



Health Sciences

Chemotherapy of Leishmaniasis

ADRIANO CAPPELLAZZO COELHO

Institute of Biology (IB)

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Research activities

My research is focused on molecular parasitology with emphasis on the study of the parasites of genus *Leishmania*, involving aspects of the chemotherapy of leishmaniasis and the molecular mechanisms associated with drug resistance.

Keywords: leishmaniasis, *Leishmania sp.*, chemotherapy, drug resistance, molecular parasitology.

About the researcher

Digital identifier: <https://scholar.google.com.br/citations?user=2SyzFUgAAAAJ&hl=pt-BR>

Lattes CV: <http://buscatextual.cnpq.br/buscatextual/visualizacv.do?id=K4705954Y7>



Health Sciences

Neuroimmunology

ALESSANDRO DOS SANTOS FARIAS

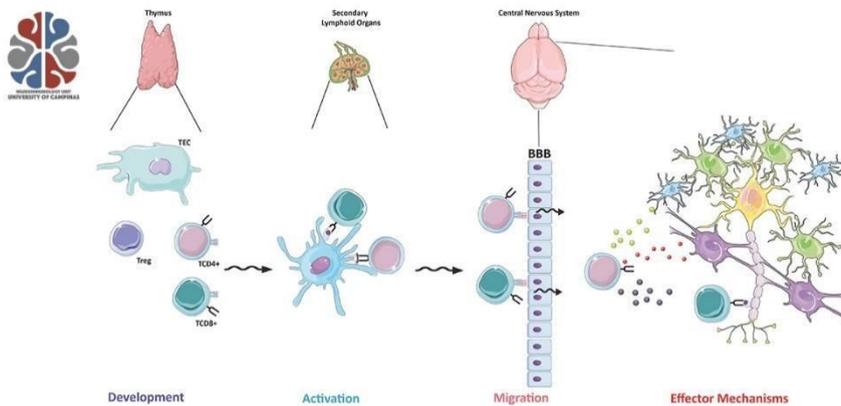
Institute of Biology (IB)

PhD, University of Campinas and Max Planck Institute for Neurobiology

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Research activities

Our research is centrally interested in the effector and immunoregulatory mechanisms of experimental animal models and human autoimmune diseases of the nervous system. The nervous system, specially the central nervous system, is an immunologically privileged organ. Therefore, autoaggressive cells must acquire special "conditions" to exert their effector function in this inhospitable environment.



Keywords: autoimmunity, demyelination, lymphocytes, autoaggressive response, immunoregulation.

About the researcher

Digital identifier:

<https://scholar.google.com.br/citations?user=QtEuAwoAAAAJ&hl=pt-BR&authuser=1>

Lattes CV: <http://lattes.cnpq.br/2553642936891041>

Laboratory or research group:

<https://www.facebook.com/NeuroimmunologyUnit/?ref=bookmarks>



Biological Sciences
Medicine

ALINE MARA DOS SANTOS
Institute of Biology (IB)
PhD, University of Campinas
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Research activities

Tissue homeostasis and cell behavior are not only modulated by soluble chemical signals, but also by physical signals. Mechanical stress, transmitted from the extracellular matrix to the membrane receptors of cardiac cells, are crucial for migration, proliferation, differentiation and survival. Variations of tension in the ventricle wall correlate with hypertrophy, myocardial fibrosis and heart failure. Our research focuses on uncovering the molecular mechanisms regulating cardiac hypertrophy and fibrosis activated by mechanical stress.

Keywords: biological sciences, cell signalling.

About the researcher

Lattes CV: <http://lattes.cnpq.br/8448838652966564>



Biological Sciences

Fungal Biology

ANDRE RICARDO DE LIMA DAMASIO

Institute of Biology (IB)

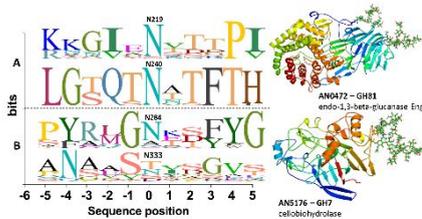
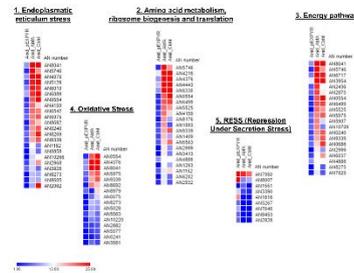
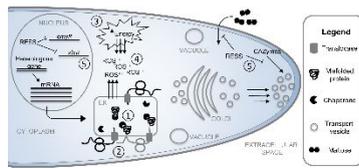
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Research activities

The research at the Laboratory of Enzymology and Molecular Biology of Microorganisms (LEBIMO) focuses on the production of enzymes for the conversion of lignocellulosic biomass to biofuels and high added value products through the genetic engineering of filamentous fungal strains such as *Aspergillus nidulans* and *A. niger*. In addition, some projects carried out at LEBIMO address the discovery of new enzymes, the biological importance of some enzymes and the improvement of catalytic efficiency by protein engineering. All these subjects are combined with systems biology data.

Moreover, our laboratory is also interested in histone deacetylases inhibitors as potential antifungal molecules using *Aspergillus fumigatus* as a model.



Keywords: aspergillus, enzymes production/secretion, n-glycosylation, systems biology, carbohydrate-active enzymes (cazymes).

About the researcher

Digital identifier: <https://orcid.org/0000-0001-9304-3998>

Lattes CV: <http://lattes.cnpq.br/7642611453807260>

Laboratory or research group: <https://www.facebook.com/lebimo/>



Biodiversity
Meiofauna Biodiversity

ANDRÉ RINALDO SENNA GARRAFFONI,

Institute of Biology (IB)

PhD, Federal University of Paraná

arsg@unicamp.br

Research activities

The Laboratory of Meiofaunal Organisms Evolution aims to develop researches with zoological groups, known as lesser-known protostome taxa (such as Gastrotricha, Tardigrada, Kinorhyncha and Rotifera), to understand the distinct evolutionary and biogeographical aspects of freshwater and marine meiofauna organisms. Our idea is to integrate the distinct dimensions of meiofauna biodiversity “genetics, function, and phylogeny” based on a broad framework that permits us to explore taxonomy, biogeography, molecular biology and evolutionary history.



Keywords: Taxonomy, Biogeography, Macroecology, Microinvertebrates, Diversity.

About the researcher

Digital identifier: <https://orcid.org/0000-0002-6303-7244>

Lattes CV: <http://lattes.cnpq.br/1003535723082551>



Biodiversity
Ecology and Systematics of Lepidoptera

ANDRÉ VICTOR LUCCI FREITAS,

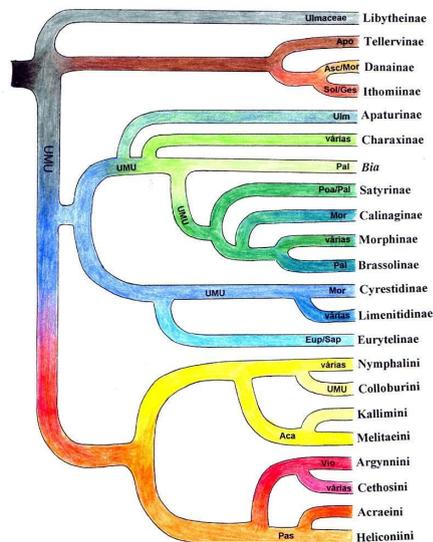
Institute of Biology (IB)

PhD, University of Campinas

baku@unicamp.br

Research activities

Lab is located in the Animal Biology Department (Departamento de Biologia Animal) at Unicamp, Campinas, São Paulo. The lab focuses its research in studies on natural history, ecology and systematics of Neotropical lepidoptera. Current lines of research include butterfly taxonomy and phylogeny, natural history, adult and immature morphology, community ecology, and conservation.



Keywords: Lepidoptera, Phylogeny, Ecology, Conservation, Systematics.

About the researcher

Digital identifier: <https://orcid.org/0000-0002-5763-4990>

Lattes CV: <http://lattes.cnpq.br/7824954032846499>



Biodiversity
Plant Genetics, Genomics and Molecular breeding

ANETE PEREIRA DE SOUZA,

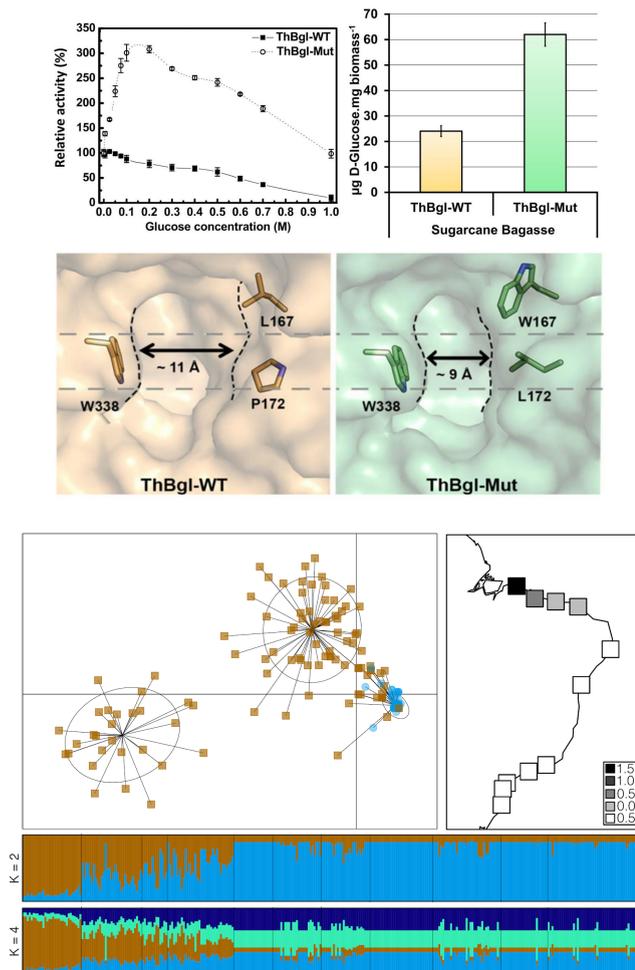
Institute of Biology (IB)

PhD, Paris-Sud University

anete@unicamp.br

Research activities

The primary research area is genetic variation in plants and fungi: molecular breeding, plant biotechnology, plant and fungus genetics and genomics, bioinformatics and enzyme biotechnology.



Keywords: Plant Genomics, Plant Molecular Breeding, Fungus Genomics, Plant Genetics, Biotechnology.

