

STEP

STEM Research
Equality, Diversity and Inclusion

STEP Newsletter ISSUE 3 | JULY 2024



step.ipb.pt



STEM RESEARCH CONNECTING IMAGINATION AND REALITY

Dear colleagues and partners,

It is with great enthusiasm that I welcome you to the third issue of our STEP newsletter. As the project coordinator, I am honoured to lead this team, which aims to drive excellence and enhance the research capacity of Instituto Politécnico de Bragança (IPB) in Portugal.

Our mission is to excel in STEM fields while seeding Equality, Diversity, and Inclusion (EDI) values; by fostering cross-fertilization between disciplines, we can break down barriers and create a stimulating academic environment, contributing to the quality of research approaches within our institution.

IPB is not alone in this journey: we are fortunate to be in the company of four international leading partners with whom we are forging new paths, collaborating, and making a lasting impact.

Thank you for being a part of this adventure.

Ana Isabel Pereira
STEP Project Coordinator

WEBSITE

 <https://step.ipb.pt/>



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PAST EVENTS


STEP Talks!

[Connecting Science and Society: Science Communication Practices](#)

18 January 2024 | 39 


The STEP project's first event of 2024 was given by the then executive director of the Bragança Ciência Viva Center, PhD student Ivone Fachada. The talk aimed to address communication practices and examples for the general public. Various models for conveying scientific concepts in a way that is accessible to the non-specialist public were presented.

[Equality, Diversity and Disinformation](#)

08 February 2024 | 35 

The talk given by guest Diana Barbosa, from NOVA's Institute of Contemporary History, dealt with the interconnected phenomena of disinformation and pseudoscience, relating them to EDI issues. It was a very interactive talk that made the audience reflect on how various pseudoscientific practices are factors that contribute to the degradation of the goals of equality, diversity and inclusion.


[Harvesting Energy from Natural Gas pipelines, at Reduction and Measurement Cabins](#)

15 May 2024 | 19 

The STEP Talk in May was given by guest Francesco Devia, from the University of Genoa (UNIGE) and took place in the Eng^o Alcínio Miguel Auditorium (IPB). The talk, aimed at Mechanical Engineering students, gave a brief introduction to natural gas consumption in Italy and Portugal.



[Women in STEM: the architectural perspective](#)

23 May 2024 | 05 

The STEP Talk in May was given by guests Cristina Cândia, Alessandro Meloni and Alessia Segalerba from the University of Genoa (UNIGE). It focused on problems related to the collaborations between male and women architects, highlighting the frequently not recognized contribution of women in architecture. The STEP Talk was divided into three sessions:

- *Anne Tyng: Architectural and Urban Design (Alessandro Meloni)*
- *Modernism and Woman Architects (Alessia Segalerba)*
- *Relations and Conflicts: Recognizing the Role of Woman Architects (Professor Cristina Cândia)*

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PAST EVENTS

STEP Workshops

[Funding for Research Projects, Scholarships, and Research Visits: Sources and Tips](#)

25 January 2024 | 41 

Cinzia Leone, from University of Genoa (UNIGE), gave this insightful workshop on how, when, where and with whom to successfully apply for grants.

[Tips and Hints for FCT PhD Application \(Parts I and II\)](#)

13 March and 09 April 2024 | 46 

The roundtables carried out in March and April had several PhD students from IPB as guest speakers. The sessions focused on the application for FCT scholarships, focusing on typical issues encountered by students.

- In the first session, on March 13, students who are already FCT doctoral fellows gave tips and recommendations for general and specific questions posed by the audience.
- In the second session, on April 9, the student candidates were able to answer any further questions that had arisen during their application for the FCT grant, which closed on April 14.

[Counteracting Domination Techniques](#)

18 March 2024 | 15 

The workshop given by Fatima Jonsson, from Södertörn University (SH), provided the audience with useful strategies to counteract situations where we found ourselves suffering under dominance techniques.

[Writing Science: from Blank Page to Publication!](#)

04 April 2024 | 66 

The talk given by Mónia Martins, from Instituto Politécnico de Bragança (IPB), described in a lively and detailed way the road to publish a paper. With practical illustrations, Monia gave insightful information on several steps in the path to prepare and submit a paper.


