

**EUROPEAN RESEARCH AND INNOVATION EVENT 2024** 

Organized by Inria and the Brittany Region

10th - 11th October 2024

## **Agenda**

university





A You will need to show an ID card to enter

# Short program

35042 Rennes Cedex

Thursday 10th October		Friday 11th October	
09h00 - 10h00	Opening & coffee	08h30 - 10h00	Talks
10h00 - 10h15	Welcome speech	10h30 - 11h45	Talks & Round-table
10h15 - 12h00	Talks		
12h00 - 14h00	Lunch & poster session	11h45 - 13h45	Lunch & poster session
14h00 - 14h45	Talks	13h45 - 14h15	Talks
14h45 - 15h45	Workshops	14h15 - 15h15	Round-table
16h15 - 17h00	Talks	15h15 - 15h30	Closing remarks
17h00 - 18h00	Workshops		
18h - 21h: cocktail		Event end	ls at 15h30

# **Thursday 10th October** – sessions take place in the conference room except if specified otherwise

9:30 – 10:00	Welcome of participants and coffee/tea aside the conference room
10:00 – 10:15	Opening Speech – Amphitheatre By Patrick Gros (Inria) and Olivier David (Brittany council)
10:15 – 11:00	Ethics and Al: what are we talking about? with Catherine Tessier  Social networks, self-driving cars, chatbots, connected health, facial recognition Such digital systems are neither "autonomous" nor "intelligent", but they require a specific ethical approach to inform our social choices. How can we question the arguments put forward to promote these systems? How can we avoid fantasies? What values are likely to come into conflict?  Based on a review of a number of international documents dealing with the "ethics of artificial intelligence", we will highlight the problems associated with the vocabulary used and the assumptions made, as well as tensions and paradoxes. By way of example, we will focus on the principle of "human control". We will conclude with a discussion of the risks of misuse of ethics, and the need for genuine ethical reflection in the research, design and use of artificial intelligence systems.  Dr. Catherine Tessier is a Director of Research at ONERA in Toulouse, France, and ONERA's Research Integrity and Ethics Officer. Her research focuses on the modeling of ethical frameworks and on ethical issues related to the "autonomy" of robots. She has been a member of the French National Committee for Digital Ethics and a member of the French Defense Ethics Committee. She was a member of the UNESCO ad hoc Expert Group for the elaboration of the Recommendation on the Ethics of Artificial Intelligence.  https://www.onera.fr/fr/staff/catherine-tessier
11:00 – 11:30	Security of Artificial Intelligence with Teddy Furon  The presentation attempts to define a reading grid in order to organize the security problems related to Al. It emphasizes the difference between robustness and security, adverse examples, backdoors, membership inference attacks, watermarking and fingerprinting models. The reading grid is based on the type of Al (decision-making or generative), the access to the Al (white or black box), the security issues (intrinsic vulnerabilities of Machine Learning or malicious use of Al), and the ultimate goals (patch vulnerabilities, audit, or dissuasion of misuse).  A definition of IA security relies on the basic definition of Machine Learning: learning a model from training data and applying it to some test data. The confidence in the results implies protecting the training data, the model, and the test data. Protecting resorts to the definition of security in IT: it means defending the cardinal values of confidentiality, privacy, and integrity. Since the cost of training may be significant, models become a valuable industrial asset that also needs protection. This increases the attack surface to enable proof of ownership of models by fingerprinting and watermarking.



**Teddy Furon** is research director at Inria. His research interests include the security of multimedia data, signal processing, and of machine learning. He has alternated research in academia (Catholic University of Louvain, Inria Rennes) and in industry (Thomson multimedia, Technicolor) where he was also a consultant for Hollywood MovieLabs. He co-founded the company IMATAG, which defends the copyrights of photo agencies (AFP, Reuters) thanks to an image watermarking

technique. He is an IEEE Senior Member and has been an associate editor of four scientific journals, including IEEE Transactions on Information and Forensics. He has been the PI of two ANR projects, a partner in three national and two European projects, and co-organizer of two international conferences. He is currently the recipient of the AI and Defense Chair SAIDA funded by the ANR and AID. <a href="https://people.rennes.inria.fr/Teddy.Furon">https://people.rennes.inria.fr/Teddy.Furon</a>

#### Research integrity

with Catherine Tessier (bio, see 10:15)

11:30 - 12:00

The principles of Research Integrity are well described in the European Code of Conduct. We will focus on some of them, for instance: who should be an author? Furthermore, we will give some recommendations for a responsible use of generative AI in research.