About the researcher

Digital identifier: <https://scholar.google.com.br/citations?user=9eRbmXcAAAAI&hl=pt-BR&hl=pt-BR>

Lattes CV: <http://lattes.cnpq.br/7297737442136792>



Biomedical Sciences
Pain

CARLOS AMILCAR PARADA,

Institute of Biology (IB)

PhD, University of Campinas

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Research activities

Mechanisms, Physiopathology, and Control of Pain



Keywords: pain, painkiller, chronic pain, hyperalgesia, inflammation.

About the researcher

Digital identifier: <https://publons.com/researcher/2746530/carlos-amilcar-parada/metrics/>

Lattes CV: <http://buscatextual.cnpq.br/buscatextual/visualizacv.do?id=K479875820>



Biological Sciences

Evolutionary Biology

CLARISSE PALMA DA SILVA

Institute of Biology (IB)

PhD, Federal University of Rio Grande do Sul

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Research activities

My main interest is to understand patterns and processes responsible for generating and maintaining high levels of biodiversity in Neotropics. To answer these questions we must have knowledge of molecular ecology, evolutionary biology, conservation genetics, population genetics and genomics, evolutionary genomics and transcriptomics, phylogeography, and reproductive biology.

Keywords: plant genomics, neotropic biodiversity, evolutionary biology, Bromeliaceae, neotropical phylogeography and biogeography.

About the researcher

Digital identifier: <http://orcid.org/0000-0003-0192-5489>

Lattes CV: <http://lattes.cnpq.br/5198841209057605>



Biomedical Sciences

Viruses transmitted by wild birds and bats. Human and animal respiratory viruses

CLARICE WEIS ARNS,

Institute of Biology (IB)

PhD, University of Veterinary Medicine Hannover

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Research activities

I work in the following areas of virology:

Isolation and viral characterization; Viral diagnosis (serological and molecular); Viral susceptibility to cell cultures; Metagenomics and Study of antiviral activity.

Has experience in the area of Veterinary Preventive Medicine and public health, with emphasis on Virology. Key research viruses: Respiratory syncytial virus; Metapneumovirus; Coronavirus, Newcastle Disease Virus, Gumboro Disease Virus, Herpesvirus and Zika virus. The diagnosis and characterization of viruses are mostly those affecting the respiratory system, both of human origin (children and adults) and domestic and wild animals.

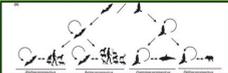
  Laboratory of Veterinary Virology
Coordinator: Clarice Weis Arns

Research Interest:

1) Investigation of viral agents in domestic and wild animals:

- Search main viral agents with tropism for respiratory tract of poultry.
- Characterize the viral agents through detection, isolation, and molecular biological characterization of different viral agents.
- Investigation of viruses in wild animals (bats and wild birds).
- Our aim is to find unidentified viruses or viruses with the potential risk to public and animal health.
- The characterization of these viruses will be performed by conventional sequencing and metagenomics.

   Can these viruses be pathogenic to domestic birds and humans?



  Laboratory of Virology
Coordinator: Clarice Weis Arns

Research Interest:

2) Investigation of viral agents in human (mostly children):

- Search main viral agents with tropism for respiratory tract.
- Characterize the viral agents through detection, isolation, and molecular biological characterization of different viral agents.
- The characterization of these viruses will be performed by conventional sequencing and metagenomics.

 Infection of Embryonated Eggs for virus isolation

 Cell culture observation

 Control of cell culture

 Damage cell with virus

Keywords: Viruses wild birds and bats, one healths, Virus isolation and detection, next generation sequencing, domestics animal.

About the researcher

Digital identifier: <https://orcid.org/0000-0002-7308-460X>

Lattes CV: <http://lattes.cnpq.br/8635038112182716>



Biomedical Sciences
Pain, Orofacial pain, Inflammation

CLÁUDIA HERRERA TAMBELI,

Institute of Biology (IB)

PhD, University of Campinas

tambeli@unicamp.br

Research activities

My major scientific interests are in the area of "Neurobiology of Pain and Inflammation, especially, Orofacial Pain, Pain pharmacology, Endogenous mechanisms of pain modulation, Molecular mechanisms of pain and inflammation, sexual dimorphism in pain, inflammation and in the action of analgesics and anti-inflammatory.



Keywords: pain, orofacial pain, inflammation, analgesia, endogenous pain modulation.

About the researcher

Digital identifier: <http://www.researcherid.com/rid/D-4356-2012>

Lattes CV: <http://buscatextual.cnpq.br/buscatextual/visualizacv.do?id=K4703651A2>



Biomedical Sciences
Function and Regulation of Bacterial Secretion Systems

CRISTINA ELISA ALVAREZ-MARTINEZ,

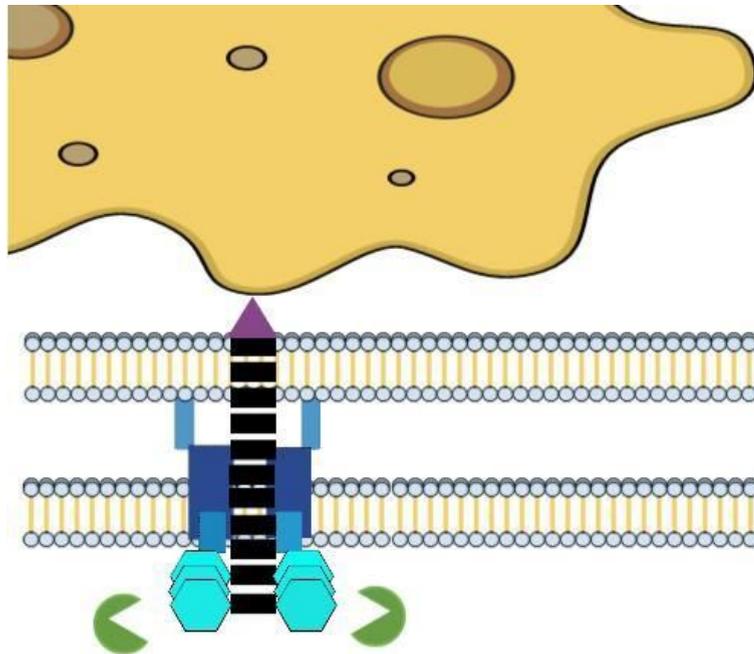
Institute of Biology (IB)

PhD, University of São Paulo

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Research activities

Our laboratory focuses on understanding the role of type VI secretion systems (T6SS) in the biology of bacteria from the Xanthomonadaceae family. T6SS are nanoweapons that transverse the bacterial cell envelope injecting toxins into eukaryotic and/or prokaryotic cells. These nanoweapons are involved in pathogenesis and interbacterial competition. We recently described the role of the T6SS from the citrus pathogen *Xanthomonas citri* pv. *citri* in promoting resistance to predation by soil amoeba. Currently, we are focused on understanding the dynamics of bacteria-amoeba interaction and the molecular mechanisms involved in regulation of T6SS expression and activity. Also, we are characterizing the distribution of T6SS in other *Xanthomonas* species and in the genus *Stenotrophomonas*.



Keywords: *Xanthomonas*, citrus pathogenesis, regulation of gene expression, bacterial secretion systems, sigma factors.

About the researcher

Digital identifier: <https://orcid.org/0000-0003-3882-1835>

Lattes CV: <http://buscatextual.cnpq.br/buscatextual/visualizacv.do?id=K4763294Y1>



Biomedical Sciences
Neuroproteomics

DANIEL MARTINS-DE-SOUZA,

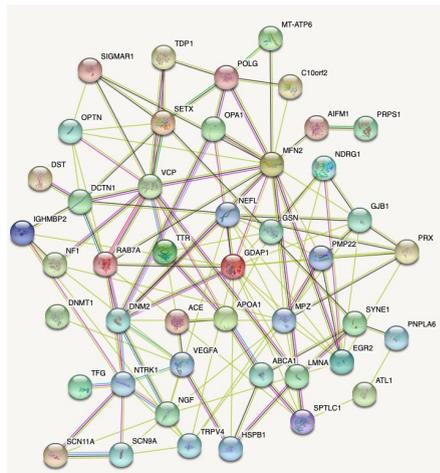
Institute of Biology (IB)

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Research activities

Our lab employs proteomic tools to investigate molecular mechanisms involved in psychiatric disorders and the identification of potential biomarkers.



Esquizofrenia

Afeta mais de **21 Milhões** de pessoas no mundo
Início entre 15-35 anos de idade

3ª Causa da perda de qualidade de vida.
Entre 15-44 anos, considerando todas as doenças

Sintomas

- Positivos**: Delírios e alucinações; dissociação entre o pensamento do paciente e a realidade ao seu redor - Principal manifestação da fase aguda
- Negativos**: Prejuízos no convívio social e autocuidado, ausência de emoções e motivação - Surgem antes do primeiro episódio psicótico e perduram durante a fase crônica
- Cognitivos**: Prejuízos de atenção, processamento de informações e concentração - Podem ocorrer antes do primeiro surto e perduram durante fase crônica

O Diagnóstico é totalmente clínico feito por psiquiatras
Não há exames diagnósticos para esquizofrenia

O Tratamento alivia os sintomas e é realizado através dos antipsicóticos e da terapia psicossocial.
A avaliação da resposta é apenas clínica, não há biomarcadores de efetividade terapêutica

Financiadores: FAPESP, semapilheira, CNPq
Produção: Grupo GULAPROPS, IB

Keywords: Psychiatry, Schizophrenia, Neuroproteomics, Systems Biology, Mass Spectrometry.

About the researcher

Digital identifier: <https://scholar.google.com/citations?user=P-45n78AAAAJ&hl=en>

Lattes CV: <http://lattes.cnpq.br/3326522478832809>



Biomedical Sciences

Biology infection of Leishmania e chemotherapy of leishmaniasis

DANILO CICCONE MIGUEL,

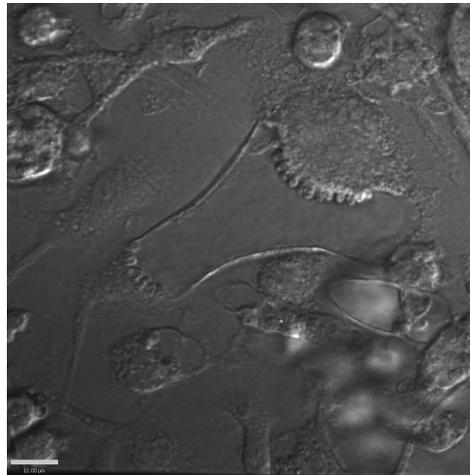
Institute of Biology (IB)

PhD, University of Sao Paulo

dcmiguel@unicamp.br

Research activities

The research conducted by my group at the "Laboratory of Leishmania Infection Biology Studies" aims at understanding signaling pathways involved in the survival of Leishmania, the etiological agent of leishmaniasis. Moreover, the search of new drug candidates, including metallodrugs, against this disease is also a priority. In this sense, both in vitro and in vivo experiments are routinely performed. We offer our expertise by conducting antileishmanial assays based on natural and synthetic compounds, besides exploring possible mechanisms of action that explain leishmanicidal effects.



