



Universidade Estadual  
de Ponta Grossa

# **Sustainable Development Goals Report Agenda 2030**

Year of publication: 2022  
Reference year: 2021





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In 2021, the State University of Ponta Grossa (UEPG) carried out numerous initiatives to face the Covid-19 pandemic, many of which started the previous year. In this period of intense changes in social and academic life, UEPG has adapted to face the pandemic and to continue researching and providing essential services to the community.

Some images and initiatives in this Report demonstrate the diversity of projects developed during different periods of the pandemic, during which health measures and social isolation restrictions changed. Thus, in some records and photographs people appear wearing masks while in others they do not.



## Foreword

The mission of the State University of Ponta Grossa (UEPG) is to produce and disseminate various forms of knowledge to provide educational opportunities for the development of ethical, critical, and innovative individuals, thereby enhancing the quality of life for everyone. The mission of UEPG aligns with the objectives established by the 2030 Agenda of the United Nations - UN.

The UN has proposed 17 Sustainable Development Goals - SDG to eradicate poverty and promote a dignified living for all. By making its initiatives public to the (internal and external) community UEPG demonstrates not only its commitment to Agenda 2030, but also raises awareness about its importance among the local, regional, and national communities.

This Report was produced by the Pro-rectory of Institutional Planning-PROPLAN, through its Division of Institutional Evaluation along with the Media Relations Committee - CCOM of the State University of Ponta Grossa - UEPG.

Professor Miguel Sanches Neto  
Rector of the State University of Ponta Grossa.



## Methodology

To compile this document, a survey was conducted to gather information on the various initiatives carried out at UEPG throughout 2021. Multiple sources were used such as news articles published on the institution's official website, research/continuing research projects registered by the Pro-Rector of Research and Graduate Affairs – PROPESP, outreach projects registered by the Pro-Rector of Outreach and Culture Affairs, scientific articles available in the Scopus database, and existing institutional policies.

For selection purposes, the collected information was categorized according to the 17 Sustainable Development Goals (SDG) established by the UN. Those activities that did not address or include a SDG were excluded. As a result 495 news articles, 141 scientific articles, 165 outreach projects, and 360 research projects related to the SDGs were obtained.

An activity may focus on more than one SDG; in this case, it will be indicated only once. The Report presents a few of the many actions developed at UEPG. To make the Report accessible to the whole community, we included news articles published on the institution's website since their language addresses and reaches all kinds of audiences.



# SUSTAINABLE DEVELOPMENT GOALS



# Sustainable Development Goals (SDGs), of the United Nations (UN) - Agenda 2030

**Goal 1. No Poverty**

End poverty in all its forms everywhere.

**Goal 2. Zero Hunger (and Sustainable Agriculture)**

End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.

**Goal 3. Good Health and Well-Being**

Ensure healthy lives and promote well-being for all at all ages.

**Goal 4. Quality Education**

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

**Goal 5. Gender Equality**

Achieve gender equality and empower all women and girls.

**Goal 6. Clean Water and Sanitation**

Ensure availability and sustainable management of water and sanitation for all.

**Goal 7. Affordable and Clean Energy**

Ensure access to affordable, reliable, sustainable, and modern energy for all.

**Goal 8. Decent Work and Economic Growth**

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

**Goal 9. Industry, Innovation and Infrastructure**

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

**Goal 10. Reducing Inequalities**

Reduce inequality within and between countries.

**Goal 11. Sustainable Cities and Communities**

Making cities and human settlements inclusive, safe, resilient, and sustainable.

**Goal 12. Responsible Consumption and Production**

Ensure sustainable consumption and production patterns.

**Goal 13. Climate Action**

Take urgent action to combat climate change and its impacts.

**Goal 14. Life Below Water**

Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.

**Goal 15. Life on Land**

Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

**Goal 16. Peace, Justice and Strong Institutions**

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

**Goal 17. Partnerships for the Goals**

Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.





## Research and outreach project

UEPG initiatives meet all the SDGs proposed by the UN. In addition to research and outreach projects, events and programs held at UEPG also take the SDGs into consideration, however these are not included in this document.

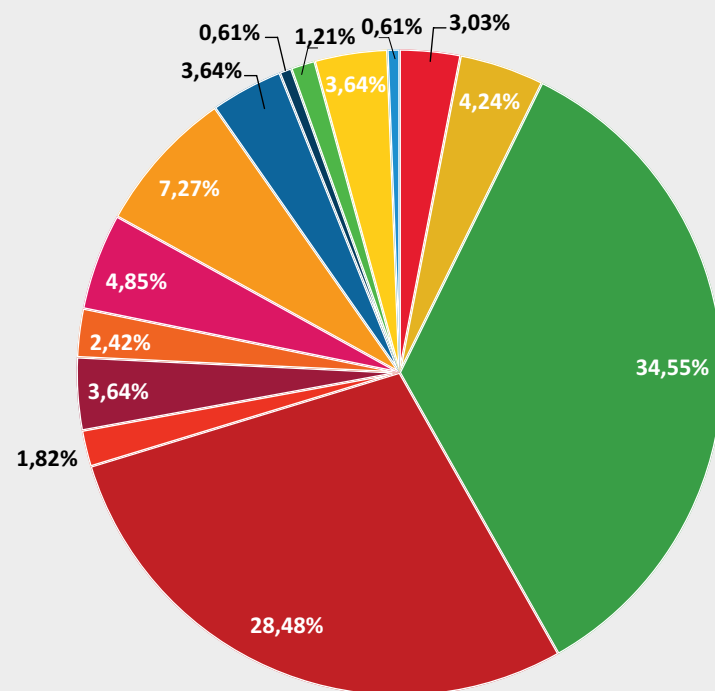
The majority of UEPG initiatives focus on SDGs 3 and 4. In these SDGs, 63.03% of outreach projects focus on health and well-being (SDG3) and quality education (SDG4). The same applies to research projects. Approximately 51% of them focus on SDG3 and SDG4.

The information regarding the outreach projects of 2021 was taken from the website of the Pro-Rectorate of Outreach and Culture Affairs (PROEX), Outreach Data Portal, from the University Outreach Board (UEB). In total, there were 165 ongoing outreach projects, often classified under more than one SDG. However, to facilitate understanding, each project was classified under only one SDG.

The information about the Research Projects and/or Continuing Research Projects of 2021 was made available by the Pro-Rectorate of Research, Division of Research Affairs. In total, there were 360 research projects and/or ongoing research projects, many addressing more than one SDG. However, to facilitate understanding, each project was classified under only one SDG..



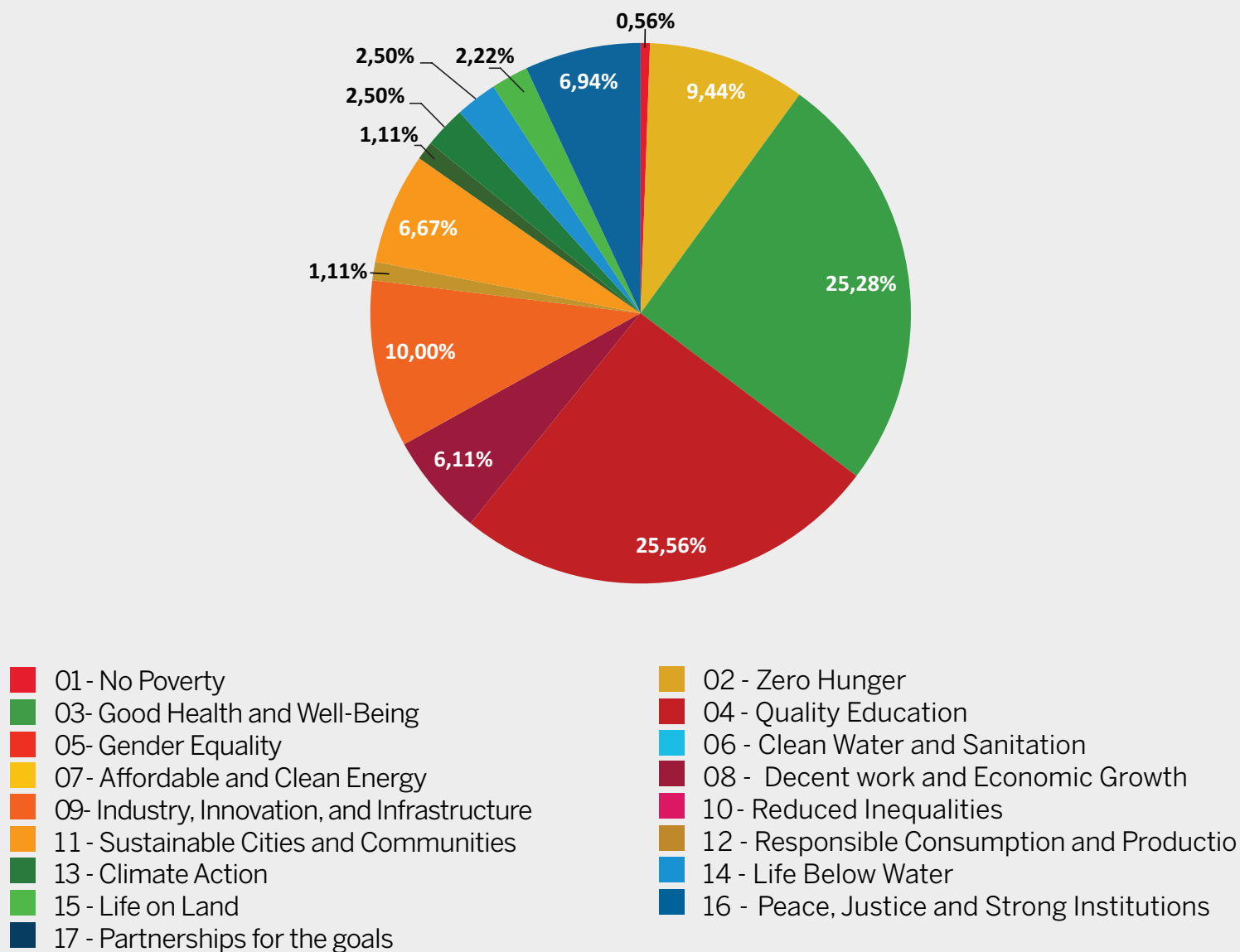
## Outreach projects classified according to the SDG



- |   |   |
|---|---|
| 01 - No Poverty                               | 02 - Zero Hunger                            |
| 03 - Good Health and Well-Being               | 04 - Quality Education                      |
| 05 - Gender Equality                          | 06 - Clean Water and Sanitation             |
| 07 - Affordable and Clean Energy              | 08 - Decent work and Economic Growth        |
| 09 - Industry, Innovation, and Infrastructure | 10 - Reduced Inequalities                   |
| 11 - Sustainable Cities and Communities       | 12 - Responsible Consumption and Production |
| 13 - Climate Action                           | 14 - Life Below Water                       |
| 15 - Life on Land                             | 16 - Peace, Justice and Strong Institutions |
| 17 - Partnerships for the goals               |   |



## Research/ongoing research projects classifies according to de SDGs



# 1 NO POVERTY









# UEPG research addresses food insecurity in the Covid-19 pandemic

<http://u.uepg.br/bxpk>

Researchers from the State University of Ponta Grossa (UEPG) launch a survey on the connection between hunger and the pandemic in city of Ponta Grossa. The study is conducted by the Research Center "Environmental Issues, Gender and Conditions of Poverty", of the Graduate Program in Applied Social Sciences, with co-participation from the Federal Technological University of Paraná (UTFPR).

This week, the group starts collecting data on initiatives and institutions that have been developing actions to fight hunger in the city. As the Research Center explains, students contact by telephone some institutions, but others can also contribute voluntarily by completing an online questionnaire. The idea is to make inferences about initiatives that have been carried out, their periodicity, and audience, among other

details.

Next, the research addresses individuals in a situation of social vulnerability. The Bolsa Família beneficiaries residing in the city have been identified, and the telephone interviews begin in the second academic semester. "Families can rest assured about the secrecy of identity since the data will be compiled anonymously. The questions are exclusively related to food (nutritional quantity and quality)", explains professor Mirna de Lima Medeiros, a member of the Research Center.

Text: Adapted by Aline Jasper | Photo: Luciane Navarro  
August 11, 2021





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Universidade  
Estadual de  
Ponta Grossa



# UEPG participates in the 2021 Christmas Without Hunger Campaign

<http://u.uepg.br/bxpl>

The Pro-Rectorate of Human Resources (PRORH) at the State University of Ponta Grossa is organizing a campaign for food donations for the Christmas Without Hunger Campaign, in partnership with the Social Service of Ponta Grossa City Hall. The initiative involves the academic community and is developed by the Division of Quality of Life at Work.

The Campaign seeks to donate cestas básicas\* on Christmas Eve to socially vulnerable families in the city. "UEPG is closely linked with Ponta Grossa society, which is why it is important that we collaborate with the Campaign the City Hall runs every year", explains Jeverson Machado do Nascimento, Director of the Division of Quality of Life at Work. All UEPG workers can collaborate so that vulnerable families enjoy a better end of the year", highlights Jeverson. "The workers can

bring non-perishable food or panettone in the collection boxes".

Boxes to leave donations are found in the Central Campus, next to the Medical Clinic on the ground floor of Block A; in the central hall of the Rectory building; in Block M, close to the Dental Clinics; University Hospital and Maternal-Infant University Hospital. Donations can also be made directly at the Building of Social Assistance Office.

(\*) a kit of essential food products for a family to consume in a month.

Text: Jessica Natal | Photo: Luciane Navarro

November 25, 2021











## Assistance in the construction of urban and regional development projects in municipalities with Medium and Low HDI in the State of Paraná: elaboration/revision of the Participative Directive Plans

<http://u.uepg.br/bxpm>

### Outreach project

This outreach project foresees the elaboration of the revision of the Directive Plan of municipalities with low and medium Municipal Human Development Index (MHDI). A technical and scientific agreement will be established between UEPG and the municipality chosen for the project. Currently, the project is being carried out in Cerro Azul, located in the Ribeira Valley, in Paraná.

The students of Urban and Regional Planning, Territorial and Environmental Planning, Geographic Information System and Remote Sensing disciplines are the protagonists of this outreach action that seeks to advise the construction of urban

and regional development projects for municipalities. UEPG professors and students from graduate programs work as facilitators, proponents, and articulators between Geographical Science and Society.

Altogether, there are 161 municipalities classified in the Medium and Low HDI (according to 2010 data). Thus, in the next editions of the project, other municipalities will be involved.

Photo: Jessica Natal





**Sítio do Cedro**  
Feijão orgânico

**PROTEÍDA PRO**  
Linha Grão e Flocos  
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Pte 10 Rte 400  
Fazenda São Quilô  
Palmeiras - PE  
(81) 3400-0000

**Orgânico**  
500 g 1 kg

**PROTEÍDA PRO**  
Linha Grão e Flocos  
CNP 00000000000000  
Pte 10 Rte 400  
Fazenda São Quilô  
Palmeiras - PE  
(81) 3400-0000

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(81) 3400-0000





## Technological Vocational Center for Agroecology and Organic Production - Lama/UEPG 2nd Edition

<http://u.uepg.br/bxpm>

### Outreach project

This project foresees the development of knowledge and techniques related to agroecological production systems, certification of organic food products and development of short commercialization chains in the Araucaria Forest region of Paraná. The activities developed by the outreach project involve Technical Assistance and Rural Outreach (TARO), participatory research, environmental adequacy, agroecological training, environmental education, and rural communication. Action-research strategies are aimed at family-based agriculture and integration between knowledge and the development of agroecology, through the Agricultural Mechanization Laboratory (Lama-UEPG).

These activities are carried out primarily in rural units with farmers and agrarian reform settlers and their families, groups of young farmers and initiatives of association and

cooperation between rural communities. Secondary agroecological schools and their students, as well as undergraduate and graduate students participate in the project, as part of curriculum training and to integrate teaching, research, and rural outreach activities within the scope of UEPG.

The project is giving continuity to the Technological Vocational Center in Agroecology and Organic Production at UEPG, which strengthens the existing network between research, TARO, four higher-education agricultural institutions and five agricultural high schools, five municipal governments, 500 family-based farmers and its eight organization entities.

Photo: William Clarindo







## Semiotic Education in Interdisciplinary and Intercultural Perspectives 4th Edition

<http://u.uepg.br/bxpm>

### Outreach project

Undergraduate students from the Bachelor of Arts, Pedagogy and Bachelor of Economics and Administration programs develop and apply, through this Outreach project, educational and training practices for adolescents from Guarda Mirim (GM) in Ponta Grossa.

This initiative focuses on intercultural education as an integrating axis. Having in mind the insertion of adolescents in the job market, the context of Brazilian cultural diversity is considered as well as the Portuguese language as a semiotic and interdisciplinary language. In Conversation circles the participants discuss the education of these adolescents from

the perspective of Human Rights.

