maintained at $28 \pm 1^\circ\text{C}$, $70 \pm 10\%$ relative humidity, and a 12h:12h light:dark photoperiod. **Results:** The treatments Isaria[®], Routen[®] + Ravel[®] + Bometil[®], and Routen[®] + Ravel[®] + Celtic[®] resulted in the lowest larval survival rates. Bometil[®] and Isaria[®] significantly reduced pupal survival, while the combinations Routen[®] + Ravel[®] + Bometil[®] and Routen[®] + Ravel[®] + Celtic[®] completely inhibited pupation, leading to total mortality at this stage. **Conclusion:** Direct application of biological and botanical insecticides to larvae of *L. coffeella* effectively disrupts pest development and represents a promising strategy for the sustainable management of the coffee leaf miner in *C. arabica* cultivation.

Keywords: *Leucoptera coffeella*, biological control, integrated pest management, insecticidal activity, sustainable agriculture.

Acknowledgments: FAPESP (2020/02182-2), CAPES (finance code 001), and CNPq.



METALLIC NANOPARTICLES TARGETING RESISTANT *Staphylococcus aureus* AND *Pseudomonas aeruginosa*

Murilo Molina Stefani^{1*}, Vitor de Paula Castro¹, Heber Andrada¹, Sérgio Ricardo Ambrósio¹, Eduardo Ferreira Molina¹, Regina Helena Pires¹.

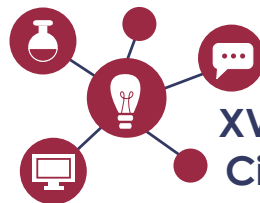
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: murilomolina2@gmail.com

Purpose: This study aimed to evaluate the antibacterial activity of monometallic nanoparticles of copper, zinc, and silver, as well as bimetallic combinations of these metals. The study also included formulations synthesized using plant-derived compounds with silver, copper-gallic acid metal-organic frameworks (MOFs), and nanocomposites based on inclusion complexes with β -cyclodextrin. **Methods:** Nanoparticles were chemically synthesized using standardized protocols and tested against *Staphylococcus aureus* (ATCC 25923 and ATCC 43300) and *Pseudomonas aeruginosa*. Antibacterial activity was assessed by determining the minimum inhibitory concentration (MIC) according to established microbiological methods. **Results:** Copper nanoparticles (Cu⁰ 10 mM) exhibited a MIC of 1.25 mM against *S. aureus* (ATCC 25923), indicating strong antibacterial activity. In contrast, copper-gallic acid MOFs showed MICs above 58.4 $\mu\text{g}/\text{mL}$. Silver-based nanoparticles combined with phytochemicals—such as caffeic and coumaric acids—demonstrated enhanced antimicrobial effects, with MICs ranging from 25 to 50 $\mu\text{g}/\text{mL}$. Additionally, nanocomposite formulations synthesized from inclusion complexes of β -cyclodextrin with *Copaifera duckei* or polyalthic acid displayed selective activity, with a MIC of 31.25 $\mu\text{g}/\text{mL}$ against methicillin-resistant *S. aureus* (ATCC 43300). However, none of the tested formulations significantly inhibited *P. aeruginosa* at the evaluated concentrations, suggesting limited efficacy against this Gram-negative species. **Conclusion:** These findings underscore the promising potential of copper-, zinc-, and phytochemical-based nanoparticles as alternative antibacterial agents, particularly effective against Gram-positive pathogens. The synergistic combination of metals and bioactive plant compounds may enhance antimicrobial performance and offers a potential strategy to combat the growing threat of antimicrobial resistance. Further research is warranted to explore their mechanisms of action and to optimize their application in clinical and environmental settings.

Keywords: nanoparticles, phytochemicals, antibacterial activity, *Staphylococcus aureus*, antimicrobial resistance.

Acknowledgments: FAPESP (2023/17649-1), CAPES (finance code 001) and CNPq.



HUMOR AND ETHOS IN RODRIGO TRAMONTE'S COMICS

Murilo Xavier da Silva^{1*}, Ana Júlia de Oliveira Fiorentin¹, Luana Ferraz¹.

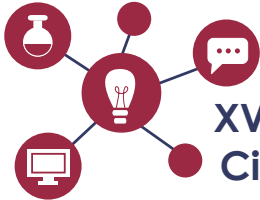
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: muriloxavier2011@gmail.com

Purpose: This research aims to examine how the construction of humorous effect contributes to shaping the ethos of the autistic subject in *Humor Azul: o lado engraçado do autismo* (2015), by Rodrigo Tramonte. **Methods:** The corpus consists of six selected excerpts from the aforementioned book. This is a qualitative, bibliographic, and descriptive study. The analysis is grounded in the theoretical framework of socio-cognitive Text Linguistics and Aristotle-based neo-rhetoric. To examine the linguistic mechanisms responsible for generating humor, we draw on the works of Possenti (2007), Travaglia (1992), and Carmelino (2009a, 2009b, 2009c, 2011), among others. **Results:** Our analysis reveals a recurring use of metaphor, homonymy, and polysemy in the creation of humorous meaning throughout Tramonte's work. These rhetorical strategies contribute to constructing a discursive image of the autistic subject marked by classical symptoms of the spectrum, particularly difficulties in understanding figurative language. This, in turn, supports the construction of an "incomprehended and awkward" ethos for the comic strip's main character, as well as a "didactic" ethos for the author himself, who is also autistic. **Conclusion:** We conclude that the book's discourse serves a pedagogical function, with its primary goal being to explain key characteristics associated with autism. To achieve this, the narrator employs playful devices that generate humor while simultaneously materializing complex concepts in an accessible way for the audience.

Keywords: humor, ethos, Autism Spectrum Disorder, comics, Rodrigo Tramonte.

Acknowledgments: CNPq, CAPES (finance code 001), and UNIFRAN.



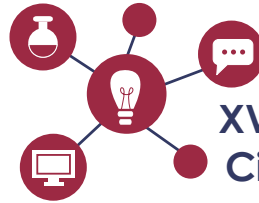
DESCRIPTION OF THE DICHOTIC TESTS WITH SPEECH STIMULUS CONTRIBUTION IN BRAZILIAN RESEARCH: INTEGRATIVE REVIEW

Pamela Eduarda Pires da Costa^{1*}, Ligia Ribeiro Cardoso¹, Mônica Pires de Castro¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: pamelapiresc@gmail.com

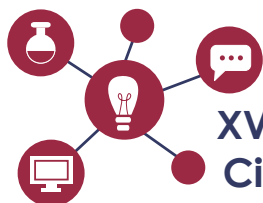
Purpose: The investigation of dichotic listening is important to identify the performance of auditory skills of figure-ground (binaural integration) during the assessment of central auditory processing (CAP). Auditory dichotic tests also help to measure the maturation of the central auditory nervous system, from the observation of the inter-hemispheric information transfer. In Brazil, dichotic tests with speech stimuli frequently used in the evaluation of CAP are: Dichotic Digit Test (DDT), Dichotic Consonant-Vowel Test (DCV) and Dichotic Test of Alternating Disyllables in Portuguese (Staggered Spondaic Word - SSW). To analyze the findings of Brazilian studies that used dichotic tests with speech stimuli (DDT and SSW) to identify and compare their contribution to diagnosis and evaluation of the intervention effect in central auditory processing disorders (CAPD). **Methods:** Integrative literature review on DDT and SSW contribution as procedures of Brazilian study's methodology, in the last 20 years. The tests (DDT and SSW) were used because they present similar speech stimuli (disyllabic), as well as due to the similarity in the execution of the task (repeating all the stimuli presented, in both ears). Sample of 25 articles, collected from the database platforms of the Virtual Health Library - BIREME (Pubmed, Lilacs, Psychologies Index) and the CAPES Portal, based on the combination of the descriptors: hearing, auditory processing, TDD and SSW, combined with the "AND" baller. **Results:** It was identified that TDD and SSW were used in the CAP evaluation in different age groups (from 7 years old, adults and elderly people) and in individuals with different clinical conditions (no clinical complaints; with attention and memory difficulties; speech development and school learning disorders; hearing loss; autism; Parkinson's disease; traumatic brain injury; and kidney disease).The data demonstrated that both tests helped in the effective assessment of figure-ground auditory ability (binaural integration) in the different populations studied. Although the results were altered in both tests, in some studies inferior performance was observed in SSW when compared to DDT, aspect that is justified by the fact that DDT has a lower linguistic load and is in a closed set (numbers 04 to 09). The findings demonstrated that the tests have good sensitivity to identify changes in the auditory ability of figure-ground (binaural integration) and the effect of the CAPD intervention procedures. **Conclusion:** The DDT and SSW are fundamental in the diagnosis of CAPD as well as in the analysis of the effects of the auditory skills training intervention, making it possible to use the respective findings concomitantly and not exclusively.