Keywords: Parasitic infections, Trypanosomatids, Leishmania, Macrophage, Experimental Chemotherapy.

About the researcher

Digital identifier: <https://scholar.google.com/citations?user=1OkX3oFAAAAI&hl=pt-BR>

Lattes CV: <http://buscatextual.cnpq.br/buscatextual/visualizacv.do?metodo=apresentar&id=K4745062F0>



Biomedical Sciences

Virulence factors in Escherichia coli of farm animals

DOMINGOS DA SILVA LEITE,

Institute of Biology (IB)

PhD, Federal University of São Paulo

domingos@unicamp.br

Research activities

Working on the following topics: 1) Escherichia coli: factors of virulence and antimicrobial resistance; 2) Chytridiomycosis: Isolation, culture and molecular diagnosis of the Batrachochytrium dendrobatidis; 3) Macrofungi of ARIE Mata da Santa Genebra, diversity and molecular phylogeny.



Keywords: Escherichia coli, virulence,, antimicrobial resistance, Chytridiomycosis, macrofungi.

About the researcher

Digital identifier: <https://orcid.org/0000-0003-4737-7852>

Lattes CV: <http://lattes.cnpq.br/2006737759389534>



Education
Biology Education

EDUARDO GALEMBECK,
Institute of Biology (IB)
PhD, University of Campinas
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Research activities

Development and assessment of new educational technologies



Keywords: Remote Lab, Assessment, Educational Software, Distance Education.

About the researcher

Digital identifier: <https://orcid.org/0000-0003-4238-5546>

Lattes CV: <http://lattes.cnpq.br/2672736578186109>



Biodiversity
Ecology and Behavior of Mammals

ELEONORE ZULNARA FREIRE SETZ,

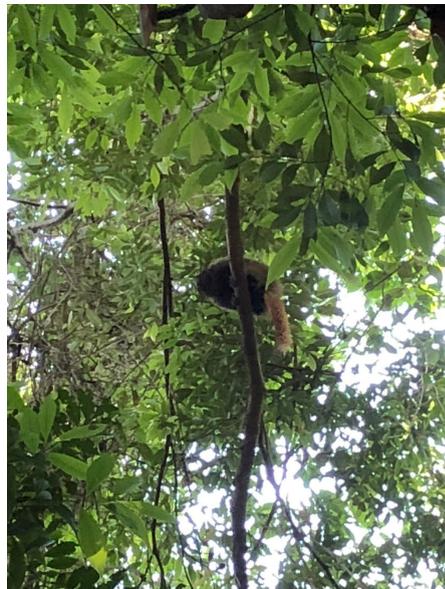
Institute of Biology (IB)

PhD, University of Campinas

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Research activities

Field research on mammals and their relation to food sources in space an time



Keywords: Foraging, optimal, frugivores, predators, seasonality.

About the researcher

Digital identifier: <https://orcid.org/0000-0001-7638-7086>

Lattes CV: <http://lattes.cnpq.br/6769041729814040>



Biological Sciences

Synthetic Biology and Yeast-based Drug Discovery

ELIZABETH BILSLAND

Institute of Biology (IB)

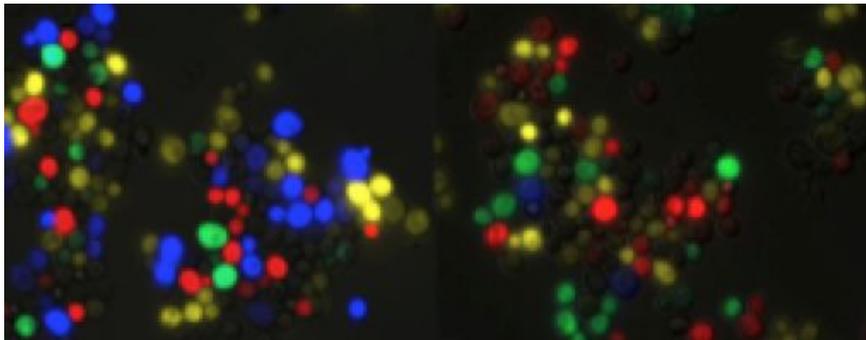
PhD, Gothenburg University

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Research activities

We employ *Saccharomyces cerevisiae* as a platform for drug discovery. We perform chemical genomic profiling for the identification of the mode of action of novel antiparasitic or antibiotic agents (synthetic or natural compounds). We engineer yeast strains to express antiparasitic drug targets and perform high-throughput drug screens to identify promising compounds. In a third line of investigation, we humanize yeast strains to express human proteins prone to aggregation to identify inhibitors of aggregates. This is combined with the humanization of the plasma membrane of the yeast and expression of human blood-brain-barrier transporters, in order to pinpoint how drugs may cross the human BBB.

We also use deep-learning and synthetic biology to develop novel enzymes for second-generation ethanol production.



Keywords: *Saccharomyces cerevisiae*, synthetic biology, drug discovery, plasmodium, second-generation ethanol.

About the researcher

Digital identifier: <https://scholar.google.com.br/citations?user=DDICDLcAAAAJ&hl=en>

Lattes CV: <http://lattes.cnpq.br/9068415899402601>



Biomedical Sciences

Neurobiology of the olfactory system / In vitro cellular models of human genetic disorders.

FABIO PAPES,

Institute of Biology (IB)

PhD, University of Campinas

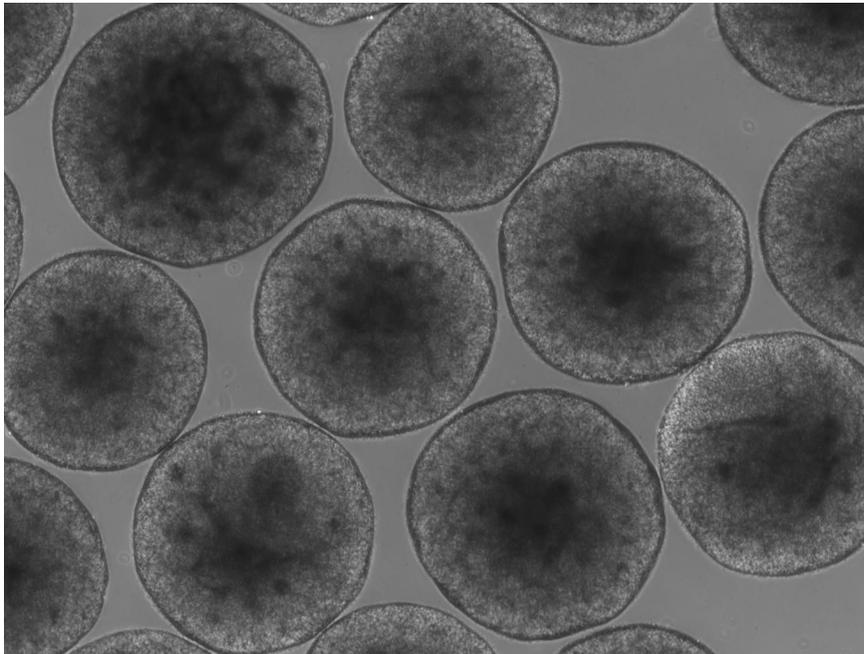
papesf@unicamp.br

Research activities

My laboratory is focused on two main research topics:

(a) molecular neurobiology of the mammalian olfactory system: We study how olfactory signals (odorants and pheromones) are detected by molecular receptors in the olfactory organs, how the corresponding olfactory information is encoded in the olfactory bulb and higher brain centers, and how coherent patterns of neural activity in these brain nuclei are read to generate appropriate instinctive and learned behaviors, such as mating, aggression, fear and nursing.

(b) Modeling genetic disorders using 2D and 3D models: We are also interested in deciphering the pathophysiology of childhood neglected diseases, such as Pitt-Hopkins and Angelman Syndromes, through the use of patient-derived neurons and 3D structures known as cerebral organoids.



Keywords: Olfaction, Behavior, Childhood disorders, Cerebral organoids, Neurobiology.

About the researcher

Digital identifier: <https://scholar.google.com/citations?user=Sw50ZA8AAAAJ&hl=pt-BR>

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Biological Sciences

Evolutionary Ecology

FABIO PINHEIRO

Institute of Biology (IB)

PhD, University of São Paulo

biopin@unicamp.br

Research activities

My research is focused to understand the evolution of reproductive barriers among lineages and populations, in a phylogeographic context. A diverse array of mechanisms, such as hybridization, introgression and selection for divergent habitats are investigated in order to understand plant speciation within Neotropical region.



Keywords: speciation, reproductive isolation, hybridization, adaptation, evolution.

About the researcher

Digital identifier: <http://www.researcherid.com/rid/F-9725-2011>

Lattes CV: <http://lattes.cnpq.br/4664701514303129>

Laboratory or research group: <http://fbiopinheiro.wix.com/neotropicalevolution>



Biomedical Sciences
Epigenetics and Molecular Parasitology

FERNANDA JANKU CABRAL,

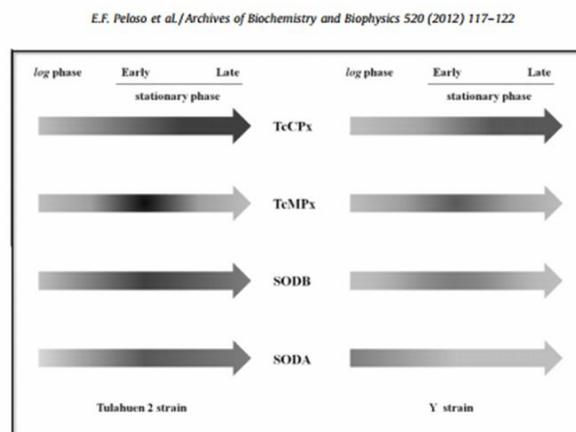
Institute of Biology (IB)

PhD, University of São Paulo

fjanku@unicamp.br

Research activities

Research activities concentrate on understanding molecular and epigenetic mechanisms of gene expression in the *Schistosoma mansoni* life cycle.



Scheme 1. Schematic representation of TcCPx, TcMPx, SODB and SODA expression along the growth curves of the *T. cruzi* Tulahuen 2 and Y strains.

Keywords: Parasitology, Molecular Biology, Epigenetics, *Schistosoma mansoni*, Gene expression.

About the researcher

Digital identifier: <https://orcid.org/0000-0001-9263-5553>

Lattes CV: <http://lattes.cnpq.br/4529000240155872>



Biomedical Sciences

Trypanosomatids bioenergetics and antioxidant defenses in trypanosomatids

FERNANDA RAMOS GADELHA,

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PhD, Federal University of Rio de Janeiro

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Research activities

Biochemistry, focusing on Metabolism and Bioenergetics of trypanosomatids.