These activities aim to help the adolescents to recognize their otherness, to value diversity, which is defined as openness to others. As Languages of Alterity, alternatives for human education in Portuguese, Critical Sociology, and Education and Work are foreseen as ways to value human dignity.

Photo: Julio Cesar Prado





# 2 ZERO HUNGER







## UEPG student promotes ornamental chicken farming.

<http://u.uepg.br/bxpo>

Animal Science undergraduate student at the State University of Ponta Grossa (UEPG), Luis Enrique Dias Wisniewski, became nationally known for farming ornamental chickens. Through his YouTube channel (Rancho LW), the student teaches tips and techniques for taking care of the birds.

His passion for animals began in childhood, on his maternal grandfather's farm. "He raised cattle, sheep, goats, poultry and since I was young, he insisted on getting me involved in the ranching. And I loved all that". The boy dreamed of following in his grandfather's footsteps, however life in the city did not allow him to have large animals. "All my yard could handle was chicken! So, my parents let me start raising some. Of course, at

that time they were free-range chickens, with no defined breed", he recalls.

Currently, Luis has more than 250 animals, including chickens of the following species: Polish, Silky, Sebright, Mini Cornish, Rhode Island, Brazilian Musician, Giant Indian, Free Range, Light Sussex, New Hampshire, and Plymouth Rock; quails: giant, white and Chinese (miniature); aquatic: Muscovy ducks and crested duck; and turkeys.

Text: Vanessa Hrenechen | Photo: Reproduction

January 15, 2021









# University Restaurant continues delivery of lunchboxes.

<http://u.uepg.br/bxpp>

The University Restaurant (UR) in the Uvaranas campus of the State University of Ponta Grossa (UEPG) is offering lunchboxes again since last week. In accordance with biosecurity measures, the UR delivers lunchboxes since the end of last year. The lunch must be pre-ordered during the mornings.

The UR provides the service only to UEPG workers and interns who work 8 hours a day. The ones interested should contact the UR staff between 8 am and 9 am to order lunch. Cleuza or Marcelo can be contacted through the phones (42)

3220 3172 and (42) 3220 3059.

The lunchboxes will be delivered between 11 am and 12:30 pm, at the UR building, right next to the Agricultural School. Cutlery is not provided; people must bring their own bags to carry the containers. The lunchbox price follows the UR price list and varies between R\$1.90 and R\$6.00

Text: William Clarindo | Photo: Aline Jasper









## Rural Production in Campos Gerais (PR)

<http://u.uepg.br/bxpm>

### Outreach project

This outreach project seeks to consolidate the performance of the Soil Sciences and Agricultural Engineering department as a Technical Assistance and Rural Outreach Nucleus (TARO) in promoting Sustainable Agricultural Development. The project aims to give opportunity to students of the Agronomy undergraduate program in decision-making on agricultural production strategies with farmers' organizations.

Such organizations bring together professionals who provide technical assistance to properties with agro-forestry activities, covering the region of Campos Gerais (PR). The outreach students participate in meetings and interact with Agronomists, Agricultural Technicians and Farmers in the analysis and planning of actions. They also monitor technical activities for defining decision-making strategies, defining the

target properties of the project, establishing the calendar of activities, evaluating the collected data, writing reports, and making presentations.

Discussion and execution of the project activities, linked to in-loco experimentation, provide opportunities to consolidate academic knowledge and to exchange experiences.

This interaction leads to the consolidation of the group, Department and University as a TARE Center, answering questions from the society where they are inserted. It is intended that, at the end of the project period, students solidify the knowledge acquired at the academy by dealing with professionals who already carry out activities.

Photo: Jessica Natal









## Support for small rural producers in the Campos Gerais region and Maringá region 2nd edition

<http://u.uepg.br/bxpm>

### Outreach project

The objective of the project is to carry out actions to improve the income of family farmers by supporting agricultural activity, encouraging their stay in the countryside with quality of life. This is an extensive and exploratory study, in which students from undergraduate programs in Agronomy, Animal Science and Food Engineering develop direct observation, data collection, application of a questionnaire, interview, home visits, courses and lectures aimed at increasing efforts to improve milk quality. In addition, the project members offer guidance on technology and production of dairy products and help adapt other family farming products so that they can be provided for school lunches in the cities. Finally, they provide training for producers in Good Hygiene Practices for Manufacturing (GHPM).

The project serves small producers and family farmers in

the Campos Gerais region and the Maringá region, especially in the cities of Carambeí, Castro and Ponta Grossa; and Maringá and Astorga. These small producers may be related to the production of milk and derivatives, but, according to the partnership with the Institute of Rural Development, they may have activities aimed at increasing the income of small producers in other sectors, such as the production of pickles, sweets, jellies, different kinds of bread, biscuits and cakes.

To guarantee quality, the activities developed in the project are evaluated by the communities and by the students involved through a questionnaire made available by the Pro-Rectorate of Outreach and Culture Affairs.

Photo: Aline Jasper









## Producing water and conserving soil as basic practices for the local development of rural communities in Campos Gerais, Paraná

<http://u.uepg.br/bxpm>

### Outreach project

The initial purpose of this project is to adopt simple operational measures that act directly in the protection of the farmer's greatest asset: the soil-water binomial. The aim is to minimize degradation and erosion, retain nutrients, increase biological activity in the soil to contribute to the availability of water on the surface or in the water table, which creates adequate conditions for the development of plants.

The project aims to introduce actions to foster the revegetation of specific locations in two cities in the Campos Gerais region, occupied by traditional Quilombola and Faxinal communities. These communities face difficulties with the production of their own food supply since significant extensions of their agricultural areas are degraded and/or affected by erosive processes, and do not have enough water sources for human supply and other purposes.

The actions of the project involve mechanical vegetative and erosion control practices to control surface runoff (loss of soil and its nutrients) and increase water infiltration into the soil, aiming at adequate water table feeding, and field capacity for benefiting the local development of such rural communities.

The main goals of the project are to identify areas with the greatest potential for water recharge zones; to obtain tree seedlings native to the region; to introduce techniques to contain erosion; to reduce runoff and increase infiltration; to publish the results.

Photo: Public Photos



# 3 GOOD HEALTH AND WELL-BEING









## UEPG acquires automated extractor robot and expands Covid-19 testing capacity

<http://u.uepg.br/bxpm>

The State University of Ponta Grossa (UEPG) has expanded its testing capacity to detect the coronavirus. The newly acquired automated robot extracts genetic material from the Sars-Cov-2 virus with the RT-PCR method. The machine has been in operation since October 10 at the Laboratory of Clinical Analysis (LUAC). With the new equipment, the Laboratory expands its testing capacity, reaching 100 tests per day; the previous capacity reached 60 tests per day.

"This device can perform up to 32 extractions simultaneously in about 30 minutes, whereas so far it takes us around two hours to perform the same number of extractions", highlights Bruno Ribeiro Cruz, a researcher working at the Laboratory. Bruno explains that the arrival of the robot makes routine work at the Laboratory easier. "It brings more security

to technicians, researchers, and scholarship holders, since it diminishes the direct manipulation of the samples and guarantees more efficiency in the extraction of the material".

LUAC provides services to the UEPG community, University Hospital, Maternal-Infant Hospital, referrals from the City Hall, the Operário Ferroviário Esporte Clube soccer team, and to health insurance companies. Some tests are done on an emergency basis and the results are delivered in less than 12 hours. "The tests will be faster and more efficient. It will be a great benefit, mainly for those who need a faster response, such as people who need to travel. We will be able to deliver the result on the same day", he points out.

Text and photos: Jessica Natal









## Virtual reality project helps recovering patients.

<http://u.uepg.br/bxpq>

Patients' health gains another ally directly from the Computer Engineering program at the State University of Ponta Grossa (UEPG). A group of students, along with professionals from the Multiprofessional Residency Program in Rehabilitation at the University Hospital (UH-UEPG), developed a project that uses virtual reality to help patients recover.

Even in the testing phase, the creators of the proposal seek to show that different areas of knowledge can cooperate for the development of science and health.

The initial idea of the application was to collaborate in the treatment of patients with chronic obstructive pulmonary disease (COPD) and critically ill patients. There are two proposals. In one of them the patient to exercise on an exercise bike while wearing virtual reality glasses. This enables the group to verify whether 3D technology brings physiological effects to the body, without relying on the physical load. In the second proposal patients in intensive care wear the virtual

reality glasses while seated; the purpose is to provide the 3D experience to the patient stay longer out of bed.

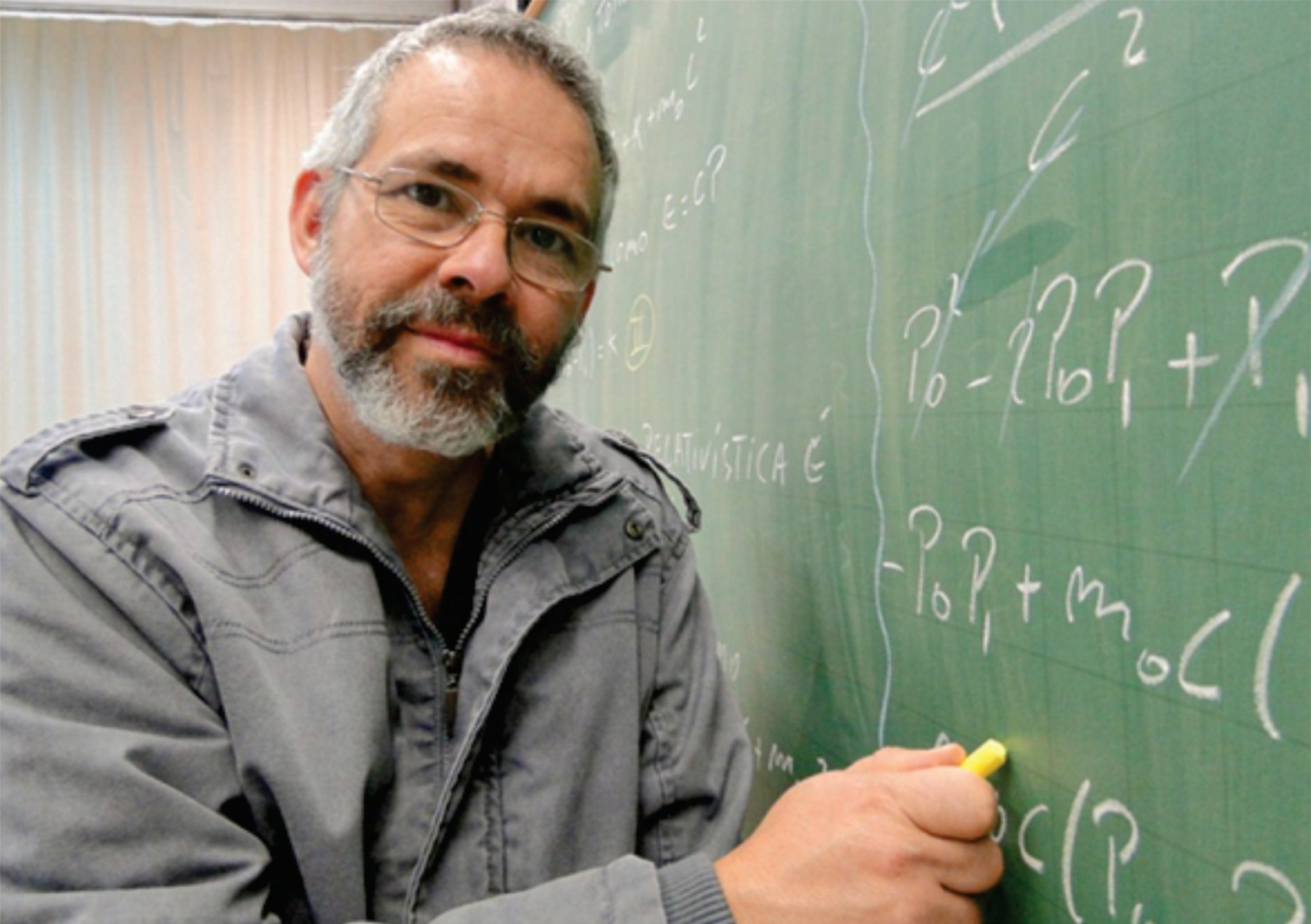
This initiative seeks to promote rapprochement between the UH-UEPG and undergraduate programs. It started in the Department of Information Technology, with its electronic games study group that works with augmented reality and virtual reality. "Together with Professor Juliana Schleder, we outlined the objectives of this first experiment with the UH and soon after the idea was launched to Computer Engineering students, who accepted the challenge", says Maurício Zadra Pacheco, professor in the Department of Information Technology.

Text and photo: Jessica Natal

March 03, 2021









# UEPG Physics Professor offers free meditation course

<http://u.uepg.br/bxpr>

Professor Flávio Borges, from the Department of Physics at the State University of Ponta Grossa (UEPG), will minister, on the 19th, the course "Meditation in the Light of Modern Science". The audience is meditation practitioners and people interested in starting to practice it. The course will give an overview of relevant works on the subject, there will be opportunities for discussion and approaching the subject deeply.

According to Borges, who is a meditation practitioner, several scientific studies point out that the practice is an important aid in several treatments. "For a long time, meditation was treated as a spiritual and religious practice. However, since the beginning of the last century, many scientific works report the effectiveness of this practice as an aid in various health treatments. Meditation is a tool to maintain emotional balance and to improve the learning process", he explains.

The course has five modules, which address why meditation works and the various aspects and benefits of the practice, both in health and in learning. For beginners, it also teaches step-by-step how to meditate and the steps for efficient meditation.

The course "Meditation in the Light of Modern Science" will be held entirely free of charge on Youtube, on Wednesday (19), at 8 pm, on the Constant Integrated Consciousness channel. No prior registration is required.

Text: Julio Cesar Prado

Photo: Personal Archive/Flávio Borges

May 10, 2021











# UEPG and the Superintendence of Sport launch remote outreach course in Public Sport Management

<http://u.uepg.br/bxps>

This Tuesday afternoon (29), the State University of Ponta Grossa (UEPG) launched the remote outreach course in Public Management of Sport. The ceremony took place in the Council Room, on Campus Uvaranas, and brought together authorities. The course, held in partnership with the Superintendence of Sports of Paraná, is an initiative of the Center for Technology and Open and Distance Education; its audience is the municipal managers, physical education professionals and people interested in learning about sports management.

During the launching ceremony, Leandro Martinez Vargas, the coordinator of the course, emphasized that, as it is an outreach course, the participants do not need a university degree. "The course was designed for municipal and state civil workers who work in sport management, but do not have a university degree", he informs.

The professor also explains that the students will be able

to work in public projects in the sport and leisure management area. "I would like to thank the Center for Technology and Open and Distance Education, that supported me from the beginning, Professor Zaremba and other professors who will be in charge of training students". Professor Carlos Maurício Zaremba points out that the course meets the needs of the area of sports management in the region. "The area of physical education is still lacking in knowledge about sports management, which is why we raised this flag with the Rector. The only reason this is happening is the graduate program; without it, we would not have the opportunity to continue teaching sports management", highlights the professor. In 2020, UEPG launched the graduate program in Public Sport Management. It lasted 11 months and was attended by 300 graduated professionals.

Text: Jessica Natal | Photos: Aline Jasper

June 29, 2021







# UEPG Abraça launches activities to commemorate the Yellow September

<http://u.uepg.br/bxpt>

UEPG Abraça, an outreach program at the State University of Ponta Grossa (UEPG), has prepared activities to commemorate the Yellow September, a month that promotes suicide prevention and promotes mental health actions. The initiative seek to work on the quality of life and mental health of the population, through educational lectures and conversation circles using active methodologies.

UEPG Abraça was created in 2018 and seeks to meet mental health demands from the university community. "We welcome and provide psycho-social care for the university community - students, professors, university agents, and University Hospital workers", emphasizes Lara Floriano, the program coordinator.

## UEPG Abraça and partners

The first activity takes place on September 16, at 7 pm, and launches the outreach project 'Care in mental health in institutions of higher education'. For one year, the group will provide psychosocial assistance to professors, students and university agents to deal with mental disorders, alcohol and other drugs abuse, suicide prevention and other mental health demands.

Text: Jessica Natal | Photo: Aline Jasper

September 08, 2021



# **4 QUALITY EDUCATION**







**DICIONÁRIO**  
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o antes e o depois  
directo → directo

NOVO



# UEPG opens the enrollment period for language courses in the first semester.

<http://u.uepg.br/bxpu>

In this first semester, the State University of Ponta Grossa (UEPG) offers the university and external communities two options for those who want to learn a new language.

“The Foreign Languages Course for the Community” has vacancies available for new students who want to learn English, Spanish or French. The registration period will be from March 1 to March 5. Due to the Covid-19 pandemic, classes will be held remotely. The classes are scheduled to

start on March 13. The semester fee is R\$ 230,00.