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Keywords: hearing, auditory processing, Dichotic Digit Test and Dichotic Test of Alternating Disyllables in Portuguese - SSW.

Acknowledgments: UNIFRAN, CAPES (finance code 001) and CNPq.



THE IMPORTANCE OF THE PUBLIC SQUARE FOR CHILD DEVELOPMENT: responsible act toward citizenship, well-being, and quality of life

Paulo Roberto Silvestre da Silva Junior^{1*}, Marilurdes Cruz Borges¹.

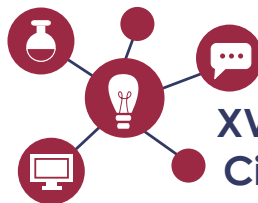
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: paulo.jrn81@gmail.com

Purpose: To present a study on the importance of public squares for the development of social and citizenship skills in childhood. **Methodology:** A qualitative approach based on bibliographic research. The interpretation of data collected from the City Hall of Franca/SP and through a public survey is theoretically supported by Mikhail Bakhtin's (2011) concept of the *responsible act*. **Results:** The public square is an essential environment for child development. In addition to being a safe space for interaction and leisure—especially in peripheral areas marked by danger and a lack of adequate infrastructure for safe transit—it allows children to play freely, interact with others, and develop important social skills. In the city of Franca, the “Parques de Franca” (“Franca Parks”) program was launched in May 2023, aiming to offer broader spaces for leisure, sports, and recreation to the population. Currently, the city has six parks and over 200 cataloged public squares, although some neighborhoods still lack access to such spaces. The public survey indicated that nearly all participants consider public squares to be important spaces for children's leisure and education. **Conclusion:** The study demonstrated that the public square is not merely a recreational space, but a place of citizenship, community learning, and holistic child development. It is indispensable, especially in urban contexts marked by inequality and insecurity. A child who learns through play in a safe and appropriate environment experiences greater well-being and quality of life.

Keywords: public square, leisure and recreation, well-being, quality of life, responsible act.

Acknowledgments: CAPES (finance code 001) and CNPq.



AMIDATION OF THE CAURENOIC ACID WITH P-ANISIDINE

Pedro Augusto de Souza^{1*}, Julian Carlos da Silva Pavan¹, Jadson da Silva Gomes¹, Vladimir Constantino Gomes Heleno¹.

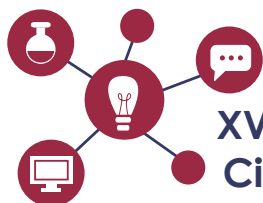
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: pedroaugustodesouza025@outlook.com

Purpose: *Mikania glomerata*, most known as "Guaco", is a Brazilian native species which is popularly used due its medicinal properties. One compound that stands out inside its active principles is the caurenoic acid, being a caurane class diterpene with many pharmacological activities as antimicrobial, anti-inflammatory and antibacterial properties. The aim of this study is to produce semisynthetic substances starting from the caurenoic acid for testing its biological properties. **Methods:** Around 1 kg of *Mikania glomerata* was ground and submitted on an extraction using dichloromethane (DMC), then rotary evaporated, thus obtaining 23.4 g of 2,7 L of recovered DMC, then suspended on 375 mL of MeOH/H₂O, in 9:1 proportion. After washing three times in hexane (300 mL), an organic phase and hydroalcoholic phase were obtained, the organic phase was subjected to vacuum liquid chromatography (VLC) using silica 60 and 60H, collecting 12 fractions, the (8:2) fraction was purified by column chromatography (CC), yielding 300 mg of caurenoic acid. Initially, to conduct structural modification of the isolated compound, the 10 mL balloon was added caurenoic acid, the triphenylphosphine (PPh₃) and the DMC, being left on a cooled environment of 0 to 5°C on agitation for five minutes. Posthumously, it was added *N*-bromosuccinimide and left under agitation for more than 15 minutes. After that, *p*-anisidine was added, and the course of the reaction was accompanied by CCDC, determining a reaction time of 1h30min. After this time, the reaction mixture was submitted to rotary evaporation and right away to a CC using silica gel 60 and 60H. An isocratic mobile phase of hexane and ethyl acetate on 8,5:1,5 proportion was used in purification and the product was submitted to characterization by Hydrogen Nuclear Magnetic Resonance (¹H NMR). **Conclusion:** The expected amidation product was achieved and now the biological properties test will be the next step.

Keywords: caurenoic acid, amidation, nuclear magnetic resonance, diterpene.

Acknowledgments: FAPESP, CAPES (finance code 001) and CNPq.



THE LITERARY TEXT AND THE EDUCATION OF BASIC EDUCATION STUDENTS: responsible act toward health promotion and quality education

Pedro Guilherme Leal^{1*}, Marilurdes Cruz Borges¹.

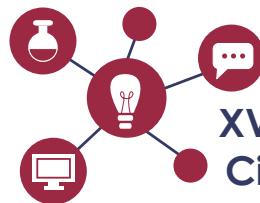
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: boruko10@gmail.com

Purpose: To demonstrate, through the reading of *Feliz Ano Velho* by Marcelo Rubens Paiva, how literature can foster the development of the skills and competencies outlined in the *Base Nacional Comum Curricular* (BNCC), promoting critical thinking in young readers. **Methodology:** A qualitative approach, based on bibliographic research and analysis of the literary work through the lens of the “responsible act,” a concept proposed by Mikhail Bakhtin (2011). In high school education, the BNCC highlights the deepening of language studies as essential to the comprehensive development of students, with the artistic-literary field playing a central role by stimulating sensitivity, imagination, and reflection—thus promoting emotional well-being and quality education. **Results:** The analyzed work goes beyond its autobiographical dimension by inviting the reader to adopt an ethical stance toward life. The protagonist's suffering becomes a call to self-reflection, prompting readers to reassess their attitudes, values, and role in the world. According to Bakhtin (2011), the responsible act integrates reason, emotion, and action, considering the other as an essential part of the human experience. Paiva's narrative addresses themes such as youth, the body, sexuality, disability, and resilience, using accessible language that resonates with young readers. Although marked by informal expressions, the book maintains strong reflective potential. **Conclusion:** Thus, the literary text, by intertwining personal experiences with social and existential issues, serves as an invitation to self-reflection and the redefinition of the human experience. It functions as an effective pedagogical resource for promoting emotional health and building a quality education, in line with BNCC guidelines.

Keywords: literature, responsible act, Bakhtin, promotion of emotional health, quality of life.

Acknowledgments: CAPES (finance code 001) and CNPq.



