

**THE BRUSSELS INSTITUTE
FOR ADVANCED STUDIES**

REPORT 2024–25



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Facade of the BrIAS HQ, detail.

Credit: allt.be

ABOUT BrIAS



Facade of the BrIAS HQ

Credit: allt.be

About BrIAS

Located in the heart of Brussels, the Brussels Institute for Advanced Studies (BrIAS) was co-founded by the Université libre de Bruxelles (ULB) and Vrije Universiteit Brussel (VUB), the two leading universities in Brussels. Their origin goes back 150 years. Six Nobel laureates, two Abel prizes, two Fields medals and three Wolf prize laureates were professors and/or alumni of the universities.

Both universities strive to break down the walls of ignorance and dogmatism by stimulating ground-breaking research at the highest level of creativity, without taboos or prejudice. This implies crossing boundaries and building bridges between disciplines and different socio-economic or cultural environments.

BrIAS hosts the Fellows at its premises on the Usquare site for up to five months, offering an interdisciplinary, collaborative, free-spirited environment, fostering mutual emulation and cross-fertilization of ideas.

What's an IAS?

Institutes for Advanced Studies, or IASs, are incubators of ideas, with no philosophical or political restrictions, where some of the very best scientists, artists or designers, known as “Fellows”, coming from various fields, cultures and countries, are given the opportunity to explore themes with a great societal impact in an atmosphere of complete academic freedom. IASs offer an ideal setting for informal discussions, dreaming, disagreeing, and hopefully, generating disruptive concepts, ideas or discoveries.

Between May 2021 and May 2023, over 100 activities (among which, 8 forums, 33 workshops, 60 talks and 3 miscellaneous events) were organised around the theme of “The past, present and future of food, climate and sustainability”. This report concerns the 2024 theme on “Robots and AI: Enablers or Disablers of the UN SDGs” as well as on the 2025 theme on “Sustainable Robotics, AI, and Automation”.

To date, BrIAS has hosted 76 Senior Fellows, 24 Junior Fellows, 3 Resident Artists (in collaboration with OHME a.s.b.l.*), and over 250 guest speakers from more than 30 countries, including nations from the Global South. The duration of fellowships ranged from a few weeks to several months. Additionally, more than 100 universities, research institutes, and policy centres have been represented by our speakers. Over 25 companies, both local and international, already participated in our activities, facilitating valuable networking opportunities with specialists from various fields.

We hope that this report will provide you with interesting information on BrIAS and its activities.

Frank Deconinck (VUB)
Serge Jaumain (ULB)

BrIAS Co-Directors

* OHME is a research and curatorial platform dedicated to exploring contemporary societal challenges through transdisciplinary collaboration between the arts and sciences. You can learn more about them at ohme.be.



Credit: C. Hermans

WHO IS SI OHM?

Who is who?

BriAS Directors

Prof. Dr. Em. Frank Deconinck obtained his Ph.D. in Medical Physics from the VUB. He was research associate at the University of California (UCSF) and research collaborator at Brookhaven National Laboratory. He is Professor Emeritus of Medical Physics at VUB.

He is honorary chairman of the board of governors of the Belgian Nuclear Research Centre (SCK CEN), honorary president of the European Nuclear Society and he coordinates Rad4Med.be, the Belgian network for radiation applications in healthcare.

In the socio-cultural field he organised, together with Mrs. Deconinck-De Ries, the exhibition “Tactile Graphic Art”, accessible by all, including blind and visually impaired persons, and selected in 1989 by UNESCO for the U.N. World decade for cultural development. His main research domain was medical imaging and image processing, with a particular emphasis on nuclear scintigraphy and magnetic resonance imaging. He also researched the way we understand graphical image information to help translate this information to blind persons.



Professor Dr. Serge Jaumain (ULB) is Professor of Contemporary History at the Université Libre de Bruxelles where he is also co-director of AmericaS – the Interdisciplinary Center for the Study of America.

He serves as Advisor to the Rector for Development Cooperation and is the President of the NGO ULB-Cooperation and the President of the International Scientific Council of the Institut des Amériques (Paris). He has formerly served as Vice Rector for International Relations at the ULB (2006-2016) and as President of the Brussels Studies Institute (2010-2020).



He published or directed more than 30 books including three dictionaries. His research focuses mainly on the history of mass distribution, French-speaking immigration in America, Canadian history, and the history of tourism.

BrIAS central team



Dr. Anja Garone coordinates the day-to-day activities, logistics, and finances of BrIAS. She has worked as a registered nurse in several countries before obtaining a master’s degree and doctorate in Educational Sciences from the VUB. Anja has taught evidence-based practice in healthcare professions and worked in several national and European educational research projects. Her work revolves around innovation in higher education, faculty professional development and intercultural competences.



Valeria Cristancho Caycedo began her journey at BrIAS as an Event Assistant and later joined the team as a Hospitality Management and Administrative Assistant, managing accommodation arrangements for BrIAS residents. She ensures every guest feels welcome and well supported. In parallel, she combines her work with her studies in Business Engineering at KU Leuven, specializing in Industries, Technology, and Globalization.



Andrés Cotorruelo Jiménez is responsible for BrIAS’ visual communication and website, alongside providing technical AV support. He started his career as an industrial engineer, and after having completed his Ph.D. in automatic control with the ULB, he decided to switch careers and earned a Masters degree in Graphic Design with the LABASAD School of Arts. He was a Junior BrIAS Fellow in 2024 and joined the central team in 2025.

Photo of A. Cotorruelo: © Thierry Geenen / FARI - AI for the Common Good Institute Brussels

THE 24 - 25
BrIAS SEASON



Attendants of the BriAS AGRI25 conference.

Credit: C. Hermans

BriAS 24–25: Sustainable Robotics, Automation, and AI

BriAS selected the topics on *Robots and AI: Enablers or Disablers of the UN SDGs and Sustainable Robotics, AI, and Automation* for its 2023–2025 edition. As AI, robotics and automated devices become an integral part of our lives, it has become crucial to understand if they can be truly durable and how they could optimally contribute to sustainability as a whole.

In 2015, 93 countries agreed on the UN Sustainable Development Goals (SDGs), which are a blueprint to achieve a better and more sustainable future for society. They address the global challenges, including those related to poverty, inequality, climate, environmental degradation, prosperity, peace and justice.

Within ULB and VUB, researchers have been actively working on understanding how robotics, AI and automation could contribute to these SDGs. Many hopes have arisen: social robots are under investigation since they could support social inclusion of individuals, in particular children with autism. Drones and automatic solutions are being developed for precision agriculture to reduce hun-

ger and achieve more sustainable agriculture. To lessen the burden on construction workers, new construction robots are developed. Similar hopes arise from AI and automation.

However, doubts and concerns were also raised. The sustainable production of robots is a major challenge, due to the need for rare-earth elements. Their disposal leads to the creation of challenging e-waste at the end of the life cycle. Robotics, AI and automation will have a great impact on our society, economy, and environment and bring with them complex challenges. They have the potential to speed up progress towards these developmental goals or be an inhibitor for them.



Illustration of the UN Sustainable Development Goals (SDGs).

Credit: Wikimedia commons

Some believe robots, AI and automation are showing us the way towards a utopia, whilst others predict doom-laden scenarios. Moreover, there are tensions and contradictions between the SDGs, which reflect in their applications. The enablers or inhibitors are also connected to hopes and fears. But it is we, humans, who invent and create technology, and we should have the power and responsibility to shape our own future.

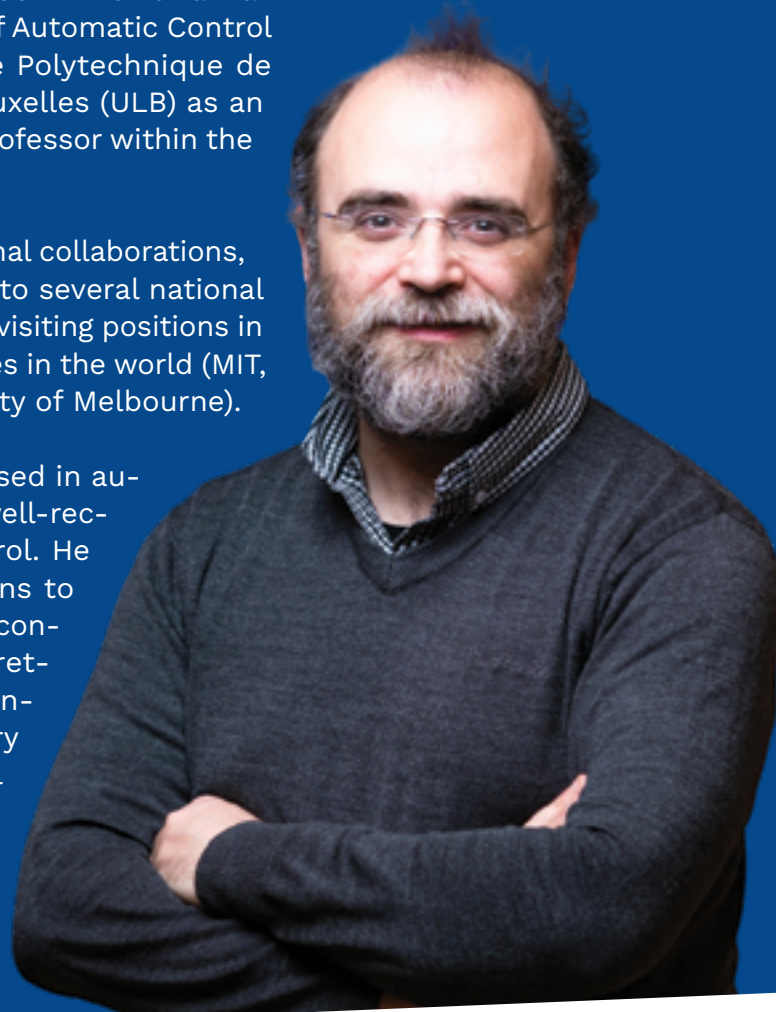
BriAS invited world renowned experts from a large spectrum of research fields, universities, industries, national and international organisations, to brainstorm and network on robotics, AI, control and automation. ■

Programme co-directors

Prof. Emanuele Garone obtained his M.Sc. in computer engineering from The University of Calabria (Italy) in 2005, and his PhD in Systems Engineering in 2009 within the same institution. After two years as a post-doc in his Alma Mater, in 2010 he joined the Department of Automatic Control and Systems (SAAS), within the École Polytechnique de Bruxelles of the Université Libre de Bruxelles (ULB) as an Assistant Professor. Since 2022 he is Professor within the same department.

With an extensive network of international collaborations, Prof. Garone has lead and contributed to several national and international projects and has held visiting positions in some of the most prestigious universities in the world (MIT, CMU, UMich, Curtin University, University of Melbourne).

Prof. Garone and his group are specialised in automatic control, with a particular and well-recognised expertise in constrained control. He has also made significant contributions to distributed control and estimation and control over networks. Besides his theoretical work, he also made extensive contributions to control applications in very diverse areas including drones, naval robots, robotic swarms, electric grids and fast battery charging. His activity also includes bringing control ideas in new research areas such as agriculture and entomology, ecology, logistics, and epidemiology.



Prof. Ann Nowé graduated from the University of Ghent in 1987, where she studied mathematics with a minor in computer science. She then became research assistant at the Vrije Universiteit Brussel where she finished her Ph.D. in 1994 in collaboration with Queen Mary and Westfield College, University of London. The subject of her Ph.D. is located in the intersection of Computer Science (A.I.), Control Theory (Fuzzy Control) and Mathematics (Numerical Analysis, Stochastic Approximation).

After a period of 3 years as senior research assistant at the VUB, she became a Post-doctoral Fellow of the Fund for Scientific Research-Flanders (F.W.O.). Nowadays, She is a professor both in the Computer Science Department of the faculty of Sciences as well as in the Computer Science group of the Engineering Faculty, where she is the head of the AI Lab, and lead scientific co-director of FARI - AI institute for the common good.

Her main research interest is Reinforcement Learning (RL) including Multi-Agent RL and Multi-criteria RL. Her team developed novel algorithms which were tested in domains such as smart grids, communication networks, mechatronics and scheduling problems. Within the Flemish AI program, she coordinates the embodied AI challenge.



Photos: © Thierry Geenen / FARI - AI for the Common Good Institute Brussels

Prof. Bram Vanderborght graduated in Mechanical Engineering at the Vrije Universiteit Brussel (VUB) in 2003 and obtained his Ph.D. in Applied Sciences in 2007 at the same institution. His research focused on the use of adaptable compliance of pneumatic artificial muscles in the dynamically balanced biped Lucy, and included work on the humanoid robot HRP-2 at the Joint Japanese/French Robotics Laboratory (AIST, Tsukuba, Japan).

After his Ph.D., he worked as post-doctoral researcher at the Italian Institute of Technology in Genova on the humanoid robot iCub and compliant actuation. Since 2009 he has been professor at the VUB, where he teaches mechatronics and coordinates robotics projects. From 2011 to 2016 he was research director at the Universitatea Babes-Bolyai (Romania) on robot-assisted therapy with ASD children, and VUB-PI of the DREAM project. He also received an ERC Starting Grant on Series-Parallel Elastic Actuation for Robotics (SPEAR).

Nowadays, he is professor at the VUB, scientific collaborator at imec, and member of Brubotics. He coordinates several European projects on robotics, co-leads the Homo Roboticus project, and serves as Vice President of Media Services at IEEE-RAS. His research interests include soft and self-healing actuators for human-robot interaction in health and manufacturing.



Prof. An Jacobs, Ph.D. is a sociologist who joined SMIT (Studies on Media, Innovation and Technology) in 2005. She is Associate Professor in the Department of Media and Communication Studies at the VUB and Principal Investigator at SMIT. Her research focuses on people-centred development of digital applications in health and work, with participation and empowerment as central concepts in applied mixed methods.

Over the years, she has built expertise in health-related applications through numerous local and European projects, ranging from self-management at home and collaboration among health care stakeholders to the use of digital tools in hospitals, nursing homes and home care. As founding partner of the VUB research centre BruBotics, she also studied human-robot interaction in health care and manufacturing contexts.

Her current work includes people-centred and transparent design of algorithms supporting smart solutions, with or without robots. This is pursued in close collaboration with other SMIT researchers working on privacy, literacy, ethics and trust.



Photos: © Thierry Geenen / FARI - AI for the Common Good Institute Brussels

Dr. Carl Mörch is co-director of FARI – AI for the Common Good Institute (ULB-VUB) and a member of the AI Ethics & Law Board of the Federal initiative AI4Belgium. He is also a member of the Ethics Special Interest Group of CLAIRE and a co-chair of CLAIRE Brussels office.

Carl aims at fostering high-quality applied projects related to AI, Data and Robotics that could serve the Brussels Region and its inhabitants. With FARI, he wants to support initiatives that can reinforce education around these technologies, and could help bridge the gap with civil society. In 2020, Carl was awarded a Post-doctoral Fellowship by the International Observatory on the Societal Impacts of Artificial Intelligence and Digital Technologies (OBVIA). He was, from 2020 to 2021, a post-doctoral fellow at the Université de Montréal and at Mila – Québec Artificial Intelligence Institute.

He is also a lecturer and adjunct professor at UQAM (Montréal, Canada). His personal research work is oriented towards the concrete application of high-level ethical principles in applied domains. In general, he is interested in the responsible development of technologies in society, and health care (Psychology and Dental Medicine in particular).



Credit: T. Geenen

Photo: © Thierry Geenen / FARI - AI for the Common Good Institute Brussels

BrIAS Fellows

Every year, about 20 BrIAS Fellows, top personalities in their respective fields, are selected and temporarily move to Brussels for periods up to 5 months. Junior fellows may be selected for shorter stays. There are two ways for fellows to be selected: by application to an open call or by invitation from a programme director.

Applications to the open call are invited to specify how their contribution will fit into the general theme of the year, why they have chosen Brussels and which synergies they would like to develop with the local research teams. Once selected, the fellow will be invited to present their work at seminar sessions, followed by a debate with all the attendees. Presence of the fellows at BrIAS will promote critical discussions, collaborations and community cohesion.

BrIAS provides living quarters with common areas to welcome fellows and their families within the BrIAS premises of Usquare. The working and living environment stimulates scientific creativity, networking and collaboration, while the architectural plan invites fellows to naturally meet and come together, further stimulating the spirit of conviviality. The fellows have access to the on-site infrastructure, as well as to the various campuses of both universities. Regular participation in university departments and affiliated laboratories will be strongly encouraged. Apart from the seminars amongst Fellows, regular public events take place with invited and visiting researchers, artists, designers and people with a key role in society.



Stephen Bailey receives his BrIAS Senior Fellow certificate, 2023

Art and science

At BrIAS, we believe that revolutionary ideas propulse science forward. For this reason, every season we open a call for artists to become our Resident Artists in collaboration with OHME. By doing so, we provide them with a platform to voice their opinions coming from an unique point of view that scientist may some times overlook.

BrIAS Resident Artists are also tasked with creating a piece inspired by the theme of the season, which is displayed at an exhibition that takes place during the closing ceremony of the season.

Sharath C. Akkaladevi

Researcher at PROFACTOR GmbH, Austria

BrIAS 24 Senior Fellow

21st March - 15th May 2024



Sharath Chandra Akkaladevi earned his M. Sc with Distinction from Alpen-Adria Universität in Klagenfurt, Austria, specializing in Information Technology in 2012. During his internship at Rober Bosch from May 2011 to October 2011, he contributed to the field of Intelligent Driver Assistance Systems with focus on Human Gait-Phase Recognition. In 2012, he transitioned into the role of a Researcher at Profactor GmbH, where he delved into the realm of Robotics and Assistive Systems.