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E.F. Peloso et al. / *Biochimica et Biophysica Acta* 1864 (2016) 1–10

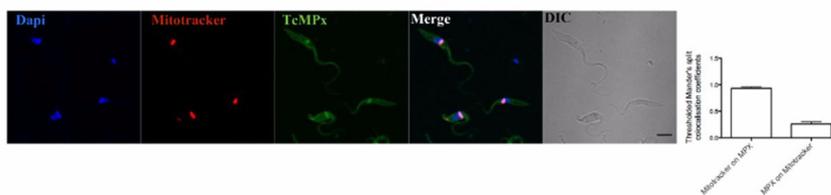


Fig. 3.—Confocal microscopy images of *T. cruzi* epimastigotes. *T. cruzi* epimastigotes mitochondria were stained in vivo with the Mitotracker dye (orange). After fixation and permeabilization, parasites were incubated with the anti-TeMPx antibody followed by incubation with Alexa Fluor 488-conjugated second antibody (green). Cells were mounted with Prolong Gold Antifade reagent containing DAPI (blue). For colocalization analysis, Fiji was used to generate the thresholded Manders split colocalization coefficients. Scale bar = 5 μ m.

Keywords: Trypanosoma cruzi, Mitochondria bioenergetics, Antioxidant defenses, Signaling, Reactive Oxygen species.

About the researcher

Digital identifier: <https://orcid.org/0000-0002-1075-8830>

Lattes CV: <http://lattes.cnpq.br/4416760890637483>



Biodiversity
Zoology

FLÁVIO DIAS PASSOS,

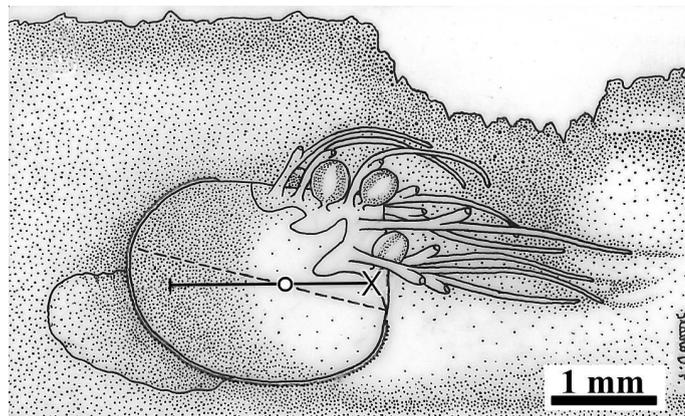
Institute of Biology (IB)

PhD, University of São Paulo

flavioldp@unicamp.br

Research activities

The goal of my research is to describe the biodiversity of marine molluscs, approaching a phylogenetic point of view, and linking this diversity to biogeographical patterns. Also, through the study of the anatomy of these molluscs, the characters of the shell and the soft parts are linked to the different aspects of their biology, aiming to understand the specific adaptations they have. Actually, species of bivalves, gastropods, polyplacophorans and aplacophorans are under investigations now.



Keywords: Zoology, Malacology, Biodiversity, Brazil, Antarctica.

About the researcher

Digital identifier: <http://orcid.org/0000-0002-8193-9874>

Lattes CV: <http://buscatextual.cnpq.br/buscatextual/visualizacv.do?id=K4795332P7>



Biodiversity

Food webs, climate change, biodiversity and ecosystem functioning,

GUSTAVO QUEVEDO ROMERO,

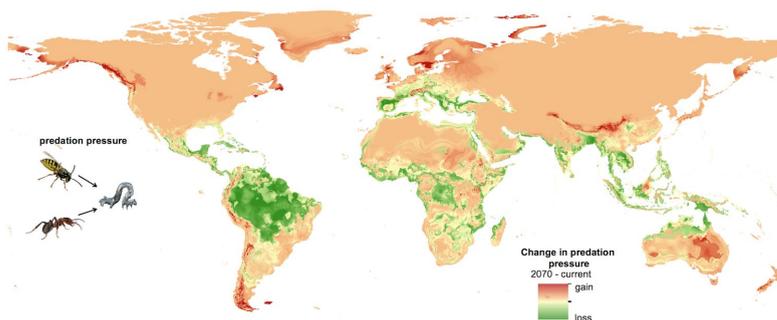
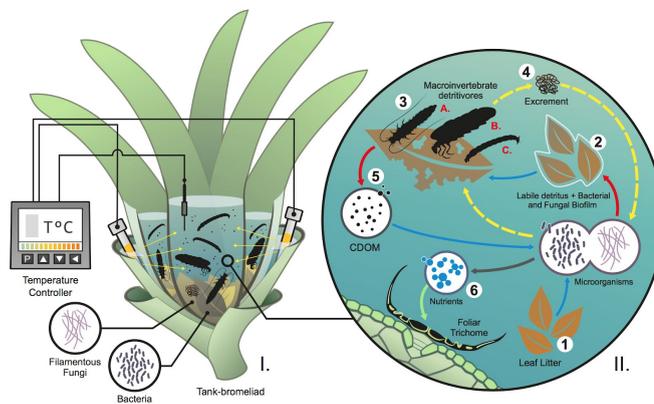
Institute of Biology (IB)

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ggromero@unicamp.br

Research activities

My research interests are broadly in the area of ecology and evolution. I seek to understand the role of environmental variation and species interactions on food web structure and dynamics, biodiversity and ecosystem functioning. I am particularly interested in the direct, indirect and interactive effects of global change (warming, precipitation variation, stoichiometric shifts in C:N ratios, habitat loss) and community features (trophic diversity, body size, species and trait composition) on food web structure, species diversity (taxonomic, functional and phylogenetic), as well as on ecosystem stability and functioning.



Keywords: global change biology, climate change, community and ecosystem ecology .

About the researcher

Digital identifier: <https://orcid.org/0000-0003-3736-4759>

Lattes CV: <http://lattes.cnpq.br/3286676437401346>



Biomedical Sciences

Insulin secretion mechanisms and glucose homeostasis

HELENA BARBOSA-SAMPAIO,

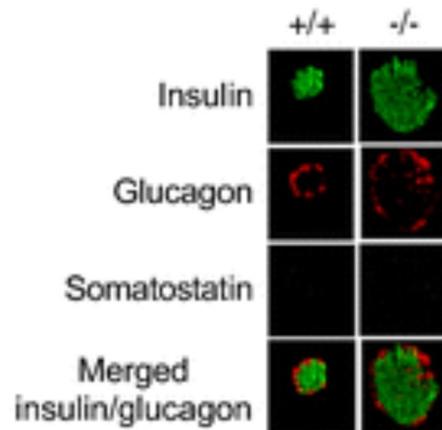
Institute of Biology (IB)

PhD, University of Campinas

bsampaio@unicamp.br

Research activities

Investigations of molecular mechanisms involved in the insulin secretion in pancreatic islet and in beta cell line, as well as the regulation of insulin action in peripheral tissues.



Keywords: Insulin secretion, beta cell function, glucose homeostasis.

About the researcher

Digital identifier: <https://scholar.google.com.br/citations?user=VYVGMvMAAAAI&hl=en>

Lattes CV: <http://buscatextual.cnpq.br/buscatextual/visualizacv.do?id=K4268332D4>



Biomedical Sciences
Cell and molecular mechanisms in metabolic diseases
(Atherosclerosis, Diabetes and Obesity)

HELENA OLIVEIRA,

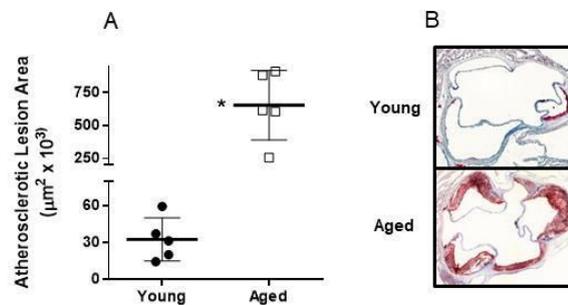
Institute of Biology (IB)

PhD, University of São Paulo

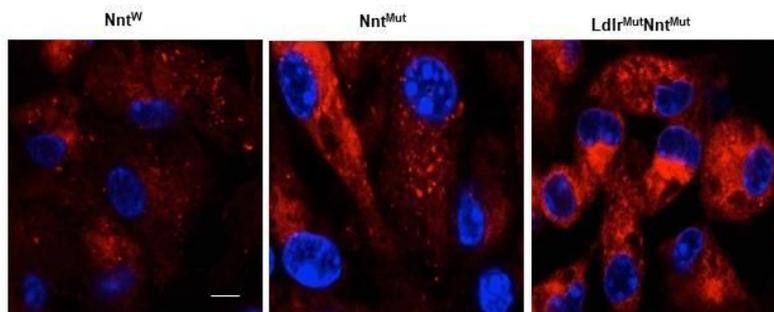
ho98@unicamp.br

Research activities

Research focus includes: 1- the understanding of CETP (cholesteryl ester transfer protein) gene expression regulation and its effects regarding atherosclerosis susceptibility and possible new functions of this protein; 2- Mitochondrial bioenergetic function and redox state alterations in hyperlipidemic states that predispose to atherosclerosis and aging; 3- Genetic hypercholesterolemia negative effects on insulin secretion and action.



Atherosclerosis aorta root lesion area in young and aged LDL receptor knockout mice. Dorigiello et al. Exp. Gerontol. 2018



Increased foam cell formation in Nnt and Ldlr mutant macrophages observed by accumulation of acetylated-LDL (red). Nuclei stained in blue.

Keywords: CETP, atherosclerosis, mitochondria, insulin, statins.

About the researcher

Digital identifier: <https://scholar.google.com/citations?hl=pt-BR&user=o8zbFTwAAAAI>

Lattes CV: <http://buscatextual.cnpq.br/buscatextual/visualizacv.do?id=K4787571T8>



Biological Sciences

Botany

INGRID KOCH

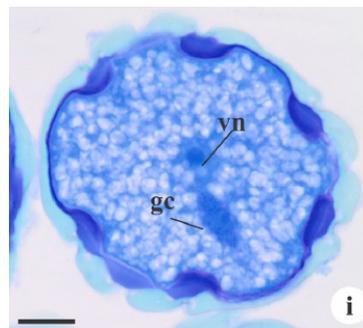
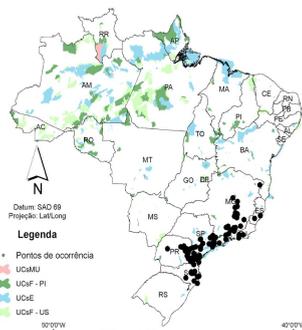
Institute of Biology (IB)

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ikoch@g.unicamp.br

Research activities

I work with systematics of Angiosperms, mainly addressing the Apocynaceae family. I am also interested in local floras and in the dynamics of vegetation.