ASSESSMENT OF BIOLOGICAL PRODUCTS FOR THE CONTROL OF *Spodoptera frugiperda* NEONATES: A LABORATORY-BASED EVALUATION

Pedro Henrique Carrijo^{1*}, Pedro Sandoval dos Santos Ribeiro Cavallari¹, Samarah Gomes de Almeida¹, Wenderson Henrique Simões Silva¹, Alessandra Marieli Vacari¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: phcb2002@gmail.com

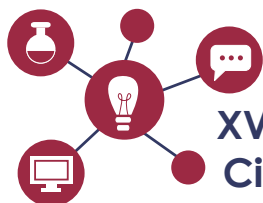
Purpose: *Spodoptera frugiperda* (Lepidoptera: Noctuidae) is one of the most important agricultural pests in Brazil, known for its high adaptability and resistance to synthetic chemical insecticides. This study aimed to evaluate the efficacy of five commercial bioinsecticides against neonate larvae of *S. frugiperda* under laboratory conditions.

Methods: Six treatments were tested: a negative control (water) and five commercial products GAMA, Chromo bac, BioSpin, Brave Gold, and BT. Treated artificial diets were offered to neonates, with 50 larvae per treatment, maintained under controlled temperature ($25 \pm 1^{\circ}\text{C}$), relative humidity ($70 \pm 10\%$) and photoperiod (12h light/12h dark). Mortality was recorded every 24 hours for fifteen days. **Results:** The following cumulative mortality rates were observed: GAMA - 14%; Chromo bac - 0%; BioSpin - 0%; Brave Gold - 0%; BT - 6%; and control - 6%. Although some treatments resulted in slightly higher mortality than the control, differences were not statistically significant.

Conclusion: Therefore, under the tested conditions, the evaluated products did not show satisfactory efficacy in controlling *S. frugiperda*. Further research involving alternative formulations, dosages, or integrated control strategies is recommended to improve management of this pest.

Keywords: biological control, pest management, *Spodoptera frugiperda*.

Acknowledgments: FAPESP (2023/14014-5), CAPES (finance code 001) and CNPq.



EVALUATION OF THE ANTITUMOR POTENTIAL OF [Ru(dmp)(dppe)₂]PF₆ IN A MURINE MODEL OF BREAST CANCER

Pedro Henrique Oliveira dos Santos^{1*}, Fernanda Freitas Noronha¹, Matheus Reis Santos de Melo¹, Arthur Barcelos Ribeiro¹, Marcos Vinícius Palmeira de Mello², Alzir Azevedo Batista², Denise Crispim Tavares¹, Heloiza Diniz Nicolella^{1,2}.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

²Federal University of São Carlos, UFSCar, São Carlos, Brazil, 13565-905.

*E-mail: pedrooliveira9511@gmail.com

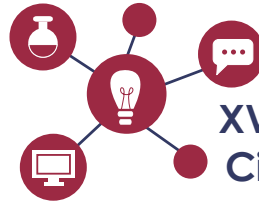
Purpose: The present study aimed to evaluate the efficacy of the ruthenium complex [Ru(dmp)(dppe)₂]PF₆ for the treatment of triple-negative breast cancer in an *in vivo* model.

Methods: The tumor induction was performed in six-week-old female BALB/c mice by unilateral injection of approximately 1×10^6 viable cells suspended in 70 μ L of chilled 1X PBS into the inguinal mammary fat pad. The treatment began once the tumors reached a volume between 50 and 100 mm³. The animals were divided into two experimental groups: the tumor control group, which did not receive therapeutic intervention, and the treatment group, which received 5 mg/kg body weight of [Ru(dmp)(dppe)₂]PF₆. The compound was administered intraperitoneally at 72-hour intervals, totaling five doses. Following the treatment period, antitumor activity was assessed by analyzing mitotic frequency and tumor mass, while toxicity was evaluated through organ weight, body weight gain, and serum levels of creatinine and alanine aminotransferase (ALT). **Results:** The results obtained demonstrated that [Ru(dmp)(dppe)₂]PF₆ reduced tumor mass by 73.86% compared to the control group. However, biochemical analyses revealed a significant increase in serum ALT levels, along with a reduction in liver mass and body weight loss relative to the control group, suggesting the occurrence of hepatotoxicity associated with the treatment. **Conclusion:** Thus, it can be concluded that under the experimental conditions employed, [Ru(dmp)(dppe)₂]PF₆ exhibited promising antitumor activity; however, hepatotoxicity was evidenced. These findings highlight the need for technical optimizations to mitigate adverse effects while ensuring the bioavailability of the ruthenium complex to maintain its therapeutic efficacy.

Keywords: ruthenium complex, triple-negative breast cancer, toxicity.

Approval CEPE/CEUA: 7.534.240.524

Acknowledgments: Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP #22/08076-5); Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES, finance code 001); Conselho Nacional de Pesquisas (CNPq).



TOPOGRAPHIC AND MACROSCOPIC EXTERNAL ANATOMICAL DESCRIPTION OF THE REPRODUCTIVE SYSTEM OF FEMALE COMMON OPOSSUMS (*DIDELPHIS MARSUPIALIS* - LINNAEUS, 1758)

Rafaela Maranhã Cassola^{1*}, Fernando Albino de Paula¹, Isadora Pezati Sabino¹, Lucas de Freitas Pereira¹, Marcela Aldrovani Rodrigues¹, Fernanda Gosuen Gonçalves Dias¹.

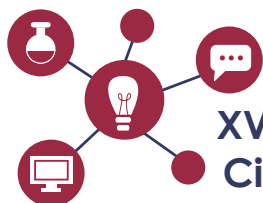
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: rafaelamcassola@gmail.com

Purpose: To describe the morphology of the reproductive system of female *Didelphis marsupialis*. **Methods:** Eight female common opossum cadavers were used, sourced from the collection of the Veterinary Anatomy Laboratory at the University of Franca. The reproductive systems were dissected using conventional methods so that the structures could be described in terms of their topography and external anatomy. **Results:** The reproductive organs were located in the caudal region of the abdominal cavity and the pelvic cavity, differing from domestic animals, in which they are found in the mid-abdominal region. The ovaries are small, ovoid, and located inside the ovarian bursa, near the uteri and laterally to the urinary bladder. The uterine tubes adhere to the ovarian bursae and are positioned cranially to the uterine horns, which are elongated and fusiform. The uterus is double, parallel, and completely separated, contrasting with domestic animals, which have a single uterus. Each uterus leads to an independent cervix, which opens into the vaginal canal, composed of two long and curved lateral vaginas. These vaginas connect to a pseudovagina, located in the median sagittal plane, which leads to the common urogenital sinus. The studied marsupials presented a cloaca for the elimination of the fetus, urine, and feces through a single opening, a characteristic shared with other marsupials. The presence of a bifurcated clitoris was not identified in the analyzed specimens. **Conclusion:** The anatomical particularities found in the reproductive system provide relevant information about the reproductive biology of the species and its relationship with other marsupials.

Keywords: comparative anatomy, female genital system, black-eared opossum, marsupial, reproductive morphology.

Acknowledgments: UNIFRAN, CAPES (finance code 001) and CNPq.



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FOR A CULTURE OF PEACE IN SCHOOLS

Raissa Mariane Sousa^{1*}, Rangel Andrade Silva¹, Regina Célia de Souza Beretta¹.

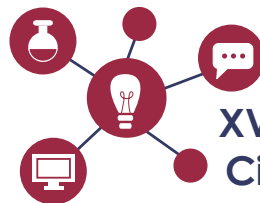
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: raissamariane09@gmail.com

Purpose: Violence is a complex and multidimensional phenomenon. Schools are spaces for the expression and manifestation of violence, but they can also promote a culture of peace, with a view to overcoming violence such as bullying, racism, sexism, and prejudice. To raise awareness among adolescents about the importance of building a culture of peace to prevent acts contrary to human rights in everyday school life. **Method:** Qualitative-exploratory research carried out in two stages. The first consisted of a bibliographic survey of the period from 2020 to 2025, in the databases: Google Scholar, SciELO, and BVS, using the descriptors human rights, culture of peace, citizenship, and democracy, which resulted in 19 articles, of which the 10 most relevant were selected. In the second stage, an intervention was carried out in a school in the city of Franca, SP, through an essay contest, designed together with the teachers, on the culture of peace and with the participation of 75 high school students. **Results:** The construction of a culture of peace is done through dialogue and understanding of values that oppose violence, to build healthier and more harmonious social relationships, such as cooperation, respect and empathy. **Conclusion:** There is a need to develop effective and efficient public policies that promote better conditions for human development. Educational policies on human rights point to the paths of humanization of individuals by encouraging collaboration, tolerance of differences, and the spirit of justice and solidarity.