#### References:

The European Code of Conduct for Research Integrity, revised edition June 2023 Living guidelines on the Responsible Use of Generative AI in Research, first version March 2024

12:00 - 12:45

Lunch in rooms Petri-Turing (upstairs)

12:45 - 14:00

**Poster session** served with coffee/tea and dessert see list A on page 11

**Equity, Diversity and Inclusion in the United States. Inclusion in research.** with Bleuwenn Lechaux

14:00 - 14:45



Bleuwenn Lechaux is Associate Professor of Political Sociology at Rennes 2 University, France, and member of Arènes (UMR 6051). Her research areas are social movements, and gender and race discrimination in the performing arts. She is the author of publications in English and French, including books (Rapports au genre en politique [Peter Lang, 2020, ed., with C. Guionnet] and Voicing Dissent. American Artists and the War on Iraq [Routledge, 2010, with V. Roussel]), articles in peerreviewed journals (International Journal of Politics, Culture and

Society; Critique internationale; etc.) and book chapters (Routledge, Presses de Sciences Po, Presses Universitaires de France, Presses des Mines, Actes Sud, etc.).

https://perso.univ-rennes2.fr/bleuwenn.lechaux

14:45 - 15:45

Workshop 1 – Petri room

I want to become an associate professor or a researcher in France: How does it work?

with Pascale Sebillot and Paolo Robuffo Giordano

The workshop will address the recruitment process for associate professors in French universities "grandes and écoles", from the qualification by the CNU to the actual competitive recruitment process. Information advice on the preparation and writing of qualification and application dossiers will be provided in particular.

In addition, we will also cover the recruitment process for pure researcher positions (mainly at CNRS and Inria), by explaining how the process works and giving some tips and advices to maximize the chances of success. Workshop 2 – Amphi

**ERC, why not me?** with Pierre Corvec and Hélène Rannou-Boucher

Projects funded by the European Research Council (ERC) offer researchers the opportunity to conduct cutting-edge research in Europe. Find out more about key features of ERC grants, types of grants, eligibility, evaluation criteria and proposal preparations. Learn how your project can serve as a springboard for the submission of an ERC project. This workshop will allow you to exchange best practices and strategies for succeeding in your ERC projects.

Worshop 3 – Markov room

mediation / outreach with Julien Le Bonheur

This workshop is based on working in pairs to practise scientific mediation together. The aim is for participants to leave with a "core" presentation of their work in lay terms, which can be developed for use in a wide variety of contexts.



Pascale Sébillot is a computer science professor at INSA Rennes and a member of the Linkmedia research group, common to IRISA and Inria Rennes. Building on her background in natural language processing, her current research activities involve the modeling and structuring of multimedia collections, deep learning, and the combination of knowledge bases and multimedia content for data journalism. Among her collective duties, she served for 8 years (2011-2019) as a member of the National Council of Universities (CNU 27), and she has been the deputy director

of IRISA since 2021. http://people.irisa.fr/Pascale.Sebillot/



Paolo Robuffo Giordano received his M.Sc. degree in Computer Science Engineering in 2001, and his Ph.D. degree in Systems Engineering in 2008, both from the University of Rome `La Sapienza''. In 2007 and 2008 he spent one year as a PostDoc at the Institute of Robotics and Mechatronics of the German Aerospace Center (DLR), and from 2008 to 2012 he was Senior Research Scientist at the Max Planck Institute for Biological Cybernetics in T\"ubingen, Germany. He is currently a senior CNRS researcher head of the Rainbow group at Irisa and Inria in Rennes, France.

https://team.inria.fr/rainbow/fr/team/prg/



**Pierre Corvec** is a European project Officer focused on Mathematics and Information and Communication Sciences (ICT) at the Plateforme Projets Européens (2PE) – Bretagne on the Rennes-Lannion geographic division since 2021. He was previously in charge of managing European projects at the Centre National de la Recherche Scientifique (CNRS) in Rennes. He is actively involved in raising awareness of European projects

within the Breton academic community and supports researchers in developing European training projects (Erasmus+) and research and innovation projects (Horizon Europe) for research units related to information sciences, electronics, mathematics and statistics.