Contributions

- ▶ 28/03/2024 BrIAS Seminar – *Towards Sustainable Robotics: Intuitive Interfaces and Physical Collaboration in Human-Robot Interaction*

He currently holds the position of Scientist at Profactor GmbH, specializing in Robotics and Automation Systems. His focus on Human-Robot Collaboration reflects a keen interest in the seamless integration of robots into human environments. Additionally, his work in Activity Recognition and Novel Robot Interfaces highlights his innovative approach to programming robots.

- ▶ 26/04/24 BrIAS Forum: Human-Robot Collaboration – *Sustainable Robotics in Production Environments: Navigating Challenges and Achieving Innovations*



Stephen Bailey

Full Professor at Elon University, USA

BrIAS 24 Senior Fellow

4th - 29th March 2024

Stephen Bailey is a full professor in the Department of Physical Therapy Education in the School of Health Sciences at Elon University in Elon, North Carolina. Professor Bailey served as the Chair of Elon’s Institutional Review Board for the Protection of Human Subjects in Research from 2009-2023.

He currently serves as the Chair of the School of Health Science’s Task Force which is developing a service relationship with a

local community centre working with Latinx and African-American communities. Professor Bailey has published more than 40 papers improving physical therapy practice. He continues his work examining the role of central fatigue during exercise and is currently pursuing a research agenda designed to examine the impact of the sensory stimulus of various oral supplements on motor function.

Contributions

- ▶ 07/03/24 BrIAS Seminar – *Impact of a Carbohydrate Mouth Rinse on Corticomotor Excitability after Mental Fatigue*

Eduardo Camacho

Professor Emeritus at
University of Seville, Spain

BRIAS 24 Senior Fellow

5th – 21st April 2024



Eduardo F. Camacho is an Emeritus Professor of the University of Seville. He is an IFAC and an IEEE fellow. He has co-authored the books: “Model Predictive Control in the Process industry” (1995), “Advanced Control of Solar Plants” (1997) and “Model Predictive Control” (2004 second edition) published by Springer-Verlag, “Control e Instrumentación de Procesos Químicos” published by Ed. Síntesis, “Control of Dead-time Processes” (2007) and “Control of Solar Energy Systems” (2012) published by Springer Verlag. He chaired the IFAC publication Committee, the IFAC Policy Committee, the IEEE/CSS International Affairs Committee. He was the

president of the European Union Control Association (EUCA), elected member of the IEEE CSS Board of Governors. He was the General Chair of the joint 44 IEEE CDC and ECC held in 2005 and co-general chair of the joint 50 IEEE CDC and ECC held in 2011.

His main research interests are in the areas of Model Predictive Control and solar energy, areas where he has participated and coordinated many research projects and authored and co-authored books, and many papers in journals and conferences. He has been awarded by the European Research Council an Advanced Grant.

Contributions

- 11/04/24 BRIAS Seminar – *Model Predictive Control of Solar Energy Plants*



Leonardo Cappello

Assistant Professor at
Scuola Superiore Sant’Anna,
Italy

BRIAS 24 Senior Fellow

22nd Jan – 4th Feb

12th Feb – 3rd Mar 2024

Leonardo Cappello received his Ph.D. in “Robotics, Cognition and Interaction Technologies” at the Italian Institute of Technology, in 2016. During his Ph.D., he was visiting student at the Nanyang Technological University, Robotics Research Centre, Singapore (2014-15). He was a Post-doctoral Researcher at Harvard University and the Wyss Institute for Biologically Inspired Engineering, where he worked on soft wearable robots for upper limb sensorimotor restoration (2016-17). He then served as a Post-doctoral Researcher at the BioRobotics Institute–Scuola Superiore Sant’Anna (Italy), investigating advanced robotic prostheses and prosthetic techniques for the upper extremities (2017-22).

Leonardo Cappello started his teaching career in 2022 as Assistant Professor at the BioRobotics Institute – Scuola Superiore

Sant’Anna (Italy), where he founded the Textile Robotics Laboratory and where he works on the design of textile-based robotic wearables for human sensorimotor restoration and augmentation.

His research interests include haptics, assistive and rehabilitation robotics, prosthetics and orthotics, and motor neurosciences. He was recently awarded with the European Research Council Starting Grant (ERC StG) for the project MUsculoSkeletal Expansion (MUSE). He also obtained the Best Student Paper Award at the IEEE International Conference on Rehabilitation Robotics (ICORR) in 2015, held in Singapore.

Contributions

- 01/02/24 BRIAS Seminar – *Transcending the paradigm of wearing a robot - The Musculoskeletal Expansion*

Fabrizio Dabbene

Research Director
at IIEIT-CNR, Italy

BriAS 24 Senior Fellow

10th - 26th Feb
15th - 28th Apr 2024



Credit: C. Hermans

Fabrizio Dabbene is Director of Research at the Institute IEIT of the National Research Council of Italy (CNR), where he coordinates the Information & Systems Engineering Group. He has held visiting and research positions at the University of Iowa, Penn State University, and the Russian Academy of Sciences, Institute of Control Science, Moscow.

He is recipient of the 2010 EurAgeng Outstanding Paper Award. He served as Associate Editor for Automatica (2008–14) and for the IEEE Transactions on Automatic Control (2008–12), and he is currently Senior Editor of the IEEE Control Systems Socie-

ty Letters. He was elected member of the Board of Governors (2014–16) and served as Vice-President for Publications (2015–16). He currently chairs the IEEE-CSS Italy Chapter and serves as Italy National Member Organization representative for IFAC.

His research interests include data-driven robust methods for systems and control, design of advanced guidance and navigation schemes for aerospace applications, optimization and robotics for agriculture 4.0, and analysis of techno-social dynamical networks. On these topics, he has published more than 150 research papers and two books.

Contributions

- ▶ 15-16/02/24 BriAS Forum – Robotics in Agriculture Cooperation of Unmanned Systems for Agriculture 4.0
- ▶ 25/04/24 BriAS Seminar – Trustworthy and reliable AI - Scalable classifiers and conformal predictions
- ▶ 06-07/02/2025 2nd BriAS Conference on Smart Agriculture, Motion planning for an autonomous agricultural robot in unstructured terrain



Yael Edan

Professor at Ben Gurion
Univeristy of the Negev,
Israel

BriAS 24 & 25 Senior Fellow

6th Feb - 6th Mar 2024
3rd - 15th Feb 2025
15th - 30th May 2025

Dr. Yael Edan is Professor in Industrial Engineering at the Ben-Gurion University of the Negev, Israel, where she is Head of the Intelligent Robotics Laboratory and Director of the Agricultural, Biological and Cognitive (ABC) Robotics Initiative. Professor Edan is a member of the IEEE-RAS Special Interest Group on Agricultural Robotics and Automation and a member of the American Society of Agricultural Engineers. She was involved in a number of EU research projects (including the Sweeper, CROPS and SOCRATES

Projects) and is internationally renowned for her research in such areas as agricultural robotics and human-robot collaboration.

Her research interests include Robotics; Intelligent automation systems, Agriculture Robots, Social Robots, Assistive Robots, Human robot collaboration; Human robot interaction, Agriculture automation systems, Systems engineering, Performance measurement, and Sensing algorithms

Contributions

- ▶ 22/02/24 BriAS Seminar – Social Assistive Robots for Elder Care: R&D Findings
- ▶ 06-07/02/2025 2nd BriAS Conference on Smart Agriculture – AgRobotics for smart agriculture
- ▶ 15-16/02/24 BriAS Forum: Robotics in Agriculture – Sustainable AgRobotics: where we are and challenges ahead
- ▶ 28/05/25 Closing Night of Crossing Wires Creative Collaborations – Art, Design and Human-Robot Interaction



Hallway at BrIAS.

Credit: allt.be

Eric Feron

Professor at King Abdullah
University of Science and
Technology, Saudi Arabia

BRIAS 24 Senior Fellow

17th Mar - 14th Apr 2024



Prof. Eric Feron is Professor of Electrical, Computer, and Mechanical Engineering at King Abdullah University of Science and Technology (KAUST), Saudi Arabia. He has conducted research and taught at the École Nationale de l'Aviation Civile (France), the Georgia Institute of Technology (USA), the Institut Supérieur de l'Aéronautique et de l'Espace-Supaéro (France), the Massachusetts Institute of Technology (USA), and the Office National d'Études et de Recherches Aérospatiales (France).

Contributions

- ▶ 28/03/24 BRIAS Seminar – *Ariadne, a common-sense thread for enabling provable safety in air mobility systems with unreliable components*

His research interests focus on applying fundamental concepts of control systems, optimization theory, and computer science to address problems in aerospace and transportation engineering, including air transportation, aerial robotics, software and system certification, and human-machine interaction. He is also increasingly interested in the marine environment.



Franziska Kirstein

Human-Robot interaction
expert at Blue Ocean
Robotics, Denmark

BRIAS 24 Senior Fellow

24th Feb - 8th Apr 2024

Franziska Kirstein has worked in interdisciplinary teams in the field of Human-Robot Interaction since 2012. Her work bridges the robotics industry—covering the development and commercialization of robots—with academic research through international collaborations and EU-funded projects, recently focusing on sustainability in robotics.

Contributions

- ▶ 07/03/24 BRIAS Seminar – *Designing, developing and manufacturing healthcare service robots with sustainability in mind*

She is a member of the euRobotics Board of Directors and co-leads the euRobotics Topic Group on Robotics for Sustainability. In 2021, she was selected for the NGL Explorers program, which supported a research visit at Washington University in St. Louis, McKelvey School of Engineering. Her work received the Best Social Innovation Impact award.

Francesco Lamonaca

Associate Professor at
University of Calabria, Italy

BriAS 24 Senior Fellow

17th Jan – 19th Feb 2024



Credit: C. Herman

Francesco Lamonaca received his M.S. degree in Computer Science Engineering in 2005 and his Ph.D. in Computer and System Science in 2010 from the University of Calabria, Italy, along with doctorate equivalences in Science (2010) and Engineering Science (2011) from the Université Libre de Bruxelles, Belgium. He is currently Associate Professor of Electronic Measurements at the University of Calabria and member of the National Research Council of Italy, Institute of Nanotechnology (CNR-NANOTEC).

In 2020, he obtained the National Habilitation to Full Professor in Electric and Electronic Measurements. He serves as Editor-in-Chief of Acta IMEKO, the journal of the International Measurement Confeder-

ation (IMEKO), and as Vice-Officer of Commission A – Electromagnetic Metrology of the International Union of Radio Sciences, Italian National Committee. He is a Senior Member of IEEE and active in several technical committees of the IEEE Instrumentation and Measurement Society.

His research interests include measurements, robotics for measurements, signal and image processing, structural health monitoring, IoT-based monitoring systems, and AI-driven measurement information processing. He has authored over 180 scientific papers and received several awards, including the TE-RE-RD Best Paper Awards (2014, 2020) and the IEEE Italy Section Award for innovative ideas against COVID-19 (2020).

Contributions

- ▶ 18/01/24 BriAS seminar – *Measurements for Sustainable Robotics and Automation*
- ▶ 15-16/02/24 BriAS Forum: Robotics in Agriculture – *What should the measurement community do to support precision agriculture?*



Barry Lennox

Professor at University of
Manchester, UK

BriAS 24 Senior Fellow

5th Feb – 8th Mar 2024

Barry Lennox is Fellow of the Royal Academy of Engineering and Professor of Applied Control and Nuclear Engineering Decommissioning at the University of Manchester. He holds a Royal Academy Chair in Emerging Technologies and previously served as Director of the Robotics and Artificial Intelligence for Nuclear (RAIN) Research Hub.

He is the academic lead for the Robotics and Artificial Intelligence Collaboration (RAICo) programme, which develops robotic technologies to support the decommissioning of fission and fusion facilities in the UK, and for CRADLE, the EPSRC-funded Prosperity Partnership with Jacobs. He also chairs the UK Robotics and Autonomous Systems Network.

Contributions

- ▶ 22/02/24 BriAS Seminar – *Use of Robots to Support Sustainable Nuclear Energy*

AJung Moon

Assistant Professor at
McGill University, Canada

BRIAS 24 Senior Fellow

20th Apr - 13th May 2024



Dr. AJung Moon is Assistant Professor in the Department of Electrical and Computer Engineering at McGill University, where she leads the McGill Responsible Autonomy & Intelligent System Ethics (RAISE) Lab. Her interdisciplinary group studies the social and ethical dimensions of robotics and artificial intelligence.

With a background as an AI ethics consultant and former Senior Advisor to the UN Secretary-General's High-level Panel on

Contributions

- ▶ 25/04/24 BRIAS Seminar – *Sustainable 'Relationship' with Interactive Robots*
- ▶ 26/04/24 BRIAS Forum: Human-Robot Collaboration – *Universal design as Sustainable Design of Service robots*

Digital Cooperation, her research bridges technology governance with the practical design of responsible AI and robotics. Her team's work has been applied globally, from contributing to the AI ethics assessment process at the Mila-Quebec AI Institute to supporting roboethics education projects in Bangladesh. She is also a member of the McGill Center for Intelligent Machines, the Bensadoun School of Retail Management, and an Executive Member of the Canadian Robotics Council.

- ▶ 20/05/24 BRIAS Forum on War & Peace and Robotics – *The clash of today's tech culture and designer values*



Krzysztof Olejarczyk

Professor at Casimir Pulaski
University of Radom, Poland

BRIAS 24 Senior Fellow

15th Apr - 15th May 2024

Dr. Krzysztof Olejarczyk is a researcher specializing in the design and testing of high-ratio gears for multi-axis manipulators, with a particular focus on cycloidal drives. His work aims to apply this expertise to the development of advanced gears for manipulators and prosthetic devices.

His current research explores the use of 3D printing technology in gear applications, with the goal of creating ultra-light, high-ratio, and reliable gears for robotic and prosthetic systems. To this end, he experiments with diverse materials and design solutions, integrating 3D scanning techniques and complex deformation analysis systems.

Contributions

- ▶ 25/04/24 BRIAS Seminar – *Cycloidal Drive - Design, experimental research, applications*

Paolo Turrini

Associate Professor at
Warwick University, UK

BriAS 24 Senior Fellow

4th Feb - 4th May 2024



Paolo Turrini Paolo Turrini is Associate Professor in the Department of Computer Science at the University of Warwick, which he joined in 2017. He received his Ph.D. in Computer Science from the University of Utrecht, where he worked on modal logics for game theory.

He held a COFUND Marie Curie fellowship at the University of Luxembourg, focusing on logical and game-theoretic models of trust

Contributions

- ▶ 21/03/24 BriAS Seminar – *Designing Artificial Agents that Learn to Act for Social Good*

in coalition formation, and an Intra-European Marie Curie Fellowship at Imperial College London, studying models of distributed negotiations. At Imperial, he was also awarded a Junior Research Fellowship.

His research focuses on artificial intelligence, particularly on understanding decision-making in strategic interactions.



Bettina Wollesen

Professor at University
of Hamburg, Germany

BriAS 24 Senior Fellow

5th - 14th Feb

13th - 29th Mar 2024

Bettina Wollesen works in the Department of Human Movement Science at the University of Hamburg, where she conducts research on cognitive-motor interference. She applies various biomechanical analysis methods, including clinical gait analysis and EMG.

Contributions

- ▶ 21/03/24 BriAS Seminar – *Cognitive-motor interference while using an exoskeleton*

At the MoBI Lab in Berlin, she investigates spatial navigation using techniques such as EEG. She is also involved in projects on technology development, including studies of active and passive exoskeletons..

BrIAS strives to
break down the
walls of ***ignorance***
and ***dogmatism***
by stimulating
groundbreaking
research at the
highest level of
creativity, without
taboos or ***prejudice***.



Credit: H. Duré



Credit: H. Duré

Rafael Bello-Perez

Professor at Universidad Central “Marta Abreu” de las Villas, Cuba

BRIAS 25 Senior Fellow

13th Apr - 31st May 2025



Rafael Bello graduated in Mathematical Cybernetics from UCLV in 1982 and earned his Ph.D. in Mathematical Sciences in 1987 at UCLV. He has taught postgraduate courses at UCLV and in several countries, including Colombia, Mexico, Argentina, Venezuela, Bolivia, Peru, Nicaragua, and Spain. He is Professor of Merit at UCLV and Visiting Professor at the University of Holguín, the University of Camagüey, and the University of Matanzas.

He has coordinated the Doctorate in Computer and Informatics Sciences, directed the Informatics Research Center, and served as

Contributions

- 15/05/25 BRIAS Seminar – *Considerations about the research on XAI at UCLV: generation of factual and counterfactual explanations*

President of the Scientific Council of UCLV. He is Vice-President of the National Tribunals for doctoral defences in Mathematics, Computer Science, and Automation, and member of the Technical Advisory Committee of the Ministry of Communications and several national science and technology programs.

He has received numerous awards, including the Carlos J. Finlay Order, the Frank País Order (First and Second Degree), nine awards from the Cuban Academy of Sciences, and seven Special Distinctions from the Minister of Higher Education.



Paolo Falcone

Associate Professor at Chalmers University of Technology, Sweden

BRIAS 25 Senior Fellow

1st May - 1st Jun 2025

Paolo Falcone is Associate Professor in the Mechatronics Research Group. His research focuses on constrained optimal control and verification methods, applied to autonomous and semi-autonomous mobile systems, cooperative driving, and intelligent vehicles.