Keywords: human rights, culture of peace, education, human dignity, subjects of law, citizenship, and democracy.

Acknowledgments: FAPESP, CAPES (finance code 001) and CNPq.



FRAGMENTS OF THE REALITY LIVED BY GIRLS IN CONFLICT WITH THE LAW

Raquel Nascimento Camargo^{1*}, Rangel de Andrade Silva¹, Regina Célia de Souza Beretta¹.

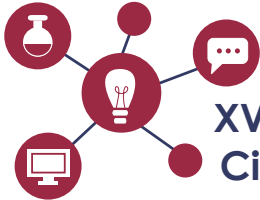
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: quelnascc@gmail.com

Purpose: To investigate the life trajectories and the reality experienced by female adolescents serving socio-educational measures at Fundação Casa. The focus is to understand the ways in which gender, race, class inequalities and structural violence shape these experiences and hinder inclusion processes. The history of Brazilian childhood and adolescence has been marked by neglect, violation of rights and social exclusion, an incessant struggle for social protection, which culminated in the approval of the Statute of Children and Adolescents (ECA). **Methods:** The research is characterized as qualitative-exploratory, with a dialectical approach. The study is based on a bibliographic and documentary survey on socio-education, gender vulnerabilities, and public policies aimed at adolescents in conflict with the law. **Results:** The descriptors used were: socio-education, gender, exclusion and 480 articles were found, 10 articles and 1 book were selected. **Conclusions:** The invisibility of girls in socio-educational policies was observed; the maintenance of sexist institutional practices, with unequal socialization: construction of the female identity as fragile and dependent. Multiple victimization: physical, emotional and sexual abuse. Fragile family structures with marks of abandonment, neglect and domestic violence. Influence of affections: boyfriends, friends and family involved in drug trafficking. Abandonment by the State and society: poverty, lack of opportunities and early contact with the world of drugs and the streets. There is an urgent need to reformulate reception and resocialization strategies with a focus on human rights and gender equality, to address the violations experienced by girls who commit crimes.

Keywords: gender, exclusion, socioeducation, Fundação Casa, adolescence, public policies.

Acknowledgments: CNPQ, CAPES (finance code 001), and PIBIC.



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SEXUAL BEHAVIOR AND THE PRESENCE OF HPV IN THE ORAL CAVITY: A STUDY IN A YOUNG POPULATION

Rosângela Porcina Do Nascimento^{1*}, Natália Nascimento Silveira¹, Gabriela da Silva Delado¹, Naiara Cristina da Silva Boaretto¹, Lilian Tedeschi Ramalli¹, Raquel Alves dos Santos¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

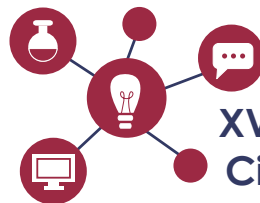
*E-mail: martinsrosangela373@gmail.com

Purpose: Considering that sexual behavior and other habits, such as smoking, alcohol consumption, and the use of illicit drugs, are factors that increase the risk of HPV infection, this study aims to analyze these factors in a young university population. **Methods:** For the research, a structured and printed questionnaire was applied, containing questions designed to investigate sociodemographic data, health information, substance use, and sexual behaviors. The study included 24 men and 47 women, aged between 18 and 35 years, university students who volunteered after being informed about the objectives of the research. **Results:** When analyzing the age of the participants, the average was 23 years, being 22 for men and 23 for women. Regarding the number of sexual partners, the overall average was 8 people, with 5 for women and 14 for men. It was also observed that 9.8% of the individuals use tobacco and drugs, while 81.7% reported consuming alcoholic beverages. **Conclusion:** Although the analysis is still ongoing, the preliminary data indicate relevant behavioral patterns within the young university population studied. The high average number of sexual partners, combined with the considerable rates of alcohol consumption and the use of tobacco and drugs, reinforces the importance of investigating how these factors may influence the risk of HPV infection. Further analysis is necessary to establish more comprehensive correlations and to support the development of effective preventive strategies.

Keywords: HPV, sexual behavior, risk factors, alcohol consumption, sexual health.

Approval CEPE/CEUA: 56054122.3.0000.5495

Acknowledgments: FAPESP, CAPES (finance code 001), CNPq and Cruzeiro do Sul Educacional



PERCEPTION OF SUSTAINABLE MOBILITY: AN ADAPTIVE LOOK AT THE ZÉ DA BECA URBAN TERMINAL IN PASSOS, MINAS GERAIS

Samantha Silvestri Weis Ferreira Da Costa^{1*}, Luciano De Sousa¹.

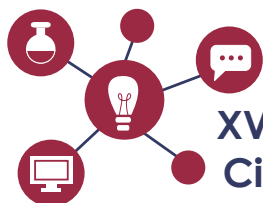
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: samanthasilvestriweis@gmail.com

Purpose: The present study was carried out based on the perception of the growing urban flow of Passos-MG, thus addressing the need for organization in urban roads and a sustainable approach. **Methods:** As an object of study, the structure of the “Terminal Urbano Zé da Beca”, one of the main ones in the city, was analysed using qualitative and quantitative methodological processes for analysis, data collection intended the collection of secondary data through the reading of pre-existing documents, as well as the survey of primary data, carried out with the help of a questionnaire and having its performance in the area of the object of study, In this same questionnaire, information on focus groups will be evaluated, aiming to improve the structure of the bus stop to cover this portion of the population. **Results:** It is expected that the completion of the project improve the structure of the bus shelter to meet the needs of the local population, such as safety and comfort. In addition to providing the space with a more modern design. **Conclusion:** If the process is successful, this change may occur at the other bus stops in the city. Furthermore, with the revitalization of these spaces, there is also the creation of new bus stops, which will be possible to preserve sustainable mobility since there will be no overcrowding in public transport, attracting more people.

Keywords: public transport, sustainable mobility, Terminal Urbano Zé da Beca, Passos-MG.

Acknowledgments: UNIFRAN, CAPES (finance code 001) and CNPq.



ANTIBACTERIAL EVALUATION OF POLYALTHIC ACID DERIVATIVES AGAINST VETERINARY-RELEVANT PATHOGENS

Saulo Henrique Rossato^{1*}, Vítor de Paula Castro¹, Rodrigo Cássio Sola Veneziani¹, Regina Helena Pires¹.

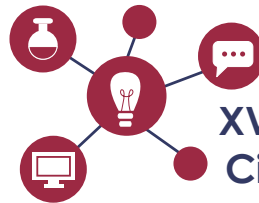
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: saulorossatouni@gmail.com

Purpose: This study aimed to evaluate the antibacterial activity of polyalthic acid and its semi-synthetic derivatives against *Staphylococcus aureus* and *Pseudomonas aeruginosa*, bacteria frequently implicated in animal infections and of clinical and environmental relevance. **Methods:** Polyalthic acid was isolated from *Copaifera* spp. and chemically modified to generate a library of derivatives (CM2 series). Antibacterial susceptibility was assessed through broth microdilution assays, following standardized protocols, to determine the minimum inhibitory concentration (MIC) of each compound against *S. aureus* (ATCC 25923) and *P. aeruginosa* (clinical isolate). **Results:** Among the tested compounds, CM2-13 showed the most promising antibacterial activity against *S. aureus*, with a MIC of 7.81 µg/mL. The parent compound (polyalthic acid) and CM2-23 also exhibited activity, both with MICs of 125 µg/mL. All other derivatives demonstrated MICs >1000 µg/mL for *S. aureus*. No significant inhibitory effect was observed for any compound against *P. aeruginosa*, with MICs uniformly ≥1000 µg/mL, suggesting lower susceptibility of this Gram-negative bacterium. **Conclusion:** The findings demonstrate that specific derivatives of polyalthic acid, particularly CM2-13, possess notable antibacterial activity against *S. aureus*, indicating potential for therapeutic application in veterinary medicine. The limited activity against *P. aeruginosa* underscores the need for structural optimization to enhance efficacy against Gram-negative bacteria. These results support further development of diterpene-based compounds for infection control in animal health.