Keywords: taxonomy, reproductive biology, phytogeography, Apocynaceae, niche modeling.

About the researcher

Digital identifier: <https://orcid.org/0000-0003-3256-5922>

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Biological Sciences

Pathogenesis of Emerging Viruses

JOSE LUIZ PROENCA MODENA

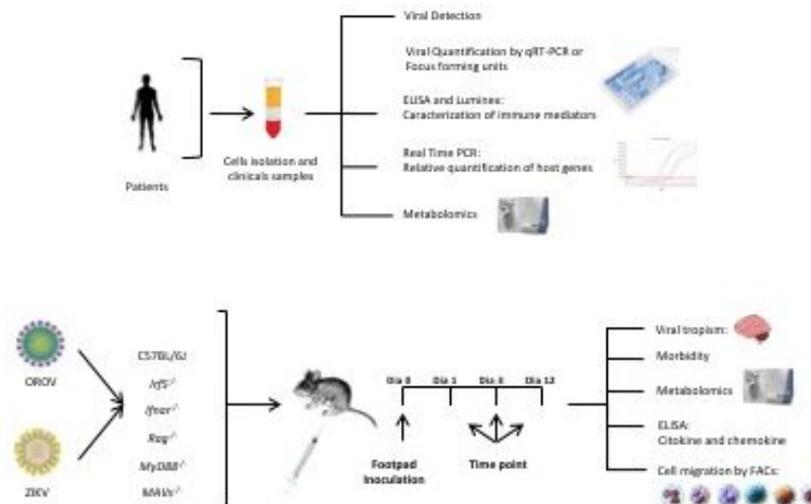
Institute of Biology (IB)

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jlmodena@unicamp.br

Research activities

The Laboratory of Study of Emerging Viruses (LEVE) aims to characterize host and viral factors that are essential for viral replication (vertebrate and invertebrate hosts) and pathogenesis. Thus, using different methods, such as genomics, metabolomics and several models of infection, our group intends to describe key components and risk factors associated with development of clinical complications after infection with emerging viruses such as Oropouche, Zika and Chikungunya. Some of these results can be used for developing new diagnostic methods or antiviral treatments.



Keywords: Oropouche virus, Zika virus, Chikungunya virus, innate immune response.

About the researcher

Digital identifier: <http://www.researcherid.com/rid/C-8231-2014>

Lattes CV: <http://lattes.cnpq.br/5935921596694874>

Laboratory or research group: <https://leveunicamp.wordpress.com/>



Biodiversity
Plant anatomy

JULIANA MAYER,

Institute of Biology (IB)

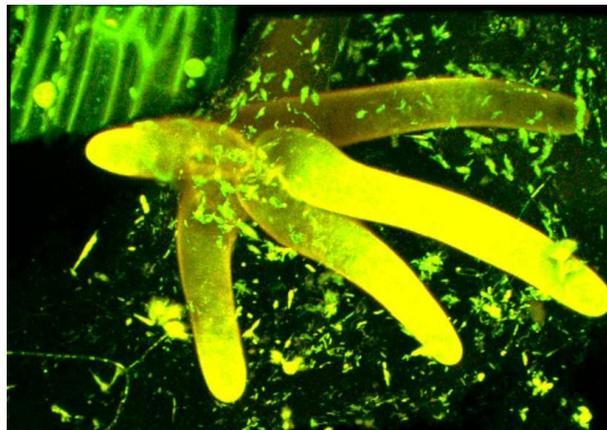
PhD, University of Campinas

mayerju@unicamp.br

Research activities

Plant anatomy, application of systems

nanocarriers in plants, associations between mycoheterotrophic plants and fungal, development of vegetative and reproductive organs in Orchidaceae.



Keywords: Plant anatomy, orchids, mycoheterotrophic plants.

About the researcher

Digital identifier: <https://orcid.org/0000-0001-7439-5234>

Lattes CV: <http://buscatextual.cnpq.br/buscatextual/visualizacv.do?id=K4771988J2>

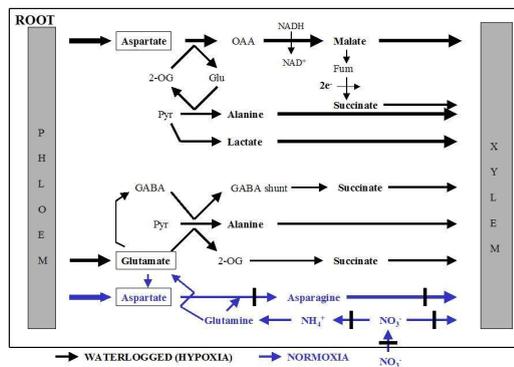
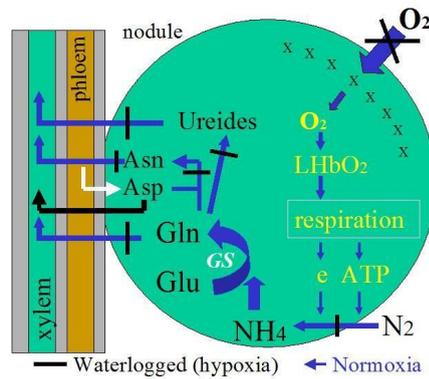


Biotechnology
Nitrogen metabolism in higher plants

LADASLAV SODEK,
Institute of Biology (IB)
PhD, University of London
Isodek@unicamp.br

Research activities

Our research activities have concentrated on the metabolic response of plants to certain environmental stress situations, such as root hypoxia generated by waterlogging and mineral N deficiency, mainly in relation to primary N metabolism. Most of our studies have been carried out with soybean under controlled conditions where plants dependent on symbiotic N₂ fixation or nitrate assimilation can be studied side-by-side using the same plant. We find that characteristic components of the xylem sap can be used to monitor metabolic activities in roots under stress conditions, especially the two assimilatory processes. These components include ureides, glutamine, asparagine, alanine, malate, succinate and lactate. We use HPLC and GC-MS analysis together with ¹⁵N and ¹³C for metabolic studies.



Keywords: soybean, hypoxia, nitrogen, xylem, stress.

About the researcher

Digital identifier: <https://publons.com/researcher/2691295/ladislav-sodek/>
Lattes CV: <http://lattes.cnpq.br/2012001011713124>

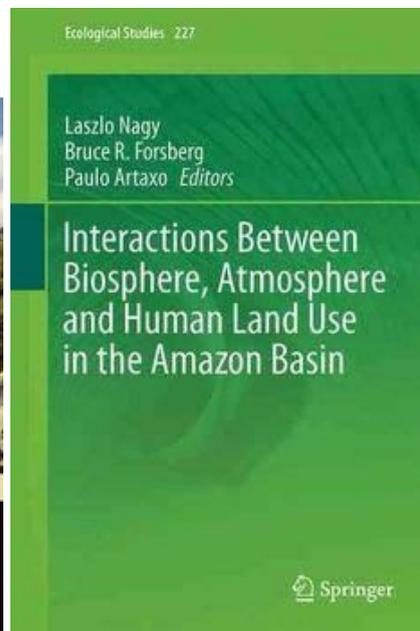
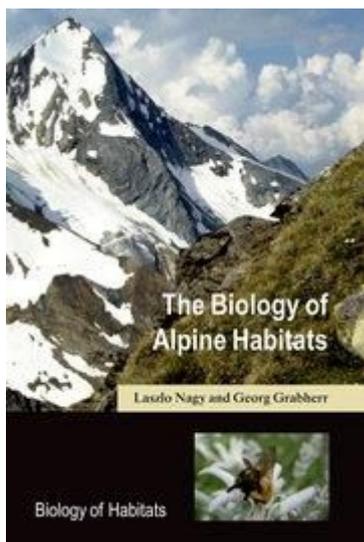


Biodiversity
Ecosystem structure and function

LASZLO NAGY,
Institute of Biology (IB)
PhD, University of Stirling
lnagy@unicamp.br

Research activities

Interdisciplinary research on ecosystem structure and function in tropical lowland and montane forests, and in alpine (high mountain) ecosystems worldwide; global change impacts and their mitigation. Long-term Ecological Research - PI of the integrated research programme at the Campos do Jordão, Brazil LTER (montane forest) site. Organiser of a South American long-term socio-ecological observatory and research network (ongoing project: FAPESP-NERC South American Montane Forests in a Warming World).



Keywords: biogeochemistry, ecology, biogeography, socio-ecological systems, soil ecology.

About the researcher

Digital identifier: <http://www.researcherid.com/rid/A-7689-2014>

Lattes CV: <http://lattes.cnpq.br/6817610257792272>



Biodiversity
Cytogenetic and genomic evolution

LUCIANA BOLSONI LOURENÇO,

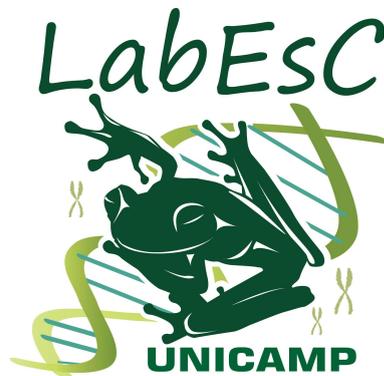
Institute of Biology (IB)

PhD, University of Campinas

bolsoni@unicamp.br

Research activities

We combine cytogenetic and genomic analyses with phylogenetic and phylogeographic inferences to study karyotypic evolution in Anura.



Keywords: chromosome, frog, genome, evolution, cytogenetics.

About the researcher

Digital identifier: <https://orcid.org/0000-0001-6602-6850>

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Biodiversity
Amphibians

LUIS FELIPE TOLEDO,

Institute of Biology (IB)

PhD, São Paulo State University

toledosapo@gmail.com

Research activities

- 1) **ANURAN COMMUNICATION:** Frogs use diverse senses to communicate, such as sight, touch, hearing, olfact, and even seismic or vibrational sensing. All these senses are under study in our lab.
- 2) **CHYTRID FUNGUS:** Frogs are threatened by a widespread disease, caused by a microscopic fungus. Our lab is trying to understand its evolution, distribution and ecology, both in wild and captive amphibians. Most of the survey takes place in the Atlantic rainforest.
- 3) **BLIND TOADS IN TROPICAL ISLANDS:** Tropical islands hosts special cases of blind, deformed and introduced toads. Our studies aims describing their malformations, tries to understand its causes, and its effects in the behavior and ecology of *Rhinella* spp. toads.



Keywords: Amphibia, Conservation, Behavior, Natural History, Atlantic Forest.