Text: Julio Cesar Prado

Photo: Vanessa Hrenechen

March 02, 2021









# Children's Day: How Caic-UEPG became the first university school in Paraná

<http://u.uepg.br/bxpv>

It's 3:30 pm and a light rain is falling on the playground. When the school bell rings, the 4th-year school monitor asks everyone to go back to class. "End of the class break, everyone," he shouts. The children run up the stairs, the second period of classes is about to start. The Center for Integrated Attention to Children and Adolescents (Caic-UEPG), a branch of the State University of Ponta Grossa (UEPG), has lived situations like this for at least 28 years. The institution offers education from the 1st to the 8th grade of basic education and offers multidisciplinary services, such as dentistry, social service, health care, nursing and pedagogy. Everything to live up to its name - a center of integrated care. Created to be a teaching and educational space in multidisciplinary activities, Caic was the first school connected to a Higher Education Institution in Paraná.

## History

Lucilia's head was racing. It was 1977 and the Department of Methods and Techniques (Demet) proposed a working

group for the creation of a school at UEPG. At the time, the idea was innovative, as there was no school related to a public higher education institution in Paraná. After years of planning a space that combined teaching with multidisciplinary activities, in 1993 the Center for Integrated Care for Children and Adolescents was born, and Lucília Ester Tramontin was the first Principal of the School.

In 1977, before Caic existed, the idea was to create a space that could serve as an internship field for undergraduate programs. "We began to notice that, at each meeting, proposals were presented and discussed, accepted and then discarded", explains Lucília. A space of the same nature already existed in the 60s, but it was a private institution, where some Demet professors had worked.

Text: Jessica Natal | Photos: Aline Jasper and Fabio Ansolin

October 11, 2021






Realização:



Patrocinador

 PETROBRAS



GAN  
GS





## IESOL opens vacancies for extensionists.

<http://u.uepg.br/bxpw>

The Incubator of Solidarity Enterprises at the State University of Ponta Grossa (IESol/UEPG) offers three vacancies for volunteers. Applications are open until April 2nd. Students of any undergraduate program in the city of Ponta Grossa, including other higher education institutions, can apply.

The selection process will be done in three stages; firstly, candidates are required to send their application to [iesol@uepg.br](mailto:iesol@uepg.br) until April 2nd. The application file must include full name, e-mail, telephone number, name of the undergraduate program, semester/year, period of the day of classes and the name of the educational institution candidates belong to. Next, applicants will participate in an

online meeting about IESol and its activities. In the last phase, which will take place on April 12, candidates will be interviewed remotely.

The outreach project runs from April 15th to December 20th. Students are required to work 12 hours a week. The activities will be carried out in a remote and/or hybrid format, in accordance with the sanitary regulations of UEPG. The volunteers will carry out education and research activities and will provide assistance to solidary economic undertakings. A certificate will be provided by the end of the project.

Text: William Clarindo | Photo: IESol

March 25, 2021









# Lageis-UEPG opens registration for business consultancy

<http://u.uepg.br/bxpx>

Until September 20th, the Management, Entrepreneurship, Innovation and Sustainability Laboratory of the State University of Ponta Grossa (Lageis-UEPG), a project linked to the Business Administration Department, receives applications from companies interested in getting advice on strategies to minimize the impact of Covid-19. Micro and small companies (MSEs) from Campos Gerais can apply.

"The purpose of the proposal is to verify which strategies can be used as a way to minimize the impact of Covid-19 on MSEs located in the Campos Gerais region, in order to assist managers in making decisions regarding their business", explain the project organizers. In the first edition of the project, the proposal was presented, and five companies participated in the consultancy.

Firstly, each company was diagnosed with a tool devel-

oped by the working group, then videoconference meetings were held with the company managers, and the project team visited the companies, following biosafety protocols. Finally, professors and students prepared a report, highlighting the main weaknesses, threats to the business, strengths, and opportunities that the organization could take advantage of at the moment. "The obtained results helped to suggest alternatives, with an emphasis on continuing the work focusing on aspects of greater interest for the entrepreneur that the laboratory can meet through other mentoring projects", they add.

Text: Adapted by Aline Jasper | Photo: Aline Jasper

August 24, 2021







# UEPG University Council approves quotas policy for Graduate Studies in Education.

<http://u.uepg.br/bxpy>

The University Council of the State University of Ponta Grossa (UEPG) approved last Thursday (05), the affirmative action policy for the inclusion and permanence of students from black, brown, indigenous, transsexual and disabled groups, in the Program of Graduate Studies in Education (PGSE/UEPG). The policy includes Master's and doctoral Programs offered by the PGSE.

Professor of the Graduate Program in Education, Maria Isabel Nascimento, highlights that the approval is the result of a silent revolution. "A historic struggle of different groups fighting against the social differences and the unequal structures in our country, since slavery". Maria points out that the basis of society prevents significant presence of black, brown, indigenous peoples, transgender people and people with disabilities at all levels of education. "Especially in graduate studies, in an egalitarian way" she says.

For Nascimento, it is necessary to correct the distortions imposed by social inequality in the country. "From the principle of equity, the Graduate Program in Education at UEPG advances, as it democratizes the access to graduate studies", adds the professor.

The Associate Provost for Research and Graduate Affairs, Giovanni Favero, states that the policy of quotas in graduate studies at UEPG is regulated by each program, considering the decisions of its collegiate bodies. The Associate Provost for Research and Graduate Affairs mentions that in graduate programs quotas are mainly reserved for candidates who declares themselves black or indigenous and must take into account socioeconomic indicators of the candidates: namely, being an underprivileged student from a private higher education institution that holds a scholarship from the Student Financing Fund (FIES), University for All Program (PROUNI) or any other type of official support; underprivileged student from public higher education institutions, classified as such according to the candidate's socioeconomic indicators, and who has been a beneficiary of any official support program for permanence in higher education programs.

Research: Julio César Prado and William Clarindo | Text:  
Julio César Prado | Photo: Jessica Natal



# 5 GENDER EQUALITY



A group of people are sitting on a large, colorful patterned rug outdoors. In the foreground, a white flyer with black text is held up. The flyer has a black header with the text 'VOCÊ NÃO ESTÁ SOZINHA!'. Below this, the text 'NUMAPE - UEPG' is written in large, bold, black letters. Underneath that, 'NÚCLEO MARIA DA PENHA' is written in smaller black letters, followed by 'ATENDIMENTO GRATUITO' in even smaller black letters. A horizontal line separates this from the text 'ACOLHIMENTO E ORIENTAÇÃO'. At the bottom of the flyer, the text 'NO NUMAPE, VOCÊ É OUVIDA POR' is visible, followed by 'UMA EQUIPE ESPECIALIZADA' and 'PROTEÇÃO' on the next line. The background shows the legs and hands of several people sitting on the rug, which has a complex geometric and floral pattern. The ground is grassy.

**VOCÊ NÃO ESTÁ SOZINHA!**

**NUMAPE - UEPG**

**NÚCLEO MARIA DA PENHA**

**ATENDIMENTO GRATUITO**

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**ACOLHIMENTO E ORIENTAÇÃO**

NO NUMAPE, VOCÊ É OUVIDA POR  
UMA EQUIPE ESPECIALIZADA  
PROTEÇÃO



## Numape launches digital booklet on violence against women.

<http://u.uepg.br/bxpz>

The Maria da Penha Nucleus of the State University of Ponta Grossa (Numape/UEPG) begins its activities in 2021 launching the digital booklet "Violence against women - information and frequently asked questions".

"We distribute the booklet to people reached by the project, to protection networks and through social media. Our goal is to make the material available to as many people as possible so that they become aware of what violence against women is and where they can get help. The booklet was written in a more objective, simple and easy language", states Professor Maria Cristina Rauch Baranoski, coordinator of

Numape.

The document defines terms such as "violence against women", "gender violence", it also explains the cycle of violence and the different types of violence; it gives details about Maria da Penha Law and the use of Emergency Restraining Order. The booklet also targets frequently asked questions and presents information for assisting victims.

Text: William Clarindo | Photo: Archive

January 25, 2021







# UEPG researchers think about the role of women inside and outside the university.

<http://u.uepg.br/bxqa>

International Women's Day, March 8, highlights the importance of achievements and daily struggles in all social spaces. At the State University of Ponta Grossa (UEPG), women do science, lead research and projects in different areas of knowledge, and study the role of women in the job market, in the university environment and in society. Meet some of them, their experiences, and thoughts on the subject.

A survey released on Friday (04) by the Brazilian Institute of Geography and Statistics (IBGE) reveals that 54.5% of women aged 15 or over were part of the workforce in the country in 2019. Among men, this percentage was 73.7%. Even with advances over the last few decades, Professor Lenir Mainardes, a researcher in Social Sciences, points out that there is much to be improved. "Women have always worked, but they have not always been recognized as the working class. This group was characterized by the male working class. However, among so many struggles and conquests, the working class today is made up of many women and several other

communities". The professor also points out that due to the education gained over the years by women, today they can work in the world of full-time, part-time or outsourced production.

Law professor Jeaneth Nunes explains that the job market is still an unequal environment, regarding the conditions given to women. "Women continue to work longer hours and earn significantly less than men. Historically, women's fight has been based on equality, the quest for better working conditions and better salaries."

Interviews: Vanessa Hrenechen and Julio César Prado

Data Research and Art: Luciane Navarro | Photos: Personal files of the interviewees

March 08, 2021











# The women behind UEPG services

<http://u.uepg.br/bxqb>

If everything is clean, organized and there's a meal ready, it's because they woke up before everyone. Everything works well at the State University of Ponta Grossa (UEPG) because of the hands and eyes of women who work in the kitchen, cleaning, and support in laboratories. They take care of two campuses with several classrooms, schools, laboratories, auditoriums, and kitchens. In total, there are 51 women working in the cleaning sector, 36 working in laboratories and 20 in the University Restaurants (UR's).

## University restaurant

At the University Restaurant of Uvaranas, Bernadette Caiuta de Souza has shown her love and dedication to serving students and staff for 12 years. For her, every day is a rush, but also a reward for a job well done. "Each person who arrives at the Restaurant is a little bit of our children", she says. Bernadette is 60 years old and, for security reasons, is on a leave of absence. "I'm very anxious to get vaccinated and return to the work I love to do", she concludes.

## Cleaning

The cleaning sector also has women who are committed to delivering a good job. Roseli Walus Nogueira starts her workday

at 6:30 am, before everyone arrives, and leaves everything clean in the rooms of the Rectory building. In the pandemic, precautions were doubled: lots of gel alcohol and social distancing. "UEPG for me is like a woman, who welcomes everyone and only knows how to love. I am a happy woman because I work at UEPG".

## Laboratory

The laboratory sector has women who also help fight the pandemic. The Drug Production Laboratory (Lapmed) has Lucia Helena Garrido, a technician in pharmaceutical production. Public worker for seven years, she saw her work routine change in the last year. "We worked 40 hours a week and had a routine similar to research laboratories", she explains. Lapmed received activities programmed by the Pharmaceutical Sciences, Biomedical Sciences and Dentistry sectors, in addition to producing 70% of gel alcohol on demand.

Text: Jessica Natal | Photos: Aline Jasper and personal files of the interviewees



As florestas sossegadas,  
Que sois silêncios nas relvas,  
E em almas abandonadas  
Fazeis sombras enganadas,

Que sempre a gente olha  
Acabastes de passar  
E só um tremor de folhas  
Que o vento pode exprimir  
Fala de vós sem cessar

Levai-me no vosso corpo  
Que em minha alma  
Como vosso corpo  
Que só brilha quando  
Quem o suponha

Ah, sentir tudo de  
Não ter alma, não  
Só diversos modos





# Caic-UEPG: A bond between mother, daughter, and grandchildren

<http://u.uepg.br/bxqc>

"I love her very much and I am eternally grateful for her being my mother, and for having encouraged me to join the UEPG family", says Luciana Cristina de Oliveira, talking about her mother, Nilce Therezinha Coelho. Two generations of a family that has its second home at UEPG.

Luciana Oliveira has worked at the Pro-Rectorate of Human Resources at UEPG for over 11 years, and her mother worked at the Center for Integrated Care for Children and Adolescents (Caic) for two decades. Both have a history of complicity with the institution, which permeates the maternal relationship. "What we experience in the family environment also happens at work, as UEPG has always been our second family. What we learned, achieved, our friends in here brought us together. Today our family identifies itself with UEPG", tells Oliveira.

In addition to witnessing her daughter's growth at home and as a professional who graduated from UEPG, Nilce gets moved when she says that she saw her grandchildren study at

the school that was her workplace for so long. "It was great to see our family attending the school. The University unites many sectors and many spaces, I was able to see my three grandchildren begin their education at Caic", recalls Nice proudly.

For her children, grandchildren and friends who got their education at the University, Nilce is the type of woman to look up to, an example. Not only as a mother, but as a worker; her trademark is affection and friendliness. Nilce believes she left a significant mark among her former colleagues. "I believe that I left a good legacy for the people who worked with me and I met during the time I worked at the University, I can only be thankful", she adds.

Text and Photos: Julio César Prado

May 11, 2021





UE  
PG

RESPECTO

Respeto

Respeto a la Mima  
a la Mima  
a la Mima

VIVA A  
DIVERSIDAD





## UEPG approves Resolution for using Social Name

<http://u.uepg.br/bxqd>

The Teaching, Research and Outreach Council at the State University of Ponta Grossa (UEPG) approved the Resolution Cepe 2020/35, which regulates the use of the social name and the recognition of the gender identity of transvestite, transgender and transsexual students at UEPG.

UEPG was the first Higher Education Institution in Paraná to regulate the use of social name. For the Associate Provost of Student Affairs, Ione da Silva Jovino, "it is important to highlight that the document is the result of a collective work, which began in 2012 and resulted in this Official Document; today it became more transversal in the Resolution", she informs.

UEPG approved for the first time the use of the social

name in 2012 for identification in academic documents and in 2014 for entrance exams, PSS, and admission of professors and employees (a work developed by the Pro-rectory of Undergraduate Studies (PROGRAD) and the Commission for Admission). To create the regulation, UEPG adopted Ordinance No.1612, of November 18, 2011, from the Ministry of Education, which guaranteed the use of the social name to transvestites and transgender people in public Higher Education Institutions in Brazil.

Text: Vanessa Hrenechen | Photos: publicity

March 05, 2021



# 6 CLEAN WATER AND SANITATION









## Micropollutants impair the survival of *Oreochromis niloticus* and threaten local species in the Iguaçu River, Southern Brazil

<http://u.uepg.br/bxpm>

### ABSTRACT:

Contamination of urban rivers by wastewater is a biodiversity concern and a consequence of poor urban conservation policies. In the present study, the impact of urban and industrial activities on the Iguaçu River (Southern Brazil) was investigated using young *Oreochromis niloticus*, after trophic and chronic exposure (25.50 and 100%) for 81 days. After exposure, the liver, gills, gonads, brain, muscle and blood were collected for chemical, biochemical, histopathological, genotoxic and molecular analyses. Levels of persistent organic pollutants in the water, such as polychlorinated biphenyls, organochlorine pesticides, polycyclic aromatic hydrocarbons (PAHs), and metals were investigated. The redox and histopathological imbalance and the increased expression of vitellogenin in

fish revealed both the bioavailability of micropollutants and their harmful effects. The results show that the level of pollution of the Iguaçu River has a negative impact on the health of *O. niloticus*, revealing and highlighting the risk of this exposure to pollution for the biota and human populations.

Keywords: Bioassay, Biomarkers, Conservation, Iguazu River. *Oreochromis niloticus*. Water quality.

Authors: Gemusse, Satar Luciano; Turcatti Folle, Nilce

Mary; Souza, Angie Thaisa da Costa; Azevedo-Linhares, Maristela; Neto, Francisco Filipak; Ortolani-Machado, Claudia











## Can no-tillage restore soil organic carbon to levels under natural vegetation in subtropical and tropical Typical Quartzipism?