Hélène Rannou-Boucher is a European Project Officer at 2PE. With previous experience as a European Project Officer at the Jean Monnet Centre of Excellence in Rennes, she joined 2PE Bretagne in 2018. The focus of her work is on the social sciences and humanities in the Rennes-Lannion geographical area. She plays an active role in promoting European projects within the academic community in Brittany, supporting researchers in

developing European training programmes (Erasmus+) and research and innovation projects (Horizon Europe) for social sciences and humanities units.

https://2pe-bretagne.eu/



Julien Le Bonheur's career has focused on making incomprehensible content to the uninitiated both accessible and engaging, while trying very hard not to betray it. He started out as a teacher of French, Latin and Ancient Greek at high school level, then went on to work as a professional translator from English into French for major publishers, as a scientific mediator in astronomy and astrophysics at the Palais

de la Découverte in Paris and, since 2012, as Head of Science Communications at the University of Rennes. In his view, the demanding task of making science accessible (in terms of its methods, results and limits of validity) is more than ever a fundamental democratic issue, and therefore is a task that at least every European science-maker should take on.

https://actu.univrennes.fr/actualites?tid=95&f%5B0%5D=highlight\_thematics%3A95

#### 15:45-16:15

Coffee break, next to the conference room

#### Sustainability and research

With Matthieu Simonin

### 16:15 - 17:00

The Paris agreement, adopted in 2015 by over 190 countries, target to "significantly reduce global greenhouse gas emissions with the aim of limiting global warming to  $2\,^{\circ}$ C this century, while continuing efforts to further limit global warming to  $1.5\,^{\circ}$ C". Created in 2019 Labos1point5 was coined after this agreement to better understand and reduce the carbon footprint of French public research. Now, in 2024, where do we stand?

	Matthieu Simonin is a research engineer at Inria. In 2023, he joined Labos1point5, a french transdisciplinary research group whose objective is to better understand and reduce the carbon footprint of French public research. He is now developping the labos1point5's tools used by thousand of laboratories in France and also participating to several working groups aiming at understanding the challenges of transitioning to a (more) sustainable research.		
	Workshop 1 – Petri room	Workshop 2 – Amphi	Worshop 3 – Markov room
17:00 – 18:00	I want to become an associate professor in France: How does it work? with Pascale Sebillot and Paolo Robuffo Giordano description and bio's see abov	ERC, why not me? with Pierre Corvec and Hélène Rannou-Boucher	mediation / outreach with Julien Le Bonheur
18:00 - 21:00	Cocktail reception		
21:00	end of the day		

# **Friday 11th October**– sessions take place in the conference room except if specified otherwise

# Open Science and CoARA: Building a Collective Vision for Research Assessment Reform

with Eva Mendez

This presentation will address the current scientific crisis and the need to open up science to better tackle societal challenges. Dr. Méndez will also explore why CoARA was created, how the coalition operates, and its role and expectations in advancing research assessment reform. Additionally, the talk will reflect on the cultural change required and the importance of involving Early Career Researchers in implementing these reforms.

8:30 - 9:30



**Eva Méndez** is a professor in the Library and Information Science Department at Universidad Carlos III de Madrid, where she has also served as the Deputy Vice-Chancellor for Scientific Policy and for Strategy and Digital Education. She is the director of the OpenScienceLab research group, which develops various meta-research projects for Open Science. Dr. Méndez was the chair of the Open Science Policy Platform

of the European Commission (2018-2020), as well as RDA (Research Data Alliance) ambassador. She is currently a member of the CoARA (Coalition for Advancing Research Assessment) Steering Board. <a href="mailto:opensciencelab.uc3m.es">opensciencelab.uc3m.es</a> | <a href="mailto:ORCID">ORCID</a>| <a href="mailto:LinkedIn">LinkedIn</a> | <a href="mailto:X(Twitter)</a>

# **Open Science at European level: an introduction to the EOSC** With Maud Medves

In this presentation, Maud Medves will introduce you to EOSC, a key element of the EU's Open Science Policy. The ambition of the European Open Science Cloud, known as EOSC, is to develop a 'Web of FAIR Data and Services' for science in Europe. EOSC aims at being a multi-disciplinary environment where researchers can publish, find and re-use data, tools and services, enabling them to better conduct their work. Maud will walk you through EOSC roadmap, governance model as well as the scientific clusters it is built upon. Finally, as Inria is the French mandated organisation for the EOSC, Maud will briefly discuss Inria's vision and present some of the latest funded projects.