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PAST EVENTS

STEP Workshops

[Knowledge Management, Innovation and AI](#)

21 May 2024 | 18 

The talk was given by Eunika Mercier-Laurent, from the University of Reims Champagne Ardennes (URCA). It provided information on several aspects in innovation, including typology of innovations, invention versus innovation, the process and conditions for success, all illustrated by practical cases.

[Equality, Diversity and Inclusion in STEM Research – Building an Inclusive Community](#)

28 May 2024 | 19 

The full-day workshop carried out in May was an important moment to share information on successful practices in EDI-related topics in different areas, mainly STEM areas.

The morning focused on the presentation of several projects focused on EDI. The participants were able to present their work on EDI and discuss among them important aspects and difficulties in implementing EDI practices. The morning session is available on our YouTube channel!


The afternoon session focused on a practical exercise aiming at building a more inclusive IPB. With the guidance of Sofia Bergano and André Brasil (ESE, IPB), the participants built a roadmap of where IPB is and where it should go. The afternoon session ended with a lively and practical formation in personal defense!

[Fulbright for ESRs: a life changer](#)

04 June 2024 | 14 

The talk given by José Inclán, from Universidad Complutense de Madrid (UCM), focused on the Fulbright Program, giving detailed information and tips on the steps required to obtain a Fulbright grant. It provided insightful information on the application process, selection criteria, and the advantages of living and studying in the United States

[Research Management for ESRs](#)

18 June 2024 | 26 

The talk by Clara Sánchez-Rebato Valiente, from Universidad Complutense de Madrid (UCM), in June focused on PhD students and the demanding aspects of carrying a PhD. The speaker gave useful tips in how to adapt to the PhD life, productivity, time management, focusing in how to maintain mental health in academia.

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COMMUNICATION AND DISSEMINATION

International Conference on Co-Creation Processes in Higher Education ([In2CoP](#)) serves as a crucial platform for reflection and the sharing of insights garnered from co-creation ecosystems. Professor Maria de Fátima Pacheco, from STEP IPB Team, represented STEP Project during the conference, which took place at Polytechnic Institute of Bragança, on 30-31 January and 01 February, 2024.



Gender Conference at Södertörn University
Stocholm, Sweden



XX International Conference of
Expresión Gráfica Arquitectónica
Coruña, Spain

PROJECTS

We would like to make public the scientific and organizational progress that the STEP Project has brought to the IPB community. Recently, 3 European Projects were approved by ["la Caixa" Foundation](#) and [Horizon Europe](#), for the Mountain Research Centre ([CIMO](#)) and the Centre for Digitalization and Intelligent Robotics ([CeDRI](#)).
Congratulations to all involved!

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UPCOMING EVENTS

STEP Workshops

Building International Partnerships for a Project Success

With Liisa Hänninen, from UCM, Online
02/07/2024 11h00 (CET)

Management of Research and Innovation Projects within the European Funding Framework

With Cristina Pérez, from UCM, Online
16/07/2024 11h00 (CET)

Project Management

With Cinzia Leone, from UNIGE, Online
06/11/2024 (Time will be available soon)

IPR Research

With Cinzia Leone, from UNIGE, Online
12/12/2024 (Time will be available soon)

More Information Available Soon:

- # Basic Knowledge of Statistics (October)
- # Design and Analysis of Experiments (November)

More Information
Subscribe our newsletter on
step.ipb.pt

IV International Conference on Optimization, Learning Algorithms and Applications

Universidad de La Laguna, Tenerife, Spain
24-26 July 2024

The conference is focused on the challenges of optimization and learning methods and their applications; it will bring together scientists and engineers, providing the international research community in optimization and learning with an opportunity to present, discuss and publish recent research results and approaches, to develop new ideas and collaborations.

Conference proceedings will be published by Springer-Verlag in Communications in Computer and Information Science (CCIS) indexed to Scopus.

More information on [website](#).



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UPCOMING EVENTS

STEP Summer School - Boosting scientific excellence and inclusion in academia

Södertörn University - Sweden

16-20 September 2024

The STEP summer school brings young scientists and senior researchers together to boost their academic careers and create an inclusive academy. One of the goals of the STEP project is to integrate Equality, Diversity and Inclusion principles and values in Science, Technology, Engineering, and Math research.