<http://u.uepg.br/bxpm>

### ABSTRACT:

Sandy soils are widely present in Brazil and occur in most states. However, they have serious limitations for agricultural use due to low natural fertility, low water holding capacity, low resilience, and high susceptibility to erosion. The management of these soils, through the no-tillage system (NTS), following its basic principles (that is, elimination of plowing, diversification of crop rotation, retention of crop residues and maintenance of permanent soil cover), can restore soil organic carbon (SOC) stocks and restore the productivity and economic viability of these soils. We hypothesize that: (a) we can recover the carbon (C) stock in Quartzarenic Neosol in subtropical and tropical climates to the level of native vegetation; (b) the adoption of NTS in the initial phase, together with intensive cultivation systems with high input of vegetal biomass, is an efficient strategy for the recovery of SOC in Quartzarenic Neosol soils; and (c) long-term NTS (over 20 years -maintenance phase), and low/medium contribution of plant biomass is an efficient strategy for recovery of SOC in Quartzarenic Neosol. The sites selected for this study are located in two Brazilian Grain-producing regions: (a) Manoel Viana City - Rio Grande do Sul (MV - site 1), which represents the subtropical climate, and (b) Luiz Eduardo Magalhães City - Bahia State (LEM - site 2), which represents the tropical climate. Soil samples were collected from the soil profile to 0-1.0 m depth. In site 1, the predominant

crop rotation over the years was wheat/soybean/oat + turnip/soybean. In site 2, crop rotation includes two-period cultivation designated as crop and off-season, being the succession soybean/brachiaria/cotton/millet/soybean/corn-brachiaria. At both sites, soils under the neighboring NTS were also sampled. Approximately 31 and 23% of the SOC stock was stored on the surface at 0-0.20 m, compared with 69 and 77% in a 0.20-1.0 m layer of Quartzite Neosol with high and low/medium input of culture residues, respectively. Quartzite Neosol with low/medium input of crop residues fully recovered the C stock in the surface soil layer (0-0.05 m). Quartzite Neosol with high input of crop residues fully recovered the C stock in the cultivated soil layer (0-0.20 m) and also in the deeper soil layers (0-0.40 m). Thus, the adoption of NTS associated with the intensification of cropping systems and high addition of C-biomass is an effective strategy for restoring C in a Quartzarenic Neosol, while playing a crucial role in restoring the productivity of the ecosystem, soil quality and the environment.

**Keywords:** Carbon Recovery. Conservation Agriculture. Crop Rotation. Neosols.

**Authors:** de Oliveira Ferreira, Ademir; de Moraes Sá, João Carlos; Lal, Rattan; Jorge Carneiro Amado, Telmo; Massao Inagaki, Thiago; Briedis, Clever; Tivet, Florent.





# Reference evapotranspiration from Brazil modeled with machine learning techniques and remote sensors.

<http://u.uepg.br/bxpm>

## ABSTRACT

Reference evapotranspiration (RE) is a fundamental parameter for hydrological studies and irrigation management. The Penman-Monteith method is the standard for estimating RE and requires several meteorological elements. In developing countries, the number of weather stations is insufficient. Thus, free remote sensing products with evapotranspiration information should be used for this purpose. Therefore, the objective of this study was to stimulate monthly the RE based on potential evapotranspiration (PET) provided by the MOD16 product. In this study, the monthly RE estimated by the Penman-Monteith method was considered as standard. For this, data were acquired from 265 weather stations from the National Institute of Meteorology (NIMET) for the period from 2000 to 2014 (15 years). During these months, the monthly PET values of the MOD16 product for Brazil as a whole were also downloaded. Using machine learning algorithms and information from WorldClim as co-variates, RE was estimated through MOD16 product images. To perform the RE modeling, eight regression algorithms were tested: multilinear regression; random forest; cubist; least partial squares; principal components regression; adaptable miser back and forth; generalized linear model of regression and generalized linear model through a probability-based increase. Data from the years 2000 to 2012 (13 years) were used for training and data from 2013 and 2014 (2 years) were used to test the models. The PET

provided by the MOD16 product showed higher values than those of the RE for periods and different climatic regions in Brazil. However, the MOD16 product showed a good correlation with RE, indicating that it can be used to estimate RE. All machine learning models were effective in improving the performance of the evaluated metrics. The cubist model presented the best metrics for  $r^2$  (0.91), NSE (0.90) and nRMSE (8.54%) and should be preferred for RE predictions. The MOD16 product is recommended to be used to predict monthly RE, which opens possibilities for its use in several other studies.

Keywords: MeSH. Brazil. Hydrology. Machine Learning. Models. Statisticians. Reference Standard. Remote Sensing Technology. Volatilization.

Authors: Dias, Santos Henrique Brant; Filgueiras, Roberto; Son, Elpídio Inácio Fernandes; Archangel, Gemima Santos; DaSilva, Gustavo Henrique; Mantovani, Everardo Chartuni; Da Cunha, Fernando France.

Photo: David Henrichs









# Exposure to pollutants present in the Iguaçu River, southern Brazil, affects the health of *Oreochromis niloticus* (Linnaeus, 1758): Histological, genotoxic, and biochemical evaluation

<http://u.uepg.br/bxpm>

## ABSTRACT

Urban sewage is a source of major contamination in aquatic systems and contributes to the disturbance of the environment and human health. This study investigates the effects of sewage pollution in the waters of the Iguaçu River on the health of young *Oreochromis niloticus*. Two hundred and four specimens were exposed to the river waters in four groups: Undiluted, in 25 and 50% diluted water and a control group without the tested water for 72 days. Biological samples were obtained for histopathology, neurotoxicity, antioxidant defenses, genotoxicity, expression of metallothioneins and metabolites of polycyclic aromatic hydrocarbons (PAHs). The results showed histopathological alteration in the liver and gills, genotoxic alteration in erythrocytes, reduction of acetylcholinesterase activity in the brain and muscles, activation of defenses in the liver, recruitment of metals by

metallothionein and the detection of PAHs metabolites in bile. These results demonstrate that young *O. niloticus* are susceptible to exposure to water from the Iguaçu River and can be used as water quality indicators.

Keywords: Bioassay. Biomarkers. Iguaçu River. *Oreochromis Niloticus*. Water quality.

Authors: Rubio-Vargas, Dámaso Ángel; de Oliveira Ribeiro, Ciro Alberto; Neto, Francisco Filipak; Cordeiro, Alessandro Lick; Cestari, Marta Margarete; de Souza, Amanda Câmara; Martins, César de Castro; da Silva, Cleber Pinto; de Campos, Sandro Xavier; Esquivel Garcia, Juan Ramon; Mela Prodocimo, Maritana.

Photo: AEN/PR











## LED-assisted photo-fenton UV-Vis process for losartan and hydrochlorothiazide mineralization: optimization using the desirability function

<http://u.uepg.br/bxpm>

### RESUMO:

This study presents the results obtained from optimizing the mineralization of losartan (LOS) and hydrochlorothiazide (HCTZ) using the photo-Fenton process with UV-Vis LED. The optimization of the experimental design, using a Doehlert matrix and a global desirability function, allowed the simultaneous evaluation of multiple responses, with adjustment of factors, providing the best conditions that maximize the mineralization efficiency:  $\text{Fe}^{2+}$  at 10 mg L<sup>-1</sup> and  $\text{H}_2\text{O}_2$  up to 100 mg L<sup>-1</sup>. High mineralization rates of LOS and HCTZ were obtained, with dissolved organic carbon (DOC); removal of almost 75% after 90 min was observed for both

pharmaceuticals. The kinetic model showed that mineralization followed two regimes in the first few minutes, with a rapid progression followed by slower activity. The energy consumption calculated for the mineralization

of LOS and HCTZ at a concentration of 20 mg L<sup>-1</sup> using the process Photo-Fenton assisted by LED UV-Vis, at 60 min, was 130 kWh m<sup>-3</sup>. The convenience function provides a useful tool to find ideal experimental conditions for the treatment of effluents with different characteristics. The UV-Vis LED proved to be a good light source in the photo-Fenton process.

Keywords: Antihypertensives. Convenience function. Doehlert. Mineralization. Pharmaceutical. Photo-Fenton. UV-Vis LED.

Authors: Kosman, Joslaine; Monteiro, Joao Frederico Haas Leandro; Lenart, Vinicius Mariani; Weinert, Patricia Los; Tiburtius, Elaine Regina Lopes

Photo: Jessica Natal

# **7 AFFORDABLE AND CLEAN ENERGY**









## Recycling of waste glass into foamed glass sheets: A comparison of glass sheet life cycles with different foaming agents

<http://u.uepg.br/bxpm>

### ABSTRACT:

Waste glass is available worldwide and is disposed of in a large number of landfills. However, waste glass has great potential to be used as a raw material to produce foam glass sheets, a product used in industries such as building sections. Conventional foaming agents (e.g. carbon black, carbonates, and sulfates) used in the production of foam glass sheets produce greenhouse gases in the

environment, such as carbon dioxide. In contrast, sodium hydroxide releases only steam during the foaming process. Consequently, an in-depth study is needed to analyze the advantages and disadvantages of sodium hydroxide compared to other common foaming agents. Thus, the objective of this investigation is to carry out a study of the life cycle of the "cradle to the door" with four foam glass plates produced by different foaming agents: sodium hydroxide, carbon black, silicon carbide and dolomite. Global warming potential (GWP), acidification, and air toxicity were considered as impact categories by the Life Cycle Impact Assessment (LCIA). The results of the four glass

foam plates were compared with an expanded polystyrene plate (EPP). The results showed that the use of sodium hydroxide provides a better environmental performance compared to PAG, releasing 0.46 kg of CO<sub>2</sub> eq., while the use of carbon black has less potential for acidification with 1.95. 10<sup>-3</sup> kg SO<sub>2</sub> eq. Human air toxicity was the only impact category in which EPP performed better (8.66.10<sup>4</sup> per m<sup>3</sup> of air). The LCIA results demonstrate that foam glass sheets that stand out as safe (without emitting toxic gases in case of fire) are also interesting materials for the environment.

Keywords: Circular Economy, Ecodesign. Flat Glass Waste. Glass Foam Plates. Foaming Agents. Recycling.

Authors: da Silva, Robson Couto R.C.; Puglieri, Fabio Neves; de Genaro Chiroli, Daiane Maria; Bartmeyer, Guilherme Antonio; Kubaski, Evaldo Toniolo; Tebcherani, Sergio Mazurek.

Photo: Cristina Gresele







## A review of sustainable technology practices in BRICS countries: Brazil, Russia, India, China and South Africa

<http://u.uepg.br/bxpm>

### ABSTRACT:

The objective of this study is to identify the main practices of Sustainable Technology carried out in Brazil, Russia, India, China, and South Africa (BRICS), through a systematic review without temporal delimitation. The BRICS countries were chosen due to their high potential impact on the environment, as well as the possibility of increasing theoretical support in discussions related to sustainable practices in these countries. The Methodi Ordinatio methodology was used to select and map the portfolio of relevant articles in the area, which allowed the identification of the main Sustainable Technology practices used in the BRICS countries. The final portfolio consisted of 170 studies. The main Sustainable Technology practices used in the BRICS are related to products, processes and raw materials, sustainable agriculture, water treatment and retention, waste management, sustainable energy and energy reduction, carbon and biogas reduction, sustainable buildings, and sustainability policies and eco-cities. More research on Sustainable Technology and its practices has taken place in China and India, which can be explained due to its more sustainable develop-

ment, greater number of sustainable actions and growing interest from the local academic community in the country. Brazil, Russia and South Africa did not stand out in Sustainable Technology practices. The study provided an overview of the practices used in these countries that can help guide companies that are concerned with sustainability. It is worth mentioning that political interest in this topic was identified, as there are political actions that encourage Sustainable Technology practices.

**Keywords:** Sustainable Technology. Methodi Ordinatio. Sustainable development. Systematic Literature Review.

**Authors:** Miranda, Isabella Tamine Parra; Moletta, Juliana; Pedroso, Bruno; Pilatti, Luiz Alberto; Picinin, Claudia Tania.

Photo: Agência Brasil









## Growth performance, hematological responses and economic indices of *Colossoma macropomum* (Cuvier, 1818) fed with graded levels of glycerol.

<http://u.uepg.br/bxpm>

### ABSTRACT:

The aim of this study was to evaluate the performance, hematological responses and economic indicators of young tambaqui *Colossoma macropomum* fed with different levels of partial replacement of corn by glycerol (0%, 25%, 50%, 75%, and 100%). The experiment was carried out for 90 days in the aquatic organism's production laboratory of Nilton Lins University, Manaus, Brazil, in a completely randomized design, and consisted of four treatments, four replications and two sampling times. In total, 240 youngsters were used with initial mean weight and standard length of  $15.32 \pm 1.61$  g and  $8.03 \pm 0.22$  cm, respectively. The fish were kept in twenty 310 L water tanks that had a closed system without reuse, continuous aeration, siphoning and water replenishment every 48 h. Feeding was done twice a day with experimental diets, which contained 28% crude protein. The following parameters were considered: zootechnical control (weight gain + % of survival), well-being (health) (hepatosomatic index + condition factor + viscerosomatic

index), economic (economic efficiency rate + economic profitability index) and hematological (hematology + metabolites + ions). The results of the study show that young tambaqui diets can contain up to 50% of corn replacement by glycerol without compromising the development of the fish under the studied conditions.

Keywords: Biofuel residues. Fish. Growth. Hematology. Nutrition.

Authors: Bussons, Iurych Nicolau Barros; Sousa, Elcimar da Silva; Aride, Paulo Henrique Rocha; Duncan, Wallice Luiz Paxiúba; Pantoja-Lima, Jackson; Furuya, Wilson Massamitu; Oliveira, Adriano Teixeira de; Bussons, Marcia Regina Fragozo Machado; Faggio, Caterina.

Photo: Public Photos











## Synthesis and characterization of Nb<sub>2</sub>O<sub>5</sub> by the Pechini method for application as an electron transport material in a solar device

<http://u.uepg.br/bxpm>

### ABSTRACT:

Renewable energy methodologies are the key to a sustainable future. PV (photovoltaic) technology was raised as one of the most promising alternatives for energy conversion, due to the use of an inexhaustible source. The third generation of solar devices, present in the composition of a semiconductor oxide, which functions as an electron transport material (ETM), receiving and transporting the electron from a photosensitive molecule. TiO<sub>2</sub> efficiently plays the role of ETM in solar devices, however, being more expensive, other oxides have been studied, such as Nb<sub>2</sub>O<sub>5</sub>. This work aims to synthesize Nb<sub>2</sub>O<sub>5</sub> using the Pechini methodology and apply it as an ETM in a solar device. The techniques performed in the characterization of particles were Scanning Electron Microscopy (SEM) and X-Ray Diffraction (XRD). To verify the electron transport capacity, the electrochemical measurements were applied to the Voc/Jsc decay, j-V curves, Electrochemical Impedance Spectroscopy (EIS) and Intensity Modulated Photovoltage (IMPV). The results showed

Nb<sub>2</sub>O<sub>5</sub> synthesized in the orthorhombic phase capable of producing a photosensitive solar device with  $j = 4.18 \text{ Ma cm}^{-2}$ ,  $V = 825 \text{ mV}$ ,  $\text{FF} = 0.4$ ,  $\text{PCE} = 1.38\%$  with slow recombination rate when compared to TiO<sub>2</sub>-dye-solar cell. The IMPV and EIS technique presents the same precision in determining the useful life of the electrons, which is confirmed by the test carried out.

**Keywords:** Dye-cell. EIS. Determination of Electron Lifetime. Electron Transport Layer. IMPV. Niobium.

**Authors:** Taques Tractz, Gideã; Staciaki da Luz, Felipe; Regina Masetto Antunes, Sandra; from Prado Banczek, Everson; Taras da Cunha, Maico; Rogério Pinto Rodrigues, Paulo.

Photo: Jessica Natal











## Acute ecotoxicity of exposure to sugarcane ash on the behavior of predatory and prey fish species

<http://u.uepg.br/bxpm>

### ABSTRACT:

Sugarcane, one of the main crops in the world, is used to produce sucrose and biofuel. Before harvesting, sugarcane is burned to facilitate manual cutting, generating ashes that can reach bodies of water and cause the death of aquatic organisms. Although studies have addressed the lethal effects of sugarcane ash (SCA) on different fish, little is known about the effects of sublethal concentration of SCA on aquatic organisms. In this study, we evaluated the behavior of a species of piscivorous (*Hoplerythrinus unitaeniatus*) and invertivorous (*Moenkhausia forestii*) fish after short-term exposure (24 h) to a sublethal concentration of SCA (0.8 g L<sup>-1</sup>). We hypothesized that the results of the predator-prey interaction would change when participants were subjected to sublethal concentration of SCA. Our findings revealed that neither the behavior of predator and prey fish species nor the outcome of their interactions was altered by exposure to sublethal concentrations of SCA, suggesting that their behavioral traits were not particularly

sensitive to SCA. However, we emphasize that (i) other characteristics of predatory and anti-predator behavior can be affected by SCA even at concentrations below 0.8 g L<sup>-1</sup> and (ii) higher concentrations of SCA and/or long-term exposure can trigger profound changes in the behavior of predatory and prey fish species. Our findings are worrying because there are new public policies to expand sugarcane production in Brazil, with the possibility of continuing to burn sugarcane plantations across the country. This will increase the entry of SCA into aquatic systems, generating more prominent and widespread negative impacts than those evaluated in this study.

**Keywords:** Anti-predator behavior. Sweet Water. Post-Fire Contamination. Predator-Prey Interaction. Sublethal Doses.

**Authors:** Yofukuji, Katia Y.; Gonino, Gabriel M.R.; Alves, Gustavo H. Z.; Lopes, Taise M.; Figueiredo, Bruno R.S.



# **8** **DECENT WORK AND ECONOMIC GROWTH**









# Cesta Básica represents 64% of the minimum wage this month, according to UEPG research.

<http://u.uepg.br/bxqe>

The price of potatoes has increased by 42.51%, and onions got 10.98% cheaper, as observed by the Cesta Básica Index (FPI), calculated monthly by the Nucleus of Regional Economy and Public Policies of the State University of Ponta Grossa (Nerepp -UEPG). These values refer to a comparison between the first week of March and April. During this period, the cost of cesta básica increased by 1.23% and costs R\$671,84, representing 64.29% of the minimum wage.