Keywords: polyalthic acid, *Copaifera*, antibacterial activity, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, veterinary medicine.

Acknowledgments: CAPES (finance code 001) and CNPq.



DEVELOPMENT OF A HIGH-RESOLUTION DIGITAL ATLAS FOR VETERINARY SYSTEMIC PATHOLOGY EDUCATION

Sophia de Melo Acra^{1*}, Maisa Teófilo Esper¹, Jhuan Luiz Silva¹, Caio Rafael Siqueira Vasconcelos¹, Maysa Barbosa de Almeida¹, Fernanda Gosuen Gonçalves Dias¹, Marcela Aldrovani Rodrigues¹.

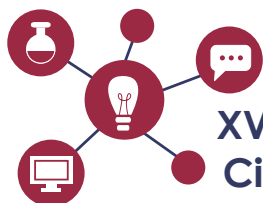
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: acrasophia@gmail.com

Purpose: Technological advances have transformed veterinary education, particularly in systemic pathology, through the digitization of histological slides and the creation of digital atlases. These tools improve accessibility and learning flexibility by allowing students to remotely access high-quality images, promoting autonomy and interactivity. They also meet the demand for innovative formats that align with 21st-century educational changes. **Method:** Using a physical teaching collection of 53 histological slides specific to the discipline, we performed careful selection, detailed description, and high-resolution digital photography. Simultaneously, we reviewed existing digital atlases to identify best practices in usability, organization, and visual presentation. Based on these insights, we developed a digital atlas that combines traditional hands-on teaching with digital technology benefits, optimizing access and comprehension. **Results:** The digital atlas provides high-resolution images arranged intuitively, accompanied by technical descriptions that facilitate understanding of core concepts. Digital tools such as virtual atlases and virtual microscopy have been shown to improve academic performance, support autonomous study, and offer valuable resources for quick review and consultation. Additionally, the digital format minimizes the risk of physical material degradation and simplifies future updates, thereby extending the pedagogical lifespan of the resource. **Conclusions:** The creation of this digital atlas represents a significant contribution to pedagogical innovation in systemic pathology education, aligning with global trends in digital teaching and the increasing integration of technology in higher education. By facilitating access to educational content and enhancing interactivity, this resource improves learning quality and prepares students for technology use in their academic and professional development.

Keywords: autonomous learning, quality education (SDG 4), virtual microscopy.

Acknowledgments: CAPES (finance code 001) and CNPq.



EVALUATION OF THE GENOTOXIC AND MUTAGENIC POTENTIAL OF AMTAC-22, A SYNTHETIC SPIRO-ACRIDINE COMPOUND

Stéfane D Julia Peixoto^{1*}, Tábata Rodrigues Esperandim¹, Marcela de Melo Junqueira¹, Arthur Barcelos Ribeiro¹, Letícia Helena dos Reis¹, Ricardo Olímpio de Moura², Denise Crispim Tavares¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

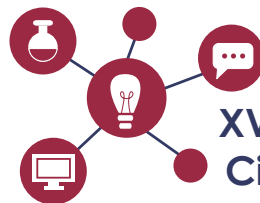
²State University of Paraíba, Campina Grande, Paraíba, Brazil, 58100-001.

*E-mail: stefane.peixoto1@icloud.com

Purpose: This study evaluated the genotoxic and mutagenic effects of the synthetic spiro-acridine compound AMTAC-22 using the micronucleus and Salmonella/microsome assays. **Methods:** Chinese hamster ovary (CHO) cells were used in the micronucleus test, and the TA100 and TA102 strains of *Salmonella typhimurium* were used in the Salmonella/microsome assay. For the micronucleus assay, CHO cells were exposed to 6, 12, and 18 μM of AMTAC-22. Micronucleus frequency was evaluated in 3,000 binucleated cells, and cytotoxicity was assessed using the nuclear division index (NDI) in 1,500 cells per treatment. In the mutagenicity assay, *S. typhimurium* strains were exposed to various concentrations of AMTAC-22 up to the highest non-toxic concentration (1000 $\mu\text{g}/\text{plate}$), with and without metabolic activation (S9). Negative, solvent, and positive controls were included. **Results:** CHO cultures treated with 12 and 18 μM of AMTAC-22 showed a significant increase in micronuclei compared to the negative control, indicating genotoxicity. The treatment with 18 μM AMTAC-22 led to a significant reduction in NDI, revealing a cytotoxic effect. In the Salmonella/microsome assay, no mutagenicity was observed in TA100. However, TA102 showed an increase in revertant colonies in the absence of metabolic activation. In contrast, no increase in colonies was observed in the presence of S9. **Conclusion:** AMTAC-22 showed genotoxicity and cytotoxicity at the highest concentrations tested, as well as mutagenicity in the absence of metabolism. Further studies are needed to better understand the action of AMTAC-22 on genetic material.

Keywords: Spiro-acridine, micronucleus test, Salmonella/microsome assay.

Acknowledgments: FAPESP (#2022/00806-4), CAPES (finance code 001) and CNPq.



TIME-KILL CURVE ASSAY OF *CIS*- AND *TRANS*-COMMUNIC ACIDS AGAINST *STREPTOCOCCUS MUTANS*

Tais Miotto Siqueira^{1*}, Maria Anita Lemos Vasconcelos Ambrósio¹, Rodrigo Cassio Sola Veneziani¹.

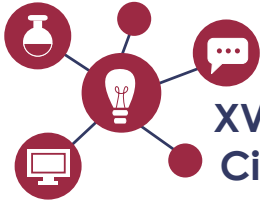
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: taismiotossiqueira@gmail.com

Purpose: The aim of this study was to determine the time of killing of *Streptococcus mutans* against *trans*- and *cis*-communic acids, which are acidic diterpenes found in Brazilian Brown Propolis of *Araucaria*. **Method:** The *in vitro* "Time-Kill Curve Assay" was used with concentrations of the tested compounds equal to 3 times their Minimum Inhibitory Concentration (MIC) values. Samples were prepared and transferred to BHI (Brain Heart Infusion) broth in test tubes and then removed at time intervals of 0, 1/2, 4, 8, 12 and 24 hours, and inoculated in BHI agar. Chlorhexidine was used as a positive control, BHI broth + inoculum for inoculum growth control and only BHI broth as a sterility control. **Results:** The results presented can be considered very promising, with bactericidal activity within 24 hours for the three samples tested (*trans*- and *cis*-communic acids and chlorhexine), and at a concentration of 3 times the *trans* and *cis* acids obtained bactericidal action, zeroing the curve within 12 hours. Interesting results compared to the positive control (chlorhexidine), which required 24 hours to exhibit the same activity. **Conclusions:** Based on the results obtained from the *in vitro* Time-Kill Curve Assay, *trans*- and *cis*-communic acids were more effective in eliminating bacteria than the positive control itself. However, further efficacy and safety studies should be carried out with a view to future applications of these compounds.

Keywords: *cis*- and *trans*-communic acids, antibacterial, time-kill curve assay, chlorhexidine.

Acknowledgments: Proc. FAPESP no. 17/04138-8, CAPES (finance code 001) and CNPq.



PARENTAL VIOLENCE MANIFESTED ON SOCIAL MIDEA: ACCOUNTS FROM THOSE AFFECTED

Tatiane Morais Cruvinel^{1*}, Luciana Carmona Garcia¹.

