



Meet-up  
**INTEGRATED BIOREFINERIES  
OF THE FUTURE**

December  
14<sup>th</sup>, 2023

ATTENDEES – RESEARCHERS AND COMPANIES



Kingdom of the Netherlands

## RESEARCHES

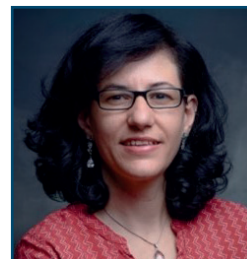
**AILTON CONDE JUSSANI (UFABC)**

It is known that electric motors have higher efficiency levels than engines powered by fossil fuels. Regarding the viability of the low-carbon automotive industry, the purely electric car has the battery as its only source of energy and it is known as a zero-emission vehicle. The increasing use of electric vehicles is justified due to clean, renewable, sustainable, conscious, and shared technology. In this context, the objective research intends to identify scenarios for the use of urban electric vehicles and emission levels of atmospheric pollutants in order to contribute to environmental sustainability and improving public health in cities.

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## RESEARCHES

**DANIELLE BISCARO PEDROLLI** (*UNESP, Araraquara*)

At the Department of Bioprocess Engineering and Biotechnology, our research covers the production process from strain engineering to the production scale-up. My research group focuses on strain engineering, mostly bacteria and yeast. We use synthetic biology and metabolic engineering tools to engineer strains able to overproduce biomolecules or display behaviors useful for the chemical industry and agriculture. So far, we successfully developed strains for the production of vitamins, biosurfactants, colorants, and enzymes.

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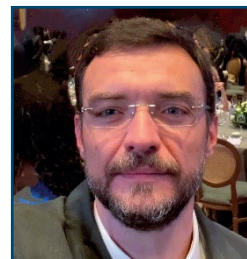
## RESEARCHES

### **JOSÉ GERALDO DA CRUZ PRADELLA** (UNIVAP)



The project we are proposing to carry out studies on the use of OFMSW as the main raw material for the production of lipids, which will later be converted to Jet Fuel. In this route, OFMSW will undergo physical-chemical and enzymatic pre-treatment to produce liquor rich in reducing sugars, which will later be used by lipid-producing microorganisms. These lipids, accumulated in the cytoplasm of microbial cells, will be recovered and hydroprocessed by catalysis to produce jet fuel biodiesel.

## RESEARCHES

**PAULO CÉSAR PAVAN** *(R&D EXECUTIVE)*

I worked for 10 years at Fibria Celulose, focusing on research projects and new business initiatives in the bio-refinery sector, including pyrolysis bio-oil, crystalline nanocellulose, microfibrillar cellulose, lignin, and others. These efforts resulted and continue to yield various investments, now being carried out by Suzano.

In the last 5 years, I transitioned to Rhodia Brazil, part of Solvay Group, where I had established a portfolio of projects dedicated to developing renewable alternatives in contrast to fossil-based commodities. As the Head of R&D, Innovation, and Sustainability, I forged partnerships with companies and startups to drive these developments.

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## RESEARCHES

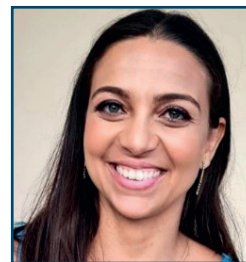
### **STÉPHANI CETIMIA MARIOTTI RUIZ** *(PhD Student)*



The study aims to analyze the results of the formation of the formation of a decentralized biomass market in the presence of heterogeneous agents and information asymmetry. The development of an agricultural waste supply chain will contribute to increasing the availability of biofuels and the income of agricultural producers and; a virtuous cycle of adoption of innovations, through the reduction of transaction costs and the feasibility of raw material commercialization

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## RESEARCHES

**VALÉRIA DE CARVALHO SANTOS EBINUMA (UNESP)**

The Department of Bioprocess Engineering and Biotechnology conducts research in various areas related to bioprocessing. Specifically, my research group, Bioppul, aims to produce microbial natural colorants. One of the ongoing lines of development employs the biorefinery concept by creating efficient, circular, economically viable, and environmentally friendly processing platforms. This involves the bioconversion of industrial waste into valuable colorants using microbial processes. Furthermore, the use of biosolvents for colorant extraction ensures an environmentally friendly process.