The survey addresses the basic needs of food, hygiene and cleanliness of families with an average of three members. Out of the 33 products that make up the cesta básica, the price of 22 products rose, 09 dropped and 02 remained the same. The product price which rose the most was the potato (+42.51%) and the biggest drop in cost was the onion (-10.98%). The item group that increased its cost the was "Gen-

eral Food", 2.19%, while the biggest price drop was in the "Meat" group, a reduction of 2.08%. A family with a monthly income of one minimum wage would spend 64.29% of the budget to purchase a cesta básica. Families earning two, three, four and five minimum wages salary would spend, respectively, 32.15%; 21.43%; 16.07%; and 12.86% of their income. The Cesta Básica Index (FPI) uses information from supermarkets' delivery systems in the city of Ponta Grossa. This index should not be confused with an inflation gauge.

Text: William Clarindo | Photo: Gilson Abreu/AEN

April 09, 2021









# UEPG research points to a 38% drop in the price of bananas in April.

<http://u.uepg.br/bxqf>

The Cesta Básica Index (FPI) registered a decrease of 38.84% in the price of bananas, while onions had an increase of 14.38%. The analysis is from the study carried out in April by the Nucleus of Regional Economy and Public Policies, of the State University of Ponta Grossa (Nerepp-UEPG).

The numbers refer to the comparison between the first week of April and May. During this period, the cesta básica dropped by 0.21% and costs R\$ 670,39 for the population, which represents 64.15% of the minimum wage.

The research characterizes the basic needs of food, hygiene and cleaning of families in Ponta Grossa, with an average of three members, and income of one to five minimum wages. Out of the 33 products that make up the cesta básica, 17 have raised prices and 16 dropped. For families earning two, three, four and five minimum wages, the purchase of the cesta básica is costing, respectively, 32.08%; 21.38%; 16.04%; and 12.83% of their income.

## The groups

The biggest price increase that was registered is the "Meat products" group, 7.98%. Chicken meat has the most expressive negative price variation, around 3.54%. Another group with rise in prices was "Hygiene products" - an increase of 1.38%, soap having the most expressive negative price variation, around 5.99%.

Regarding the drop in prices, the group "Horticultural Products" had a decrease of 6.59%. The product with the biggest drop, - 14.38%, was onion. In the "Cleaning Products" group, the price dropped by 3.40%, with the disinfectant having a positive variation of 5.46%. Finally, the "General Food products" group had a decrease of 2.35%. In this group, rice was the product with the biggest drop, around 8.51%.

Text: Julio César Prado | Photo: Aline Jasper

May 07, 2021











# Tomatoes are 34.55% more expensive in Ponta Grossa, according to the UEPG Cesta Básica Index.

<http://u.uepg.br/bxqg>

The cesta básica in Ponta Grossa was 0.56% more expensive in June. Of the 33 products that make up the cesta básica, tomatoes had the highest increase, 34.55% more expensive. The calculation is made by the Center for Regional Economics and Public Policies, at the State University of Ponta Grossa (Nerepp-UEPG), which considers the price of purchases made through supermarket delivery services. This month, the cesta básica costs R\$ 670,16, which represents 60.92% of the minimum wage.

The survey addresses the basic consumption of food products, hygiene products and cleaning products of families with an average of three members and income of from one to five minimum wages and residents in Ponta Grossa. Out of the five groups that make up the cesta básica, the one with the highest price increase was "Horticultural products" (6.46%), even though potatoes were 22.66% cheaper. In the "General

Food products" group, biscuits got expensive the most, 16.86%, nonetheless, bread is 17.12% cheaper.

The "Meat Products" group increased by 2.65%, chicken having increased by 4.09%. In the "Hygiene Products" group, the most expensive product was soap (20%), while deodorant was the cheapest (9.03%). The "Cleaning Products" group had a price increase (0.68%), bleach being the most expensive product, with an increase of 6.92% in value.

The Cesta básica Index (FPI) should not be mixed up with an inflation gauge. The data refer solely to purchases made in the city of Ponta Grossa.

Text: Jessica Natal | Photo: AEN/PR

July 08, 2021







# IESol is accepting applications - newly graduate professionals and undergraduate students can apply

<http://u.uepg.br/bxqh>

The Incubator of Solidarity Enterprises at the State University of Ponta Grossa (IESol/UEPG), through the Program University Without Borders, is accepting applications for scholarship holders. Newly graduate professionals or undergraduate students can apply. The scholarship holders will join the project 'Local Development and Training in Solidarity Economy for Managers and Vulnerable Groups in Ponta Grossa and Region'. There are five vacancies available - two for newly graduate professionals and three for undergraduates. Applications are open until December 3rd.

Undergraduate Students and graduates from Business Administration, Economics, Geography, History and Social Work Programs can apply for both categories. The undergrad-

uates will work 20 hours a week, preferably in the afternoon for 12 months; the monthly scholarship is R\$ 745,00. Newly graduates will work 30 hours a week for 12 months; their monthly scholarship is R\$ 2.000,00

The selection process consists of checking the documents required and subsequent interview via Google Meet. The result will be announced on December 13, on the website of the Pro-Rector of Outreach and Culture Affairs (PROEX).

More information can be obtained in the calls at the provided link or at [iesol@UEPG.br](mailto:iesol@UEPG.br)

Text: Jessica Natal | Photo: Alagoas Agency

December 01, 2021









## IESol promotes solidarity fair at the Environmental Park

<http://u.uepg.br/bxqi>

The Incubator of Solidarity Enterprises of the State University of Ponta Grossa (IESol/UEPG) promotes this Saturday (04) a solidarity fair in the Environmental Park. The event, organized in partnership with the Ponta Grossa City Hall, exhibits products such as food and handicrafts, from 10 local business.

The Fair takes place from 9 am to 2 pm; products from IESol groups, Caritas Diocesana from Ponta Grossa, Libersol from Curitiba will be exposed. Professionals from the Psychosocial Care Center (PCC) from Ponta Grossa will also be at the Fair. "Small producers were the most impacted due to

sanitary measures, therefore, our expectation for the Fair next Saturday is the groups sell their products and also share their knowledge about the solidarity economy", emphasizes the social worker at IESol, Mariana Todorovski.

There will also be discussions on mental health from the perspective of solidarity economy. At 10:00 am, there will be a lecture on solidary economy and its importance to mental health.

Text: Jessica Natal | Photo: Luciane Navarro

December 03, 2021



# 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE









# Robotica Club stands out among Startups in Paraná

<http://u.uepg.br/bxqj>

Robotica Club, a company from the Innovation Hub of the State University of Ponta Grossa (UEPG), is among the startups from Paraná that emerged in the market in 2020/2021, according to the mapping carried out by Sebrae Paraná.

The survey, now in its seventh edition, is one of the initiatives of Startup PR, a program created to boost the "new economy" in the state. "There were more than 1,400 Startups in Paraná, and we are among the top 16 listed", celebrates the CEO of the Club, Evandro Kafka Diadio. "The publication is very popular among hub managers, accelerators and investors. We hope to grow even more, with national recognition as well", he adds.

According to Thaise Amaral, manager of Startup PR at the Regional Center of Sebrae, the Robotica Club has been standing out mainly with actions carried out during the Covid-19 pandemic. "The CEO's ability to reinvent himself was impressive. His responses are always quick in all situations"

she evaluates. "He is in the top 10 of our Regional, with the giant potential for the solutions he delivers, products he offers, and mainly for entrepreneurship", explains the manager.

The state coordinator of startups at Sebrae/PR, Rafael Tortato, highlights the importance of the material. "The survey highlights the potential of Paraná in promoting innovative businesses nationwide. This is a study that allows us to see the evolution, assess the scenario, the trends and plan actions that increasingly enhance the innovation environment in the state," he says. According to the study, there was a 39% growth compared to the second half of 2019, with 1,434 startups registered in 87 cities in Paraná.

Ponta Grossa is the sixth city among the cities in the state of Parana that has the most number of Startups, with the total of 76.

Text: Vanessa Hrenechen Photo: William Clarindo

February 16, 2021











## UEPG Innovation Hub provides support to startups in the region

<http://u.uepg.br/bxqk>

The Innovation Hub of the State University of Ponta Grossa (UEPG), active since last year, has already supported several startups in the region, one of which is InorfTIVE. The startup is focused on the plastic recycling sector, which works on two fronts: to improve the quality of the recycled raw material and to supply technology so that the products produced have competitive quality with virgin plastics.

The company's founder and technical coordinator, Vinícius Luiz de Carvalho, says that UEPG has been fundamental for the development of the business. "The University has been a great partner, both in the provision of space and in the provision of logistical support, with the help of the current coordinator of the Innovation Hub, Professor Miguel

Archanjo".

The Hub has incubation rooms, community rooms and offers support for the development of new companies, and collaborative work for junior companies. "UEPG is in charge for the project and here we have the expertise of professors, undergraduate and graduate students, such as master's, doctoral and post-doctoral students, who are part of the incubator", says Miguel Archanjo.

Text: Vanessa Hrenechen Photo: publicity

March 02, 2021





# UEPG acquires micro-CT scanner for 3D research.

<http://u.uepg.br/bxql>

The State University of Ponta Grossa (UEPG) acquires an equipment to foster research in various sectors. The institution acquired a Nikon micro-CT scanner, model XTV V 130C, which performs X-ray computed tomography.

The machine analyses materials through images, with micrometer resolution, in two and three dimensions. Available in the Multiuser Laboratories Complex (C-Labmu), the equipment is one of the few in Brazil that performs research involving material analysis. The machine arrived at the University in 2019 and started to operate earlier that year.

According to Sidnei Pianaro, coordinating professor at C-Lambu, the X-Ray CT scan is widely used in research laboratories in the evaluation of failures (specific defects). The samples are scanned, reconstructed, and evaluated with computational assistance in 3D images. This is possible due to the development of rotating X-ray targets, which allow high-resolution images in a short time. "This equipment will be fundamental in various research carried out today at the University. The equipment was acquired specially because it can provide external services in the quality control of products and industrial processes, since there are few machines available in Brazil using the 3D technology". According to Pianaro, the high competitiveness of today's market requires

products of highest quality, "and this has been a major challenge in industrial production processes. Therefore, an inspection of parts using non-destructive techniques are very important tools nowadays", he adds.

"The micro-CT scan will be important to complement the analyzes carried out in several other equipment in the institution", explains the professor of the Department of Physics, Luiz Fernando Pires. According to him, the equipment can be used for decades without the need to change the X-ray system, which makes it important in terms of cost/benefit. "The machine has a state-of-the-art detector and can be upgraded to meet the institution's future research demands".

The micro-CT scanner also has the VGStudio 3.4 software, from the manufacturer Volume Graphics, which promotes the precise reconstruction of three-dimensional volume data sets, 3D and 2D visualization, and the creation of animations. Three screens in 4K Ultra HD are also attached, to extract the maximum information from the generated images and analysis.

Text and Photos: Jessica Natal

April 26, 2021









## UEPG Farm School receives new tractor.

<http://u.uepg.br/bxqm>

The Farm School Capão da Onça at the State University of Ponta Grossa (Fescon/UEPG) received a new tractor, in a technical delivery carried out last Friday (30). The equipment will be used mainly for phytosanitary treatments; it is the first tractor to be acquired for Fescon since 2009.

"This is yet another investment for the Farm School, with the support of the Rectorate", reports Fescon administrator Vanderson Romko. The tractor has a closed cabin, which enables to use the equipment for spraying phytosanitary products. "The cab tractor guarantees safety for the user", adds Romko.

Fescon's team, Professor Luiz Claudio Garcia, from the Department of Soil Sciences and Agricultural Engineering, and technician Júlio Antonio Mainardes, from the company Simoagro, were present at the technical delivery. The acquisition of the tractor marks the renovation of Fescon's machinery. In February, Fescon received a seeder and at the beginning of April an experimental plot seeder.

Text: William Clarindo | Photos: Reproduction

May 07, 2021











# Junior Company of Materials Engineering offers a course on Lean Manufacturing

<http://u.uepg.br/bxqn>

This Saturday (22), the Junior Company of the Materials Engineering undergraduate program (EMa-Jr) at the State University of Ponta Grossa (UEPG) offers a short course on Lean Manufacturing. The event takes place online, from 3 pm to 6:30 pm.

The event is an initiative in partnership with RL Associates and addresses the management philosophy that reduces waste,

increasing productivity quality. Participants also compete for a full scholarship for training in Lean Manufacturing from distance. Registration is open until Friday (21), at 4 pm, clicking on this link.

Text: Aline Jasper

May 18, 2021

# 10 REDUCED INEQUALITIES









# Proex-UEPG promotes a new event on Ethnic-Racial Relations in the teaching of Spanish.

<http://u.uepg.br/bxqo>

The Pro-Rectorate of Outreach and Culture Affairs (Proex-UEPG) will hold, on March 16, another remote meeting to discuss themes from the book "As Identidades e as Relações Étnico-Raciais no Ensino da Língua Espanhola".

The first topic, presented by Professor Édina Aparecida da Silva Enevan, will be: "How to work with race, with intersections of gender and class, in teaching Spanish L/E: Some thoughts". Then, the discussion will be about the text "From a small seed to a large baobab: Africanities in language teaching and literature in Spanish", presented by Renan Fagundes de Souza. Both panels will be mediated by Gilson Rodrigo Woginski.

The Proex action foresees three meetings, the first one was held two weeks ago, the second is scheduled for March 16th and the last one for April 9th. Presentations are always held from 5:30 pm to 6:30 pm, through Google Meet platform. For more information about the meetings, click here.

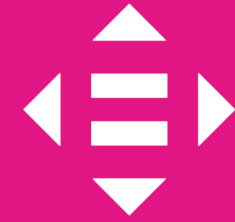
Text: Vinícius Trujillo Adapted by: Julio César Prado | Photo:

Personal Archive/Speakers

March 09, 2021







# Computer Engineering students create a project that facilitates communication for people with disabilities.

<http://u.uepg.br/bxqp>

Senior students of the Computer Engineering undergraduate program at the State University of Ponta Grossa (UEPG) have developed a system that has the potential to help people with disabilities to communicate. Using a low-cost webcam, the system captures eye movement when people are typing or choosing words on the keyboard. The software, based on the "Eye Tracking" technology, is still a prototype, but is already a cheaper option.

The project integrates the Senior Thesis developed by the students André Vieira Bernardo and Dericson Pablo Calari Nunes, defended last Tuesday (16). Both projects were evaluated and given the grade A. The application was developed based on machine learning and the program can detect the users faces. With frame-by-frame analysis, the application identifies the points of the face. "We developed the program to recognize only the eyes and we applied several methods to recognize when the user is blinking, the direction of gaze and pupil dilation", explains André. Thus, based on the user's facial expression Eye Tracking identifies the direction of gaze and translates it into actions on the screen, allowing the users

to convey their messages. The application was developed with low-cost equipment and programs.

According to Dericson, the idea for the project started from the desire to help people with disabilities. "After talking to the professor, he helped us define the scope of the project. For me, it was extremely important to participate in this project, because we, as engineers, have the ideal of helping people". The students also report that they encountered some difficulties throughout the project. "We realized that it is necessary to develop a configuration for each user and, as it was not possible to test it with a disabled person, initially we had some problems to detect the eye, but it was not so complicated to solve", explains André.

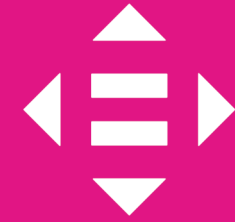
Text: Jessica Natal | Photo: Archive of interviewees

March 19, 2021









# Student with autism is the first to defend a Capstone project remotely in the Tourism undergraduate program.

<http://u.uepg.br/bxqq>

Leonardo Zander, a student from the Bachelor of Tourism program at the State University of Ponta Grossa, defended his Capstone project (CP) last Friday morning (19). The student, who has autism, was the first to defend a Capstone Project in the online format in the program. The research was supervised by Professor Graziela Scalise Horodyski.

The CP was entitled "Do Disney products still arouse interest? An investigation with academics from the Bachelor of Tourism program at UEPG in Ponta Grossa". Throughout his undergraduate studies, Leonardo researched this topic under the guidance of Horodyski. In 2019, the student participated in the International Tourism Forum of Iguassu, in the city of Foz do Iguaçu, with the article "Commercialization of the Disney Product in Travel Agencies

from Ponta Grossa-PR".

Classmates tutored Leonardo during graduation due to his autism diagnosis. "Being his tutor taught me a lot more things, made me more human and made me look deeper into myself, which made me a better person", tells Jean Batista Lopes de Oliveira, one of Leonardo's tutors. The student and their tutors are accompanied by a course tutoring supervisor and by the Pro-Rector of Student Affairs.