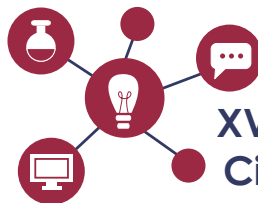
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: cruvineltatiane@gmail.com

Purpose: This paper examines parental violence observed on social media. It draws upon the theoretical contributions of Michel Pêcheux and Michel Foucault to gain an understanding of how discourses are produced and disseminated socially. **Method:** Drawing from the authors' research, we conducted a material analysis focusing on visual screenshots of posts from popular social media platforms such as Facebook and Instagram that relate to the study's theme. These materials were meticulously scrutinized using the tenets of Discourse Analysis, enabling us to uncover the meanings and understandings shaped regarding parental violence and the experiences of affected individuals. **Results:** The results of this research are still underway. However, the analysis of the collected data already points to a deeper understanding of this parental violence. Upon completion of this work, fundamental information will be provided to implement more effective public policies, and the awareness generated by the findings will significantly contribute to reducing violence and building safer, healthier family environments. **Conclusions:** This study underscores the crucial role of social media in comprehending parental violence. Through Discourse Analysis, it aims to contribute to both scientific communication and broader social impact.

Keywords: parental violence, parenting, child, legal subject, discursive studies.

Acknowledgments: CAPES (finance code 001) and CNPq (156253/20024-0).



EXPLORING POLYETHERAMINE-POLYPHENOL COMPLEXES AS POTENTIAL CARRIERS FOR FOLIAR NUTRIENT DELIVERY

Vanessa Silveira de Alencar Silva^{1*}, Julia Botelho Pucci, Eduardo Ferreira Molina¹.

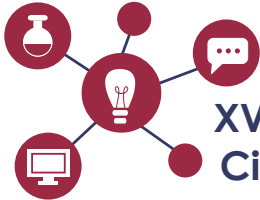
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: vanessasilveira3012@gmail.com

Purpose: The multifunctional properties exhibited by polymer-based materials make them promising candidates for agricultural applications, particularly due to their tunable physical form, permeability, chemical reactivity, and stability. Intermolecular complexation via non-covalent interactions has enabled the development of a wide range of functional materials, with increasing interest in utilizing natural phenolic compounds as versatile building blocks. This study aims to develop a polymeric system formed through the interaction of a polyphenol and hydrophobic polyetheramine Jeffamine D400. **Method:** Stable aqueous colloidal complexes were obtained at room temperature by varying the concentrations of stock solutions of polyphenol and polyetheramine. The acidity levels of the resulting systems were controlled, and their optical properties were evaluated, particularly opacity, to characterize the colloidal nature—comprising particles small enough to remain suspended but large enough to scatter light. **Results:** The influence of the polyetheramine-to-polyphenol ratio on the physicochemical properties of the resulting complexes was evaluated using dynamic light scattering (DLS) for hydrodynamic particle size and zeta potential analysis, transmission electron microscopy (TEM), and applications on cucumber plants (*Cucumis sativus*) to assess phytotoxicity, adhesion, and absorption properties. Surface adhesion and film formation were studied using silicon slides and leaf surfaces, confirming the formation of a thin film capable of serving as a nutrient delivery system for foliar applications. **Conclusions:** The formation and absorption of a polymeric film on leaf surfaces demonstrate the potential of these complexes as carriers for foliar nutrient delivery. This study highlights the promise of nanotechnology in developing more efficient nutrient transport systems for plants.

Keywords: foliar dispersion, polymer, colloidal system, release.

Acknowledgments: FAPESP 2024/16077-7, CAPES (finance code 001), and CNPq.



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UNDERSTANDING THE PARASITE *Trichomonas vaginalis*

Victor Henrique Silva Berdu^{1*}, Matheus Henrique Marques Zago², Lizandra Guidi Magalhães².

¹Angêlo Scarabucci, Franca, Brazil, 14403-646.

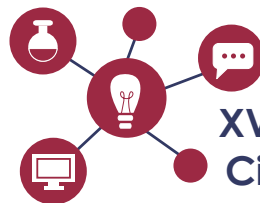
²University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: victorhenriquesilvaberdu@gmail.com

Purpose: Trichomoniasis is a common but often overlooked sexually transmitted infection caused by the protozoan parasite *Trichomonas vaginalis*. It affects millions of people worldwide, particularly in areas with limited access to sexual health education and resources. The goal of this booklet is to spread awareness about trichomoniasis, helping to reduce its incidence and promote healthier communities through education and preventive practices. **Method:** The booklet uses clear illustrations to simplify complex information, making it easily understandable. It features interactive activities for children and families to encourage broader engagement with the topic of sexual health in an age-appropriate manner. Illustrations were created using the Canva platform. Additionally, support from the Parasitology Research Laboratory (LAPPA) enabled in-depth study and understanding of the parasite's biology and transmission. **Results:** The final booklet is designed to be accessible to people of all ages and educational backgrounds, offering clear explanations of trichomoniasis, its symptoms, transmission, and prevention. **Conclusions:** This booklet contributes to a growing collection of educational resources focused on increasing awareness of sexually transmitted infections. By fostering knowledge and promoting preventive behavior, we aim to support healthier, more informed communities and reduce the spread of trichomoniasis.

Keywords: Trichomoniasis, Understanding, Parasite.

Acknowledgments: FAPESP, CAPES (finance code 001) and CNPq.



SEROEPIDEMIOLOGICAL SURVEY OF LEISHMANIASIS IN EQUINES FROM THE NORTHEASTERN REGION OF SÃO PAULO STATE

Victor Hugo Lopes de Paula^{1*}, João Guilherme Martins¹, Francismar Barbosa de Oliveira¹, Maria Eduarda Souza¹, Marina Carvalho Nogueira Mendonça¹, Rafael Paranhos de Mendonça¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

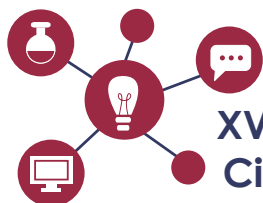
*E-mail: victorhugolopesdepaula@gmail.com

Purpose: This study aims to conduct a seroepidemiological survey on the prevalence of antibodies against leishmaniasis in equines located on rural properties in cities in the northeastern region of São Paulo state, using an enzyme immunoassay (EIA CANINE VISCERAL LEISHMANIASIS / Bio-Manguinhos®) to systematize epidemiological data. **Method:** A total of 80 equines, both male and/or female, aged between 2 and 25 years of pure or mixed breeds, will be sourced from rural properties in cities within the northeastern region of São Paulo. Blood samples will be collected via jugular vein puncture into tubes containing ethylenediaminetetraacetic acid (EDTA) and stored at 2-8°C. The samples will be sent to the Science Vet laboratory for enzyme immunoassay (EIA) testing for anti-leishmaniasis antibodies. Basic descriptive statistical analyses (positivity, sex, age, location) will be performed using Microsoft Excel. **Results:** The project is ongoing, with preliminary sample collection and analysis underway. Expected results include variability in antibody prevalence across different animal demographics and geographical locations. The data will provide insight into the exposure of equines to leishmaniasis in rural regions of São Paulo state. **Conclusions:** This study aims to generate crucial epidemiological data that could influence leishmaniasis control and prevention measures in equines. Understanding the distribution of antibodies will support future public health strategies and animal management practices. Expanding the survey to include additional regions and species may enhance comprehensive control strategies and contribute to the reduction of leishmaniasis risk in both animals and humans.

Keywords: antibody, epidemiology, equines, Leishmania, serology.

Approval CEUA: 2025/02-01

Acknowledgments: CAPES (finance code 001) and CNPq.



STUDY ON THE FEASIBILITY OF ROOFTOP GARDENS IN GREEN ROOFS OF HOUSING COMPLEXES

Vítor de Oliveira Ribeiro Costa^{1*}, Maurício de Azevedo Valentini¹.