The summer school provides a unique blend of creative workshops, and activities on EDI and academic communication for a better academic career. The activities will lead to fruitful discussions, collaboration, scientific achievements and informal networks. The STEP project is financed by Horizon Europe.

More information and registration: [STEP Summer School](#)

Welcome to the STEP Summer School in Stockholm

Boosting scientific excellence and inclusion in academia

Södertörn University 16–20 September 2024



OPPORTUNITIES

The STEP project is dedicated to enhancing the research outcomes of the Instituto Politécnico de Bragança (IPB) in the fields of STEM (Science, Technology, Engineering, and Mathematics) and EDI (Equality, Diversity, and Inclusion). To support these objectives, the STEP team sends a bi-weekly newsletter highlighting national and international funding opportunities. This newsletter provides a concise summary of available project funding applications and other initiatives for researchers at IPB.

We invite you to subscribe to our newsletter to stay informed about the latest funding opportunities and to receive the support you need for your applications. Should you require any assistance or questions, please do not hesitate to contact us at step@ipb.pt.

Artificial Intelligence for All - An Inclusive Perspective of Artificial Intelligence

27 June 2024

On June 27th the UCM team of the STEP project, in collaboration with the Summer School of the EDIRE project (<https://edire.eu/>), organized a new session of the program La RonDa, this time with the subject "Artificial Intelligence for All".

Artificial Intelligence is currently covering all areas of our daily lives through all kinds of services. Its development has accelerated in recent years, but at the same time it has become concentrated in a small number of companies that have the necessary resources, which are increasingly demanding. This situation invites us to reflect on the role of people as consumers of services but at the same time, and perhaps more importantly, as providers of data. Data allows the provision of services to be personalised differently for each individual. This raises the risks that access to and control over the services offered by Artificial Intelligence may be discriminatory and conditioned by bias.

The event was illustrated first with the projection of the short film "Hyper-Reality", a concept film by Keiichi Matsuda of a dystopian future illustrated in the city of Medellín in Colombia. This film can be found at <http://hyper-reality.co/>.

After the film, a round-table discussion has discussed about the topic with the participation of several members of the STEP project: Zahia Guessoum and Francisco Garijo as speakers, Juan Pavón as moderator, and Andrés Arias as presenter of La RonDa. The discussion has gone around several questions:

- Is it possible to ensure that Artificial Intelligence for all is equitable, secure and accessible?
- Can we control how our data is used and by whom?
- What ethics can be imposed on the use of data and access to services?

Apart of the public present at the Colegio Mayor Argentino in the University Campus, around 50 people, the event has also been followed online by several viewers from Argentina and other countries in South America.



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NEWS

Promoting STEM in Secondary Education with the I.amAble Methodology

17-19 April 2024

Nine inclusive scientific workshops were held at the Institute of Secondary Education (IES) Las Musas (Madrid), sponsored by the STEP European Project and the Madrid Territorial Section of the Royal Spanish Society of Chemistry (RSEQ-STMAD). The experiments carried out included workshops about (i) Formation of a precipitate from two solutions of soluble salts; (ii) Determination of the relationship that exists between the concentration of a solution and its density. They also applied concepts of flotation and density to understand how solutions with different densities can be separated; (iii) Verification of the law of conservation of mass. Lavoisier's Law; and (iv) Catalytic decomposition of hydrogen peroxide with potassium iodide. Each experiment was carried out by a trio made up of a person from Vocational Training (FP) from IES Las Musas, another person from the same center but from Compulsory Secondary Education (ESO) and a third person with intellectual disabilities from a special education center. Before and after the development of the workshops, tests were distributed (with pictograms for those who did not master reading and writing) to evaluate the impact of the workshops on the students.

An adaptation of the I.amAble project methodology developed at the Complutense University of Madrid was used, with the following objectives:

- Improve the scientific culture of society.
- Value the contributions of science to society.
- Bring science, and in particular chemistry, to a sector of society that is frequently neglected during activities to promote scientific culture, such as people with intellectual disabilities.
- Consolidate a pilot educational experience that responds to the social need to move towards a more inclusive model.
- Establish scientific workshops in non-university educational centers as a teaching and personal development resource in the training of people with or without disabilities through an inclusive methodology.
- Evaluate the impact of the experience on students.
- Develop cooperative work between universities and non-university educational centers to

show continuity to the educational lines of students from secondary school to university that facilitate continuous and quality education.