Text: William Clarindo | Photo: Personal archive

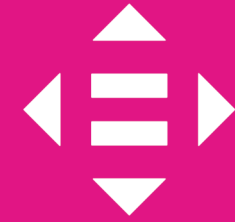
March 24, 2021











# UEPG project registers migrants and refugees in Ponta Grossa

<http://u.uepg.br/bxqr>

The Internationalization, Citizenship and Human Rights project, from the State University of Ponta Grossa (Intermig-UEPG), is registering migrants, refugees or asylum seekers residing in the municipality. The work takes place in partnership with the City Hall of Ponta Grossa, Cáritas Diocesana and the Municipal Social Assistance Foundation (Faspg). Registration takes place in person this Friday (25), until 4 pm at Faspg, or online using a form.

The registration aims to establish public policies to improve the living conditions of migrants and refugees. According to the coordinator of Intermig, Luiza Bittencourt Krainski, after the survey, the intention is to create a Municipal Committee on the Rights of Migrants and Refugees. "This registration is important to assess the number of migrants and know their needs, mitigating the degree of vulnerability faced by these

people and their families," she explains. If you are interested in registering online, please fill in the form here.

## Intermig

The Intermig Project is developed by the Bachelor of Social Service program, coordinated by professors Luiza Bittencourt Krainski and Édina Schimanski. Its team develops initiatives for both international exchange students at UEPG, and migrants and their families. The initiative seeks to provide information; a network of assistance and legal services in the municipality; referrals to the labor market; and development of activities to foster the dialogue between different cultures.

Text: Jessica Natal Photo: Public Photos

June 25, 2021







# UEPG launches Gender and Diversity Hotline

<http://u.uepg.br/bxqs>

The Pró-Rectorio of Student Affairs at the State University of Ponta Grossa (Prae/UEPG) launches this Wednesday (11) the "Gender and Diversity Listening Channel". The hotline will receive demands and reports of harassment and discrimination within the academic community. The launch takes place live on UEPG social media at 10 am.

"It is a channel of communication between the University and the internal academic community, to welcome and receive demands and reports regarding harassment and other potentially prejudiced or discriminatory acts", explains the Associate Provost of Student Affairs, Ione Jovino. "The hotline is only for female and male students, to meet demands related to issues in the academic

environment", she adds.

The hotline emerged in response to the university community. "The victim does not always want or have the strength to file a complaint, other times they do not report due to the lack of guidance. In these cases, the hotline can welcome, listen, monitor and guide, as needed", explains Jovino.

Text: William Clarindo | Photo: Aline Jasper

August 10, 2021





# 11 SUSTAINABLE CITIES AND COMMUNITIES











# Proex promotes virtual exhibition of pieces of art inspired by Japanese culture

<http://u.uepg.br/bxqt>

After returning from a trip to Japan, Sandra Hiromoto brought enough inspirations to create a collection of works of art. The result of her work resulted in the exhibition entitled "Say Hai", which is available for virtual visitation, on the website of the Pro-Rectorate of Outreach and Culture Affairs (Proex), of the State University of Ponta Grossa. The pieces of art have a close connection with Japan, combined with the appropriation of street art elements.

Born in Assis Chateaubriand, Paraná, the artist grew up in a Japanese community and had the opportunity to experience the Japanese culture intensely. The exhibition represents the rescue and return of the artist's affective memory.

"I participated in a cultural exchange in 2008 at Japan, and when I returned 20 years later, much had changed. I was delighted

with the delicacy of Japanese women and the intense use of cell phones in subway lines and stores. Returning to Brazil, I appropriated these images and created the first painting in the series", explains Sandra.

Those who visit the virtual gallery can view lines, stencils, drawings, collages, and digital prints. Reproduced in modules, the arts meet in a space where all the elements engage in a visual dialogue. Visit the gallery on the PROEX website.

Text: Jessica Natal | Photo: Personal Archive

February 23, 2021









# Dance Festival at UEPG has modified format due to the pandemic

<http://u.uepg.br/bxqu>

With the Covid-19 pandemic, in 2021, the fourth edition of the University Dance Meeting of the State University of Ponta Grossa (UEPG) will be held entirely remotely. The Festival will be held on April 16, at 7 pm, and will be transmitted on Youtube.

One of the Festival's coordinators, Professor Silvia Regina Ribeiro, shares the expectation for this year's edition. "Given the global context we live in, we envision a new format for the IV Educadança UEPG, with audiovisual resources, different from previous in-person editions; in order to promote and socialize the art of dance, enabling a dialogue between students, companies and dance schools in the city and region of Campos Gerais",

she comments.

The IV Educadança UEPG involves students enrolled in the dance course of the Physical Education Bachelor program at the State University of Ponta Grossa and dance groups from the region as well. If you are interested in participating in the Festival, register through this link. Applications close on March 29th.

Text: Julio César Prado | Photo: Mauricio Bollete

March 24, 2021











# CGM presents digital exhibition on photojournalistic coverage of the city at the beginning of the century

<http://u.uepg.br/bxqv>

The Campos Gerais Museum of the State University of Ponta Grossa (CGM-UEPG) holds a tour of a recent phase of journalism in Ponta Grossa. Through a digital exhibition that brings information about the period of return of the centennial newspaper *Diário dos Campos*, in 1999, the exhibition brought together images about the renovation process of the Saudade Station, with journalistic visions of a city in transformation.

The Museum Collection Director, Rafael Schoenherr, highlights the relevance of this exhibition of images. "Several of these images were never published, they are part of the raw archive of the *Diário dos Campos* newspaper at the CGM, including photos not used in the news. In addition, the information in slides contextualize a moment of change in journalism in Ponta Grossa. The photograph is part of this change. It is the last moment of analogic photography, made on film and paper, in the routines of a local newspaper.

Anyone who looks at the restored building of Saudade Station cannot imagine the condition it was in at the end of the 90s", he points out.

For the Director, the exhibition also plays a role in valuing the journalistic work done in the city. "Journalism in Ponta Grossa has always been very attentive to heritage and participated in a certain way, at different times, in the debate on preservation and memory. This is a mark of professionalization of local journalism, expressed, for example, on the bet on trained professionals and on the work of photographers along with the team of reporters and editors", he adds.

Text: Julio César Prado | Photo: MCG Collection

April 9, 2021







# Commission of Licentiate Degrees meets with pro-rectories to discuss the curricularization of outreach programs

<http://u.uepg.br/bxqw>

The curriculum of Licentiate degree Programs at the State University of Ponta Grossa (UEPG) is on the agenda to define a new process for crediting outreach projects. The subject was addressed in a remote meeting, last Tuesday (20), which brought together representatives of the Pro-Rector of Undergraduate Studies (Prograd), Pro-Rector of Outreach and Culture Affairs (Proex) and the Permanent Commission for Licentiate Degrees (Copelic). During the meeting, the engagement of professors and students with new methodological possibilities and the concept of outreach in the area of teaching Licentiate degrees were discussed. The meeting proposes a series of debates on curricularization with different sectors of knowledge.

"It was a very important moment. At this meeting, we discussed political, social, and pedagogical assumptions to forward outreach actions. Curricularization is a challenge, of course, but we feel that the community is attentive to the methodological processes to be followed", declares Édina Schimanski, Associate Provost for Outreach and Culture Affairs. Édina also points out that more debates on the

subject are scheduled for May and June, with special guests.

Marli de Fátima Rodrigues, president of Copelic, explains that there is a conceptual and theoretical confusion about the role of outreach in universities, in addition to doubts regarding the implementation of 10% of the workload of courses in outreach activities. "The participation of the group, which has been thinking about these issues at UEPG, was important. We expect that the discussion will expand and mobilize the collegiate bodies of undergraduate programs, so that they can adapt their Course Pedagogical Projects, incorporating outreach as a way of learning". Also, according to Marli, as it is being done with teaching and research, the objective is to effectively involve students and professors in the discussions, "to meet the society's desires and demands, in a transforming action".

Text: Jessica Natal | Cover photo: Afonso Verner

April 22, 2021









# Ponta Grossa is the city chosen for the 1st opening of the Community Education and Research Networks Program in 2021

<http://u.uepg.br/bxqx>

The initiative, developed by MCTI and coordinated by RNP, integrates the main teaching and research institutions in the country and serves more than four million users.

The pandemic accelerated the changes that were already taking place in education. Evidence thereof is the study carried out by the Global Learner Survey and Pearson, which found that 67% of Brazilian college students are giving more value to education after Covid-19. Although the moment is challenging, it is undeniable that technology was a determining factor for this development and for the change in the behavior of these students.

Due to this new scenario and always aiming to benefit teaching and research institutions across the country, the city of Ponta Grossa, Paraná, was chosen for the 1st Opening of the Program Community Education and Research Networks in 2021. The initia-

tive, coordinated by the National Education and Research Network (NERN), provides for the implementation of high-speed networks in the region, connecting the State University of Ponta Grossa (UEPG), the University Hospital (UH-UEPG), Federal Technological University of Paraná (UTFPR) and Ponta Grossa City Hall to about 800 Higher Education Institutions and research centers throughout the country.

Altogether, the Metropolitan Network of Ponta Grossa will have 12 sites spread across the city, 48 km of network length and 20 Gbps (10+10) of bandwidth capacity for each connected point.

Text: Assessoria RNP | Photo: Luciane

Navarro June 11, 2021



# **12 RESPONSIBLE CONSUMPTION AND PRODUCTION**









## Soil and environment at school - 3rd edition

<http://u.uepg.br/bxpm>

### ABSTRACT:

The project targets planning, elaboration, and execution of pedagogical activities of a practical and experimental nature to be used in the teaching and learning of Soils and the Environment, in public elementary schools. The project approaches subjects according to the demands of partner schools, such as soil formation and soil profiles; water infiltration and soil permeability; soil compaction/degradation; erosion; plant development; waste decomposition and nutrient cycling; soil fauna and microorganisms; pollution and recycling. The student in charge of the project, undergraduate students from the Licentiate and Bachelor Degree of Biological Sciences at UEPG, will be able to apply the information and methodology used in their future professional activi-

ties. The outreach project will take place during the regency of undergraduate students, as well as in the teaching project carried out by them in partner schools, in-person or remotely during the Covid-19 pandemic. At these times, and also during in-person exhibitions, information and methodological proposals related to the soil and the environment will be disseminated to teachers and students from public schools that are also part of the project. As a result, it is expected to facilitate the teaching and learning of Soils and the Environment and thus contribute to the education of teachers and to the target public's awareness of the importance of soil conservation for the preservation of the environment.







# UEPG's EIS system saves 3 tons of paper in two years.

<http://u.uepg.br/bxqy>

Two years ago, the State University of Ponta Grossa (UEPG) implemented the Electronic Information System (SEI), a digital platform that modernized administration and generated a significant environmental contribution, by using technology to improve processes and document procedures. With the system, UEPG saved about three tons of paper, more than 201 thousand documents in the processes, in addition to avoiding the construction of a new building for archiving documents, which became digital at SEI, since April 22, 2019.

UEPG was the first state university in Paraná to implement a fully electronic system that allows integration with other platforms, such as smartphones and different operating systems. The Rector of UEPG, Miguel Sanches Neto, highlights the benefits for strategic planning of the University's administration. "The implementation of SEI produces three major impacts, local and general. Process speed; transparency; and more rational use of physical and human resources. It is a tool that meets our strategic planning for modernization management, which has been growing", he says.

The director of the Exact and Natural Sciences Office, Professor Luiz Alexandre Gonçalves Cunha, highlights the relevance of the system for administrative solutions. "SEI is a turning point in the UEPG administration system. In addition to significantly reducing the circulation of printed documents, with an obvious cost reduction, it has contributed to the efforts of environmental responsibility", he points out. Cunha completes emphasizing the possibility that the system offers to plan UEPG actions with agility, "besides allowing an important administrative rationalization, because it provides greater agility in the circulation of information and documents. SEI provided more administrative control, allowing better planning of the institution's actions", he points out.

Text: Julio César Prado | Photo: Luciane Navarro

April 22, 2021





# Solidarity Drive Thru distributes seedlings and receives food and electronic waste in exchange.

<http://u.uepg.br/bxqz>

This Saturday (30), the outreach project Diary of a Waste, the Chemistry Tutorial Education Program (CTEP) group and the Forestry Nursery of the State University of Ponta Grossa (UEPG) are promoting a Solidarity Drive Thru. With entrance through the gate of Colégio Agrícola (Alameda Nabuco de Araújo), the event takes place at the bus stop of UEPG University Restaurant, on Campus Uvaranas, from 9am to 5pm.

Help to appease hunger and make the city flourish. The event aims to collect food in exchange for lavender seedlings, little ruby and aromatic plants, produced in the UEPG/CAAR Nursery. Each kilo of food can be exchanged for a seedling, and whoever brings cestas básicas will receive a special kit.

"We know that the consequences of the Covid-19 pandemic are still present and that is why many families are in social and food vulnerability", points out the coordinator of the Nursery, Professor Rosimeri de Oliveira Fragoso. "Therefore, we are counting on raising

awareness among the population to contribute by donating food, which will be passed on to groups that dedicate their efforts to ensuring food security for these families".

In addition to food, the Drive Thru also receives electronic waste, to dispose of it correctly and avoid contamination of the environment, in partnership with the Ponta Grossa Municipal Department of the Environment. Appliances such as televisions and microwaves, computer parts, monitor, mouse, keyboard, and telephony items (cell phones and chargers), in addition to other materials that are electronic waste can be delivered. "This action, in addition to generating income for recyclables collectors, aims to provide opportunities for the correct disposal of materials with electronic components, reducing damage to the environment", explains Professor Rosemeri.

Text and photo: Aline Jasper

October 27, 2021









# Organic carbon reserves and the chemical composition of organic matter in response to different land uses in southern Brazil.

<http://u.uepg.br/bxpm>

## ABSTRACT

The adoption of conservation agriculture (e.g. no-tillage system) was recognized as key to maintaining soil functions, but the potential of this system to improve the quantity and quality of organic carbon (CO) and how this CO is stabilized in soils are not well established. In this study, we evaluated the effects of land use types (native vegetation (NV) versus no-tillage system (NTS) on CO reserves and on the chemical composition of organic matter (OM), and we sought to understand the mechanisms that govern CO protection in the highly weathered studied soils. To achieve these goals, we used a CO fractionation scheme with a combination of  $^{13}\text{C}$  solid-state nuclear magnetic resonance (SSNMR) in spectroscopic analyses on soils from six farms in southern Brazil. Our results showed lower CO reserves (whole soil) under NTS than under NV at four of the six sites. In addition, CO reserve differences between land use types were greater in coarser textured soils and in those where conventional tillage was used prior to the adoption of NTS. Among the fractions, particulate organic carbon (POC) represented only 8% of the entire CO reserve, but it was the fraction most affected by the type of land use. In contrast, the fraction of humic organic carbon (HOC) contributed with 78% of the entire CO reserve and was little changed by type of land use. Resistant organic carbon (COR)

represented 14% of the entire CO reserve and was altered by the type of land use, demonstrating that this fraction is not as inert as it was previously thought. In general, the chemical composition of OM was quite similar between land uses, with O-alkyl-Co type C being predominant. This labile component was also highly correlated with the CO stock and the silt + clay content, indicating that the accumulation of CO in these highly weathered soils is mainly a response to the association between labile C compounds and minerals. Highlights: The accumulation of CO in no-tillage areas and the CO protection mechanisms in soils are still uncertain. CO reserves under no-tillage are still smaller than under native vegetation. Soils under no-tillage showed an unexplored potential for CO sequestration. The association of labile compounds with soil minerals is the factor that drives CO protection.

**Keywords:** Carbon Fractions; Carbon Stabilization Mechanisms; Native vegetation; No-tillage;  $^{13}\text{C}$  NMR Solid State Spectroscopy; Weathered Soil.

**Authors:** Briedis, Clever; Baldock, Jeff; de Moraes Sá, João C.; dos Santos, Josiane B.; McGowan, Janine; Milori, Débora M. B. P.

Photo: Jessica Natal









## Fernando de Noronha Archipelago (Brazil): A proposal for a coastal geopark to foster the local economy, tourism, and sustainability.

<http://u.uepg.br/bxpm>

### ABSTRACT

Coastal zones around the world are often listed as protected areas due to their sensitive ecosystems and frequent social uses. One category of protected area that allows for protection and use is a geopark. A geopark combines geological heritage conservation with sustainable development, including significant geological features and scientific content. Geoparks can stimulate the coastal economy through heritage enhancement and sustainable tourism development, along with environmental protection and interpretation. There are geoparks on islands and coastal areas on many continents. The archipelago of Fernando de Noronha (Brazil) has a relevant geodiversity and potential to join the Global Geoparks Network (RGG). For the creation of a geopark, it is important to recognize the geological heritage and its relevance. This has already

been done in Fernando de Noronha by Geological Survey of Brazil (CPRM), through the identification of the island's geosites. The objective of this case study is to present actions that were carried out and that can help in the preparation of the report for the proposed Geopark, as well as to present the benefits that a Geopark can bring to a coastal area. Opportunities are presented to improve the economy with geoproducts and geofoods.

