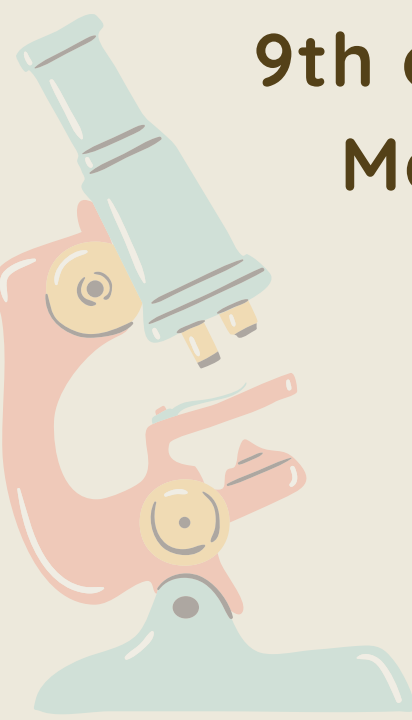


1st Research Meeting on Biochemistry

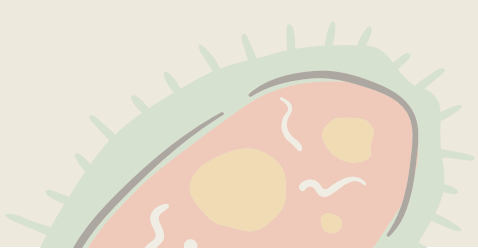
9th and 10th December 2021
Maringá, Paraná, Brazil



Post-Graduation Program
in Biochemistry



State University of Maringá





1st Research Meeting on Biochemistry



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Vinicius Mateus Salvatori Cheute





1st Research Meeting on Biochemistry

December 9th – Thursday afternoon

2:00pm – 2:15pm

Welcome

2:15pm – 4:00pm Lecture:

From nature to products: preservatives, dyes and bioactive ingredients.

Dr. Lillian Barros, Mountain Research Center (CIMO) – Polytechnic Institute of Bragança.

4:00pm – 4:20pm

Break and Poster Session

4:00pm – 6:00pm

Oral abstracts presentations

December 10th – Friday Morning

8:30am–12:30am

Seminars Session

December 10th – Friday Afternoon

2:00pm – 4:00pm Lecture:

Metabolic reprogramming in aging and age- related diseases.

Dr. Eduardo N. Chini, Mayo Clinic and Foundation – EUA.

4:00pm – 4:20pm

Break and Poster Session

4:00pm – 6:00pm

Oral abstracts presentations

Oral abstracts presentations

Thursday – December 9th

Elaine Kaspchak 04:20 pm

Effect of saponin on asparagine–glucose Maillard reaction

Maria Gabriela Leichtweis 04:35 pm

Haskap and blackthorn berries anthocyanin profile

Adriana Katherine Molina Vargas 04:50 pm

**Study of Prunus spinosa L. fruit epicarp and Lonicera careulea
L. fruit: alternative natural colorants with bioactive properties**

Alexis Pereira 05:05 pm

Novel antioxidant and fibre– rich food ingredients from quince peel

Beatriz Helena Paschoalinotto 05:20 pm

**Effect of fertilization via nutrient solution on the nutritional profile and chemical composition
of Chicorium spinosum L.**

Nairana Mithieli de Q. E. Melo 05:35 pm

Effects of arsenial compounds on fructose metabolism on the perfused rat liver

Friday – December 10th

Mateus José de Oliveira 04:20 pm

**Effects of a high–fat low carbohydrate diet on plasmatic parameters, in vivo glucose metabolism and fatty liver development
in rats: a study under different energetic conditions**

Ana Cláudia Castro Novais 04:35 pm

**Nutritional and chemical analysis and bioactive potential of aromatic and medicinal plants traditionally
used as condiments**

Ana Paula Ames Sabin 04:50 pm

Characterization and bioactivity of Copaiba essential oil carried in a self–emulsifying system

Mikel Añibarro–Ortega 05:05 pm

Solanaceae crop by– products as renewable sources of bioactive phenolic extracts

Paulo Vinicius M. C. Menezes 05:20 pm

Isocitrate lyase as a molecular target for weed suppression

Gustavo Henrique de Souza 05:35 pm

Effects of a Myrciaria jaboticaba Peel Extract and role of cyanidin–3–O– Glucoside on lipase in mice

SOLANACEAE CROP BY-PRODUCTS AS RENEWABLE SOURCES OF BIOACTIVE PHENOLIC EXTRACTS

Mikel Añibarro-Ortega,^{1,2} Jovana Petrović,³ Maria Inês Dias,¹ Alexis Pereira,¹ Marina Soković,³ Isabel C.F.R. Ferreira,¹ Miguel A. Prieto,² Jesus Simal-Gandara,² José Pinela,^{1*} Lillian Barros¹

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The upcycling of agri-food by-products into high added-value products has been promoted in recent years. Solanaceae is one of the main plant families supplying important vegetable and staple food crops worldwide. Bell pepper (*Capsicum annuum* L.) and eggplant (*Solanum melongena* L.) are two good examples, and their agricultural production generates million tons of valueless crop remains (especially plant aerial parts) [1], whose insertion in the value chain needs to be promoted and investigated to ensure the efficient use and circularity of these natural resources. Moreover, while the fruits of these species are well characterized for their nutritional value [2], the residual biomass of these crops remain unexplored, and little is known about their composition in bioactive constituents. Therefore, this work aimed at characterizing the phenolic compounds of bell pepper and eggplant crop by-products and evaluating the bioactive activities in order to find possible industrial applications. The phenolic profiles of both plant materials were characterized in the hydroethanolic extracts by the HPLC-DAD/ESI-MSⁿ technique [3]. The extracts were also used to evaluate *in vitro* antioxidant activity, with regard to their ability to inhibit lipid peroxidation and oxidative haemolysis [4], and antimicrobial effects against foodborne microorganisms, by serial microdilution methods [3]. The bell pepper by-product extract showed a qualitative predominance of flavonoids and a better performance in the lipid peroxidation and oxidative haemolysis inhibition assays, as well as greater antifungal activity. In turn, phenolic acids stood out as main compounds in the eggplant by-product extract, with presented higher activity against the tested bacterial strains. Overall, the obtained extracts seemed to be a promising material for application in the food and nutraceutical industries, among other sectors, given their high potential to be used as natural preservative ingredients.

References

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Nutritional Composition and Antioxidant Properties of Fruits and Vegetables. A.K. Jaiswal (Ed.), Academic Press, 2020.
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