He is involved in several projects in collaboration with industry, focusing on autonomous driving, cooperative driving, and vehicle dynamics control. His teaching subjects include model predictive control, vehicle dynamics control, and modelling and simulation of dynamical systems.

Contributions

- 08/05/25 BRIAS Seminar – *Cautious by design motion planning. The role of prediction*

Antonella Ferrara

Full Professor at Università degli Studi di Pavia, Italy

BriAS 25 Senior Fellow

13th Jan 21 – 7th Feb 2025



Antonella Ferrara received her M.Sc. degree with Cum Laude in Electronic Engineering and her Ph.D. in Electronic Engineering and Computer Science from the University of Genoa, Italy, in 1987 and 1992, respectively. Since 2005, she has been Full Professor of Automatic Control at the University of Pavia, Italy. She has also held visiting positions at Graz University of Technology, Harvard University, and the University of Minnesota, and has lectured at institutions including UCLA, University of Stuttgart, TU Delft, Imperial College London, and University of Cambridge.

Her research focuses on non-linear control, particularly control of uncertain systems via sliding modes, with applications to road traffic, automotive systems, electro-mobility, robotics, and power systems. She has authored over 450 publications, in-

cluding more than 170 journal papers, two monographs, and one edited book. She has served as Principal Investigator and National Coordinator in several EU- and Italy-funded research projects and is currently Associate Editor of Automatica and Senior Editor of the IEEE Open Journal of Intelligent Transportation Systems.

She holds leadership roles in professional organizations, serving as Chair of the EUCA Conference Editorial Board, Director of Operations of the IEEE Control Systems Society, and Vice-Chair for Industry of the IFAC TC on Non-linear Control Systems (2024–2026). She is Fellow of IEEE and IFAC, and among several awards, she co-received the 2020 IEEE Transactions on Control Systems Technology Outstanding Paper Award.

Contributions

- 23/01/25 BriAS Seminar – *Traffic control for freeway networks and sustainability-related objectives*



Ilya V. Kolmanovsky

Professor at University of Michigan Ann Arbor, USA

BriAS 25 Senior Fellow

1st – 31st May 2025

Professor Ilya V. Kolmanovsky received his Ph.D. in Aerospace Engineering in 1995, his M.S. in Aerospace Engineering in 1993, and his M.A. in Mathematics in 1995, all from the University of Michigan, Ann Arbor. He is currently the Pierre T. Kabamba Collegiate Professor of Aerospace Engineering at the University of Michigan.

His research focuses on control theory for systems with state and control constraints, with applications to aerospace and automotive systems. He has published over 200 journal articles, more than 400 conference papers, over 20 book chapters, four edited books, and holds 105 United States patents.

He serves as Editor-in-Chief of IEEE Transactions on Control Systems Technology.

Contributions

- 28/05/25 BriAS Seminar – *Exploiting Supervisory Schemes and the Interplay Between Computations and Closed-Loop Properties in Model Predictive Control*

Luca Magri

Professor at Imperial
College London, UK

BriAS 25 Senior Fellow

17th Jan – 17th Feb 2025



Luca Magri is Professor in Scientific Machine Learning at Imperial College London and a Fellow and group leader under the Data-Centric Engineering Programme of The Alan Turing Institute. He obtained his Ph.D. in Engineering from the University of Cambridge.

Prior to joining Imperial, he was a Lecturer at the Cambridge University Engineering Department, a Royal Academy of Engineer-

Contributions

- ▶ 13/02/25 BriAS Seminar – *Scientific machine learning for chaotic forecasting and real-time digital twinning*

ing (RAEng) Research Fellow, and Fellow of Pembroke College. Before that, he was a post-doctoral Fellow at the Stanford University Center for Turbulence Research. His research is currently funded by ERC, UKRI, and EPSRC.



Yilin Mo

Associate Professor at
Tsinghua University, China

BriAS 25 Senior Fellow

28th Jan – 7th Feb
17th – 30th May 2025

Yilin Mo is Associate Professor in the Department of Automation at Tsinghua University. He received his Ph.D. in Electrical and Computer Engineering from Carnegie Mellon University in 2012 and his Bachelor of Engineering from the Department of Automation, Tsinghua University, in 2007.

Before joining Tsinghua, he was a post-doctoral scholar at Carnegie Mellon University in 2013 and at the California Institute of Technology from 2013 to 2015. He then served as Assistant Professor in the School of Electrical and Electronic Engineering at

Nanyang Technological University from 2015 to 2018. He currently serves as Chair of the IFAC Technical Committee on Stochastic Systems and as Associate Editor for Automatica and IEEE Transactions on Control of Network Systems.

His research focuses on networked control systems and cyber-physical systems. His work has been widely recognized, with over 10,000 Google Scholar citations, and he has been selected by Elsevier as a highly cited Chinese scholar from 2021 to 2023.

Contributions

- ▶ 30/01/25 BriAS Seminar – *Data-Driven Learning of a Verifiable Controller Inspired by MPC*

Giang T. Nguyen

Professor at TUD Dresden
University of Technology,
Germany

BriAS 25 Senior Fellow

9th - 22nd Feb
2nd Mar - 18th Mar 2025



Giang T. Nguyen has been Assistant Professor, heading the Junior Professorship of Haptic Communication Systems at TU Dresden, since July 2021. His research focuses on low-latency, flexible, and resilient networked systems to facilitate haptic communication.

Previously, he co-founded the robotics company Wandelbots in 2017, working on networking and edge/cloud computing. Between 2016 and 2019, he was a post-doctor-

Contributions

- 13/03/25 BriAS Seminar – *Softwarised Networks for Networked and Sustainable Cyber-Physical Systems*

al researcher at the Deutsche Telekom Chair of Communication Networks, TU Dresden, focusing on network softwarization and information theory.

He received his Bachelor's and Master's degrees in Telecommunications in Vietnam (2001) and Thailand (2005), respectively. He was a DAAD scholar and Ph.D. researcher at TU Darmstadt from 2010 to 2014, and obtained his Doctoral degree in Computer Science from TU Dresden in 2016.



Marco M. Nicotra

Associate Professor at
University of Colorado
Boulder, USA

BriAS 25 Senior Fellow

1st Feb - 22nd May 2025

Marco M. Nicotra received his T.I.M.E. double degree (MS in mechanical engineering from Politecnico di Milano and electromechanical engineering from Université Libre de Bruxelles) in 2012. He received his Ph.D. degree in control engineering under the joint supervision of the Université Libre de Brux-

elles and the University of Bologna in 2016. He is currently an Associate Professor with the University of Colorado Boulder, USA. His research focuses on constrained control of non-linear systems, with applications to unmanned aerial vehicles, collaborative robotics, and quantum systems.

Contributions

- 06/03/25 BriAS Seminar – *Systematic Design of Control Barrier Functions using Dynamic Safety Margins*



BriAS headquarters.

Credit: allt.be

Alessandra Parisio

Professor at The University of Manchester, UK

BRIAS 25 Senior Fellow

7th Feb - 27th Mar 2025



Alessandra Parisio is Professor of Control of Sustainable Energy Networks in the Department of Electrical and Electronic Engineering at the University of Manchester, where she also serves as PGT Director. She has been principal or co-investigator on research projects supported by EPSRC, Innovate UK, H2020, and industrial partners, totalling nearly £7 million in University of Manchester share, in areas including building climate control and distributed optimisation for grid support and flexibility services.

She is a Senior Member of IEEE, co-chair of the IEEE RAS Technical Committee on Smart Buildings, and Vice-Chair for Education of the IFAC Technical Committee 9.3 on Control for Smart Cities. She has served

Contributions

- ▶ 27/02/25 BRIAS Seminar – *Optimisation-based control of flexible resources in multi-energy networks*

on programme committees of international conferences and is currently editor of the IEEE Transactions on Control of Network Systems, European Journal of Control, and Applied Energy. She received the IEEE PES Outstanding Engineer Award in 2021 and the Energy and Buildings Best Paper Award (2008–2017) in 2019.

Her research interests include control engineering, with emphasis on model predictive control, distributed optimisation and control, stochastic constrained control, and power systems, particularly energy management under uncertainty, optimisation of multi-energy networks, and distributed flexibility.



Andrea Roli

Professor at Università di Bologna, Italy

BRIAS 25 Senior Fellow

17th Jan - 16th Feb 2025

Andrea Roli is a researcher and adjunct professor at the University of Bologna (Campus of Cesena). His research focuses on complex systems and artificial intelligence, particularly on the relationship between complex systems and cognitive processes.

His current work includes bio-inspired robotics, emergent phenomena in complex systems, and information-theoretic techniques

Contributions

- ▶ 26/11/24 BRIAS Seminar – *A cybernetic perspective of adaptive robots*
- ▶ 13/02/25 BRIAS Seminar – *Dynamical criticality: from cells to robots*

for analysing complex system dynamics. He is also interested in emergent phenomena in music and in artificial creativity.

He teaches courses in computer science fundamentals, artificial intelligence, and complex systems.

Hideyuki Sawada

Professor at Waseda University, Japan

BRIAS 25 Senior Fellow

13th Apr – 12th May 2025



Hideyuki Sawada is Professor in the Department of Applied Physics, Faculty of Science and Engineering, Waseda University. He received his B.E., M.E., and Ph.D. degrees in Applied Physics from Waseda University in 1990, 1992, and 1999, respectively.

In 1999, he joined the Department of Intelligent Mechanical Systems Engineering, Faculty of Engineering, Kagawa University, as an Associate Professor and became Professor in 2010.

Contributions

- ▶ 08/05/25 BRIAS Seminar – *Robotics and machine learning techniques for understanding, controlling and predicting physical phenomena*

His research interests include robotics, sound and image processing, machine learning, human interfaces, and tactile sensing and display.



Bruno Sinopoli

Professor at Washington University in St. Louis, USA

BRIAS 25 Senior Fellow

1st – 31st May 2025

Bruno Sinopoli is Department Chair and Das Family Distinguished Professor at Washington University. Previously, he was a professor in the Department of Electrical & Computer Engineering at Carnegie Mellon University and co-director of the Smart Infrastructure Institute, with additional appointments in the Robotics Institute and Mechanical Engineering. He joined Carnegie Mellon as an assistant professor in 2007, after post-doctoral fellowships at the University of California, Berkeley, and Stanford University.

Contributions

- ▶ 28/05/25 BRIAS Seminar – *Linear Methods for Dimensionality Reduction: is there life beyond PCA*

He received the George Tallman Ladd Research Award from the Carnegie Institute of Technology in 2010 and an NSF CAREER Award, recognizing junior faculty who exemplify outstanding research, teaching, and integration of education and research.

Panagiotis Symeonidis

Associate Professor at
University of the Aegean,
Greece

BRIAS 25 Senior Fellow

30th Jan - 14th Feb
22nd Feb - 2nd Mar 2025



Panagiotis Symeonidis is Associate Professor at the School of Information and Communication Systems Engineering of the Aegean University, Greece, since November 2020. Previously, he was Assistant Professor at the Faculty of Computer Science, Free University of Bolzano, Italy (2016–2020), and for eight years, Adjunct Assistant Professor at the Department of Informatics, Aristotle University of Thessaloniki, Greece. He received his B.Sc. in Applied Informatics (1996) and M.Sc. in Information Systems (2004) from the University of Macedonia, Thessaloniki, and his Ph.D. in Web Mining and Information Retrieval for Personalization from Aristotle University of Thessaloniki in 2008.

His research interests include web mining (usage, content, and graph mining), information retrieval, personalized health, recom-

Contributions

- ▶ 27/02/25 BRIAS Seminar – *ChatGPT and AI for Medicine*

mender systems, and social media analytics. He has co-authored nearly 100 publications, including more than 50 as first author, and his work has been cited over 4,000 times, with an h-index of 33 (Google Scholar). He has been recognized among the Most Influential Researchers in Recommender Systems (AMiner, 2017) and as one of the top 2% of scientists globally for 2019–2021.

Two-thirds of his journal publications appear in top-tier or highly ranked journals, and one-third of his conference publications are in top-tier venues, highlighting the impact and influence of his research in recommender systems and data science.



Hannu Toivonen

Professor and Franqui
International Professor at
Helsinki University, Finland

BRIAS 25 Senior Fellow

29th January - 31st May 2025

Hannu Toivonen Hannu Toivonen is Professor of Computer Science at the University of Helsinki, Finland, since 2002, and Franqui International Professor in 2025. He received his Ph.D. from the University of Helsinki in 1996.

His research focuses on data mining and data science, and since 2010, on computational creativity. He has authored over

Contributions

- ▶ 27/03/25 BRIAS Seminar – *Artificial intelligence as an expander of human creativity?*
- ▶ 26-28/05/25 Crossing Wires – Arts, AI & Robotics (in collaboration with OHME) – *More than Generative AI: Creative Computers and the Future of Humans* (With Geraint Wiggins, VUB)

200 refereed publications, with more than 27,000 citations and an h-index of 60. He has served as Programme Chair for IEEE ICDM 2014, a leading data mining conference, and ICCV 2015, the International Conference on Computational Creativity.

Willem Zuidema

Associate Professor at
University of Amsterdam,
The Netherlands

BriAS 25 Senior Fellow

21st Jan – 31st May 2025



Willem Zuidema obtained his Ph.D. in Linguistics from the University of Edinburgh in 2005. Since 2004, he has been a member of the Natural Language Processing group at the ILLC in Amsterdam.

With his students, he has conducted pioneering work in deep learning for NLP (since 2012) and interpretability techniques for LSTM- and Transformer-based language models (since 2015).

Contributions

- ▶ 28/04/25 BriAS Forum: Responsible AI – *The Explanation Conundrum: Why XAI Methods Don't Work Well Enough Yet for AI That Really Matters*
- ▶ 15/05/25 BriAS Seminar – *Under the hood: what LLMs learn about our language, and what they teach us about us*
- ▶ 26-28/05/25 Crossing Wires – Arts, AI & Robotics (in collaboration with OHME) – *Vicious and virtuous interaction between Art and Generative AI*

His current research focuses on mechanistic interpretability of speech models, “concept bottlenecks,” and the societal impact of AI.



Reception at the BriAS Foyer.

Credit: Frank Deconkinck

Andrés Cotorruelo

Post-doctoral researcher
at Service d'Automatique
et d'Analyse des Systèmes/
FARI, ULB

BrIAS 24 Junior Fellow

1st Jan - 31st May 2024



Andrés Cotorruelo received his M.Sc. in Industrial Engineering with a specialization in Automation from the University of Seville, Spain, in 2017, and his Ph.D. from ULB in July 2022. During his Ph.D., he investigated ways to minimize the computational footprint of constrained control schemes by leveraging properties of control sets, enabling precomputed descriptions that require minimal on-line computation.

Contributions

- 18/04/24 BrIAS Seminar – *Sets for Constrained Control*

During his post-doctoral research, he continued this work while delivering introductory AI courses to citizens and the public administration of Brussels through the FARI AI Academy, and assisting in writing projects to secure research funding. He also expanded his research to collaborative projects, applying computational geometry to path planning and fundamental system theory to pest control.

Photo: © Thierry Geenen / FARI - AI for the Common Good Institute Brussels



Fatma Demir

Post-doctoral researcher at
Brubotics, VUB

BrIAS 24 Junior Fellow

1st Jan - 31st May 2024

Dr. Fatma Demir received her Ph.D. from the Vrije Universiteit Brussel (VUB) in 2014, at the Department of Physical Chemistry and Polymer Science (FYSC), specializing in the phase behaviour and crystallization kinetics of polymer:fullerene active layers in organic solar cells.

Between 2015 and 2017, she completed her first post-doctoral research under an EU-funded Horizon 2020 Marie Skłodowska Curie Actions Cofund Brain Circulation Scheme at Middle East Technical University. She then pursued a second post-doctor-

al study at Bilkent University, focusing on mechanochemistry, contact electrification, triboelectricity, and smart and self-responsive polymers for soft-robotic systems.

She currently works at FYSC and R&MM at VUB as Post-doctoral Research and Project Manager for EU-funded projects, including MSCA-SMART ITN (Soft, Self-responsive, Smart Materials for Robots) and MSCA-DurAMat-DN (Sustainable Production, Processing, and Modelling of Durable Additive Manufactured Materials).

Contributions

- 21/03/24 BrIAS Seminar – *Towards sustainable research management: Lessons from the SMART Project*

Shirley Elprama

Post-doctoral researcher at
VUB SMIT

BriAS 24 Junior Fellow

1st Jan - 31st May 2024



Shirley Elprama Shirley Elprama joined SMIT in 2011 with a master's in Human Technology Interaction from Eindhoven University of Technology. She studies people in the environments where they use—or do not use—technology, such as factories, operating theatres, and nursing homes.

Her research employs a user-centred approach to influence technology development based on users' needs, whether they are factory workers, surgeons, older adults, children, physiotherapists, or others. She has experience with a range of methods and

tools, including interviews, focus groups, co-creation, observation, surveys, usability testing, paper prototyping, and scenarios. While her primary focus is on robots and occupational exoskeletons, she is interested in all kinds of technology and thrives in multidisciplinary teams.

Shirley completed her Ph.D. on the acceptance of occupational exoskeletons at work in 2024 and currently works at SMIT as a senior and post-doctoral researcher on topics related to trustworthy AI and robotics.