Keywords: Brazil. Coastal zone. Fernando de Noronha Archipelago. Geopark. Geosites.

Authors: Moreira, Jasmine Cardozo; Do Vale, Tatiane Ferrari; Burns, Robert Clyde

Photo: Agência Brasil



# 13 CLIMATE ACTION











# The Bachelor of Economics Program organizes an interdisciplinary event on climate change

<http://u.uepg.br/bxra>

As of October 20, the outreach project Environmental, Economic and Social Issues: practices on the Environment, linked to the Bachelor of Economics program at the State University of Ponta Grossa (UEPG), begins a series of remote discussions on the subject "Dietetic-climate journey: life on your plate".

Economics professor, Renato Alves, explains that the event seeks to show the community the causes that govern environmental damage and inform how society can circumvent or minimize harmful impacts on the environment. "Issues related to eating habits and the problems inherent in livestock production, which are the main causes of climate change,

pandemics and diseases", he points out.

The event has five modules, with one presentation per week. "The topics address the understanding of our eating habits, diets of animal origin, and the problems that permeate society, among them: climate change, pandemics and diseases", says Alves. The event is aimed at the entire internal and external community of UEPG.

Text: Julio César Prado | Photo: Rafael de Castro Bento/WWF-Brazil

September 21, 2021









# UEPG and District Attorney Office-PR sign a technical cooperation term for actions on the environment.

<http://u.uepg.br/bxrb>

This Wednesday morning (22), the State University of Ponta Grossa (UEPG) and the District Attorney Office of Paraná (DA/PR) signed a cooperation agreement for the collaborative development of actions, studies and projects on the environment. The partnership seeks to provide support to the Specialized Action Group on the Environment,

Housing and Urbanism of the Regional of Ponta Grossa (SAGEHU-PGO) and other ministerial units focused on environmental protection, which will provide the entities involved with the improvement of teaching, research, and outreach.

In addition to actions in the environmental area, the partnership will also carry out actions on assets and rights of artistic, aesthetic, historical, touristic, and landscape value, in addition to the areas of housing and urbanism. UEPG will provide technical-scientific support in SAGEHU projects, with human, material, and technological resources. "This initiative we are celebrating today, seeking partnerships with the uni-

versity, is a transformation plan and a bonus to the public system", says Gilberto Giacoia, Attorney General of Justice DA/PR.

Giacoia highlights the importance of public institutions for the human and sustainable development of society. "The University is a source of knowledge and without this knowledge we would be nothing, it is the place where we experience the clash of values, where our certainties are questioned, where we formulate new questions and new challenges. It is there we see that we depend on each other to grow as humanity", he points out. The Attorney General reiterates the homages and thanks for the partnership, on behalf of the DA Office. "It is a very important act. In a country with enormous social needs, we have to use public structures, since society is the one who finances our institutions".

Text and Photos: Jessica Natal

September 22, 2021









# The Bachelor of Technological Chemistry Program launches a guide that discusses climate change

<http://u.uepg.br/bxrc>

The Bachelor of Technological Chemistry at the State University of Ponta Grossa (UEPG) launches on December 13 an informative guide on climate change in the field of chemistry. The launch is part of the project entitled "Technological chemistry and climate change: thoughts and perspectives on industrial chemical processes", developed by senior-year students.

As the organization of the event explains, the project meets the global discussion on climate change and human actions that drive global warming. The aim is to think about the main global conferences to discuss climate change, such as the United Nations Conference on Climate Change (COP26). "Students will discuss the social, environmental and economic effects related to global warming", state the organizers. The idea is to provide a critical look at greenhouse gas emissions, industrial chemical processes, and scientific and technologies for reuse.

Luiz Guilherme do Amaral, an undergraduate student, points out that the project shows the dimension of the environmental impacts that society causes in the world. "As future chemists, we will be on the front line and have a duty to contribute to the fight against carbon emissions and climate change. It is essential that we are aware of what we are capable of causing and how to deal with environmental problems."

The launch of the guide, as well as discussions on climate change, is open to the entire community from 7 pm. A certificate will be issued to participants. Those interested in participating can register at the event link here. The professors of the Department of Chemistry, Suellen Alves and Maria Elena Arrúa Payret are in charge for the project.

Text: Jessica Natal | Photo: Free Photos

November 4, 2021









# Food Engineering students plant trees at the UEPG School Farm

<http://u.uepg.br/bxrd>

This Friday morning (05), a group of students from the Bachelor of Food Engineering program at the State University of Ponta Grossa (UEPG) met in-person for the first time since the beginning of the Covid-19 pandemic. The reason was noble: to plant native trees to neutralize the group's carbon footprint in 2021.

There were 45 seedlings of capororoca (*Myrsine coriacea*), a native tree that reaches eight meters in height and grows from two to four meters a year, produced at the UEPG nursery. With the guidance of professors Rosimeri de Oliveira Fragoso (Biology) and Carlos André Stuepp (Agronomy), Agronomy academics and research project technicians, the trees were planted to contribute to the ecological restoration of an environmental preservation area at Farm School Capão da Onça. The area close to a river spring started to be recovered in 2019, with the planting of thousands of seedlings, and all plants are being updated, researched and monitored.

In the Food and Environmental Engineering course, taught by Professor Ana Barana to the 4th-year students of Food Engineering, an activity proposed the critical thinking: what is the carbon footprint that each one of us leaves in the world? Every day, companies and people emit carbon dioxide, a polluting gas that is one of those responsible for the greenhouse effect and climate change on Earth. "Each student calculated their footprints and we also calculated how we would be able to offset this carbon that we put into the atmosphere", says the professor. On average, each student would need to plant two trees to neutralize the carbon emitted in one year.

Text and photos: Aline Jasper

November 05, 2021









# Project supported by UEPG carries out an inventory of archaeological sites with cave paintings in Campos Gerais

<http://u.uepg.br/bxre>

The University Group of Speleological Research (UGSR), which has the support of the State University of Ponta Grossa (UEPG), started a new project to research the archaeological wealth of Campos Gerais. Since this March, the Group has carried out an inventory of archaeological sites with cave paintings in the Environmental Protection Area (EPA) of the Devonian Escarpment. Named 'PG Rupestre', the project also works with heritage education.

"The EPA of Campos Gerais, linked to the immense speleological heritage, with potential for new discoveries, makes this region a hotspot of national archeology and Ponta Grossa has an important fraction of this heritage", explains Henrique Simão Pontes, effective member of UGSR. According to the professor from the Department of Geosciences at UEPG, few efficient measures were adopted to guarantee the effective protection of environments. "The project is generating data and information that can guide inspection and preservation actions at archaeological sites, subsidize protocols for management actions and support

decisions by the Municipal Council of Cultural Heritage", he highlights. One of the examples that the teacher uses for future actions is the inclusion of archaeological sites in the municipal inventory of cultural heritage and the listing of relevant sites or sites at degradation risk.

The PG Rupestre started in March 2021, with the initial goal of inventorying 25 archaeological sites previously known by the project team. After observations carried out around some locations, new occurrences were discovered. "Currently there are 50 sites, 25 of which are unpublished findings, the result of efforts made during the first eight months of the PG Rupestre project", celebrates Henrique. The team carries out speleological mapping with a laser tape and an application to obtain data and drawings during field work. Altogether, the project team with seven people has already surveyed 35 sites.

Text: Jessica Natal | Photos: Reproduction

November 30, 2021



# 14 LIFE BELOW WATER











## UEPG researchers find banned pesticides in fish in Alagados

<http://u.uepg.br/bxrf>

Researchers from the Graduate Program in Chemistry at the State University of Ponta Grossa (UEPG) found traces of illegal pesticides in yellow-tail tetra and their roe at the Alagados dam. Among the substances found in fish is the pesticide dichlorodiphenyltrichloroethane, also known as DDT, banned in Brazil since 2009.

The research is the outcome from projects linked to the Environmental and Sanitary Analytical Chemistry research group. "We've been researching Alagados since 2014, when a doctoral student researched the determination of heavy metals in carps and yams from Alagados", recalls Professor Sandro Xavier de Campos, coordinator of the group. The

research verified concentrations of lead and cadmium in the organs of these fish.

"Recently, a doctoral student researched organochlorine pesticide, which are part of the Stockholm Convention on the Elimination of Persistent Organic Pollutants (POPS)", says Campos. Tatiana Roselena de Oliveira Stremel's research was dedicated to studying an analytical method to determine the contamination of fish by these pesticides.

Text: William Clarindo | Photos: Personal archive

March 03, 2021











# Department of Geosciences promotes meeting in celebration of Water Day

<http://u.uepg.br/bxrg>

The Department of Geosciences of the State University of Ponta Grossa (Degeo/UEPG), together with the bachelor's and licentiate undergraduate and graduate programs in Geography, promotes the thematic meeting "The importance of water for the maintenance of ecosystems, including urban", in celebration of World Water Day. The event takes place on March 22, at 7 pm, live on the YouTube channel of the Geography Program.

Legal aspects of socio-environmental activism will be discussed by professors Eurico Vianna and Luciana Cordeiro de Souza, who study water resources.

According to the event's coordinator, Maria Ligia Cassol Pinto, the topic addresses academic training and the performance of professionals, both in education and in other segments of the labor market.

The coordinator highlights the need to urgently reflect on

the issue of water "as a primordial element of the planet, essential to life and to the maintenance of ecosystems, water has been treated, considered, and negotiated. By law, water is a common good, destined primarily for human supply, animal watering [supply the need for water], irrigation and industrial uses", he emphasizes. The legislation to which Maria Ligia refers is the law No. 9433/1997.

In the last ten years, the Geography undergraduate program has celebrated World Water Day in meetings and presentations of academic articles. This year, due to the pandemic, it will be held virtually meeting, aimed at students and at the agroecology and agroforestry community. Access the meeting broadcast link here.

Text: Daniela Borcezi/Nutead | Photo: Reproduction

March 12, 2021









# Online lectures discuss water management on agricultural property

<http://u.uepg.br/bxrh>

This Thursday (25), professionals from the Agricultural Mechanization Laboratory at the State University of Ponta Grossa (Lama / UEPG) and guest professors will participate on an afternoon of remote lectures on Water Management in Private Property. Professor Náiali Maidl de Souza will be the mediator. Discussions will start at 5 pm and will be held on the Google Meet platform.

Topics and panelists – Program

Managing Water and Soil: Dr. Afonso Peche Filho (IAC-Jundiaí)

Water availability and water footprint use: Dr. Eduardo

A. A. Barbosa (EPG - Agricultural Irrigation and Hydrology Laboratory)

Preserve water: MSc. Ivan C. F. de Moura (Lama/UEPG)

Irrigation laws: soil potentials and limitations Dr. Bruno V. Marques (Association of Irrigators of the State of Goiás - IRRIGO)

Text: Julio César Prado | Photo: Promotion/Lama-UEPG









# UEPG professor joins international organization in defense of freshwater shells

<http://u.uepg.br/bxri>

Susete Wambier Christo, professor at the Department of General Biology at the State University of Ponta Grossa (UEPG), completed three years of participation in the South American Bivalves Freshwater Association (BIVAAS), an international organization created in 2012 that promotes the study and conservation of bivalves, known as river mussels or shells.

The professor highlights the importance of raising awareness among the population about the diversity and importance of freshwater shells on the continent. "Currently, many of our native species are threatened due to pollutants in rivers, construction of dams, introduction of exotic species, among other anthropic activities. The main objective of the association is the conservation of this group of molluscs that play an

important role in the freshwater environment", explains Susete.

For the professor, being part of this organization is an opportunity to expand research and win new partnerships for UEPG. "Our idea is to expand the knowledge and the team in Paraná, necessary for the development of research activities and dissemination of these bivalves. As well as the possibility of new research fronts and partnerships at UEPG", she says.

Text: Julio César Prado | Photo: : Reproduction/Zoology  
April 07, 2021







# Substitution of soybean oil with linseed oil on growth performance, fatty acid profile and texture attributes in large Nile tilapia, *Oreochromis niloticus* reared under cold suboptimal temperature

<http://u.uepg.br/bxpm>

## ABSTRACT

This study evaluated the effects of substituting soybean oil (SO) by linseed oil (LO) on growth performance, fatty acid profile and flesh quality in large Nile tilapia, *Oreochromis niloticus* reared under cold suboptimal temperature. Fish (initial weight  $1035.4 \pm 10.5$  g) were used in a completely randomized design with a  $2 \times 2$  factorial arrangement, two oil sources (SO or LO) at two levels (15 or 30 g/kg) and four replicates of 12 fish. The fish were hand-fed until apparent satiety for seven weeks. The interaction between the oil source led to improved daily weight gain in the fish that were fed LO at 30 g/kg when compared with those on other diets. Fish fed LO exhibited higher fillet yield and n-3/n-6 PUFA ratio in the fillet compared with SO. Fish offered oil at 30 g/kg showed enhanced feed conversion ratio and fillet with higher lipids content coupled with decreased hardness than that fed

oil at 15 g/kg. Fillet water loss, pH and colour were unaffected by diets. Together, LO at 30 g/kg optimized the growth performance and the n-3/n-6 PUFA ratio without showing any adverse effects on fillet quality in large Nile tilapia reared under suboptimal temperature.

Keywords: Fillet Texture. Growth. n-3/ n-6 PUFA ratio. Tilapia. a-linolenic acid.

Authors: Barriviera, Valéria Rossetto; Tsujii, Karla Mikya; dos Santos, Lilian Dena; Furuya, Leonardo Barriviera; Panaczewicz, Paola Aparecida Paulovski; Miranda, João Antônio Galiotto; Marine, Marina Tolentino; Furuya, Wilson Massamitu.

Photo: Agência Brasil





# 15

LIFE  
ON LAND









# UEPG Physics researchers hold workshop on soils and environmental sciences

<http://u.uepg.br/bxrj>

Between May 13 and 14, researchers from the Bachelor of Physics program at the State University of Ponta Grossa (UEPG) hold the 3rd Workshop of the Group of Applied Physics to Soils and Environmental Sciences (Fasca), an online meeting coordinated by professors André Brinatti, Fábio Cássaro, Luiz Fernando Pires and Sérgio Saab.

One of the organizers of the event, Professor Luiz Fernando Pires, explains that one of the objectives of the lectures is scientific dissemination. "We want to publicize what the group has been doing at the University, both for the internal and external community. Another very important thing is the contact that our students are going to have with researchers from other parts of the world, it would be very difficult to bring these researchers to UEPG and the online format will

help in the internationalization of the event," he points out.

The third edition of the workshop will have researchers from the University of São Paulo (Brazil), University of Leeds (United Kingdom), Rutgers-The State University of New Jersey (United States), Oak Ridge National Laboratory (United States), University of Hawaii (United States), Federal Institute of Santa Catarina and National Synchrotron Light Laboratory. The organizers' intention is to merge the presentation of research developed by Brazilians and foreigners to enhance the international profile of the event.

Text: Julio César Prado | Photo: Cristina Gresele

April 14, 2021









# UEPG project analyzes zoonoses related to wild boar in parks in Paraná

<http://u.uepg.br/bxrk>

Amidst the native vegetation of the Vila Velha State Park, a wooden enclosure is a kind of trap to capture wild boars that roam there. At the same time, at the Visitors' Center, a group of nurses collects blood samples from Park employees. At first glance, the two activities would seem disconnected, but they are part of the same research project, coordinated by the State University of Ponta Grossa (UEPG), in partnership with the Water and Land Institute (IAP), the Secretary of Sustainable Development and Tourism (Sedest), Federal University of Paraná (UFPR) and Carlos Chagas Institute - Fiocruz Paraná, with funding from the Araucária Foundation.

The project is focused on One Health, the integration between human health, animal health and the environment. There are several actions: the mapping of the native and exotic fauna from the Conservation Units of Paraná, the control of the wild boar population (*Sus scrofa*), the analysis of diseases in the wildlife of the parks and of zoonoses in the servers that live with these animals.

There are four paddocks in Vila Velha State Park, each one in a different area. In the middle of the woods, covered by trees; in an open field; next to a stream; and in a cleaner area, close to a slope. The team is also considering to install one in other locations, to expand the coverage area. Professor Leandro Lipinski, veterinarian, and head of the Medicine department at UEPG, goes through the four paddocks and checks if any wild boars have been captured, in addition to replacing the corn used to attract the animals. In one of the pens, he points out the footprint on the muddy ground: "It stepped here, look, on top of my footprint yesterday. It passed by here, but it didn't eat the corn to trigger the trap. Astute animal!" In another enclosure, the small footprints are of another species: a group of collared peccaries (*Pecari tajacu*) passed through there. It wasn't this time.