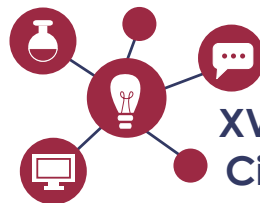
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: vitoror05@gmail.com

Purpose: This study aimed to evaluate the feasibility of implementing rooftop gardens in green roofs of housing complexes, considering technical, environmental, and social aspects. **Method:** An interdisciplinary approach was adopted, involving literature review, case studies, structural technical analysis, environmental assessment, and field research through interviews and questionnaires with residents and managers of housing complexes. The variables analyzed included structural feasibility, improvement of thermal comfort, rainwater management, food production potential, and residents' perceptions regarding rooftop cultivation. National and international case studies were examined, and environmental and social indicators were assessed to estimate the benefits. **Results:** Technical analysis indicated that rooftop gardens are feasible when meeting specific structural and irrigation conditions. Social data revealed a generally positive perception among residents regarding their productive potential and community strengthening. Environmental results suggested significant thermal and ecological benefits. **Conclusions:** Rooftop gardens in green roofs of housing complexes are viable and provide multiple benefits, such as increasing urban sustainability, improving the microclimate, fostering social cohesion, and enhancing food security. Further studies and the development of public policies are recommended to encourage their integration into urban planning and social housing.

Keywords: urban gardens, green roofs, housing complexes, urban sustainability, microclimatic effect.

Acknowledgments: UNIFRAN, CAPES (finance code 001) and CNPq.



THERAPEUTIC POTENTIAL OF CANNABIDIOL IN PARKINSON'S DISEASE IN THE ELDERLY: AN INTEGRATIVE REVIEW

Vitor Paulino de Carvalho^{1*}, Letícia Natália Oliveira¹, Lilian Cristina Gomes do Nascimento¹.

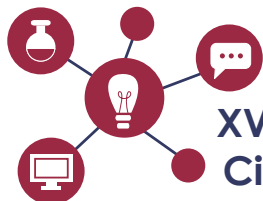
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: progeovli@gmail.com

Purpose: This study aimed to conduct an integrative review on the therapeutic potential of cannabidiol (CBD) in elderly patients diagnosed with Parkinson's disease (PD). **Method:** In May 2024, a comprehensive search was performed in the Virtual Health Library (VHL) database using the keywords "elderly" AND "parkinson" AND "cannabidiol." Articles published in Portuguese, Spanish, and English were considered, without restrictions on publication date. Initially, nine studies were retrieved and screened based on titles and abstracts. After a full-text evaluation for methodological quality and relevance, seven studies were included. **Results:** The selected studies addressed multiple aspects of CBD use in PD. Liu et al. (2024) evaluated the combined effects of CBD and Δ -9-tetrahydrocannabinol (THC), observing short-term therapeutic benefits. Da Cruz Guedes et al. (2023) reported neuroprotective effects of CBD against dopaminergic neuronal damage. De Faria et al. (2020) highlighted the anxiolytic and anti-tremor effects of CBD, indicating improvements in non-motor symptoms. Other studies by Chagas et al. (2014a) and Zuardi et al. (2009) demonstrated a reduction in psychotic symptoms, while Chagas et al. (2014b) identified potential benefits of CBD for REM sleep behavior disorder in PD patients. **Conclusions:** Although preliminary findings suggest CBD's potential to improve motor and non-motor symptoms and enhance neuroprotection in elderly PD patients, the current evidence remains limited. Further high-quality clinical trials are necessary to confirm the efficacy and safety of CBD, aiming to develop effective therapeutic alternatives that could significantly improve patients' quality of life.

Keywords: Cannabidiol, Parkinson's Disease, Elderly.

Acknowledgments: CAPES (finance code 001) and Unifran.



SYNTHESIS AND CHARACTERIZATION OF METAL-ORGANIC FRAMEWORKS BASED ON ALUMINUM AND ZINC - TEREPHTHALIC ACID AND DIMETHYLFORMAMIDE, DISPERSED IN SEPIOLITE CLAY

Vitória Baldini Pires^{1*}, Vinicius F. Lima¹, Emerson H. de Faria¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

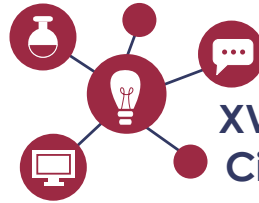
*E-mail: vitoriabpires@gmail.com / emerson.faria@unifran.edu.br

Purpose: The aim of this study was to synthesize and characterize metal-organic frameworks (MOFs) based on aluminum and zinc cations, and the ligands terephthalic acid and dimethylformamide (DMF), as well as to develop a nanocomposite with the clay mineral sepiolite, aiming to enhance the properties and recyclability of the MOF.

Method: A solution was prepared using 16.6 g of terephthalic acid ($C_8H_6O_4$) in 300 mL of dimethylformamide (DMF), with 5.6 g of $AlCl_3$ and 4.5 g of $ZnCl_2$. The mixture was transferred to a microwave reactor (Ethos Easy - Milestone) at 1200 W and 140 °C in 4-hour cycles, totaling 16 hours of reaction. The product was centrifuged, washed with DMF and ethanol, and dried (80 °C, 24 hours). For the nanocomposite, 1 g of clay and 1 g of MOF-Al/Zn were dispersed in 50 mL of DMF, homogenized, and subjected to the microwave reactor for 4 hours. The final solid was washed and dried following the previous synthesis method. **Results:** X-ray diffraction (XRD) analysis of MOF-Al/Zn showed reflections similar to those reported in the literature at 10°, 15°, 25°, and 30° to 35° in 2 θ . MOF-Al/Zn-Sep, compared to sepiolite clay, presented peaks at 8°, 20° to 30°, and 35° to 40° in 2 θ , confirming the mixture of MOF and sepiolite. **Conclusions:** The synthesis and characterization of the MOF-Al/Zn material and the MOF-Al/Zn-Sep were confirmed by XRD. This material shows promising combinations for contaminant adsorption and, with the semiconductor Zn, opens perspectives for use as a photocatalyst for the degradation of adsorbed species. Further studies will be conducted for this application.

Keywords: metal-organic frameworks, aluminum, zinc, terephthalic acid, dimethylformamide, sepiolite.

Acknowledgments: CAPES (finance code 001), CNPq (310151/2021-0, 107756/2024-2), FAPESP (2017/15482-1).



THE DIALOGUE OF MARGINALIZED AND SILENCED VOICES: a Bakhtinian reading of *Olhos d'água* by Conceição Evaristo

Vitória de Souza Guimarães^{1*}, Camila de Araújo Beraldo¹.

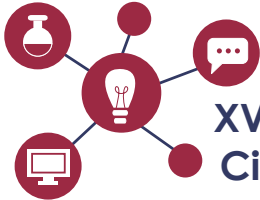
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: vitoriadesouzaguimaraes@gmail.com

Purpose: This work investigates the short story *Olhos d'água* by Conceição Evaristo, from the collection of the same name, through a Bakhtinian perspective, aiming to understand the dialogic relationships that link 'reality' and literature as a re-signification of produced meanings. **Method:** Based on the studies of the Bakhtin Circle (2010, 2011, 2016), we analyze dialogic relations and the responsive act, taking as a starting point the connection between the world of life and that of aesthetic creation. **Results:** To this end, we draw on the life experiences of the author-person Conceição Evaristo, who retrieves childhood memories to re-signify the recollections related to the color of her mother's eyes. **Conclusions:** Through this analysis, we discuss the process of aesthetic creation, the production of meaning, and *escrevivência*, highlighting the author's position as a Black woman from the periphery in order to understand the axiological relations present in the social and cultural space portrayed in the literary work.

Keywords: *escrevivência*, literature, Bakhtin, dialogic relations, Black female author.

Acknowledgments: FAPESP, CAPES (finance code 001) and CNPq.