- Stimulate creativity and contribute to methodological innovation and the exchange of experiences between professionals from different fields.
- Promote mutual recognition between students with a preference for the more applied aspect of science and students who seek to expand the boundaries of science.



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NEWS

Face-to-Face STEP Meeting

On January 29 and 30, 2024, the STEP Project had the third face-to-face meeting at the University of Reims Champagne-Ardenne (URCA), with representatives from IPB, URCA, SH, UCM and UNIGE. This gathering provided an opportunity for team members to discuss, share progress updates, and strategize for the upcoming events.



Accelerate your Career

Join IMFAHE's Global Platform of
Talent 2023-2024



Informational Session
Tuesday, October 24th
13.00h CET



IMFAHE Platform

The IPB, alongside an exclusive group of Spanish and Portuguese universities, collaborates with the IMFAHE Foundation to foster global collaborations, innovation, and the development of excellence among its students and professors.

At the beginning of this academic year, 13 students and 11 professors from the IPB were selected through a call launched by the University to join the IMFAHE Talent Network. With the support of mentors working in top organizations worldwide such as Harvard, MIT, and Google, IMFAHE offers the selected participants access to a range of programs, resources, connections, and the development of transversal skills that complement the training offered by the University, equipping them to successfully achieve their professional goals. Additionally, IMFAHE openly offers to the entire IPB community online courses and workshops led by international experts, promoting internationalization from home.

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NEWS

10th IMFAHE International Conference – Innovation Camp “Shaping the Future Through Global Learning and Collaborations”

On Monday, May 27, the [10th IMFAHE International Conference](#) – Innovation Camp “Shaping the Future Through Global Learning and Collaborations” was held, marking the end of the 2023-2024 academic year, in which the IPB had a prominent participation.

In the opening session, the Professor and Vice-Coordinator at the Research Centre in Digitalization and Intelligent Robotics (CeDRI) at the Polytechnic Institute of Bragança, Ana I. Pereira, talked about the milestones achieved by the University in the last decade, as well as the strategy for the future.

In the conference’s Global Idea Competition-IMFAHE (Shark Tank) session, ten students and professors from the IPB became entrepreneurs, being present in 6 of the 14 finalist teams and winning \$7,500 in prizes. Specifically:

- IPB students Adriana Katherine Molina Vargas and Ana Luísa Gonçalves Saldanha, and the professors Maria Gabriela Leichtweis and Carla Susana Correia Pereira together with their MushProtein team were the winners of \$3,000 to develop a high-protein and energetic gel for athletes based on the *Cordyceps militaris* fungus.
- IPB student Paula Marina de Sousa Plasencia Matos along with her LabStream team were the winners of \$2,100 to develop a project that wants to revolutionize inventory management in health sciences research laboratories.
- IPB students Ana Luísa Gonçalves Saldanha and Maria Gabriela Leichtweis and the professor Carla Susana Correia Pereira with their Nutri&Safe team were the winners of \$2,000 to develop safe, nutritious and allergen-free foods for children in emergencies.
- IPB student Beatriz Flámia Azevedo with her team Education Guardians were the winners of \$400 to develop a platform for reducing students dropout rates and improving engagement.
- IPB student Bruno António Alegre da Costa along with his Retirement Retreat team were one of the finalist teams to develop a service for seniors living in depopulated rural areas.
- IPB professor Ana I. Pereira together with her Eco-Exodus team were one of the finalist teams to develop technological tools that allow predicting the tourist impact on natural areas.

In the oral presentations’ session of research works, 4 research projects conducted at the IPB were selected to be presented at the conference.

Towards the end of the conference, the winners of the [IMFAHE Excellence Fellowships](#) were announced. After a competitive process, the best students of the IMFAHE Platform were awarded scholarships to carry out professional internships in centers of international excellence. IPB PhD student Beatriz Flámia Azevedo was the best evaluated among all the Portuguese students in the Platform and becoming the winner of the Portugal Global Fellowship. Beatriz plans to use this opportunity to conduct a research stay at the prestigious MIT Media Lab in the USA.

Congratulations to everyone for the achievements!