About the researcher

Digital identifier: <https://publons.com/researcher/2701360/luis-felipe-toledo/>

Lattes CV: <http://lattes.cnpq.br/7548286300603675>



Biological Sciences

Aging and Metabolic Diseases

MARCELO ALVES DA SILVA MORI

Institute of Biology (IB)

PhD, Federal University of São Paulo

morima@unicamp.br

Research activities

The main purpose of our laboratory activities is to identify and characterize molecular mechanisms involved in the aging process and in the response to dietary interventions. We are particularly interested in understanding how metabolism contributes to the genesis of age-related diseases. We focus on the fat tissue – an important site of metabolic integration in multicellular organisms – and question how this tissue responds to changes in energy balance and signals to other tissues to inform about these changes. We identified that these processes are partly controlled by changes in microRNA biogenesis in the adipose tissue. When regulated, the adipose tissue microRNAs affect animal susceptibility to stress and influence life span.



Keywords: aging, obesity, adipose tissue, microRNAs, diabetes.

About the researcher

Digital identifier: <https://scholar.google.com.br/citations?user=2UMf-akAAAAJ&hl=pt-BR&oi=ao>

Lattes CV: <http://buscatextual.cnpq.br/buscatextual/visualizacv.do?id=K477534829>

Laboratory or research group: <http://morilab.wixsite.com/morilab>



Biological Sciences

Internalization and Intracellular Trafficking of Nanoparticles:
Biological Activity and Nanotoxicity

MARCELO BISPO DE JESUS

Institute of Biology (IB)

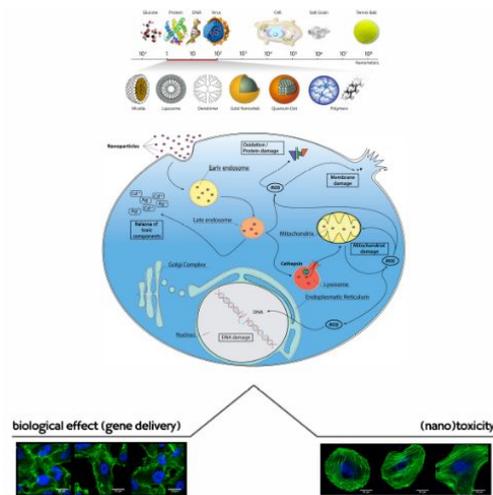
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dejesus@unicamp.br

Research activities

Our laboratory investigates the molecular mechanisms of the interactions between nanoparticles and cells, i.e., how these nanoparticles are absorbed by cells (endocytosis), intracellular trafficking, and biological effects. We have two aims: to study nanoparticles for gene delivery and to support the responsible development and use of nanomaterials. Thus, our primary research focuses on the following subjects:

- Developing and evaluating nanomaterials for gene delivery;
- Investigating the molecular mechanisms of gene delivery systems;
- Rapid assays to quickly determine the toxic potential of nanomaterials;
- Studying the molecular mechanisms of nanomaterials toxicity (nanotoxicity).



Marcelo Bispo de Jesus, PhD
Assistant Professor

Department of Biochemistry
and Tissue Biology
University of Campinas

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Keywords: nanoparticles, nanotoxicity, gene delivery, intracellular trafficking.

About the researcher

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Lattes CV: <http://lattes.cnpq.br/9611381402490228>



Biotechnology
Plant biotechnology

MARCELO MENOSSI,

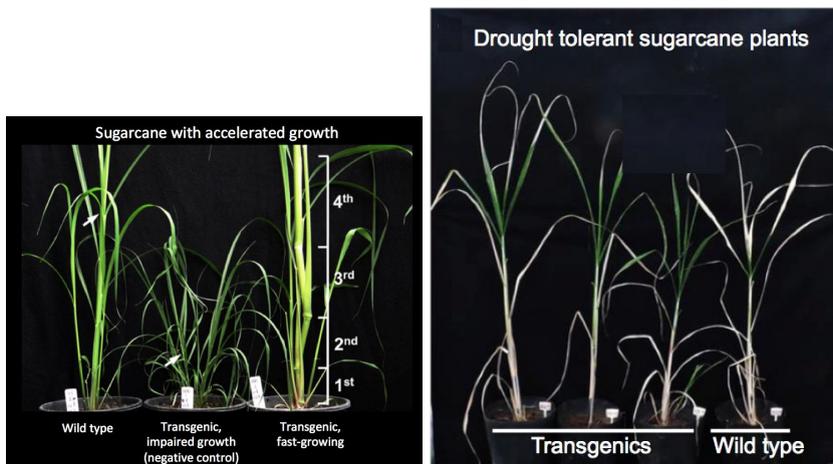
Institute of Biology (IB)

PhD, University of Barcelona

menossi@unicamp.br

Research activities

There is a growing demand for sustainability in agriculture. We have been working with the bioenergy crop sugarcane, discovering genes that help plants to sustain their productivity under unfavorable conditions, such as drought stress. We also discovered genes that control sugarcane development, aiming increased productivity. Additionally, we have identified regulatory regions (promoters and terminators) from can be used to produce cisgenic plants. We use state of the art biotechnology tools, including genome editing, to test these genes and control regions in sugarcane plants. This knowledge in sugarcane has been also translated to other crops, such as soybean. We actively seek for industry partners to use biotechnology to solve their problems and license our technologies.



Keywords: sugarcane, drought, development, biotechnology, genome editing.

About the researcher

Digital identifier: <https://scholar.google.com/citations?user=re4UAKkAAAAJ&hl=en>

Lattes CV: <http://lattes.cnpq.br/9861339870761985>



Biomedical Sciences
Microbiota-host interaction

MARCO AURÉLIO VINOLO,

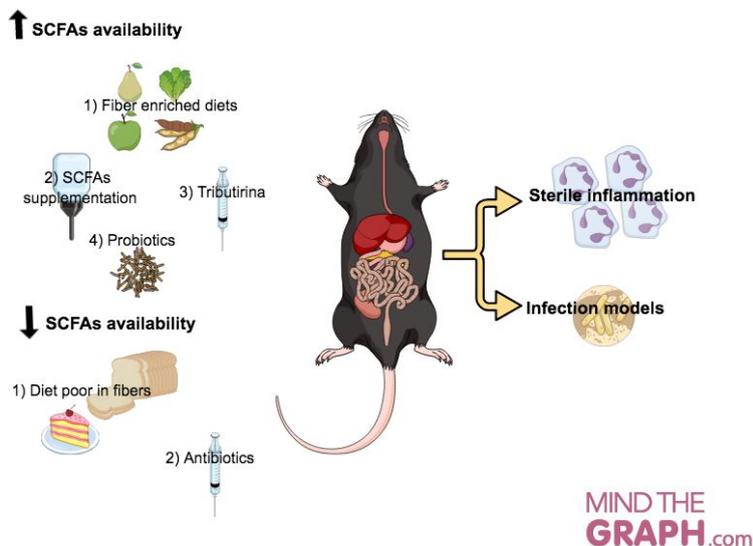
Institute of Biology (IB)

PhD, University of São Paulo

mvinolo@unicamp.br

Research activities

The microbiota-host interactions play a key role in the regulation of metabolism and immunity. Bacterial metabolites called short chain fatty acids (SCFAs), which are generated by fermentation of carbohydrates, constitute a key link between microbiota and host cells. These bacterial metabolites are found in high concentrations in the intestinal tract and changes in their production were reported in different infectious and inflammatory diseases. The focus of our research is to understand how these metabolites interact with host cells and predispose/prevent the development of inflammatory and infectious diseases.



MIND THE
GRAPH.com

Keywords: Inflammation, Short chain fatty acids, Microbiota, Mucosal immunology, Intestinal infection.

About the researcher

Digital identifier: <https://scholar.google.com.br/citations?user=DqmF4ROAAAAI&hl=en&oi=ao>

Lattes CV: <http://buscatextual.cnpq.br/buscatextual/visualizacv.do?id=K4774087Z>



Biomedical Sciences
Vascular Biology

MARIA ANDRÉIA DELBIN,

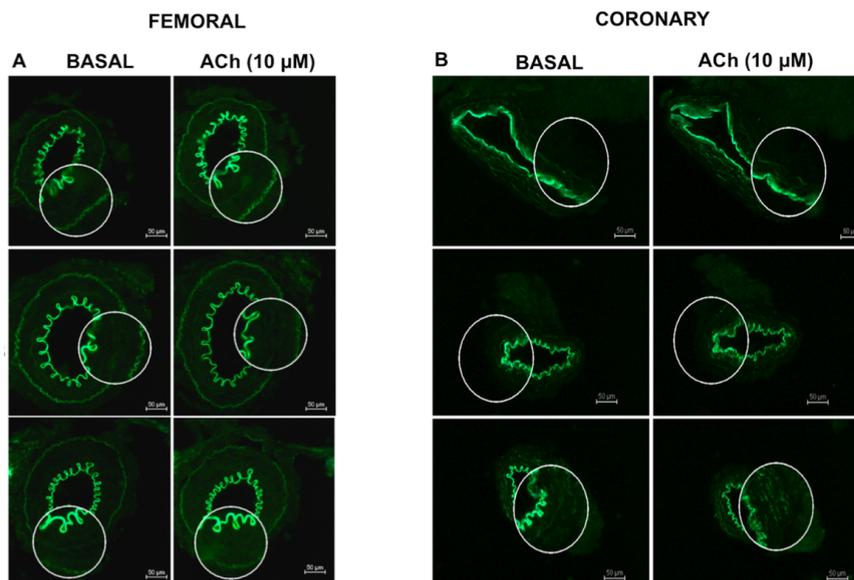
Institute of Biology (IB)

PhD, São Paulo State University

madelbin@unicamp.br

Research activities

The main purpose of our laboratory activities is to investigate the mechanisms involved in endothelial dysfunction in cardiovascular disease and how these are influenced by chronic aerobic exercise training. In this context, we are particularly interested in vascular nitric oxide bioavailability, oxidative stress, inflammation and the perivascular adipose tissue.



Keywords: vascular responsiveness, endothelial dysfunction, aerobic exercise training, perivascular adipose tissue, cardiovascular disease.

About the researcher

Digital identifier: <http://www.researcherid.com/rid/F-4233-2012>

Lattes CV: <http://lattes.cnpq.br/8713959992749356>



Biomedical Sciences
Nutrition and Cancer

MARIA CRISTINA CINTRA GOMES-MARCONDES,

Institute of Biology (IB)

PhD, University of São Paulo

cintgoma@unicamp.br

Research activities

Nutrition and cancer: metabolomic, and proteomic profile of muscle, placental, fetal, and tumor cell signaling pathways in Walker-256 tumour-bearing pregnant rats submitted to leucine nutritional supplementation



Keywords: Nutritional Supplementation, Cancer-Cachexia, Protein Metabolism, , .