Contributions

- ▶ 25/01/24 BriAS Seminar – *Acceptance of Occupational Exoskeletons*
- ▶ 26/04/24 BriAS Forum: Human-Robot Collaboration – *Introduction to Human Robot Collaboration in EU Manufacturing Companies*
- ▶ 26/04/24 BriAS Forum: Human-Robot Collaboration – *HRI in production context*

Photo: © Thierry Geenen / FARI - AI for the Common Good Institute Brussels



Alix Partridge

Senior Engineer at National
Robotarium, UK

BriAS 24 Junior Fellow

22nd Mar - 22nd Apr 2024

Alix Partridge is a recent Ph.D. graduate from the Rossiter Soft Robotics Group at the University of Bristol and currently works as a Senior Engineer at the National Robotarium in Edinburgh. His expertise focuses on advancing soft robotic technologies for extreme environments, with a strong emphasis on sustainable methodologies.

Notable achievements include designing an innovative soft manipulator for Shell's deep-sea pipeline monitoring and developing soft robotic avatars for the Neon dance company, showcased during a week-long exhibition at the Setouchi Triennale Arts Festival in Japan in 2022.

Contributions

- ▶ 29/03/24 BriAS Forum: Sustainable Robotic Technologies – *Sustainable Materials and Applications (Production)*
- ▶ 18/04/24 BriAS Seminar – *Sustainability in Soft Robotics*

Luca Rossini

Post-doctoral researcher
at Service d'Automatique
et d'Analyse des Systèmes,
ULB

BriAS 24 & 25 Junior Fellow

1st Jan - 31st May 2024

1st Jan - 31st May 2025



Luca Rossini holds a Ph.D. in Plant and Animal Science, with a major in Ecological Modelling and a minor in Applied Entomology. He is currently a European Marie Curie Researcher (MSCA-2022-PF) in Ecological Modelling and Applied Entomology at Université Libre de Bruxelles (ULB), Service d'Automatique et d'Analyse des Systèmes.

His research focuses on developing and validating mathematical models to describe pests and diseases, integrating sparse field

measurements to improve predictive accuracy. This work relies on ODE and PDE equations, numerical analysis, and software development using C/C++, Python, R, and Matlab.

His interests include mathematical and computational biology/ecology, pest monitoring, planning measurement campaigns, field measurement protocols, and high-performance computing.

Contributions

- ▶ 15-16/02/24 Forum: Robotics in Agriculture - Where we are, where we are going – *Pest-Finder: Problems and Perspectives on pest modelling in agrifood*
- ▶ 20/03/25 BriAS Seminar – *The future of model-driven insect pest control*



Michel Joop van der Schoor

Post-doctoral researcher at
FARI/Brubotics, VUB

BriAS 24 Junior Fellow

1st Jan - 31st May 2024

Michel Joop van der Schoor received his Ph.D. in Mechanical Engineering from the Technical University of Berlin. His dissertation, Integrating Sustainability in the Design Process of Urban Service Robots, investigated the role of ecological, social, and economic dimensions of sustainability in product development and proposed a method to help designers incorporate so-

cial and ecological goals into requirements engineering and evaluate them early in the design process.

The method was developed as part of the MARBLE project (Mobile Autonomous RoBot for Litter Emptying), during which a robot prototype was built and tested.

Contributions

- ▶ 22/02/24 BriAS Seminar – *Sustainability in the design of urban service robots*
- ▶ 29/03/24 BriAS Forum: Sustainable Robotic Technologies – *Life Cycle Engineering for Sustainability: Responsible Design Choices*

Photos: © Thierry Geenen / FARI - AI for the Common Good Institute Brussels



Outside of the BRIAS coworking space..

Credit: allt.be

Naveen Tiwari

**Post-doctoral researcher
at Center for Research in
Biological Chemistry and
Molecular Materials, Spain**

BRIAS 24 Junior Fellow

25th Mar - 26th Apr 2024



Naveen Tiwari received his B.Sc. in Applied Chemistry from the University of Ramakrishna Mission Vidyamandira, India, in 2013, his M.Tech in Materials Science and Engineering from the Indian Institute of Technology Kanpur, India, in 2015, and his Ph.D. in Materials Science and Engineering from Nanyang Technological University, Singapore, in 2019.

Contributions

- 11/04/24 BRIAS Seminar – *Self-healing materials for Soft electronics*

He has a broad research background in chemistry, materials science, and engineering, focusing on fundamental theories to deepen the understanding of materials and their specific properties.

He aims to apply his expertise to develop innovative solutions in smart polymers for soft electronics.



Hieu Luu Trong

**Assistant Professor at Can
Tho University, Vietnam**

BRIAS 24 Junior Fellow

25th Feb - 15th May 2024

Dr. Trong is a lecturer and researcher at Can Tho University. His work focuses on applications for mobile robots using ROS2.

His research centres on using cameras mounted on UAVs for agricultural monitoring, primarily on paddy fields, with plans to extend this work to tropical fruit plants in the future.

Contributions

- 14/03/24 BRIAS Seminar – *UAVs in Agriculture*

Mehrdad Asadi

Post-doctoral researcher
at the AI Lab, VUB

BRIAS 25 Junior Fellow

1st Jan - 31st May 2025



Mehrdad Asadi received his Ph.D. in Computer Engineering in 2021 and is currently a post-doctoral researcher at the AI Lab, Vrije Universiteit Brussel.

His research interests include explainable AI, human-AI collaboration, and solving complex multi-objective problems using artificial intelligence.

Contributions

- 27/03/25 BRIAS Seminar – *Augmenting Machine Learning Pipeline with Explainability*

Since his Ph.D., he has been actively involved in several EU Horizon projects, including SPATIAL and PEER, which aim to enhance human-AI interaction through more transparent and explainable methods.



Elías Fernández Domingos

Post-doctoral researcher
at the AI Lab, VUB

BRIAS 25 Junior Fellow

1st Jan - 31st May 2025

Elías Fernández Domingos is currently an F.W.O. Senior Post-doctoral Researcher in the Artificial Intelligence Research Group at Vrije Universiteit Brussel, where he also received his Ph.D.

During his Ph.D., he investigated how uncertainty and collective risk affect human decision-making in both human-human and

human-artificial-agent interactions, using behavioural economic experiments, data analysis, and modelling.

His current research focuses on how the delegation of human actions and rules to artificial autonomous systems impacts social dynamics.

Contributions

- 06/03/25 BRIAS Seminar – *Delegation to AI in a collective Risk Dilemma*

Alejandro Goldar Dávila

Post-doctoral researcher
at Service d'Automatique
et d'Analyse des Systèmes,
ULB

BRIAS 25 Junior Fellow

1st Jan - 31st May 2025



Alejandro Goldar received a Chemical Engineering degree and an M.Sc. in Systems Engineering from Universidad Simón Bolívar (USB), Caracas, Venezuela, in 2010 and 2014, respectively. From 2012 to 2016, he was an Assistant Professor at USB, earning the Outstanding Teaching Prize 2014–15, and a visiting researcher at the University of Salamanca, Spain. He obtained his Ph.D. from ULB in 2021.

Since 2021, he has been a Senior Researcher at the Service d'Automatique et d'Analyse des Systèmes (SAAS) of ULB, developing advanced control-based techniques

Contributions

- ▶ 29/03/24 BRIAS Forum: Sustainable Robotic Technologies – *Charge of Li-ion battery power devices: A Trade-Off between Charging Time and Sustainability*
- ▶ 10/04/25 BRIAS Seminar: *Optimizing Fast Charging of Li-ion Batteries: Overcoming Measurement and Computational Constraints*
- ▶ 22-23/05/25 1st BRIAS Conference on Battery Management and Future Technologies – *Non-invasive tracking of the capacity loss and internal resistance of pouch cells with optical FBG sensors*

for battery management systems to extend battery lifespan and reliability. Together with Prof. Emanuele Garone, he designed and manages the SAAS battery lab, featuring over 100 testing channels and four climatic chambers for experimental validation of new technologies.

In 2025, he joins the Brussels Institute of Advanced Studies as Industrial Chair of the 1st BRIAS Conference on Battery Management and Future Technologies, bridging cutting-edge university research with the needs of the battery industry.



Yailén Martínez Jiménez

Post-doctoral researcher at
the AI Lab, VUB

BRIAS 25 Junior Fellow

1st Jan - 31st May 2025

Yailén Martínez Jiménez received her B.Sc. and M.Sc. degrees in Computer Science from the Central University of Las Villas, Cuba, in 2004 and 2007, respectively. She earned a second M.Sc. in Computer Science from Vrije Universiteit Brussel in 2008, and completed her Ph.D. at VUB in 2012.

She was a full professor at the Computer Science Department of the Central University of Las Villas until August 2022, serving as

head of the department for five years. During this time, she collaborated on various VUB projects and visited the lab several times.

She is currently a post-doctoral researcher at the AI Lab, VUB, with research interests in reinforcement learning, multi-agent systems, and operations research.

Contributions

- ▶ 30/01/25 BRIAS Seminar – *Application of Reinforcement Learning in different scheduling scenarios*



BriAS AGRI2025

Dewi Brunet

Folding artist, Belgium

BRIAS 24 Resident Artist

1st Jan - 31st May 2024



Credit: T. Declerck

Passionate about origami for more than 10 years and more recently by textile pleating, **Dewi Brunet** has developed strong skills and knowledge of folding. He believes a simple fold can help us understand better our world and improve it with applied innovations. He is always eager to teach and share the multiple bridges between folding, science, architecture, technology and fashion.

Plantoïd

Plantoïd merges robotics and nature into an ecosystem of robotic plants. This bio-inspired interactive installation invites visitors to explore harmonious interactions between technology and the natural world.

Dewi Brunet's robotic structures are designed to respond dynamically to their environment while simulating plant-like behaviours. By incorporating intricate folding techniques and leveraging biomaterials, Plantoïd highlights practical applications of folding in robotics and material science.

Through these hybrids, the project redefines our perception of the relationship between humans, plants and robots.

The Ohme Lab played a crucial role in the technical development of Plantoïd, focusing on three key aspects. The team developed a respiration detection system, allowing the robots to activate in response to visitors' breathing. They designed and implemented a pneumatic mechanism to animate the robotic plants. Additionally, they researched and selected biomaterials suited to the folding and crumpling techniques central to Dewi's practice.

Building on the success of the residency, Dewi has begun to extend his research to other living organisms, including fungi and algae. He aims to further blur the boundaries between nature, science, and technology. His work continues to stimulate the imagination, offering a glimpse into a future where robotic systems harmoniously coexist with natural ecosystems.

Adapted from: dewiorigami.com, ohme.be



Kris Verdonck

Visual artist at A Two Dogs Company, Belgium

BRIAS 24 Resident Artist

1st Jan - 31st May 2024



Kris Verdonck (born 1974) studied visual arts, architecture and theatre and this training is evident in his work. His creations are positioned in the transit zone between visual arts and theatre, between installation and performance, between dance and architecture. As a theatre maker and visual artist, he can look back over a wide variety of projects.

The Garden of the Future

The Garden of the Future imagines an ecosystem where self-sustaining robots, powered by renewable energy sources like solar and wind, perform ecological roles in harmony with natural cycles. Free from batteries or power grids, these robots adapt to energy fluctuations, challenging conventional consumption. The installation by Kris Verdonck proposes a poetic integration of robotics into ecosystems, encouraging dialogue on sustainable technology and its potential to address environmental challenges.

The core research explores the feasibility, design, and control of low-tech motors that operate solely on the irregular availability of sunlight and wind. This challenges the prevalent model of continuous, stable energy supply, advocating for systems attuned to ecological cycles.

Ohme Lab collaborated with A Two Dogs Company on key technical developments, including the design and creation of a robotic woodpecker fulfilling ecological functions inspired by its natural counterpart. The team also explored low-tech motors powered by fluctuating energy sources and contributed to biomimetic designs that align with natural ecosystem rhythms.

Adapted from: atwodogscompany.org



Guillaume Slizewicz

Designer and digital artist,
Belgium

BRIAS 25 Resident Artist

1st Jan - 31st May 2025



Guillaume Slizewicz is a designer and digital artist whose work stands at the intersection of technology, environment and societal issues. Through his practice, he explores the tensions between innovation and sustainability, using technology in poetic, evocative and critical ways. His approach builds connections between ancestral craft practices and contemporary digital tools. A modified plotter, glass panel, and steamer work in concert to render visible what typically remains unseen: the environmental cost of computational processes.

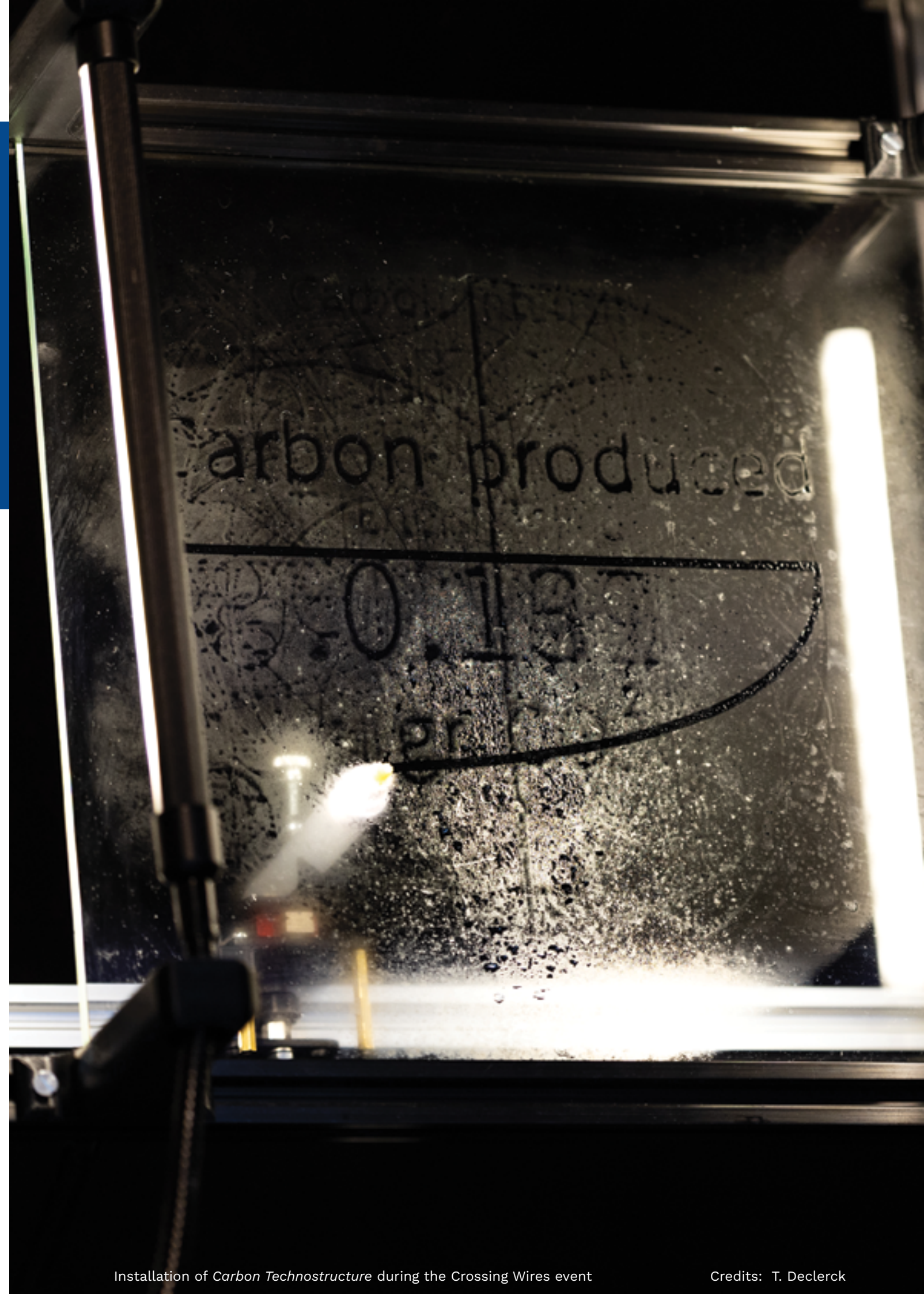
Carbon Technostructure

Steam condenses on glass, creating an ephemeral drawing surface. An empty marker moves across this temporary canvas, inscribing patterns derived from real-time energy data. These marks exist only as disruptions in condensation, fading as quickly as our attention to digital infrastructure's environmental impact.

For this iteration, we run a GPU hosting an open-source language model. We prompt it to hallucinate representations of its own energy consumption—a recursive gesture that produces both poetic output and measurable load. The installation monitors this consumption, cross-referencing it with the carbon intensity of the local electrical grid and subsequently plots it.

Each vanishing drawing offers a glimpse of the carbon technostructure we've built, one calculation at a time.

Adapted from: ohme.be





Attendants of the BriAS AGRI25 conference during the poster session

Credit: C. Hermans

BrIAS Events 2024-25

BrIAS Conferences

BrIAS AGRI25

The second edition of the BriAS AGRI conference took place between the 6th and 7th of February of 2025. Elaborating on the success and undoubtably high interest of the community in the “Robotics in Agriculture, where we are, where we are going” forum—which was promoted to the status of “honorary first edition of BriAS AGRI”—the conference saw experts and academics from universities, research centres, and companies discuss about the newest developments on the use of technology on agriculture.

The event was brought to life thanks to the invaluable contribution of the Fondation pour la Recherche Scientifique (FNRS), the project “PestControl” funded by the European Union, the scientific journal “Physiologia Plantarum” and the International Measure Confederation (IMEKO).

Besides purely scientific dissemination, the conference served as a display of BriAS’ modus operandi. Sitting square in the middle of the intersection of the themes of the two previous seasons, the conference was a product of the efforts of the 21-23 (Sustainable Food) and the 24-25 program teams: Prof. Emanuele Garone, Prof. David Cannella, and Dr. Luca Rossini. It is thanks to their work that the Brussels Institute for



BriAS AGRI25 poster

Credit: A. Cotorruelo, A. Garone

Advanced Studies could provide a platform to shine light on the topic of Smart Agriculture: the application of technology to increase yield and reduce resource usage in agriculture.