Text and photos: Aline Jasper

July 12, 2021









# UEPG professor is appointed to the National Commission on Wild Animals

<http://u.uepg.br/bxrl>

Professor Verônica Oliveira Vianna, head of the Department of Animal Science at the State University of Ponta Grossa (UEPG), was appointed to the National Commission for Wild Animals (CNAS) of the Federal Council of Veterinary Medicine (CFMV). The Commission provides auxiliary services to the main administration and advises on demands related to wild animals in Brazil.

For Vianna, who commemorates the nomination that took place in July, participation in the committees allows to discuss activities of professional zootechnicians and veterinarians, which helps to face the daily challenges found in the job market. "I am very honored since there are several experienced professionals all over Brazil. I am immensely grateful

and with an immense responsibility", she says.

At UEPG, the professor lectures about the subject of Fundamentals of Creation and Conservation of Wild Fauna, Wild Animals, Ecology, and Environmental Management, for the graduation in Animal Science, in addition to the subject of Management and Conservation of Wild Fauna, for the Bachelor of Biological Sciences.

Adapted text: Julio César Prado

Photo: CCom/2018 archive

August 24, 2021









# Dynamics of soil aggregate-associated organic carbon based on diversity and high biomass-C input under conservation agriculture in a savanna ecosystem in Cambodia

<http://u.uepg.br/bxpm>

## ABSTRACT

No-till (NT) cropping systems have the potential to enhance soil aggregation, providing physical protection and soil C sequestration. The existence of discrepancies in the impact of tillage on soil aggregation and soil C sequestration warrants further studies, particularly for different crop rotations. We hypothesized the following: a) NT biannual crop rotations tend to be more effective in restoring large macroaggregation and the concentrations of soil organic C (SOC), total N and permanganate oxidizable C (POXC) associated with macroaggregates than NT systems with a one-year frequency pattern and conventional tillage (CT); b) the continuous biomass-C inputs via crop residues in large macroaggregates under NT tend to increase the proportion of aliphatic C than those under [CT](#). Therefore, the objectives of this study were: (i) to assess changes in the aggregate size distribution and levels of aggregate-associated total [SOC](#), total N and POXC and (ii) to characterize humic acid (HA) using  $^{13}\text{C}$  CP-MAS nuclear magnetic resonance (NMR) spectra of 8- to 19-mm soil aggregate size class in a reference vegetation (RV) and in rice-, soybean- and cassava-based cropping systems (RcCS, SbCS and CsCS, respectively) in a clayed Oxisol after tillage and crop rotation management. We evaluated four treatments in each cropping system: 1) CT, and 2) three NT systems in a randomized complete block design with three replicates. Soil aggregate samples were collected at depths of 0–5, 5–10 and 10–20 cm. The conversion of RV to agricultural land influenced the distribution of aggregate size classes, soil aggregation indices and aggregate-associated SOC, total N and POXC in the two surface layers. The formation of large macroaggregates (8–19 mm) dominated the aggregate size distribution with a relatively higher proportion under RV and NT than under CT. Across all soil depths, the proportions of the 8- to 19-mm aggregate size fraction were 59% (NV), 43% and 47% (RcCS), 45% and 53% (SbCS) and

34% and 37% (CsCS) for the CT and NT systems, respectively. Among the three NT systems, the biannual crop rotations in the three cropping systems (NT2-Rice, NT2-Soybean, NT2-Cassava; NT3-Rice, NT3-Soybean and NT3-Cassava) indicated better performance than the one-year frequency pattern in restoring large macroaggregation and the concentrations of SOC, total N and POXC associated with large macroaggregates. Additionally, in the surface (0–5 cm) and subsurface (10–20 cm) soil layers, the SbCS with a high rate ( $7.32 \text{ Mg C ha}^{-1} \text{ year}^{-1}$ ) and diversity [*Pennisetum typhoides* (Pearl millet)/maize + *Brachiaria ruziziensis* (Brz), *Stylosanthes guianensis* (St)] of biomass-C inputs reached the highest levels of lability of SOC and POXC in the macroaggregate size classes of 0.25–0.5 and 8–19 mm, respectively. The CP-MAS  $^{13}\text{C}$  NMR measurement suggests that the continuous and high biomass-C inputs with diverse crop residues under NT, such as millet, maize, Brz, St and *Crotalaria juncea*, tended to increase the proportion of aliphatic C than under CT; an opposite trend was observed for aromatic C.  $^{13}\text{C}$  NMR revealed an advance caused by the association between the quantity and quality of C addition via cultural residues in the discrimination of the composition of C in the macroaggregation in the tropical region.

**Keywords:** Aggregate Stability. Biomass Inputs-C. Labile SOC. Distribution of Aggregates in Soil. Soil C Protection Mechanism. Soil C Sequestration.

**Authors:** Hok, Lyda; de Moraes Sá, João Carlos; Boulakia, Stéphane; Reyes, Manuel; from Oliveira Ferreira, Ademir; Elie Tivet, Florent; Saab, Sergio; Auccaise, Ruben; Massao Inagaki, Thiago; Schimiguel, Rafael; Aparecida Ferreira, Lucimara; Briedis, Clever.

Photo: Agência Brasil







## Micromorphological analysis of soil porosity under integrated crop-livestock management systems

<http://u.uepg.br/bxpm>

### ABSTRACT

Integrate crop-livestock systems has been an efficient alternative for food production contributing to environmental sustainability and soil conservation. The objective of this study was to characterize some micromorphological properties of a Humic Rhodic Hapludox in integrated production systems. For this, four soil tillage systems were evaluated: conventional (CT), minimum (MT), no-tillage (NT), and chiseled no-tillage (CNT), under two annual ryegrass uses: grazing (G) and silage (S) at two soil depths (0–0.10 m and 0.10–0.20 m). Information about the size and shape distribution of the pores were obtained through the micromorphological analysis to determine the imagery porosity. The smallest porosities were found in the top-layer, independent of the management systems and ryegrass usage. The complex shaped pores of larger sizes (>1000  $\mu\text{m}$ ) had the greatest contribution to the imagery porosity in the sub-layer, although they were less frequent in

the top-layer. Complex shaped pores were compressed due to the contrasting managements employed, decreasing their area and, consequently, influencing the fragmentation of this type of pores. As consequence, there was an increase in the amount of rounded shaped pores, especially ranging from 100 to 500  $\mu\text{m}$ . The CNT management system improved the soil structure based on the results of porosity as well as the shape and size distributions of the pores.

**Keywords:** Livestock. Image Analysis. Pore Size and Shape. Ryegrass production. Soil microstructure. Soil Porous System.

**Authors:** dos Reis, Aline M. Huf; Auler, André C.; Armino, Robson A.; Cooper, Miguel; PiresLuiz F.

**Photo:** Agência Brasil

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## PEACE, JUSTICE AND STRONG INSTITUTIONS









## Large number of candidates for the Master's Program in Law at UEPG

<http://u.uepg.br/bxrm>

A large number of candidates for the Master's Program in Law at the State University of Ponta Grossa (UEPG) applied for the first selection call. In approximately 40 days, there were 93 applications for the 20 vacancies offered.

In the distribution of applicants by lines of research, 34 candidates were interested in the criminal area, which has six vacancies, 23 candidates chose the area of private and socio-economic relations, which offers nine vacancies, and 36 candidates expressed their interest in topics related to fundamental rights and the promotion of public policies, which have five vacancies.

According to the Program Coordinator, Professor Eliezer Gomes da Silva, in addition to candidates residing in the Campos Gerais region, Curitiba and several other cities in Paraná and São Paulo, there are applicants from distant cities, such as Cuiabá, Fortaleza, Belo Horizonte, João Pessoa and Uberlândia. "This is relevant data since it is an on-campus Program", he points out.

Text: Vanessa Hrenechen Photo: Reproduction

April 12, 2021







## Dreaming dreams: the Master's Degree in Law at UEPG

<http://u.uepg.br/bxrn>

On Wednesday night (18), the Professional Master's Degree in Law at UEPG held its inaugural class. The text that follows is the speech of the Rector of UEPG, Professor Miguel Sanches Neto:

“It is with great joy that I welcome the Magnificent Rector of the Federal University of Paraná, Professor Ricardo Marcelo Fonseca, who was re-elected rector because of his beliefs in the defense of democracy, the public university, and the excellent work ahead of his institution. Congratulations on the re-

election, Professor Ricardo.

Graduated in Law and History, chair of the History of Law course, Doctor Ricardo is a reference both in teaching and in university policies. Receive our admiration for the trajectory and defense of the democratic state of law.

July 12, 2022

Photo: Luciane Navarro









## UEPG law professor publishes book on blank criminal laws.

<http://u.uepg.br/bxro>

This Tuesday (24), Professor Pablo Milanese, from the Department of Law at the State University of Ponta Grossa, published the book "Criteria for justifying the use of blank criminal law for the protection of collective legal goods". The book is about his doctoral thesis approved with the highest academic grade ("sobresaliente cum laude") for the doctorate degree in Legal Sciences at Universidad de Granada, Criminality and Law.

"In recent years, criminal law has undergone constant changes, adopting a policy of criminalizing facts, which reveals its expansionist nature. Furthermore, it uses instruments that facilitate its exercise, among which we can mention blank criminal laws", explains the author. The work deals precisely

with the constitutional meaning of blank criminal laws, when the norm that completes the description of the fact is of a lower hierarchy than criminal laws, and with discussions about the legitimacy and limits of this typification technique.

Professor Pablo teaches at UEPG and at Cescage College and works as a criminal lawyer. He is currently doing a post-doctorate in Legal Science at the University of Vale do Itajaí (Univali). The book is available on the publisher's website, in printed and digital format (e-book).

Text: Aline Jasper | Photo: William Clarindo

August 25, 2022







# UEPG Law professors participate in the Annotated Criminal Code

<http://u.uepg.br/bxrp>

The collection "Criminal Code Annotated", recently launched by Juruá Publishing House, has the contribution of three professors from the Bachelor of Law program at the State University of Ponta Grossa. Professors Eliezer Gomes da Silva, Pablo Milanese and Rauli Gross Júnior wrote excerpts from the work coordinated by the judge Denise Hammersmidt.

With the participation of more than 70 authors, the work has a preface by Vladimir Passos de Freitas, professor of the graduate program at the Pontifical Catholic University of Paraná and National Secretary of Justice at the Ministry of Justice Public Security, honoring Professor René Ariel Dotti. "The contemporary penal code presents great complexity", points out Freitas, in the preface.

"The increase in population, which began to live in large

centers, technology, the current spaces occupied by women, recent customs and concepts have caused profound changes in society, proposing new 'criminal types', in greater numbers and more complex".

The coordinator points out that the work, with 1440 pages, is essential for students and law professionals. "It comprises the thematic unfolding of the articles, following the systematization of the criminal legislator, by didactic segments distributed by the respective chapters that make up the codification, bringing together more than one hundred scholars and renowned jurists who bring valuable contributions, with intellectual and legal authority".

Text: Aline Jasper | Photo: Luciane Navarro

September 21, 2021







# Tax Awareness Week debates tax reform in Paraná

<http://u.uepg.br/bxrq>

Tax Awareness Week, an event promoted by the State Treasury Department, State Revenue Service, Federal Revenue Service and the State University of Maringa (UEM), takes place next week, on October 25th and 26th. The focus of the event, which is free, online, and open to the public, is tax reform, its analysis, and consequences. The Superintendence of Science, Technology, and Higher Education (SETI) is a partner of the event.

Since the Law nº 19862, of June 2019, the week of State Awareness Campaign on the Tax Load, held annually in the last week of October, became part of the official calendar of events in Parana. As the organization of the event explains, the objec-

tive is to promote, through debates and lectures, the population's awareness about the tax competence of each federative entity, the tax collection system, allocation of collected amounts, the impact of taxes on products and services, among other related topics.

Text: Aline Jasper | Photo: Reproduction

October 20, 2021



# 17 PARTNERSHIPS FOR THE GOALS









## UEPF Rector and Aliel Machado accompany the preparation of the transfer of patients to the new HU-UEPG building.

<http://u.uepg.br/bxrr>

The State University of Ponta Grossa starts tomorrow (05) the emergency use of the new building attached to the University Hospital. With the transfer of patients from General Intensive Care Units, new Covid-19 ICU beds will be opened, 40 in total.

The building, designed to be a Maternity Hospital through parliamentary amendment, by Congressman Aliel Machado, worth BRL 4 million, receives eight patients this Tuesday so that the main building of the UH-UEPG is exclusively used for Covid-19.

The director of the University Hospital, Sinvaldo Baglie, explains that this is a necessary change for the institution to

comply with the determination of the Secretary of Health (Sesa) of December 28, which makes the UH exclusive to Covid. "The transfer makes it possible to open ICU beds for the treatment of patients with coronavirus", explains Baglie. The director adds that, as the second floor of the new building was ready, it was used as an emergency in the transition plan. "Thus, we optimize the space, open new beds, and guarantee the proper follow-up of the patients who were already under our care", he clarifies.

Text: Luciane Navarro | Photo: Aline Jasper

January 04, 2021









## UEPG and 3rd Health Regional reassure partnerships for 2021.

<http://u.uepg.br/bxrs>

In a meeting at the University Hospital this Monday (04), the State University of Ponta Grossa, the 3rd Health Region and the UH-UEPG planned joint actions for 2021. On the occasion, which coincided with the transfer of patients to the new wing in the hospital, strategies were discussed to deal with the pandemic and the growing cases of Covid-19, in addition to short, medium, and long-term initiatives.

This week, the UH expands its beds for Covid-19 patients, based on a strategy drawn up in conjunction with the Secretary of State for Health and the 3rd Regional Health Office. The goal is to comply with Sesa's determination that

makes hospital care almost exclusive for the disease.

The Maternal and Child University Hospital was also on the agenda of the meeting. The director of the Regional Office, Robson Xavier, emphasized the intention, together with the City Hall of Ponta Grossa, to establish definitive solutions for the university management of the hospital. For the post-pandemic moment, UEPG is also studying the expansion of medical specialty clinics at the University Hospital.

Text and photos: Aline Jasper

January 06, 2021









## Rector discusses partnerships with municipal councilors.

<http://u.uepg.br/bxrt>

This morning (12), the Rector of the State University of Ponta Grossa (UEPG), Miguel Sanches Neto, met with co-councillors Guilherme Mazer and João Luiz Stefaniak, members of the council Josi+Coletivo. The Associate Provost of Planning at UEPG, Andrea Tedesco, was also present. During the meeting, bills concerning the University that must be

processed in the City Council were discussed as well as possible partnerships between the councilors and the UEPG.

Text and photos: William Clarindo

February 12, 2021









# UEPG researchers win a place in the Capes exchange program abroad.

<http://u.uepg.br/bxru>

Researchers from six programs at the State University of Ponta Grossa (UEPG) won a vacancy in a new call from the Coordination for the Improvement of Higher Education Personnel (Capes), which selected scholarship holders under the Interuniversity Exchange Doctorate Program Abroad (Program de Doutorado Sanduíche no Exterior - PDSE). The Program offers scientific exchange and the academic qualification of students from Brazil, and grants scholarships abroad.

Adriano Alberto Smolarek (Applied Social Sciences), Ana Luisa Terasawa Senra (Materials Science Engineering); André de Moraes (Geography), Cristiane Maucoski (Dentistry), Laura Mattana Dionisio (Pharmaceutical Sciences) and Rafaela

Gomes da Silva (Science and Food Technology) were the UEPG researchers selected in the Capes call.

Researcher Laura Dionisio, who won a scholarship at Harvard Medical School, in Boston, stresses the importance of an opportunity like this.

"Since my graduation, I've always dreamed of the possibility of doing part of my postgraduate studies abroad and now I conquered this opportunity with the Capes doctoral scholarship", she states.

Text: Julio César Prado | Photo: Aline Jasper

April 08, 2021









# UEPG professors participate in an event promoted by the University of Oxford

<http://u.uepg.br/bxrv>

Professors Rita de Cássia da Silva Oliveira and Vera Lucia Martiniak, from the Department of Education, and Flávia Oliveira Alves da Silva, from the Department of Law, at the State University of Ponta Grossa (UEPG) were among the Latin American professors invited to speak at the opening of the remote seminar held by the Oxford Population Aging Institute and the Latin American Research Network on Aging (LARNA), which aims to discuss the challenges of aging in Latin America.

In the lecture "Population aging in Brazil and the challenges for the formulation of educational policies for the elderly", the UEPG professors pointed out that, despite the implementation of educational policies for various segments and modalities there is still a lack and a gap in education

actions that prepare individuals to act in a context of rapid growth of the elderly population.

For Professor Rita de Cássia Oliveira, "education is fundamental for reducing discrepancies in values and ideas that cause tension between the different generations, constituting a relevant strategy to reverse the process of devaluation of the elderly in Brazilian national culture".

Text: Julio César Prado | Photo: : Reproduction

April 29, 2021



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