About the researcher

Digital identifier: <https://orcid.org/0000-0002-1713-756X>

Lattes CV: <http://buscatextual.cnpq.br/buscatextual/visualizacv.do?id=K4788894A5>



Biodiversity
Molecular evolution

MARIANA FREITAS NERY,

Institute of Biology (IB)

PhD, Austral University of Chile

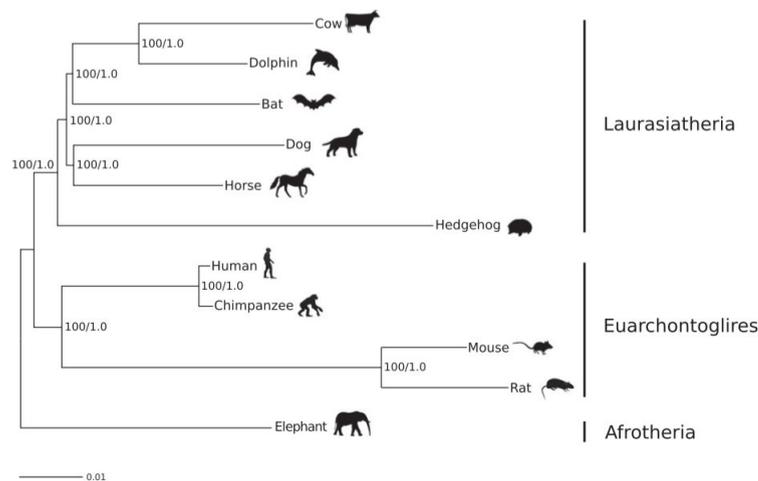
mariananery@gmail.com

Research activities

Our group aims to investigate the genomic basis of phenotypic diversity and the role of evolutionary forces on the origin of this diversity, from populations to broader taxonomic levels. Our research focuses on questions regarding convergent evolution (i.e. in which extent evolution uses the same molecular basis to reach similar solutions to similar problems, in an independent way), how evolution occurred in a molecular level - affecting coding and non-coding regions of the species - genomes -, what is the role of gain and loss of genes in the species' adaptation and what is the evolutive potential of genomes in a changing world. Our projects do not focus on a specific system, we usually work with vertebrates in general, but also with plants and bacteria.



**LABORATORY OF
EVOLUTIONARY
GENOMICS**



Keywords: evolution, genomics, mammals, molecular evolution, genetics.

About the researcher

Digital identifier: <https://scholar.google.com.br/citations?user=K09vvkOAAAAI&hl=en>

Lattes CV: <http://lattes.cnpq.br/1410858776932991>



Biological Sciences
Biodiversity and Community Ecology

MATHIAS MISTRETTA PIRES

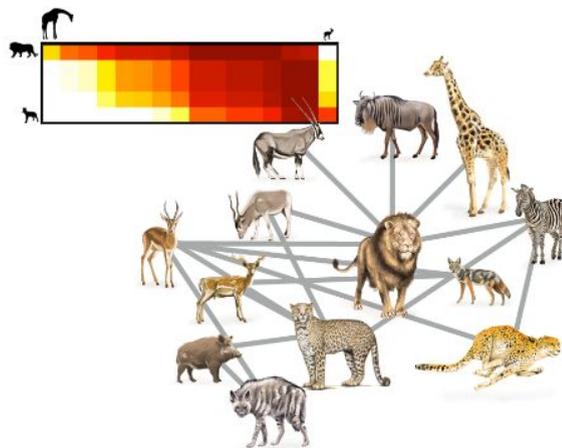
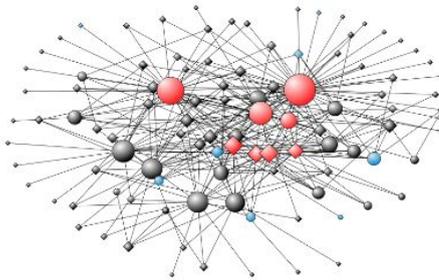
Institute of Biology (IB)

PhD, University of São Paulo

piresmm@unicamp.br

Research activities

I am interested in understanding how ecological interactions are organized in nature and how they shape the functioning of ecological systems, affecting diversity at local and regional scales and in ecological and deep time. My current research focuses on the causes and consequences of biodiversity loss.



Keywords: biodiversity, community ecology, extinction, ecological interactions, conservation.

About the researcher

Digital identifier: <http://orcid.org/0000-0003-2500-4748>

Lattes CV: <http://lattes.cnpq.br/1369273685630276>

Laboratory or research group: <http://mathiaspires.net.br/index.html>



Biological Sciences

Cell Biology of Cancer

MURILO VIEIRA GERALDO

Institute of Biology (IB)

PhD, University of Sao Paulo

murilovg@gmail.com

Research activities

MicroRNAs, small non-coding RNAs involved in post-transcriptional regulation of gene expression, are downregulated in papillary thyroid cancer. We use genomics and bioinformatics analyses to identify candidate microRNAs for subsequent *in vitro* and *in vivo* functional tests. We expect to shed light on the biological role of microRNAs from the DLK1-DIO3 region in thyroid follicular cells and their contribution to thyroid oncogenesis. We believe that the combination of different research strategies may significantly impact basic and translational thyroid-related research and contribute to the early detection and effective treatment of aggressive thyroid cancer.

Keywords: microRNA, cancer, microtranscriptome.

About the researcher

Digital identifier: <https://scholar.google.com.br/citations?user=7-03cY8AAAAJ&hl=pt-BR&oi=ao>

Lattes CV: <http://lattes.cnpq.br/7450532814515185>



Biomedical Sciences
Medical entomology

PATRÍCIA JACQUELINE THYSSEN,

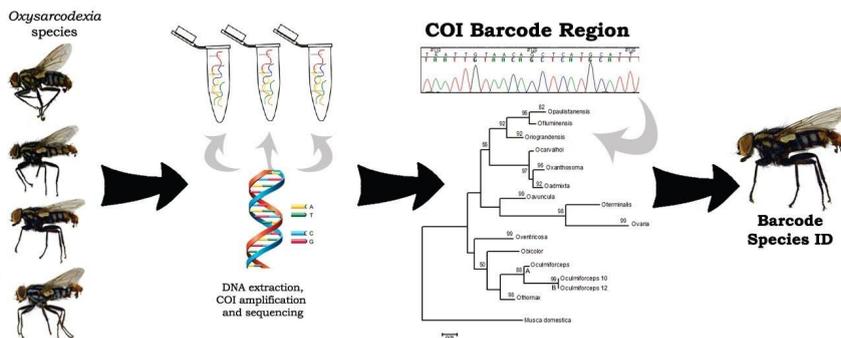
Institute of Biology (IB)

PhD, University of Campinas

pthyssen@g.unicamp.br

Research activities

Researcher linked to the University of Campinas (UNICAMP). Participant in the postgraduate programs in Animal Biology and Ecology (UNICAMP) and Parasitology (Federal University of Pelotas - UFPel). I work in the area of Parasitology and Entomology, with emphasis on: Taxonomy, Systematics and Biology of Diptera (Muscomorpha), Forensic Entomology (necrophagous insects) and Larval Therapy (larval products for therapeutic purposes).



Keywords: Diptera, wound healing, bacteria multiresistent, postmortem interval, biology.

About the researcher

Digital identifier: <https://orcid.org/0000-0001-7343-2419>

Lattes CV: <http://lattes.cnpq.br/4454214690493096>



Biomedical Sciences
Skeletal muscle

PAULO GANDRA,

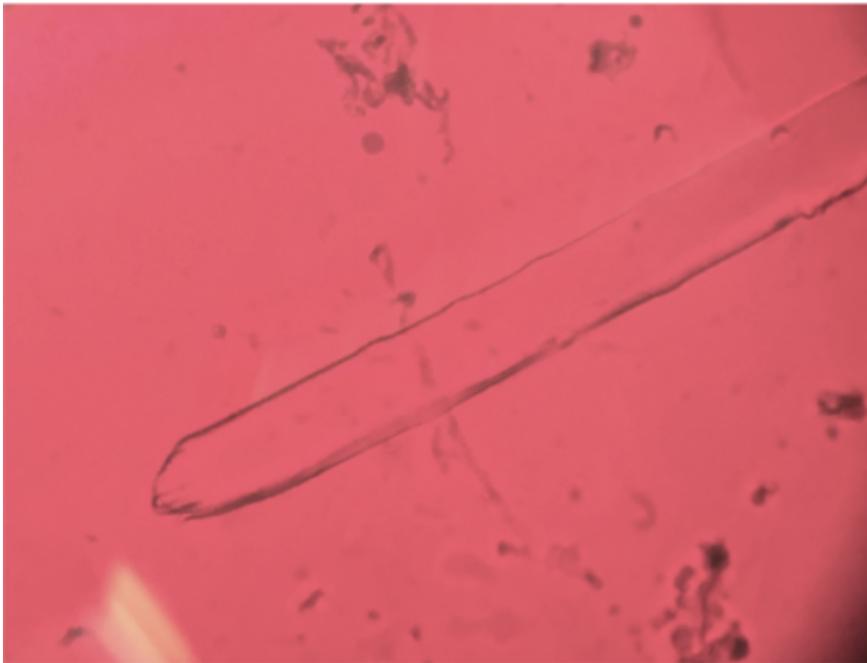
Institute of Biology (IB)

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pggandra@unicamp.br

Research activities

My main research interests are the cellular mechanisms regulating skeletal muscle force generation, fatigue resistance and metabolism during contractile activity and in response to exercise. We seek to identify strategies to improve muscle function and potentiate the beneficial responses to exercise in skeletal muscle.



Keywords: Skeletal muscle, Exercise, Fatigue.

About the researcher

Digital identifier: <https://orcid.org/0000-0002-4945-8288>

Lattes CV: <http://lattes.cnpq.br/4845922638567980>



Biodiversity
Ecology and behavior of Neotropical ants

PAULO SÉRGIO OLIVEIRA,

Institute of Biology (IB)

PhD, University of Campinas

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Research activities

Ants are dominant organisms and their colonies may contain millions of workers. The ecological success of ants is due to their eusocial mode of life, local abundance, and diversity of adaptations. Such traits result in a wide variety of feeding habits and foraging strategies. Intense foraging on foliage appears to have set the scenario for multiple interactions between ants, herbivores, and plants worldwide. Ant abundance on the ground is also remarkable in the tropics. The use of experiments to test ecological hypotheses depends on accurate field data. Natural history is the groundwork for research on ant ecology and behavior. Our field work is carried out in forest and Cerrado areas, and also involves the culturing of ant colonies in captivity for behavioral observations and experiments.

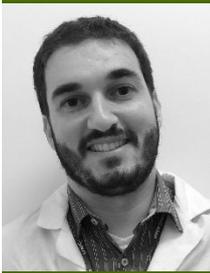


Keywords: Ants, Interspecific interactions, Ecology, Social behavior, Insects.