During the conference, attendants had the opportunity to attend to four plenary lectures: “Insects need smart promotion ... or eradication” by Prof. Frédéric Francis from Gembloux-Agro Bio Tech, “Plant defense priming” by Prof. Uwe Conrath from RWTH Aachen University, “Agroecological models explained” by Dr. Niels Holst from the Aarhus University, and AgRobotics for smart agriculture by Prof. Yael Edan from the Ben-Gurion University of the Negev.

The conference welcomed more than 100 attendees, of whom, 38 presented their contribution with an oral presentation during the four parallel sessions, occupying simultaneously the Seminar Hall and the Paul de Knop co-working space during the event. Furthermore, over the two days of the conference, we hosted 15 participants showcasing their submission via a poster session that was held over lunch. We were very glad to welcome this large multidisciplinary group of practitioners, students, and academics, as their continued interest showcased the international relevance of the topic of the conference.

On the social aspect, the first day of the conference ended with a gala dinner at the Fondation Universitaire, where attendants could network among themselves in a scientifically inspiring setting. The closing ceremony after the talks of the second day concluded featured a tasting of Belgian beers followed by cocktail-style dinner.

Elaborating on the success of the first two editions, the program directors of the 21-23 and the 24-25 season are, at the time of writing, preparing the new edition of the conference, that will take place in 2026. ■



Attendants of the conference during one of the coffee breaks

Credit: C. Hermans

BrIAS BATTERIES2025

From the 22nd to the 23rd of May of 2025, The Brussels Institute for Advanced Studies organised the first edition of the BrIAS BATTERIES conference at the institute’s headquarters in Brussels, Belgium. The event brought together an ensemble of professors, Ph.D. students, and experts from the industry whose lines of work aim towards advancing the field of battery technologies. With the support of the Fondation pour la Recherche Scientifique (FNRS), the Fonds Wetenschappelijk Onderzoek (FWO), and Arbin Instruments, the conference provided a platform for knowledge exchange and multidisciplinary networking.

The conference was held in the BrIAS headquartes, and it highlighted the most recent advances in battery modeling, control and battery management systems. The conference was held in the framework of the “Sustainable robotics, automation and AI” 2025 season, highlighting the acute potential emphasis and value of batteries in the future of our society.

The conference featured four keynote talks by experts in the field from academia and industry: “Estimation of Dominant Degradation Mechanism for Safe and Long Battery Life” by Prof. Anna Stefanopoulou from the University of Michigan, “Driving Battery Innovation: Accelerating Development by Physical Modelling of Hundreds of Batteries” by Dr. Jan Richter from the company Batemo, “Data-driven battery modelling using linear parameter-varying models” by Prof. Tijs Donckers, from TU Eindhoven, and lastly, “Toward Safe, Sustainable and Scalable Batteries” by Prof. Marja Vilkmann from the VTT Technical Research Centre of Finland.

The event, organised by Prof. Emanuele Garone (ULB), Prof. Maitane Bercibar (VUB), Prof. Michel Kinnaert (ULB), and Dr. Alejandro Goldar (ULB), hosted 25 talks from speakers hailing from 11 different countries, which showcases the high international interest shown by the community. Attract-



Credit: N. Byl



Interventions at the BrIAS BATTERIES conference. Credit: N. Byl



BrIAS BATTERIES25 poster
Credit: A. Cotorruelo

ing over 80 attendants from 35 different institutions and companies, the conference featured 20 oral presentations and 10 poster presentations held over the lunch break. The high affluence of the event stenghtened the position of the ULB and VUB battery research teams along with their wide network of collaborators as spearheads of the community.

Much like BrIAS AGRI25, the first day of the conference culminated with a social dinner at the Fondation Universitaire, and the second one with a Belgian beer tasting event, followed by a cocktail-style dinner.

The success of the conference confirmed the importance of continued research and development of new and improved battery technologies, and laid the foundation for continued collaboration among researchers and practitioners. ■

BrIAS Forums

Robotics in Agriculture – Where we are, where we are going

The first forum of the 2024 season took place on the 15th and 16th of February of 2024. Later promoted to the first honorary edition of BrIAS AGRI, the forum delved into the uses and latest advancements of robotics in agriculture.

The forum, co-organized by the 21-23 and the 24 BrIAS Program Directors, sparked the interest of many stakeholders, ranging from farmers, to agronomists, small and large business owners, and to academics. Thanks to the collaboration of the FARI AI institute for the common good, attendants could listen to and participate in the 19 talks featured at the forum at the iconic BeCentral building.



Raschad Al-Khafaji, Director of the FAO Brussels liaison office delivering the opening speech at the Forum

Sustainable Robotic Technologies

The second forum of the '24 season provided a space for researchers and practitioners to discuss both how robotics can be made more sustainable, and how can robots help us move towards a more sustainable society.

From the design, to how calculations are performed, to the charging protocols of its batteries and to the physical makeup of the robots themselves, the forum delved into

different aspects of the discipline and pondered how can all of this be done in a more sustainable matter.

The forum took place on the 29th of March 2024 at the VUB AI Experience Center and featured 9 speakers coming from academia, industry and the arts.



Panel discussion during the Sustainable Robotics Technologies forum.



AJung Moon delivers her presentation during the forum.

Human-Robot Collaboration

This forum, organized on the 26th of April 2024 with the collaboration of FARI, asked the question of *How do we collaborate in a sustainable way with robotics in the future?*. The forum consisted on two workshops on two subfields of Human-Robot Interactions: surgery and manufacturing within European companies.

This forum, which featured 11 oral presentations, was the first of its kind to be organized in the newly inaugurated BrIAS Headquarters. The BrIAS Seminar Hall saw a multidisciplinary group of experts hailing from academia and the private sector discuss the sustainability challenges of future Human-Robot interactions.

War & Peace, and Robots

The 2nd and 3rd of May 2024 saw the Hall des Marbres of the Solbosch Campus of the ULB host this two-day BrIAS Forum.

The focus of the first day was *Robotics in time of peace*, particularly how robotics can help to clear up remnants of war – both in marine and land environments – and ensure a safe restart of life at peace. Conversely, the second day was dedicated to *Robotics in time of war*, and, far from being an apology for the use of technology in wartime, the day was dedicated to its historical, ethical, legal, and geopolitical aspects. The second day was conceived with the goal of informing the public about the current policies as well as the various different perspectives and positions on the matter, and in doing so, stimulating an informed debate.



Pierdomenico Memeo during his presentation at the War & Peace, and Robots forum.



Panel discussion during the War & Peace, and Robots forum.

The forum provided grounds for discussion to the confluence of policymakers, historians, writers, academics and military personnel that attended the forum. The importance of the matter, already evidenced by the general turmoil of the geopolitical

landscape, was further accentuated by the presence of many high-profile figures that had the chance to attend to the 26 talks the forum offered.

Law and AI in Finance and Beyond

AI and Law intersect across diverse disciplines, offering innovative solutions to complex legal challenges. Serving as the first BriAS Forum of the '25 season, the event delved into the enhancements in efficiency and precision that AI can bring to legal practices, such as automating legal research or analyzing case laws.

The forum, held in the BriAS Seminar Hall raised critical questions about ethics, accountability, and the need for robust regulatory frameworks.



Sam Vervoven presents during the AI in Finance and Beyond forum.

Smart Cities

Smart Cities are urban models that, by the use of technology, governance and human labour, put forward sustainability and the solution of social issues. On the 4th of April of 2025, BriAS organized a forum dedicated to discussing matters pertaining to different aspects of smart cities: from mobility, to energy usage or to the fair implementation of algorithms and AI.

The event joined participants during a half-day session that featured 6 talks coming from different stakeholders.



Opening of the Smart Cities forum by Emanuele Garone, Program director.

Responsible AI

This event, was organized as part of the Brussels Responsible AI Network (BRAIN) . It was a one-day event that invited researchers, practitioners, and policymakers from Belgium and beyond to discuss the latest advances in AI and its societal implications.

BRAIN brought together the three Belgian AI research programmes: the AI for the Common Good Institute (FARI) in Brussels; the Trusted AI Labs (TRAIL) of the Walloon and Brussels regions; and the Flanders AI Research programme (FAIR). With 26 talks delivered by a pluridisciplinary group of speakers, the event dedicated a space to discuss the question of how can we fairly implement AI systems that impact our society in a positive manner.



An informal discussion during one of the breaks of the Responsible AI forum.



One of the panel sessions of Protection of CUIs.

Protection of Critical Underwater Infrastructures

On the 19th of May of 2025, BriAS organized Protection of Critical Underwater Infrastructures (CUIs) with the objective of raising awareness and fostering dialogue among academia, industry, operators, policymakers, and the public at large.

The event covered the geopolitical importance of CUIs, a historical overview on the most notorious and impactful incidents,

how the problem of their protection is currently approached by governments and the industry, and lastly, the future of CUIs.

The forum featured 15 talks and 3 panel sessions, where participants were invited to discuss and provide their point of view on this deceptively pressing matter.



Vice rector for research and Innovation ULB, Prof. Marius Gilbert during the opening of the forum.

Democratic Governance: Challenges & Innovations

As part of the transition towards a new season, on the 5th of June 2025, BriAS organised a one-day public forum as a collaboration between the two BriAS programmes: Sustainable Robotics and Democratic Governance.

The goal of this forum was to foster conversations and promote close collaborations among key stakeholders who are closely connected to the theme of democratic governance, with the goal to collectively think of democratic challenges in practice.

The Forum combined talk duos on key dimensions of democratic governance, as well as smaller creative workshops with a focus on polarization, populism, and violence; Democratic short-termism and sustainability; Technology, misinformation, and AI; Inequality and inclusion; and Democratic Innovations.

The forum saw academics, members of civil society organizations and public administrations brought together to discuss the main challenges to democratic governance, raise the big questions that need to be addressed, and strengthen the link between the knowledge of academics and stakeholders.

Other BriAS events

Piano concerts by Simon Vaskou

In several occasions during the season, the talented French pianist Simon Vaskou delighted us with his breathtaking interpretation of classical and contemporary pieces. The addition of these concerts to some of our events further cements our conviction that art and science go hand in hand.

The first among these was at the reception of *War & Peace*, and *Robots* forum, where he regaled the audience with a 45 minute recital programme on the theme of the forum. The concert served as a moment not only for our participants to unwind and relax from the intense first day of the forum, but to take a moment to reflect on the topic through carefully chosen music pieces that comment on the topic of the effect of war on society.

His second concert at BriAS – held during the opening ceremony of the 2025 season – was a joint performance with violinist Julien Olive. The duo interpreted a selection of sonatas by Bach and Debussy that didn't fail to move every member of the audience.



Illustrator working on the vision board for the 2026-27 season during the Democratic Governance forum



Simon Vaskou during his performance after the *Protection of Critical Underwater Infrastructures* forum.

Lastly, Simon performed during the dinner reception of the *Protection of Critical Underwater Infrastructures* forum, where he performed a selection of Scarlatti and Busoni that evoked the human perspective of the topic that perdures and flourishes after a great struggle. These pieces were performed on a vintage Hautrive piano that was temporarily hosted at BriAS, an invaluable experience made possible by the Rector of the Vrije Universiteit Brussel, Jan Danckaert, to whom we are deeply thankful.

Crossing Wires - Arts, AI & Robotics (in collaboration with OHME)

From the 26th to the 28th of May 2025 we hosted together with OHME *Crossing Wires*: a three day event dedicated to Arts, AI and Robotics. The programme featured art installations, workshops, engaging talks and a resonant closing night, to celebrate the closure of the second edition of the Sustainable Robotics artistic residency.

Artists and researchers reflected on current themes such as ethical issues, climate change, and our collective future in the age of automation and artificial intelligence. *Crossing Wires* investigated topics such as sustainable robotics, the future of generative AI, creative computers, and the dynamics between art and AI, opening a space for dialogue and exchange where artistic and scientific practices could challenge each other in shaping the society of tomorrow.



Camilla Colombo, co-director of OHME, during the *Crossing Wires* event. Credit: O. van Camperhout

Concert & Exhibition: La Présence d'Olivier Messiaen

On the 14th of June 2025, we organized *La présence d'Olivier Messiaen*: an event that combined a concert by musicians Pierre Thomas, Sabine Lawalrée and Laura Elisabeth Verlinden; and an art exhibition by visual artist Bern Wery.

The event was devoted to the late composer Olivier Messiaen: a musician of colours, rhythmicist and ornithologist. The musical ensemble performed a selection of 12 scores, and the art exhibition featured upwards of 20 pieces by Bern Wery, all of them inspired by the music of Messiaen.



One of the pieces exhibited during *La présence d'Olivier Messiaen*. Credit: V. Everarts

BRIAS memories of 2024-25

This section provides Fellows with a space to share their feelings about their stay with us during the season. As this is the first issue of BRIAS memories, we are also including testimonials from Fellows from the years 2021-23.

“The theme of our year, Sustainable Robotics, was a complex topic that requires multiple angles and perspectives. It called for a space where discussion, debate, and learning can unfold to truly grasp all its nuances. BRIAS offered exactly that: an invaluable opportunity to engage with high-profile fellows from around the world. For me personally, it was a chance to deliberately connect with people I had long wanted to meet, and I left not only with new connections but also with a much broader vision. BRIAS creates a rare environment where academics can meet their role models, exchange ideas, and engage in meaningful reflection and debate.”

“Today my time at BRIAS came to a close. Many thanks for the invitation for the fellowship -- it has been a wonderful and productive time for me.”

“My time at Brias was one of the best in my academic career, and from the workshops and talks, as well as from the conversations and informal contacts established during that time, much research resulted that led to the publication of as many articles.”

“Thanks for keeping always high the attention to the artistic aspect of life and research, sometimes neglected by people involved in research of more technical nature.”

“We visited many interesting museums, such as the Africa Museum (extremely interesting), the Brussels City Museum and the Belvue Museum (giving us a better idea on the history of Brussels and Belgium), the Museum of Sint-Jans-Molenbeek, the Museum of the Moulin d'Evere et de l'Alimentation, The Magritte Museum (and the one of Fine Arts, which we visited with the other fellows), the Royal Museum of Art and History, the Museum of the Musical Instruments, and the Jewish Museum. We also went to Binche to visit some friends and to see the International Museum of Carnival and Mask (very good). These museums, together with simple long walks around the city, from the Marolles and St. Gilles to Uccle, Anderlecht, and Molenbeek, including the area from the Kanal-Centre Pompidou (currently closed) around the Bassin Vergote up to Laeken, and Koekelberg, or in the two Woluwes and Schaerbeek, in the Matonge and Ixelles, and of course in the European Quarter and in the Ilot Sacré, as well as in Etterbeek, Auderghem, Watermael-Boitsfort and the Rouge-Cloître (without forgetting the wonderful Bois and Abbaye de la Cambre), all this allowed us to understand a bit of the differences among areas, people and lifestyles. Brussels is a real mosaic!”

“I think the artistic aspect is fundamental in revitalizing all the rest. And, in the end, doing research is a matter of creativity, as in art.”

“With this e-mail I wish to thank you once again for giving me the wonderful opportunity to stay in Brussels at the Brias. This stay gave me a lot of new energy (I even feel younger!) and opened many interdisciplinary fruitful collaborations, particularly with Frits and Annette (and then with the entire team of speakers of the “Upcycled food” Workshop), but also with David and Gabriela.”

“When I tried to explain my students what happened during my stay there, they synthetically said that I made a sort of “Erasmus for teachers”.”

“This means a lot: the right combination of study, work, and fun!”

“After the fellowship at BriAS, my memories were filled with great experiences. The staff were super friendly and supportive and the accommodation is convenient. The entire organization helped us, fellows, by exposing us to new research ideas, focusing on research, and exploring collaboration. Overall, this was a great opportunity.”

“The BriAS initiative on sustainable robotics gave me the opportunity to meet people I would not have met otherwise. This means exposing myself to thinking outside the box more than I would normally be comfortable with. I am proud to be a lifelong BriAS fellow and I am looking forward to more initiatives like this!”

“I would like to express my sincere gratitude for the generous support of BriAS to the research collaboration with the professors in ULB and VUB. The research of soft actuators/sensors and their applications to soft robots will continue to further develop.”

“The research training developed in BriAS was a relevant event for me, and for other Cuban colleagues also. I had the possibility to develop several research tasks in the AI Lab led by Prof. Dr. Ann Nowe; moreover, those days in BriAS allowed to participate in several seminar and lectures about updated topics in several areas, and to exchange with different experts also. The accommodation in the new building was excellent, and, specially, your attention and support. BriAS is an excellent idea (and real project) from VUB and ULB, please continue this in the following years!”

“My time on BriAS was an enriching mix of people and science, all within the spectacular setting of Brussels in spring. It was an honour to be among the many minds engaged on the same vision and to have an input into such an important topic of conversation. The work I conducted during my time in Brussels has taken on new forms since leaving and it will likely continue for many years to come. I am ever grateful to the team at BriAS and know that the relationships I formed in the short time I was with you will last a lifetime.”

News

USquare: a new chapter for BrIAS

In April 2024, BrIAS relocated to its new headquarters in the USquare site, the newly renovated former police barracks situated at Boulevard Général Jacques (Général Jacqueslaan) 210 in Ixelles (Elsene), Brussels. The move represents a milestone in the trajectory of the institute, as it solidifies its status and presence with premises that perfectly align with our mission and vision: a place that fosters communication and scientific collaboration in a relaxed environment.