XVIII Encontro de Iniciação
Científica da UNIFRAN

ANALYZING COLOR THEORY AND ITS APPLICATION IN INTERIOR DESIGN PROJECTS WITH AN EMPHASIS ON CORPORATE ARCHITECTURE

Vitoria Marani Viola^{1*}, Maurício de Azevedo Valentini¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

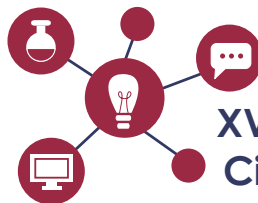
*E-mail: viollavitoria@gmail.com

Purpose: This research aims to analyze the use of color theory in corporate interior design projects, focusing on its impact on users' well-being, motivation, and productivity.

Methods: This is a qualitative and descriptive study based on a literature review and case study analysis. The methodology includes investigating corporate projects that use color as a central design element, along with analyzing technical documents and visual representations of the projects, such as floor plans and photographs. Based on these analyses, the study aims to develop recommendations that guide a more strategic and well-founded use of color in corporate environments. **Results:** The research is currently in the data collection and analysis phase. So far, it has been observed that color is increasingly valued in corporate architecture projects and is recognized as a factor influencing well-being and productivity. The ongoing case studies seek to understand how professionals justify their chromatic choices and how these choices are perceived by users. **Conclusion:** The study indicates that color plays a significant role in users' experiences in corporate spaces. By integrating the principles of color theory into architectural design, the research aims to contribute to creating work environments that are more functional, welcoming, and centered on human needs.

Keywords: color theory, interior architecture, corporate architecture, workplace well-being, environmental psychology.

Acknowledgments: UNIFRAN, CAPES (finance code 001) and CNPq.



BRAZILIAN GREEN PROPOLIS: CHEMICAL AND ANALYTICAL STUDIES

Wenderson Henrique Simões Silva^{1*}, Fernanda Rafacho Badoco¹, Rodrigo Cássio Sola Veneziani¹, Sérgio Ricardo Ambrósio¹.

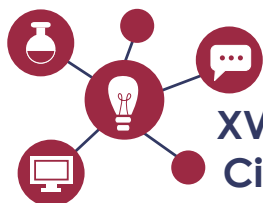
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: hwenderson134@gmail.com

Purpose: The present work aims to conduct a phytochemical study of the hydroalcoholic extract of green propolis (HEGP) and to develop a new analytical method for analyzing the main biomarkers in a new extract of Brazilian green propolis (NBGPE), previously developed by our research group. **Methods:** Phytochemical studies were carried out using various chromatographic techniques, and the analytical method was developed using a high-performance liquid chromatograph coupled to a diode array detector (HPLC-DAD). **Results:** The phytochemical study from HEGP allowed the isolation and identification of the following compounds: artepillin C, caffeic acid, coumaric acid, drupanin and bacarin. On the other hand, the analytical method developed to analyze was conducted on a Shim-pack VP-ODS column (250×4.6 mm i.d., 5 μm; Shimadzu) at a flow rate of 1.0 mL min⁻¹ using the gradient mobile phase system consisting of A (0.1% acetic acid water solution) and B (acetonitrile), as follows: 5% of B (0–2 min), 5–20% of B (2–3 min), 20% of B (3–8 min), 20–25% of B (8–9 min), 20–40% of B (9–15 min), 40% of B (15–30 min), 40–56% of B (30–31 min), 56% of B (31–50 min), 100% of B (52–55 min). **Conclusions:** These results allowed us to isolate and identify the main biomarkers from HEGP and to develop an analytical method to analyze NBGPE.

Keywords: brazilian green propolis, chemical investigation, analytical method.

Acknowledgments: FAPESP (process number 2017/04138-8 and process number 2018/05080-6), CAPES (finance code 001) and CNPq.



IONIC RECOGNITION CONTROLLED BY CONFORMATIONAL CHANGE

Yasmin Aparecida da Silva Souza^{1*}, Renato Pereira Orenha¹, Ana Livia de Oliveira Andrade¹, Renato Gonçalves Rocha¹, Renato Luis Tame Parreira¹.

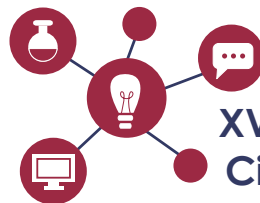
¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: yasminapbh@gmail.com

Purpose: Ions play a crucial role in the production of important materials and are associated with various health and environmental issues. Noncovalent interactions play a central role in regulating the availability of cations and/or anions. In this work, we investigate the ability of two conformations of the 2,6-bis(1,2,3-triazol-4-yl)pyridine molecule to recognize cations (Li⁺, Na⁺, K⁺), and anions (F⁻, Cl⁻, Br⁻). **Method:** The geometry optimization and vibrational frequency calculations were carried out using the BLYP-D3(BJ)/Def2-TZVP computational model. All calculations were performed using the ORCA software package. The ESP surfaces and wave functions used in the QTAIM analysis (AIMAll, Version 17.01.25) were calculated using Gaussian 16 (Revision A.03) software. The nature of the noncovalent interactions was investigated using the EDA-NOCV methodology, as implemented in the Amsterdam Density Functional (ADF) software, employing the ZORA-BLYP-D3(BJ)/TZ2P model. **Results:** The EDA-NOCV analysis reveals that the conformers preferentially interact with ions according to their ionic radii, favoring smaller cations and anions. This selectivity arises from more favorable electrostatic and orbital contributions associated with N \cdots cation and C-H \cdots anion interactions. In conformer 1, the presence of electron-donating amino groups (-NH₂) enhances cation recognition by strengthening electrostatic N \cdots cation interactions. In contrast, the presence of electron-acceptor groups (-NO₂) in the second conformer (2) facilitates anion recognition via more favorable electrostatic, orbital, and dispersion C-H \cdots anion interactions. **Conclusions:** These results provide important insights into cation and/or anion recognition mechanisms driven by conformational variation within a common molecular scaffold, supporting the development of functionally optimized molecular systems.

Keywords: ionic recognition; supramolecular chemistry; DFT; energy decomposition analysis (EDA).

Acknowledgments: FAPESP (2011/07623-8), CAPES (finance code 001) and CNPq.



STANDARDIZATION OF MITOTIC INDEX ANALYSIS IN *Allium cepa* FOR GENOTOXICITY STUDIES

Yasmin Vieira Teixeira^{1*}, Loren Monielly Pires, Eduardo Ferreira Molina¹, Raquel Alves dos Santos¹.

¹University of Franca, UNIFRAN, Franca, Brazil, 14404-600.

*E-mail: yasmin.vieira.12446@gmail.com

Purpose: The aim of this study was to standardize the method for analyzing mitotic activity in *Allium cepa* root meristems using Feulgen staining, with the goal of applying it to genotoxicity assessments. **Method:** Twenty medium-sized onions were placed in distilled water for root development. After 48 hours, roots were divided into groups: negative control (distilled water) and positive control (0.5 μ M doxorubicin hydrochloride). Root growth was monitored at 24, 48, and 72 hours. After 72 hours, roots were cut into 1 cm segments, fixed in Carnoy's solution, then underwent alcohol treatment and hydrolysis. They were placed in Schiff's reagent, then slides were prepared with meristems and acetic acid. Slides were analyzed under a microscope at 400X, counting 1000 cells to differentiate those in mitosis and interphase. **Results:** The results showed similar root growth in both the untreated and treated groups. In the microscopic analysis, cells with clear morphology and staining were observed, making analysis possible. An average of 125 mitoses and 875 interphases were observed in the untreated onion roots, and 61 mitoses and 939 interphases in those treated with doxorubicin. **Conclusion:** It can be concluded that this methodology allows for the detection of genotoxic effects in the *A. cepa* experimental model, making it an important tool for biomonitoring aquatic contaminants and for safety testing of products released into the environment.

Keywords: *Allium cepa*, genotoxicity, methodology.

Acknowledgments: CAPES (finance code 001), CNPq and Cruzeiro do Sul Educacional.