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## RESEARCHES

### **VICTOR BRUNO** (*Founder*)



I'm a MSc in technological Innovation, researching academic entrepreneurship, specialising in Lean Startup Launchpad, and environmental engineering. Founder of the first academic entrepreneurship incubator and accelerator. My goals with the meeting include doing academic and professional networking bridging our two nations, Brazil and the Netherlands. Tot ziems or as they say in Brazilian Portuguese, até logo.

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## RESEARCHES

**YVAN JESUS OLORTIGA ASENCIOS** (*Adjunct Professor C4, Unifesp*)

Preparation and characterization of catalysts for the production of Hydrogen and Syngas from biogas/biomethane/bioethanol, through partial oxidation reactions/Dry Reforming/PartialOxidation of bio methane. Preparation and characterization of biosorbents made from lignocellulosic materials and aquatic macrophytes (macroalgae).

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## COMPANIES

### GEO BIO GAS & CARBON

The integrated biorefineries of the future will have a key necessity of constant, guaranteed, and reliable supply of biogenic carbon to produce advanced biofuels in a sustainable manner. Geo bio gas&carbon is a pioneer and has more than 10 years of experience in the execution of projects, research and development and operation of biogas production plants in large scale in Brazil, and our goal is to be a supplier of biogenic carbon to develop the concept of integrated biorefineries through the biogas development chain. Currently, we have 3 operational plants, 1 in commissioning phase and 4 under construction. Furthermore, we have advanced-stage conceptual projects for the utilization of biogas as a raw material to produce advanced biofuels, such as SAF and methanol.

Website: [www.geobiogas.tech](http://www.geobiogas.tech)



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Ana Elisa Belotto Morguette, *Infra CPG - LAB E P&D*

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## COMPANIES

### INSTITUTO DE PESQUISAS TECNOLÓGICAS – IPT

With 124 years, IPT is the largest applied research center in Brazil, at the Bionanomanufacturing unit we combine skills in four different areas of nanosciences and nanotechnology. The center is dedicated to the study of biotechnology, aiming at the circular economy, the reduction in energy use and the study of renewable raw materials, where biomass is essential. We have been developing research with lignocellulosic agro-industrial waste and Amazonian assets, together with the IPT-AMAZÔNIA unit.

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Junior de Jesus Costa, *Full Researcher* | Email: [juniorcosta@ipt.br](mailto:juniorcosta@ipt.br)

## COMPANIES

### LIGNUP

Dr. Victor Freitas has been researching about lignocellulosic biomass valorization, specially the lignin fraction, for the past 7 years. I've been working with heterogeneous catalysis to promote clivage of specific lignin bonds to extract simple monoaromatic molecules and monolignols. I teach general chemistry, inorganic chemistry and catalysis at University and in 2023 I co-founded the startup LignUp: research and solutions in lignin.

Website: [www.lignupgreen.com](http://www.lignupgreen.com)



Victor Augusto Araújo de Freitas, *Founder*

Marcos Valadares, *PhD/MBA*

## COMPANIES

### SENAI BIO ENERGY

SENAI's mission is to support national industry growth, and we do this forming people for industry work, offering technical consultancy and trough innovation in Biotechnology, Energy Transition and Advanced Manufacturing. At SENAI Bioenergy we have national level unique pilot plant of Bioethanol production, and complete laboratory infrastructure, that allows scale up, proofs of concept and validations for microorganisms and chemical specialties at biofuels and bio renewables production.



Marco Túlio Frade Bornia

## COMPANIES

### SIEMENS ENERGY (SE)

Is one of the world's leading energy technology companies. The company works with its customers and partners to support the transition to a more sustainable world. SE covers almost the entire energy value chain – from energy generation and transmission to storage. The portfolio includes conventional and renewable energy technologies, such as gas and steam turbines, hybrid power plants operated with hydrogen, as well as power generators and transformers. Its wind energy subsidiary Siemens Gamesa Renewable Energy (SGRE) makes SE the global renewable energy market leader. It is estimated that one sixth of the electricity generated worldwide is based on our technologies.

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Giovanna Cheschini, *Energy Assets do Brasil Ltda, R&D&I*