The decision to move into these premises was motivated by the need for BrIAS to have a physical location from which we can organise scientific and cultural events, as well as host appointed BrIAS Fellows and other invited peers. The architectural renovation of the old barracks was carried out with sustainability in mind, as evidenced by the use of carbon-negative construction materials.



Summer pop-up bar of USquare.

The new headquarters offer plenty of space for BrIAS to develop its activities. The ground floor contains the heart of BrIAS: the foyer and seminar hall. Here is where most of the activities – both social and scientific – take place. The foyer is equipped with a kitchen that Fellows are encouraged to use convivially, and plenty of lounging areas to hold informal conversations and meetings. The first floor of the main building is equipped with offices for our central team and directors, a meeting room, the luminous open-plan Paul de Knop co-working space and 6 apartments – 3 single, and 3 double-room. Finally, the second floor of the building houses 6 more single-room, and another 2 double room apartments. The far end of the building is dedicated to long stay residents, with the last remaining 6 apartments. For more information on these apartments, we invite you to read the next article.

The general plan of the building isn't the only reason that makes this relocation a perfect strategic move: the location of the complex was chosen because it is within walking distance of both VUB (500 metres) and ULB (*La Plaine* 1.6 km, *Solbosch* 1.4 km) campuses, making the location ideal to facilitate the academic life of our fellows and other guests. Opposite the site lies the Etterbeek train station, making BrIAS accessible by train, bus and tramway.

Other than BrIAS, the USquare site also houses academic enterprises such as the USET research hub, the OpenLab, the Brussels Studies Institute, the Civis and Eutopia university alliances, and the FabLabs of both ULB and VUB. USquare also houses the headquarters of OHME, a platform at the intersection of arts and sciences and frequent collaborator of BrIAS, as well as a plethora of studios of independent artists and makers. Finally, the site also offers options for leisure with their two cafés, an escape room and kiosk to make the best out of the time off.

Since the move, we have hosted upwards of 40 events, either organized or co-organized by BrIAS, confirming our role as a facilitator for scientific collaboration. Feedback from guests and attendants alike has confirmed that we tread the right path towards a future full of inclusive, fruitful, and multidisciplinary scientific collaboration.

As we settle in our new home, our headquarters will continue to evolve as a living environment for research, creativity, and dialogue. A place where groundbreaking ideas take shape and grow into motors of a better society. ■



Location of BrIAS with respect to the ULB and VUB campuses.

Stay with us! All about BrIAS accommodation

With the inauguration of our new premises at the USquare site, BrIAS is glad to offer accommodation services to the academic community – including invited BrIAS Fellows as well as other VUB/ULB invited researchers and guests. By offering a varied choice of housing options, we strive to stimulate an environment where scientific collaboration is fostered by having the top minds in close proximity to each other.

This initiative fully aligns with the DNA of BrIAS: to remove all possible barriers to multidisciplinary research collaboration. It is our conviction that groundbreaking ideas inspired by cross-fertilization are the fuel that drive scientific knowledge to unparalleled heights. With our brand new set of apartments and studios as well as convivial spaces, our ultimate goal is to provide the place for these new ideas to blossom.

We are proud to offer a choice of 18 available apartments and studios. Of these, 12 are single-bedroom apartments, perfect for one person or a couple. Furthermore, one of the single-bedroom apartments is adapted and fully equipped to host people with reduced mobility. The rest of the apartments have main and secondary bedrooms, which can host families of up to 4 members.



Credit: H. Duré



Every apartment has Ethernet and a Wi-Fi connection via eduroam, and comes fully furnished with a suite of amenities designed to provide our guests with a home away from home. The fully-equipped kitchens include a refrigerator, stovetop and microwave/convection oven, along with a wide selection of cookware, cutlery, and glassware. The kitchens also include a dining table with seating for two -four people, depending on the apartment type. Our bedrooms ensure that our guests can get a great night's sleep with our comfortable mattresses and bedding sets. The rooms also sport bedside tables and lamps and an alarm clock to not miss the early morning meetings. Finally, at BrIAS we believe that no time is complete without leisure time, for this, we equipped our living rooms with a TV that can be watched from the comfort of the provided sofas and armchairs.

Community is a cornerstone element of the experience BrIAS provides, for this, all our guests have access to the shared facilities in our premises: a communal kitchen, where social lunches and dinners can be organised, and a plethora of lounging areas to informally discuss with fellow peers.

Since we opened our doors in October 2024, we have hosted upwards of 30 invited guests in our premises who have expressed their utmost satisfaction with our hospitality services. Whether a BrIAS fellow or a collaborator with the ULB or VUB universities, we invite you to check our website for accommodation options for your next stay in Brussels! ■

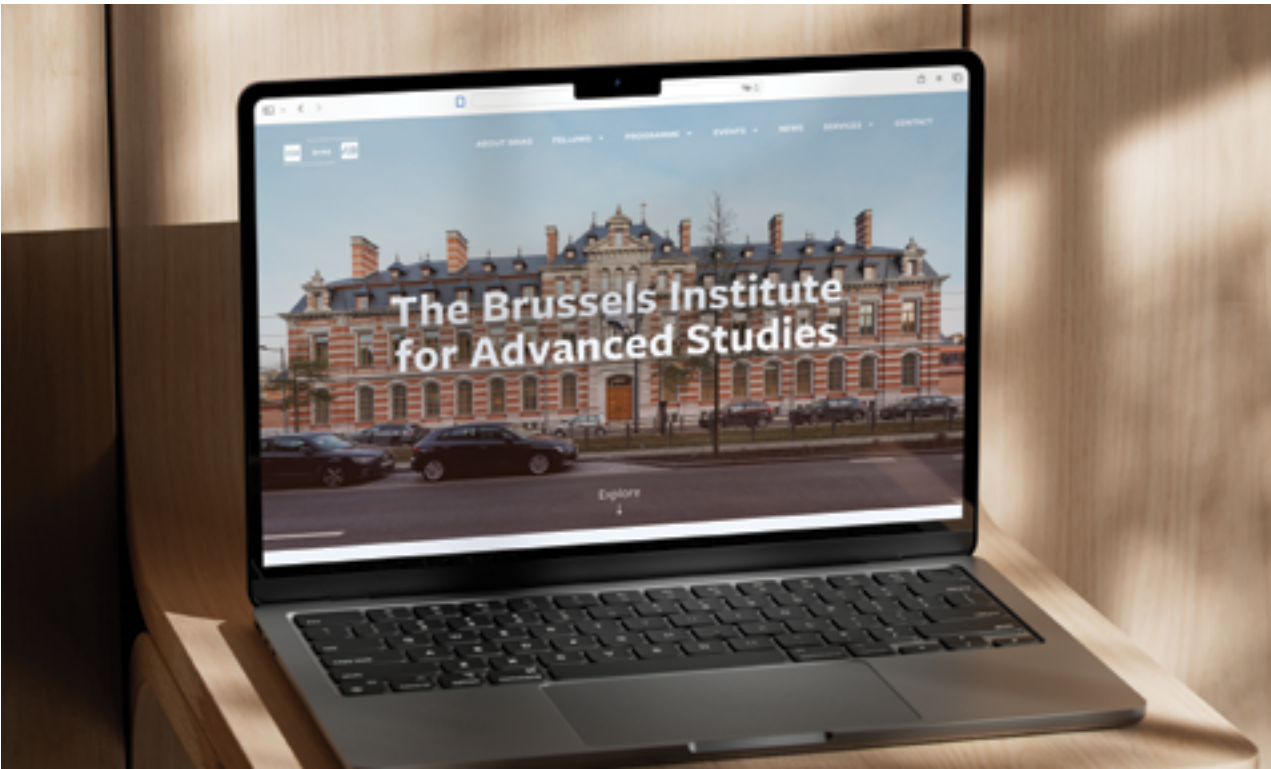
The Brias website just got a makeover

September 2025 saw us unveil the newly redesigned institutional website for the Brussels Institute for Advanced Studies. As a new and exciting era begins for Brias with our new headquarters, the revamped website will serve as the face of the Institute on the internet.

The launch of the website responds to the evolving needs of Brias and our collaborators, allowing us to showcase all the relevant information while aligning with our visual renewal following the opening of our premises at USquare.

The new website, designed internally, structures the information comprehensibly and accessibly. The site features dedicated sections to past programmes and Fellows for historical archiving, the people behind Brias, and, most importantly, it provides a clear interface to both browse and subscribe to our events, and to book accommodation through official institutional platforms.

With this relaunch, we strengthen the digital presence of our institute and offer a welcoming platform for Fellows, academic personnel, and the public at large to learn more about us. The website is constantly being updated with new information and features, so we invite everyone to give us a visit at www.brias.be. ■



Credits

BriAS Steering Committee

Pieter Ballon
Vice-Rector for Research of the VUB

Marius Gilbert
Vice Rector for Research and Innovation ULB

Mieke Gijsemans
Director Department of Research VUB

Daniele Carati
Director Department of Research ULB

Steering Committee permanent guests

Frank Deconink and Serge Jaumain
BriAS Directors

Anja Garone
Administrative coordinator

Colophon

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Thierry Geenen
Christian Hermans
Sara Labidi
Olivia van Camperhout

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List of honorary Fellows

David Cannella <i>ULB</i>	Frits Heinrich <i>VUB</i>	Ann Nowé <i>VUB</i>
Nel de Mûelenaere <i>VUB</i>	Christian Hermans <i>ULB</i>	Bram Vanderborght <i>VUB</i>
Paul Erdkamp <i>VUB</i>	An Jacobs <i>VUB</i>	
Emanuele Garone <i>ULB</i>	Carl Mörch <i>ULB</i>	

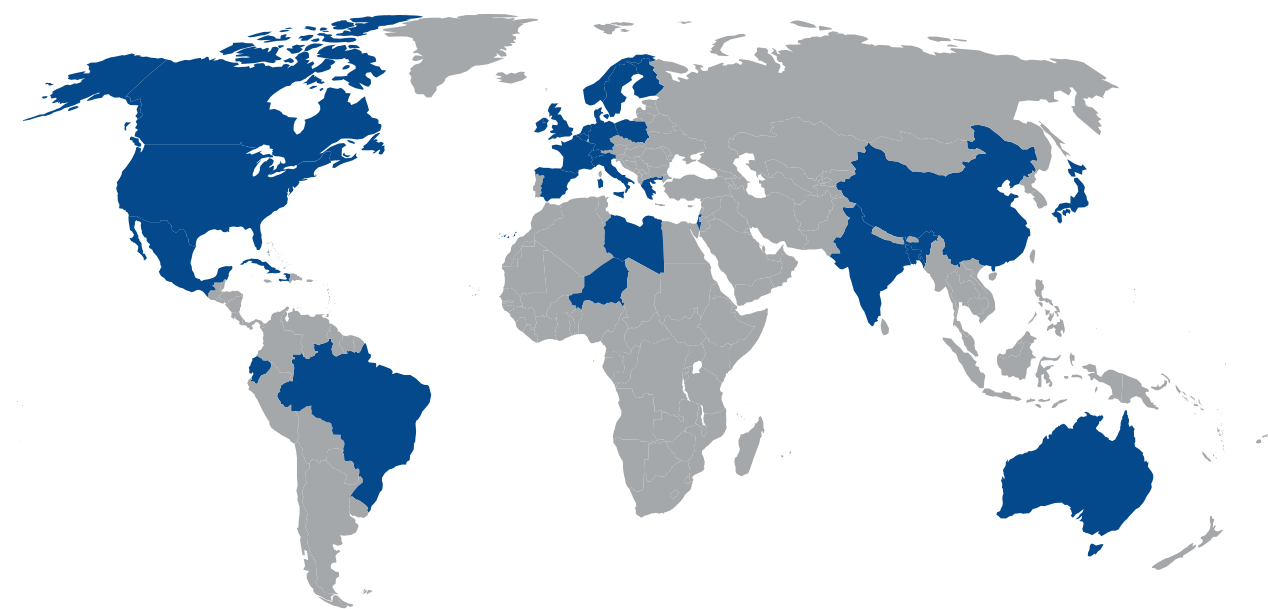
Past BrIAS Fellows

Mark Aarts <i>Wageningen University, The Netherlands</i>	Jeroen Candel <i>Wageningen University, The Netherlands</i>	Matthew Hannaford <i>University of Lincoln, UK</i>
Nassirou Adamou Mahamadou <i>Université Abdou Moumouni de Niamey, Niger</i>	Jessica Dijkman <i>Utrecht University, The Netherlands</i>	Philippe Hinsinger <i>INRAE Montpellier, France</i>
Ferran Antolín <i>Deutsches Archäologisches Institut, Germany Universität Basel, Switzerland</i>	Joseph Dubrovsky <i>Universidad Nacional Autónoma de México, Mexico</i>	Heli Huhtamaa <i>University of Bern, Switzerland</i>
Gabriela Berto <i>University of São Paulo, Brazil</i>	Mennat-Allah El Dorry <i>Ain Shams University, Egypt</i>	Duncan Keenan-Jones <i>University of Queensland, Australia</i>
Bhaswati Bhattacharya <i>Göttingen University, Germany</i>	Stefan Gerth <i>Fraunhofer Institute for In- tegrated Circuits IIS, Germany</i>	Natsuko Kobayashi <i>University of Tokyo, Japan</i>
Antonino Biundo <i>Università degli Studi di Bari Aldo Moro, Italy</i>	Lien González Pérez <i>Universidad de Las Américas, Ecuador</i>	Elaine Kuanhui Lin <i>National Taiwan Normal University, China</i>
		Beat Kumin <i>University of Warwick, UK</i>

Leslie Lipper <i>University of California Berkeley, USA</i>	Giang Nguyen <i>Dresden University of Technology, Germany</i>	Hatem Rouached <i>Michigan State University, USA</i>
María del Prado García-Aparicio <i>University of Alcalá, Spain</i>	Cormac Ó Gráda <i>University College Dublin, Ireland</i>	Philippa Ryan <i>Royal Botanic Gardens Kew London, UK</i>
Hiro Masunaga <i>Nagoya University, Japan</i>	Antonella Pasqualone <i>Università degli Studi di Bari Aldo Moro, Italy</i>	Pauline Scheelbeek <i>London School of Hygiene & Tropical Medicine, UK</i>
Antonia Matalas <i>Harokopio University of Athens, Greece</i>	Rathana Peou Norbert-Munns <i>Utrecht University, The Netherlands FAO Regional Office Asia and the Pacific</i>	Michela Schiavon <i>University of Turin, Italy</i>
Alan Matthews <i>Trinity College Dublin, Ireland</i>	Andrea Pieroni <i>University of Gastronomic Sciences, Italy</i>	Pelin Kocatürk Schumacher <i>Norwegian University of Life Sciences, Norway</i>
Alex McAlvay <i>Institute of Economic Botany New York Botanical Garden, USA</i>	Pierre Purseigle <i>University of Warwick, UK</i>	Fernando Segato <i>University of São Paulo, Brazil</i>
Laura Motta <i>University of Michigan Ann Arbor, USA</i>	Rajeshwari Rajann <i>Bengaluru University of Horticultural Sciences, India</i>	Peter Shewry <i>University of Reading, UK</i>
Seth Murray <i>Texas A&M University, USA</i>	Mauro Rizzetto <i>Ca’Foscari University of Venice, Italy</i>	Nasir Uddin <i>ActionAid, Bangladesh</i>
Dawn Nagel <i>University of California Riverside, USA</i>		Christopher Vincent <i>University of Florida, USA</i>
		Fiona Williamson <i>Singapore Management University, Singapore</i>

Past Junior BrIAS Fellows

Ehab Abdulbur-Alfakhory <i>VUB</i>	Taraka Ramji Moturu <i>ULB</i>
Claudia Chiodi <i>ULB</i>	Ankit Pramanik <i>ULB</i>
María de la Fuente Ruiz <i>ULB</i>	Devi Taelman <i>VUB</i>
Jorge del Cueto Chocano <i>ULB</i>	Vicka Versele <i>VUB</i>
Marie-Cécile Dupas <i>ULB</i>	Jehan Waeytens <i>ULB</i>
Annette Hansen <i>VUB</i>	Marco Zarattini <i>ULB</i>



At the time of writing, BrIAS has appointed Fellows from 29 different countries from all 6 inhabited continents of the world.