9:30-10:00



Maud Medves has been working in the field of scientific information and scholarly communication since 2010 at Inria, CERN as well as at Hcéres, the French quality assurance agency in higher education and research. At Inria she is working as a data steward in the Information Science department and works towards implementing good practises in research data management, advocating the importance of FAIR data in

research and promoting open science at large. She is involved in various European projects, such as FAIRCORE4EOSC and OS Trails, and works closely on topics related to the EOSC.

10:00 - 10:30

Break with coffee and tea

# **Episciences and overlay journals, open science tools for scientific sovereignty** with Claude Kirchner

The digital conversion impacts all domains, actors and interactions of our society, including all scientific disciplines. This situation is a tremendous opportunity for scientists, who can use new concepts and new tools to considerably expand their ability to explore their scientific field, open up their vision and discover the links between their work and that of their colleagues, whatever the discipline or potential application. This result is major changes in the way scientists communicate their work and results and make them available to other scientists, but also potentially to any person or entity, giving rise to the emergence of a new knowledge ecosystem, including its specific market. The role of publishers has changed considerably, and new players are taking advantage of and expanding this knowledge society.

10:30 - 11:00

This brings with it a major new challenge for scientists and their organizations: to retain control over the dissemination of the knowledge they generate, which constitutes an essential common good. This means preserving their scientific sovereignty, and developing the digital tools needed to guarantee free access to publications of all kinds generated by scientific communities.

Several main such tools are developed, made globally available and are extensively used by the scientific communities. This includes for instance main open repository environments like HAL or arXiv or open bibliographic information system like DBLP or Episciences an open science platform for editing and publishing scientific overlay journals covering all disciplines. We'll give an overview of the Episciences initiative, from its principles to its uses and impacts as well as some hints on their ethical

	issues.
	Claude Kirchner headed the Comité national pilote d'éthique du numérique set up from December 2019 to May 2024 under the aegis of the CCNE. He is Director of Research Emeritus at Inria, the French national research institute for digital science and technology, where he was Scientific Director from 2010 to 2014. He is also a member of Viginum's Ethics and Scientific Committee and the CNIL's Foresight Committee. He chaired the steering committee of CCSD (Centre pour la Communication Scientifique Directe), which is in charge of the HAL national open repository and the implementation of services such as episciences.org.  https://www.linkedin.com/in/claude-kirchner-7026144/?originalSubdomain=fr
	Round table about Open Science With Eva Mendez, Maud Medves, Claude Kirchner, Camille Maumet
	Bio's see above and :
11:00 – 12:00	Camille Maumet is a research scientist in neuroinformatics in the Empenn team of the Inria center at Rennes University and IRISA. She studies neuroimaging reproducibility and her current research focuses on our ability to reuse (and use) brain imaging datasets. Camille is also an open science advocate and participates actively in international communities including Brainhack, the INCF, and the French Open Science Committee (COSO). http://camillemaumet.com/
12:00 – 12:45	Lunch in rooms Petri-Turing (upstairs)
12:45 – 13:45	Poster session served with coffee/tea and dessert see list B on page 11
	Digital sciences to capture, analyze, model and train human sports performance With Franck Multon
13:45 – 14:15	In this talk, I will introduce the fundamental aspects of sports training, and how digital science can help to capture, analyze, model and train human performance. A first part will address how human performance can be capture in real situation using computer vision approaches. A second part will present an innovative deep reinforcement learning approach to mimic the motion and strategy of an opponent in boxing. The last part of the talk will explain how these contributions can help to design innovative training methods based on Virtual Reality. These contributions have been performed in the context of scientific support to French Olympic teams in the context of Paris2024 Olympic Games.  Franck Multon is Inria Senior Researcher, leading the
	MimeTIC team which aims at analyzing and simulating human motor performance. He defended his PhD in Inria