About the researcher

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Biological Sciences
Immunology

PEDRO MANOEL MENDES DE MORAES VIEIRA

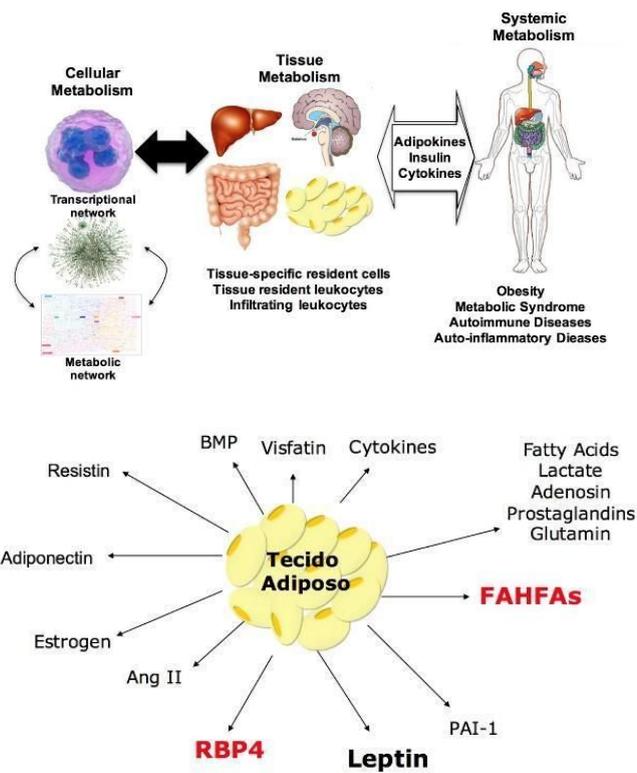
Institute of Biology (IB)

PhD, University of São Paulo

pmvieira@unicamp.br

Research activities

Immunology; Biochemistry; Metabolism and Bioenergetics; Endocrinology; Molecular Biology
Molecular Immunology.



Keywords:

About the researcher

Lattes CV: <http://lattes.cnpq.br/6667440528985761>



Biological Sciences

Tropical Forest Ecology

PETER STOLTENBORG GROENENDYK

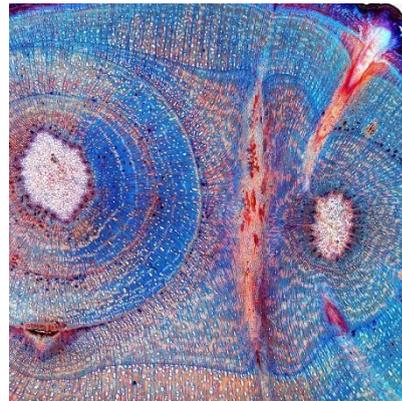
Institute of Biology (IB)

PhD, Wageningen University and Research Centre

peterg@unicamp.br

Research activities

I use wood anatomy, isotopic composition and tree-ring analyses to understand tropical tree growth and the environmental factors driving it. I apply this knowledge to answer questions related to responses of tropical forests to climatic changes and to address the sustainable use of forest resources



Keywords: tropical forest ecology, dendrochronology, tree growth, tree physiology, climate change.

About the researcher

Digital identifier: <https://scholar.google.com/citations?user=1IZ49asAAAAJ&hl=en>

Lattes CV: <http://lattes.cnpq.br/5772463893788670>



Biodiversity
Environmental Crop Physiology

RAFAEL RIBEIRO,
Institute of Biology (IB)
PhD, University of São Paulo
rvr@unicamp.br

Research activities

The main idea is to understand how crop species deal with constraining conditions, reducing the limitations imposed by environmental stresses by exploring biodiversity and improving field management



Keywords: photosynthesis, water relations, plant growth, crop physiology, metabolism.

About the researcher

Digital identifier: <https://publons.com/researcher/1521597/rafael-vasconcelos-ribeiro/>
Lattes CV: <http://lattes.cnpq.br/3707634488541457>



Biotechnology
Plant Systems Biology

RENATO VICENTINI DOS SANTOS,

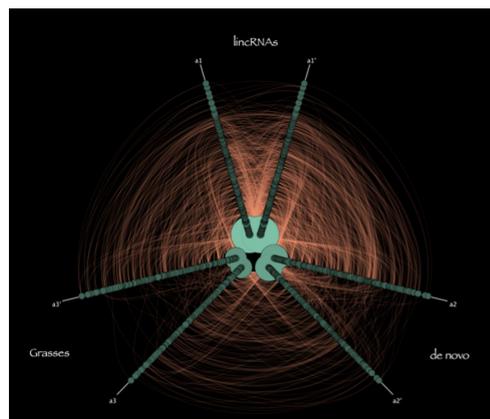
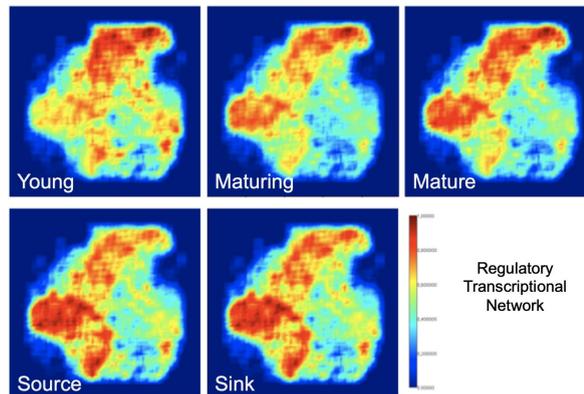
Institute of Biology (IB)

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shinapes@unicamp.br

Research activities

Several molecular mechanisms responsible for the cross talk between different regulatory elements and signaling pathways, and their diversification in plants, still need to be elucidated to better understand plant growth patterns and biomass production. Our laboratory applies genetic and computational approaches to integrate molecular and systems biology to improve the knowledge about several biological mechanisms in plants. Recently we are elaborating ways to analyze regulatory network and dynamic metabolic models in sugarcane related with sucrose biosynthesis, and define the diversification of different signals programs among angiosperms.



Keywords: bioinformatics, regulatory networks, sugarcane, systems biology, crop science.

About the researcher

Digital identifier: <http://scholar.google.com.br/citations?user=OaT1PkoAAAAI>

Lattes CV: <http://lattes.cnpq.br/6613941431352859>



Biodiversity
plant speciation

SAMANTHA KOEHLER,

Institute of Biology (IB)

PhD, University of Campinas

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Research activities

I want to understand processes the role of polyploidy in plant diversification, especially along the Eastern Brazilian highlands. For that, we describe patterns of variation in molecular, morphological and environmental traits and use orchids as a model of study.



Keywords: orchidaceae, polyploidy, apomixis, reproductive biology, mountains.

About the researcher

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Biomedical Sciences
Parasitology

SILMARA ALLEGRETTI,

Institute of Biology (IB)

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Research activities

Our laboratory main research line is Drug Research and Development against Parasitic diseases (mainly helminthic diseases). For that purpose we maintain four different strains of *Schistosoma mansoni* (with different drug susceptibilities), *Strongyloides venezuelensis* and *Angiostrongylus cantonensis*. We also study parasite- intermediate host interactions for which we maintain several *Biomphalaria* species from different geographic regions. Our research interests also cover studies partaking the parasitic fauna of either domestic or sylvatic animals.



Keywords: *Schistosoma mansoni*, *Angiostrongylus*, *Strongyloides*, Drug research, Proteomics.

About the researcher

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Research activities

The main purpose of our laboratory activities is to recognize the effects of multiparity and ageing on cells and extracellular matrix during postpartum recovery at the birth canal (pubic symphysis, uterine cervix and vagina) in mice. We are particularly interested in understanding how birth and ageing have a significant effect on tissue homeostasis, which could help us to understand the pathophysiology of pelvic organ prolapse, urinary incontinence and preterm. We focus on the connective tissue – an important site of cellular, molecular and hormonal signaling – and question how this tissue responds (or not) to changes during and after first and multiple pregnancies. Using morphological, biochemical and molecular assays, we identified that recovery processes are regulated by cells and molecules in the birth canal and multiparity and ageing led them to not recover in the reproductive matrix of mice.



Keywords: birth canal, multiparity, pregnancy, tissue remodeling, microscopy.

About the researcher

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Biodiversity
Community structure of insect-plant interactions

THOMAS LEWINSOHN,

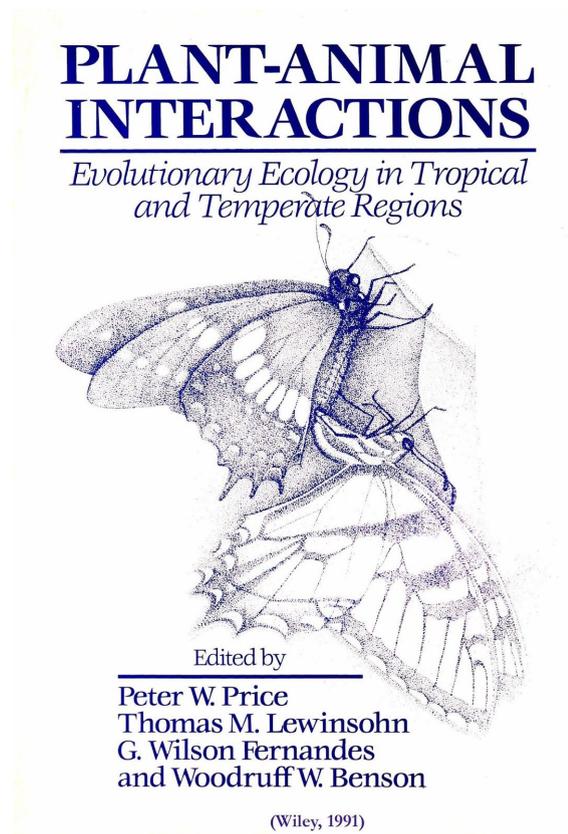
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Research activities

My research addresses (1) intersections between community ecology, insect-plant interactions, and the organization of biodiversity; (2) national and international environmental policy; (3) historical and philosophical issues in ecology.



Keywords: community ecology, biodiversity structure, plant-herbivore interactions, history of ecology, environmental policy.

About the researcher

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Biodiversity
Diversification in the Neotropics

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Research activities

Our aim is to understand how adaptation across environmental space contributes to phenotypic, genomic, and phylogenetic diversification among species. Our focus is the biodiversity of the Brazilian Dry Diagonal (BDD). We use spiders as models, in a thematic project that applies the same approaches across diverse animal, plant and fungal lineages; we propose a synthetic framework for understanding habitat-driven evolutionary processes resulting adaptation and diversification. We use several methodologies, eg. machine-learning approaches, phylogenetic analysis, macroevolutionary models of trait evolution, whole-genome resequencing, selection and genomic pathway scans, etc.



Keywords: Diversification, Neotropics, Brazilian Dry Diagonal, Spiders.

About the researcher

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