Full list of talks 24-25

Conferences

2nd BrIAS Conference on Smart Agriculture 2025 6-7/2/2025

Emanuele Garone <i>BrIAS Programme Director</i> Université Libre de Bruxelles, Belgium	<i>Welcome</i>
David Cannella <i>Honorary Fellow</i> Université Libre de Bruxelles, Belgium	
Frank Deconinck <i>BrIAS co-director</i> Vrije Universiteit Brussel, Belgium	
Raschad Al-Khafaji FAO Brussels Liaison Office with the European Union and Belgium	<i>Opening remarks</i>
Frédéric Francis Gembloux Agro-Bio Tech, Belgium	<i>Insects need smart promotion ... or eradication.</i>
Grégoire Noël Gembloux Agro-Bio Tech, Belgium	<i>Extracting insect information from entomological museum collections to identify potential insect pests and beneficials using deep learning methods.</i>
Arnaud Segers Gembloux Agro-Bio Tech, Belgium	<i>Development of <i>Bruchus rufimanus</i> Boheman 1833 (Coleoptera: Chrysomelidae) at different temperatures with special emphasis on rearing and modelling approach.</i>

Ouassim Benhamouche Université libre de Bruxelles Belgium	<i>A win-win combination in plant disease prediction: field data to update model estimations, estimations to drive field data collection.</i>	Yafit Cohen Hebrew University of Jerusalem, Israel	<i>Urban-agricultural interface: Impact of urban habitats on Mediterranean fruit fly dynamics in citrus orchards.</i>
Zeinab Sweidan Università Cattolica del Sacro Cuore, Italy	<i>Adaptation of a physiologically based model for predicting the phenology of Philaenus spumarius: first validation in Italian olive groves.</i>	Avihu Cohen Medva GIS, Israel	<i>Pest control SDSS – From academy to industry.</i>
Hugo Lutten Schlager Gembloux Agro-Bio Tech, Belgium	<i>Innovations and challenges in black soldier fly farming: Infrastructure, automation, and waste valorization.</i>	Alessandro Vitale University of Calabria, Italy	<i>GeoAI, metrology and remote sensing for smart agriculture: Mapping land transformation and climatic impacts to optimize crop resilience and water management in a Mediterranean region.</i>
Nicolò Di Sora Università degli Studi della Toscana, Italy	<i>A novel strain of Akanthomyces muscarius as a promising biological control agent against Toumeyella parvicornis.</i>	Gilad Ravid Ben-Gurion University of the Negev, Israel	<i>Integrating spatio-temporal vegetation indices with machine learning for dynamic maize field performance monitoring: Development of a real-time crop monitoring framework.</i>
Silvia Turco Università degli Studi della Toscana, Italy	<i>Improving management of emerging and re-emerging pests and diseases of Prunus persica (L.) Batsch.</i>	Ankush Prashar Newcastle University, UK	<i>Spectral-based weed detection across diverse environmental conditions.</i>
Roni Gafni Ben-Gurion University of the Negev, Israel	<i>Characterizing spatiotemporal dynamics of biotic stresses to optimize sampling strategies in agricultural systems.</i>	Marco Silvestri Barilla G. e R. Fratelli S.p.A, Italy	<i>Moving towards regenerative agriculture: Advancements in remote sensing tools to measure soils health regeneration.</i>
Irene Salotti Università Cattolica del Sacro Cuore, Italy	<i>A mechanistic, five-step approach for prediction modelling: Alternaria-tomato pathosystem as case study.</i>	Tom Kenda Université Catholique de Louvain, Belgium	<i>How to capture within-field heterogeneity across multi-year crop rotation: High-resolution insights from sentinel-2.</i>
Roberta Ascolese University of Naples Federico II, Italy	<i>AI-Driven pest control: Sustainable agroecosystems through remote monitoring and predictive modelling.</i>	Gaoshan Bi University of Sheffield, UK	<i>A low-cost and AI-integrated imaging device for plant-parasitic nematodes quantification and classification.</i>

Valerio Cristofori Università degli Studi della Tuscia, Italy	<i>Early detection of nutrient deficiencies: The hazelnut case-study.</i>
Uwe Conrath RWTH Aachen University, Germany	<i>Plant defense priming.</i>
Niels Holst Aarhus University, Denmark	<i>Agroecological models explained.</i>
Alessandro Marino University of Cassino and Southern Lazio, Italy	<i>A control architecture for semi-autonomous robots in agriculture settings.</i>
Nicolò Omodei University of Bologna, Italy	<i>A robotic arm design for autonomous kiwi harvesting.</i>
Günter Lehretz Fraunhofer IIS, Germany	<i>Automated X-ray plant phenotyping from seedlings to the field.</i>
Jelle Van Vooren Ghent University, Belgium	<i>Uncovering the role of <i>Serendipita williamsii</i> volatiles in establishing its own plant beneficial endophytic colonization: A parallel study of the headspace composition and mode of action.</i>
Andrea Gasparri Roma Tre University, Italy	<i>A distributed framework for task allocation and safe coordination in networked multi-robot systems for precision agriculture.</i>
Fabrizio Dabbene BrIAS Fellow CNR-IEIT Politecnico di Torino, Italy	<i>Motion planning for an autonomous agricultural robot in unstructured terrain.</i>

Gaoyuan Liu Vrije Universiteit Brussel, Belgium, Belgium	<i>Motion planning for agricultural tasks with robotic manipulators.</i>
Jianchao Ci Wageningen University, The Netherlands	<i>Self-supervised local NBV planning for 3D plant reconstruction by a robot.</i>
Luca Bascetta Politecnico di Milano, Italy	<i>Using a digital twin of a tracked mobile robot for the design and validation of estimation and control algorithms.</i>
Luis A. Torres-Cisnero Fraunhofer Institute of Integrated Circuits, Germany	<i>RootForce 4.0: a review of the classical image processing pipeline for root system architecture of cereals.</i>
Mohammad Iranmanesh Constellr Belgium S.A., Belgium	<i>Constellr HiVE – A satellite constellation for monitoring diurnal temperature cycles and enabling smart agriculture.</i>
David Cannella Université Libre de Bruxelles, Belgium	<i>Cellulose-derived oligosaccharides obtained by LPMO oxidation biostimulate tomato weight, inflorescence, and immunity through ethylene and ROS-free signalling.</i>
Luis Orihuela Universidad de Huelva, Spain	<i>Application and assessment of model-based leak localization methods in an irrigation network.</i>
Roberta Pace University of Naples Federico II, Italy	<i>Harnessing predictive data analytics of soil microbiota for enhanced bio-sustainability in agriculture.</i>
Jose Maria Manzano Universidad Loyola Andalucía, Spain	<i>Design and deployment of a cloud platform for data-driven leak detection in agricultural irrigation systems.</i>

Ayansina S. Ayangbenro University of Mpumalanga, South Africa	<i>Leveraging rhizosphere microbial diversity and drought-tolerant bacterial isolates to enhance soybean resilience in South Africa.</i>
Christian Hermans <i>BRIAS Honorary Fellow</i> Université libre de Bruxelles, Belgium	<i>Tailoring plant roots for enhanced nitrogen capture in soil.</i>
Claire Leclef Fytekko S.A., Belgium	<i>Harnessing biostimulants for sustainable agriculture: A case study or Nurspray® in tomato cultivation.</i>
Yael Edan Ben-Gurion University of the Negev, Israel	<i>AgRobotics for smart agriculture.</i>

1st BriAS Conference on Battery Management and Future Technologies
22-23/05/2025

Frank Deconinck <i>BRIAS co-director</i> Vrije Universiteit Brussel, Belgium	<i>Opening</i>
Emanuele Garone <i>BRIAS Programme director</i> Université Libre de Bruxelles, Belgium	
Maitane Berecibar Vrije Universiteit Brussel, Belgium	
Wouter IJzermans <i>Executive Director</i> Batteries European Partnership Association, Belgium	

Anna G. Stefanopoulou University of Michigan, USA	<i>Estimation of Dominant Degradation Mechanism for Safe and Long Battery Life</i>
Hrvoje Pandžić University of Zagreb, Croatia	<i>Method for Experimental Determination of Battery Parameters and Their Use in Power System Studies</i>
Zahra Zamanian UMons, Belgium	<i>Subspace Identification of Battery Model Parameters</i>
Nicolai Weinrich Aalborg University, Denmark	<i>Quantifying Reliable Battery Data Segments for Robust Online Battery Identification</i>
Francis Le Roux TU Eindhoven, The Netherlands	<i>Implementation and Analysis of Aging Mechanisms in the Doyle-Fuller-Newman Model Framework</i>
Abdul Muiz Sheikh TU Eindhoven, The Netherlands	<i>PyBatteryID – A Python Package for Data-Driven Battery Model Identification using LPF Framework</i>
Haijun Ruan Coventry University, UK	<i>Battery deep health: integrating explainable AI and mechanistic modelling to diagnose degradation modes with partial data</i>
Danial Karimi Watt4Ever, Belgium	<i>A scalable electro-thermal simulation framework for battery management system</i>
Ali Rahdarian Université Libre de Bruxelles, Belgium	<i>SOC-based passive balancing for aged Li-ion battery packs</i>

Mark A. Turner University of Cambridge, UK	<i>Experimental investigation of direct thermal management for Lithium-ion batteries</i>
Xia Zeng Vrije Universiteit Brussel, Belgium	<i>Electrical-Thermal Behavior of Commercial NMC Lithium-Ion Batteries: Insights from Operando Impedance and Surface Temperature</i>
Maxime Bussios Université Libre de Bruxelles Belgium	<i>EIS-based State of Charge determination for LFP batteries linked to PCA</i>
Jan Richter BATEMO Germany	<i>Driving Battery Innovation: Accelerating Development by Physical Modelling of Hundreds of Batteries</i>
Tijs Donckers TU Eindhoven, The Netherlands	<i>Data-driven battery modelling using linear parameter-varying models</i>
Lucca Matuck University of Aveiro, Portugal	<i>Advanced Monitoring: Real-time Data Analysis of Integrated Hybrid Optical Sensors as Smart Battery Diagnostic</i>
Gabriel Ferdigg Virtual Vehicle Research GmbH Germany	<i>Advanced Sensor Technology and Functional Polymers for Enhancing Safety in Energy Storage Systems</i>
Kamil Burak Dermenci Vrije Universiteit Brussel, Belgium	<i>Potential Challenges of Sensor Integration into Li-ion Cells</i>
Alejandro Goldar Davila Junior Fellow Université Libre de Bruxelles Belgium	<i>Non-invasive tracking of the capacity loss and internal resistance of pouch cells with optical FBG sensors</i>

Aikaterini Fragkiadaki University of Patras, Greece	<i>Numerical and Experimental investigation of Impact Response of a Thermoplastic Battery Housing</i>
Marja Vilkmán VTT Technical Research Centre, Finland	<i>Toward Safe, Sustainable and Scalable Batteries</i>
Berke Karaman Université de Liège, Belgium	<i>Toward rechargeable batteries with lower environmental impact via innovative materials</i>
Zoe Deckers Université de Liège, Belgium	<i>Sodium-ion battery negative electrode: investigation of carbon-carbon composites</i>
Kayssar Mikhael Université de Strasbourg, France	<i>Sodium-ion battery modelling using electrochemical impedance spectroscopy at different operating conditions</i>
Jose A. Rumipamba, UCLouvain Belgium	<i>Lithium-ion cells, integrated vibration and temperature testing</i>
Yassin Ammar Arbin Germany	<i>Precision meets efficiency: importance of regenerative technology in cell testing</i>

BrIAS Forums

Robotics in Agriculture – Where we are, where we are going

15-16/02/24		
Andrea Gasparri Università degli Studi “Roma Tre”, Italy	<i>Farming, Automation, and Robotics: where are we, where we want to go - The vision of an Engineer</i>	
Martina Lippi Università degli Studi “Roma Tre”, Italy		
Valerio Cristofori Università degli Studi della Tuscia, Italy	<i>Farming, Automation, and Robotics: where are we, where we want to go - The Vision of an Agronomist</i>	
Renik Van den Eynde Proefstation voor de Groenteteelt, Belgium	<i>Farming, Automation, and Robotics: where are we, where we want to go - From the lab to the field</i>	
Tom Lefebvre Hortipower, Belgium		
Marco Silvestri Barilla S.p.A., Italy	<i>Farming, Automation, and Robotics: where are we, where we want to go - The vision of a Company</i>	
John Martin University of Reading, UK	<i>From Mechanization to Robotization: a brief history of Agricultural Mechanization during the Green Revolution and current trends</i>	
Nikola Trendov Food and Agriculture Organization, North Macedonia	<i>Automation & Robotics In Agriculture - Perspectives from the Real `World</i>	
		Lorenzo Marconi University of Bologna, Italy
		<i>Autonomous/Semi-autonomous Tractors: Experiences from Academia to Industry</i>
		Bas Boom OnePlanet Research Centre, The Netherlands
		<i>Robotic pruning for orchards</i>
		Yael Edan BrIAS Fellow Ben-Gurion University of the Negev, Israel
		<i>Sustainable AgRobotics: where we are and challenges ahead</i>
		Fabrizio Dabbene BrIAS Fellow CNR - IEIIT, Italy
		<i>Cooperation of Unmanned Systems for Agriculture 4.0</i>
		Paolo Marras Aermatica3D s.r.l., Italy
		<i>On the usage of Drones in Agriculture: sensing, pollination, and protection</i>
		Jean-Francois Bastin Gembloux Agro-Bio Tech, Belgium
		<i>Monitoring of agro ecosystems based on low-cost UAV acquisitions</i>
		Mario Contarini Università degli Studi della Tuscia, Italy
		<i>Sustainable Pest Management: Open Challenges in Sensing and Modelling</i>
		Stefano Speranza, Università degli Studi della Tuscia, Italy

Francesco Lamonaca <i>BriAS Fellow</i> Università degli Studi della Calabria, Italy	<i>What should the measurement community do to support precision agriculture?</i>
Luca Rossini <i>BriAS Junior Fellow</i> Université Libre de Bruxelles, Belgium	<i>Pest-Finder: Problems and Perspectives on pest modelling in agrifood</i>
Emanuele Garone <i>BriAS Programme Director</i> Université Libre de Bruxelles, Belgium	<i>The problem of optimal sensing: sensing as a robotic mission planning problem</i>
Nicolas Bono Rosselló, Université de Namur, Belgium	
Bram Tijmons Pats drones, The Netherlands	<i>What we are developing for Integrated Pest Management - The Pats indoor concept</i>
Mateij Karasek Flapper Drones, Czech Republic	<i>Design of insect-inspired flying robots and their potential applications</i>
Marco Dorigo Université Libre de Bruxelles/FNRS, Belgium	<i>From social insects to social robots</i>

Sustainable Robotic Technologies

29/03/24

Michel Joop van der Schoor <i>Junior BriAS Fellow</i> Vrije Universiteit Brussel, Belgium	<i>Life Cycle Engineering for Sustainability: Responsible Design Choices</i>
Ward van der Tempel Voxelsensors, Belgium	<i>The Future of Contextual Computing in Sustainable Robotics</i>
Sophia Falk Universität Bonn, Germany	<i>Digitalisation and AI: Transgressing Planetary Boundaries</i>
Alejandro Goldar Dávila Université Libre de Bruxelles, Belgium	<i>Charge of Li-ion battery power devices: A Trade-Off between Charging Time and Sustainability</i>
Abishek Gupta Technische Universität Berlin, Germany	<i>Designing Service-Robot Infrastructure for Responsible Operation Management</i>
Kris Verdonck <i>BriAS – OHME Resident Artist</i> A TwoDogs Company, Belgium	<i>Sustainability in Visual Arts</i>
Alix Partridge <i>BriAS Junior Fellow</i> University of Bristol, UK	<i>Grow Your Own Robot: Sustainable Methodologies for Soft Robotic Technologies</i>

Joost Brancart Vrije Universiteit Brussel, Belgium	<i>Sustainable Soft Robots</i>
Seppe Terryn Vrije Universiteit Brussel, Belgium	
Ales Ude Jožef Stefan Institute, Slovenia	<i>Adaptive Robotics for Recycling of Electronic Devices</i>

Human-Robot Collaboration

26/04/24

An Jacobs <i>BriAS Programme Director</i> Vrije Universiteit Brussel, Belgium	<i>Introduction</i>
Bernardo Innocenti Université Libre de Bruxelles, Belgium	
Kristóf Takács Obuda University, Hungary	<i>The importance of sustainability goals in the surgical domain</i>
Tamas Heidegger Obuda University, Hungary	
Bernardo Innocenti Université Libre de Bruxelles, Belgium	<i>Robotic knee surgery</i>

An Jacobs <i>BriAS Programme Director</i> Vrije Universiteit Brussel, Belgium	<i>Insights from workshop on sustainability goals</i>
Koen Beyers Idevax, Belgium	<i>Sustainability goals at Idevax</i>
Nicola Frego ORSI Academy, Italy	<i>Sustainability goals at ORSI Academy</i>
Shirley Elprama <i>Junior BriAS Fellow</i> Vrije Universiteit Brussel FARI, Belgium	<i>Introduction to Human Robot Collaboration in EU Manufacturing Companies</i>
An Jacobs Vrije Universiteit Brussel, Belgium	
Marta Lorenzini Italian Institute of Technology, Italy	<i>The importance of sustainability goals in the production domain</i>
Shirley Elprama <i>Junior BriAS Fellow</i> Vrije Universiteit Brussel FARI, Belgium	<i>HRI in production context</i>
Sharath Chandra Akkaladevi <i>BriAS Fellow</i> Profactor, Austria	<i>Sustainable Robotics in Production Environments: Navigating Challenges and Achieving Innovations</i>

AJung Moon
BrIAS Fellow
McGill University,
Canada

Universal design as Sustainable Design of Service robots

War & Peace, and Robotics

02/05/24

Emanuele Garone
BrIAS Program Director
Université Libre
de Bruxelles,
Belgium

Welcome and Initial Remarks

Serge Jaumain
BrIAS Co-Director
Université Libre
de Bruxelles,
Belgium

Frank Deconinck
BrIAS Co-Director
Vrije Universiteit Brussel,
Belgium

Yves Dupont
Rector of the Royal
Military Academy,
Belgium

Nicolas Van Damme
Belgian Navy

*The Belgian Navy’s Vision on Naval Mine
Countermeasures: innovative and revolutionary*

Elmar Recker
Belgian Ministry
of Defence

Toward the mine countermeasures of tomorrow

Hiep Luong
Universiteit Gent,
Belgium

*Data Fusion and Computer vision challenges in Mine
Countermeasures*

Jeroen Debonnet
Exail Robotics,
Belgium

*Maritime Robotic Demining: the rMCM toolbox and its
future*

Emma Claeys
Dot.Ocean,
Belgium

Data Management in the context of MCM operations

Emanuele Garone
BrIAS Programme Director
Université Libre
de Bruxelles,
Belgium

*Mission Planning for multi-robot cooperative teams –
Challenges and solutions for MCM operations*

Gabriele Ferri
NATO Centre
for Maritime Research
and Experimentation,
Italy

*Robotics Networks for Maritime Surveillance: challenges
and opportunities*

Inge Ceuppens
European Defence Fund,
Belgium

*The European Defence Fund - Multi-annual planning:
opportunities for underwater warfare and mine counter
measures*

Luigi Fasano
European Defence Agency,
Belgium

Robotic Demining: case studies and objectives

**Juan Jesús Díaz
Hernández**
European Defence Agency,
Belgium

Emile Le Flecher
Royal Military Academy,
Belgium

Experiences from Military Demining Research Projects

Pedro Basto
Geneva International
Centre for Humanitarian
Demining,
Switzerland

Humanitarian Demining Innovation Landscape: A needs-based approach

Dominic Graser
Global Clearing
Solutions GCS,
Switzerland

Remote-controlled multi-purpose platforms in the field of explosive threat mitigation

Koen Struyven
Space Application
Services,
Belgium

Robotic Demining, research experiences and challenges

Davy Aendekerk
DOVO – EOD Unit of the
Belgian Army

The use of robotics within the Belgian EOD group

Mirko Campochiari
ParabellumStori,
Italy

Current Situation and how current wars are affecting the programs on Autonomous Weapon Systems

Andrea Gilli
University of St Andrews,
UK

Robotic warfare: an evolution in military affairs

Koen Ceulemans
Belgian Army

Concept of the land component concerning robotics & autonomous systems

Inge Ceuppens
European Defence Fund,
Belgium

The ethics review of the proposals and the ethics requirements during the implementation

Geert De Cubber
Royal Military Academy,
Belgium

How we dealt with Ethical issues in EU Projects

Gregory Reichberg
Peace Research
Institute Oslo,
Norway

On the discourse on Autonomous Weapon Systems and Robots at War

Johannes Thumfart
Vrije Universiteit Brussel,
Belgium

Autonomous systems for legal and ethical control - The next best solution if an universal prohibition of LAWS fails?