Rennes in 1998 on human motion control, in computer graphics. After his PhD, he moved to University Rennes2 as associate professor in Sports Science, in the M2S Laboratory. H initiated the biomechanical team in this lab and became professor in Sports Sciences in 2007. He created the MimeTIC team in 2012, with a mix of researchers in computer graphics, Virtual Reality, computer simulation, biomechanics, and sports sciences. His research interests include motion capture, motion analysis, human performance understanding and modeling, autonomous virtual human simulation, avatar simulation and Virtual Reality for sports training.

https://team.inria.fr/mimetic/

### Round-table discussion: start-ups in Brittany

with Nicolas Turpault, Antoine Le Graët, Shiva K Shukla

What does it take to create a start-up based on research results? And where can you get the right support for it here in Brittany?

A discussion with two start-up creators and a specialist in support for start-up creation will provide you with the first answers.



**Nicolas Turpault** is co-founder of Sonaide, combines a rich profile with a dual background in technology and business management. He holds a doctorate in deep learning specialising in the recognition of ambient sounds in real environments, as well as a master's degree in business management. Sonaide is the first artificial sound intelligence

designed for the general public in the silver economy sector.

Sonaide develops an AI algorithm detecting distress alerts. With our partners we provide a full solution to detect distress from sound (40 m2 per device). The solution detects distress situations on device. The alert is sent to a call center (telecare) checking the alert by discussing through the device with the elderly person. If the alert is detected, families, home care services or emergencies are contacted.

14:15 - 15:15

https://www.sonaide.fr/



Antoine Le Graët is, since 2020 in charge of partnerships and innovation projects at the Inria Centre at Rennes University. With his Master degree in economics he supports startup projects through the Inria Startup Studio program. He started his career in innovation consulting for large companies and startups. Then, he joined the Saint-Brieuc technology park to support the creation of innovative startups.

https://www.inriastartupstudio.fr/en/home/



**Dr. Shukla** is a visionary scientist with a Ph.D. in acoustical engineering from the esteemed Technical University of Madrid. He has over 14 years of experience, including facilitating his service to top institutions worldwide, like CSIC [Spain], MIT [USA], and IIT Bombay [India]. He has unparalleled expertise in translational research, where He [co]authored several research items that include patent

nnovations [5]. research articles [8], and book chapters [1], published in prestigious peer-reviewed journals. Dr. Shukla's groundbreaking work in advancing
the success rate of medically assisted reproduction technologies has gathered academic attention and received several appraisals from French media houses. He is the architect of the Horizon-EU-funded projects MicroFSMA [Grant 10:8422991, and MicroBeaCh [Grant ID: 101154015].
The successful implementation of project MicroFSMA laid the foundation of <b>Beez Biotech</b> , exploiting biomimetic approaches combined with microfluidics and Al to advance quality sperm selection [EvA] for assisted reproduction. Since founding Beez Biotech, he has secured over 522 000€ in public and private funding, propelling the company to the forefront of reproductive technology research and showcasing his entrepreneurship and management acumen. Additionally, he is leading the R&O unit of BB, where he is mentoring R&O engineers and postdocs to develop cutting-edge innovative projects.  **Interpretation**  **Interpr
r h ed

### Poster session 1 (Thursday)

15:30 | End of the event

15:15 - 15:30 | Closing remarks

- Lea Abi Nassif (OPTIMAG, UBO): Evolution des propriétés de la diffusion optique d'un plasma sanguin lors de sa coagulation
- **Beatriz Arce-Lòpez** (LUBEM, UBO): MYVITOX Mycotoxins in cereals in Europe an toxicological effects
- **Neha Aswa**l (Inria Rennes): Detection of structural damage using recursive Bayesian filtering with nonlinear term rejection
- Federica Battistin (CEMCA, UBO): A quick guide to targeted alpha therapy
- Catherine Demangeat (Institut des Sciences Chimiques de Rennes): PhoChiRad: Room temperature phosphorescence from chiral organic materials and hybrid radicals
- Coralie Goetz (Institut Agro Rennes-Angers, INRAE): Microbial strategy for the preventin of bovine intramammary infections — PrevBIM
- **Zine Ellabidine Hammache** (Institut des Sciences Chimiques de Rennes): How can electrochemical impedance spectroscopy be used as a fouling detection tool and for cleaning monitoring of ultrafiltration membranes?
- Roshan Chandrakant Kajare (Institut des Sciences Chimiques de Rennes): Novel 3D-fragment piperidine libraries from aza-prins reaction for fragment-based approach towards antibioresistance
- Marisa Belén Navas (ENS Chimie & ISCR, Rennes): Innovative metal nanoparticles-doped glass foams as catalysts for selective hydrogenation
- **Céline Philippe** (?): Understanding cellular stress' role during aging and malignant transformation
- **Diane Rebourcet** (IRSET, Université de Rennes): Deciphering the role of the human Leydig cells and testicuar macrophages cross talk in steroid production
- Lucia Rodriguez Loureiro (Research institute for environmental and occupational health, Rennes): Associations between residential green spaces and cardiovascular and metabolic health: preliminary results in the CONSTANCES cohort

- **Elaine Sellwood** (Geosciences, Université de Rennes): FACT: Fast Climatic Transitions Luminescence dating of a Neanderthal butchery site at exceptionally high resolution
- Theany To (IPR, Université de Rennes): Crack velocity, fracture surface energy and fracture toughness of BaO-TiO<sub>2</sub>-SiO<sub>2</sub>
- Francisco Javier Valverde-Muñoz (IPR, Université de Rennes): Towards a comprehensive study of hysteretic spin-crossover materials (HYSTERIA)
- Ryan Cloete (LEMAR, UBO): IRONing out Fe sources to the south west Indian Ocean

### Poster session 2 (Friday)

- Carlos Arce-Chamorro (Geosciences, UR): Absolute Dating of Sediments and Rock Surfaces along the Coast of Brittany using cosmogenic <sup>10</sup>Be/<sup>26</sup>Al and OSL from Quartz: the cron-BRET project
- Derek Kwaku Pobi Asedu (Lab-STICC, IMT Atlantique): Designing energy efficient smart farming wireless sensor communication networks
- **Sylvie Campagne** (Station Biologique de Roscoff, Sorbonne Université): Impact des changements globaux sur les services écosystémiques marins
- Francesca Sara Colizzi (IGEPP, Rennes): Is the circadian clock involved in aphid reproduction?
- Hajer Fradi (IMT Atlantique): Neuromorphic vision and transfer learning from robotic applications — NOETIC project
- Ana Velasco González de Peredo (CEMCA, UBO): Profiling of organosulfur in onions
- **Isury Jayawardana** (STLO, INRAE): Flavourful fusion: digesting milk blended with coffee, tea, and chocolate
- **Kamil Kupietz** (Institut des Sciences Chimiques de Rennes): Supramolecular catalysis investment in the development of the future
- Glenn Philippe (Laboratory of Integrative Biology of Marine Models, Sorbonne Université): Why
  do seaweeds produce a cuticle Project 4C A SEA
- Nanna Rhein Knudsen (Station Biologique de Roscoff): Understanding the biosynthesis of cell wall sugar components in red seaweeds
- Babina Sanjel (LIEN, UBO): Pathophysiological mechanisms of itch induced by ciguatoxins (CIGUA-ITCH)
- **Sabana Shabnam** (IPR, Rennes): Molecular dynamics simulation: a tool for numerical experiments
- **Tijen Tunali** (PTAC, Université Rennes 2): Art, nature, technology: digital ecoart and posthumanism for an endangered planet (ANTDEPO)
- **David G. Williams** (IPR, Université de Rennes): The molecular Foucault pendulum: what is a "Geometric Phase"?
- **Israël Tankam** (IGEPP, Institut Agro Rennes Angers): Masculinizing resistance, rotations and biocontrol for durable suppression of potato cyst nematodes: a model

### Coming to the Inria centre

From the train station / downtown

- Metro B stop "Beaulieu - Université"
- Bus C4 or C6 stop "Les Préales"



### About the BIENVENÜE programme

This event is organized within the framework of the BIENVENÜE programme. Co-funded by the EU Marie Sklodowska-Curie Actions, Région Bretagne and partner institutions, the programme aims to reinforce Brittany's research excellence and R&I regional politics. To this end, it offers 75 two-year postdoctoral positions to international highly-skilled researchers, recruited in three calls (2021, 2022, 2022). More on <a href="https://msca-bienvenue.bretagne.bzh/">https://msca-bienvenue.bretagne.bzh/</a>



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