Borja Montes Toscano,
NATO ACO
Office of Legal Affairs,
Belgium

Autonomous Weapons Systems and Responsibility Gaps

Anna Greipl
Academy of International
Humanitarian Law
and Human Rights,
Switzerland

The legal discussion on Autonomous Weapon Systems: a search of the humans in IHL?

AJung Moon
BrIAS Fellow
McGill University,
Canada

The clash of today's tech culture and designer values

Pierdomenico Memeo
Independent writer,
Italy

Automatomachia: science fiction and the future of war

Law and AI in Finance and Beyond

14/03/25

Sam Verboven
Vrije Universiteit Brussel,
Belgium

Law, Ethics, and AI: Shaping Responsible Technology

Gregory Lewkowicz
Université Libre
de Bruxelles,
Belgium

What AI Does to Law and What Law Should Do to AI

Smart Cities

04/04/25

Victoria De Meue
Innoviris,
Belgium

Climate-Neutral and Smart Cities EU Mission: The case of the Brussels-Capital Region

Maider Llaguno-Munitxa
UCLouvain,
Belgium

Data Practices to assess urban environmental exposures

Giovanni Esposito
Université Libre
de Bruxelles,
Belgium

Smart City Development as public entrepreneurship

Gianluca Bontempi
Université Libre
de Bruxelles,
Belgium

Digital Twins of urban mobility: Challenges and perspectives

Hugues Bersini
Université Libre
de Bruxelles
FARI Chair,
Belgium

Smart Cities, Algocracy and FARI

Alessandro Gambale
CEO at Buildwind,
Belgium

Smart Cities, Clean Air: Artificial Intelligence and Computational Fluid Dynamics for Urban Air Quality assessment and Prediction

Responsible AI

28/04/25

Jerzy Stefanowski
Poznan University
of Technology,
Poland

The role of Counterfactual explanations: New methods and open challenges

Kostas Stefanidis
Tampere University,
Finland

Responsible Recommender Systems

Eirini Ntousi Bundeswehr
University of Munich,
Germany

Interventions for Algorithmic Fairness

Willem Zuidema
BriAS Fellow
University of Amsterdam,
The Netherlands

The Explanation Conundrum: Why XAI Methods Don't Work Well Enough Yet for AI That Really Matters

Tom Lenaerts
Université Libre
de Bruxelles,
Belgium

If FARI is the Answer, What Was the Question?

Pierre Geurts
ULiège,
Belgium

The Perspective of TRAIL on Responsible AI

Sabine Demey
Flanders AI Research
program and Imec,
Belgium

The perspective of FAIR (Flanders AI Research Program) on Responsible AI

Vincent Ginis
Vrije Universiteit Brussel,
Belgium

Work, teach and learn with generative AI

Ambrish Rawat IBM Research, Ireland	<i>Securing Generative AI</i>
Panagiotis Germanakos SAP SE, Germany	<i>Trust in AI: The human-computer interaction perspective</i>
Milena Machala European AI Office, Luxemburg	<i>The European AI Strategy</i>
Yves Moreau KU Leuven, Belgium	<i>Dual-use reserch in the Horizon programme: Feeding an AI arms race?</i>
Sabine Demey Flanders Flanders AI Research program and Imec, Belgium	<i>Responsible AI is crucial for value creation with AI at scale</i>
Gregory Lewkowicz Université Libre de Bruxelles, Belgium	<i>Will the European digital omnibus run over responsible AI?</i>
Benoît Frénay UNamur, Belgium	<i>Implementing AI Act: Mission Impossible?</i>
Pieter Libin Vrije Universiteit Brussel, Belgium	<i>Why We Need a CERN, Not a Manhattan Project</i>
Axel Abels Université Libre de Bruxelles, Belgium	<i>Wisdom from diversity: Bias mitigation through hybrid human-LLM crowds</i>

Benoît Frenay UNamur, Belgium	<i>When sign language meets AI: Interplay between societal needs and fundamental research</i>
Antonios Kontaxakis Université Libre de Bruxelles, Belgium	<i>Optimization for sustainable development of AI applications</i>
Yves Moreau KULeuven, Belgium	<i>Towards an ethical culture in technology: Educating STEM students and researchers</i>
Ikhtiyor Nematov Université Libre de Bruxelles, Belgium	<i>Data Distribution: From Conventional ML to LLM</i>
Seddouk Rachid Belgium	<i>When artificial intelligence and collective intelligence converge</i>
Apurva Shah Université Libre de Bruxelles, Vrije Universiteit Brussel, Belgium	<i>Artificial delegates resolve fairness issues in perpetual voting with partial turnout</i>
Manel Slokom CWI The Netherlands	<i>Personalized posrt-processing: How input data shift recommendation diversity</i>
Thomas Vandamme Université Libre de Bruxelles, Belgium	<i>Algorithmic confusion</i>
Joost Vennekens Vrije Universiteit Brussel, Belgium	<i>Neurosymbolic AI for Social Cognition</i>

Protection of Critical Underwater Infrastructures

19/05/25

Emanuele Garone <i>BriAS Programme Director</i> Université Libre de Bruxelles, Belgium	<i>Welcome</i>
Marius Gilbert <i>Vice-Rector for Research</i> Université Libre de Bruxelles, Belgium	
Peter Schelkens <i>Vice-Rector for Innovation & Valorization</i> Vrije Universiteit Brussel, Belgium	
Tobias Libetrau University of Copenhagen, Denmark	<i>An analysis of the problem and an historical overview of incidents involving CUIs</i>
Kristof Van Belleghem, OF5 <i>Chief Of Staff</i> Belgian Navy	<i>Operative Experience on CUI protection - The Belgian experience, some operational experience, and identified challenges</i>
Francesco Milazzo, OF6 <i>Commander of the Italian Submarine Fleet</i> Italian Navy	<i>The Italian perspective of underwater dimension for the resilience of critical infrastructure</i>
John Wrottesley <i>Executive Director</i> European Subsea Cable Association, UK	<i>CUIs, Threats, and solutions. A vision from the Private Sector</i>

Christiane Kirketerp de Viron <i>Acting Director for Digital Society, Trust and Cybersecurity, DG Connect</i> European Commission, Belgium	<i>EU policies for protection of Underwater Cables</i>
Yvan De Mesmaeker Secretary General, European Corporate Security Association, Belgium	<i>Panel Session: CUI Today: Successes, Pitfalls and Lessons Learned</i>
Alison Weston	
Tobias Liebetrau	
Francesco Milazzo	
John Wrottesley	
Christiane Kirketerp de Viron	
Baudoin Coppieters de Gibson, OF6 <i>Director General of the Royal Higher Institute for Defense,</i> Belgium	<i>Defense oriented Research, Development and Innovation: a strategy that applies on CUI</i>
Martin Landro Norwegian University of Science and Technology, Norway	<i>Research on Protection of CUIs: The potential of using fibre optic distributed acoustic sensing for CUI protection</i>
Emanuele Garone <i>BriAS Programme Director</i> Université Libre de Bruxelles, Belgium	<i>Robotics and Protection of CUI: an overview on current research trends</i>

Tanguy Durand Naval Group, France	<i>Robotics and Protection of CUI: Industrial Research</i>
Renauld Hock European Defence Fund	<i>How the European Commission sees R&D on CUI's protection</i>
Piet Opstaele CEO Blue Cluster, Belgium	<i>Belgian future in CUI's protection - Mission Driven Defence Innovation Ecosystem for Critical Underwater Infrastructures</i>
Marcello Grivelli OF6 Italian Delegation at NATO	<i>Panel session: Going in the right direction?</i>
Piet Opstaele	
Martin Landro	
Renauld Hock	
Tanguy Durand	
Emanuele Garone	
Marcello Grivelli OF6 Italian Delegation at NATO	<i>Protection of CUIs in a changing world</i>
Sophie Witte Munich Security Conference Germany	<i>Current and Future Threats, what should the EU do?</i>

Jasper Van Assche Université Libre de Bruxelles, Belgium	<i>Panel Session: Which Policies and which Political Actions?</i>
Marcello Grivelli	
Sophie Witte	
Tobias Liebetrau	
Emanuele Garone BrIAS Programme Director, Université Libre de Bruxelles, Belgium	<i>Closing remarks</i>

Democratic Governance: Challenges & Innovations

05/06/25

Marius Gilbert <i>Vice-Rector for Research & Diffusion and Scientific Culture & Mediation</i> Université Libre de Bruxelles, Belgium	Introduction
Frank Deconinck <i>BRIAS co-director</i> Vrije Universiteit Brussel, Belgium	
Emanuele Garone <i>BRIAS Program Director</i> Université Libre de Bruxelles, Belgium	
Ann Nowe <i>BRIAS Program Director</i> Vrije Universiteit Brussel, Belgium	
Silvia Erzeel <i>BRIAS 2025 - 2027 Program Director</i> Vrije Universiteit Brussel, Belgium	
Emilie van Haute <i>BRIAS 2025 - 2027 Program Director</i> Université Libre de Bruxelles, Belgium	
Eva Jaspers Utrecht University, The Netherlands	Polarisation, populism and violence
Maarten Van Alstein Vlaams Vredesinstituut, Belgium	

Emmanuel Slautsky Université Libre de Bruxelles, Belgium	Short-termism and sustainability
Karim Sheik Hassan CERAC, Belgium	
Tom Willaert Vrije Universiteit Brussel, Belgium	Technology, disinformation and AI
Juliane von Reppert-Bismarck Lie Detectors, Belgium	
Workshops	Identification of democratic challenges and big questions to address, related to polarisation; populism, and violence; short-termism and sustainability; technology, disinformation, and AI
Kenza Amara-Hammou UCLouvain, Belgium	Inequalities and inclusion
Angela van de Wiel SAAMO, Belgium	
Vincent Jacquet UNamur, Belgium	Democratic innovations
Jonathan Moskovic DemNext/OECD, Belgium	

Workshops	Identification of democratic challenges and big questions to address, related the two themes (Inequalities and inclusion; Democratic innovations). Network building and forward thinking exercise: what's next?
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BrIAS Seminars

18/01/24

Serge Jaumain BrIAS co-director Université Libre de Bruxelles, Belgium	Opening
Frank Deconinck BrIAS co-director Vrije Universiteit Brussel, Belgium	
Christian Hermans former <i>BrIAS Programme director</i> Université Libre de Bruxelles, Belgium	Introducing BrIAS
Emanuele Garone <i>BrIAS Programme director,</i> Université Libre de Bruxelles, Belgium	
Francesco Lamonaca <i>BrIAS Fellow</i> Università degli Studi della Calabria, Italy	Measurements for Sustainable Robotics and Automation

Guillermo Legarda Herranz Université Libre de Bruxelles, Belgium	<i>Robot swarms for intralogistics</i>
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25/01/24

Shirley Elprama <i>Junior BrIAS Fellow</i> Vrije Universiteit Brussel - FARI, Belgium	<i>Acceptance of Occupational Exoskeletons</i>
Kevin De Pauw Vrije Universiteit Brussel, Belgium	<i>Occupational exoskeletons: The Science into Practice</i>
Tom Turcksin Vrije Universiteit Brussel, Belgium	<i>Assessment of Exoskeletons - Beyond the state of the art</i>

01/02/24

Leonardo Cappello <i>BrIAS Fellow</i> Sant’Anna School of Advanced Studies, Italy	<i>Transcending the paradigm of wearing a robot - The Musculoskeletal Expansion</i>
Zemerart Asani Vrije Universiteit Brussel Univeristé Libre de Bruxelles, Belgium	<i>Cooperative control of two robotic agents with complementary capabilities for heavy construction tasks</i>

08/02/24

Louis Flynn Vrije Universiteit Brussel, Belgium	Lower limb Assistive Technologies - Protheses and Exoskeletons
Parham H.A. Mohamadi Vrije Universiteit Brussel, Belgium	Battery and Energy Management in Robotics
Dr. Pablo López Garcia Vrije Universiteit Brussel, Belgium	Gearboxes: Powering the robot’s mobility

22/02/24

Yael Edan <i>BRIAS Fellow</i> Ben-Gurion University of the Negev, Israel	Social Assistive Robots for Elder Care: R&D Findings
Barry Lennox <i>BRIAS Fellow</i> University of Manchester, UK	Use of Robots to Support Sustainable Nuclear Energy
Michel Joop van der Schoor <i>Junior BRIAS Fellow</i> Vrije Universiteit Brussel, Belgium	Sustainability in the design of urban service robots

29/02/24

Emanuele Garone <i>BRIAS programme director</i> Université Libre de Bruxelles, Belgium	Introduction to robotics in a nuclear environment
Guerric De Crombrughe Nuketech, Belgium	
Philippe Loraux EDF & Nuclear Valley, France	Rationales, lessons learned, and prospects of nuclear robotics
Alexander Bahr Hydromea, Switzerland	Remote inspection and monitoring of submerged assets
James Hill REACH, UK	Remote extendable arm for characterisation and handling
Ludovic Dufau Nimbl’bot, France	Flexible, jointless robotic arm for flexible operations
Laborelec & IBASS, Belgium	Crawling robot for in-pipe inspection & metallurgy

07/03/24

Stephen Bailey <i>BRIAS Fellow</i> Elon University, USA	<i>Impact of a Carbohydrate Mouth Rinse on Corticomotor Excitability after Mental Fatigue</i>
Franziska Kirstein <i>BRIAS Fellow</i> BlueOcean Robotics, Denmark	<i>Designing, developing and manufacturing healthcare service robots with sustainability in mind</i>

Kris Verdonck
BrIAS – OHME
Resident Artist
A Two Dogs Company,
Belgium

Listen to the bloody machine / The garden of the future

14/03/24

Pierre Lambert
Université Libre
de Bruxelles,
Belgium

*Soft microrobotics : crossing point between mechanics,
small scale and compliance.*

Hieu Luu Trong
Junior BrIAS Fellow,
Can Tho University,
Vietnam

UAVs in Agriculture

Robin Wilmart
Université Libre
de Bruxelles,
Belgium

Robotics for knee rehabilitation

21/03/24

Bettina Wollesen
BrIAS Fellow
University of Hamburg,
Germany

Cognitive-motor interference while using an exoskeleton

Paolo Turrini
BrIAS Fellow
University of Warwick,
UK

*Designing Artificial Agents that Learn to Act for Social
Good*

Fatma Demir
Junior BrIAS Fellow
Vrije Universiteit Brussel,
Belgium

*Towards sustainable research management: Lessons from
the SMART Project*

28/03/24

Eric Feron
BrIAS Fellow
King Abdullah University
of Science and
Technology,
Saudi Arabia

*Ariadne, a common-sense thread for enabling provable
safety in air mobility systems with unreliable components*

Sharath Akkaladevi
BrIAS Fellow
Profactor GmbH,
Austria

*Towards Sustainable Robotics: Intuitive Interfaces and
Physical Collaboration in Human-Robot Interaction*

Dewi Brunet
BrIAS – OHME
Resident Artist,
Belgium

Folding for sustainable robotic, between art & science

11/04/24

Eduardo Camacho
BrIAS Fellow
University of Seville,
Spain

Model Predictive Control of Solar Energy Plants

Arjen Van de Walle
Vrije Universiteit Brussel,
Belgium

*Exploring the interlinkage between robotics, digitalisation
and sustainability*

Naveen Tiwari
Junior BrIAS Fellow
University of Santiago de
Compostela,
Spain

Self-healing materials for Soft electronics

18/04/24		
Andrés Cotorruelo Junior Brias Fellow Université Libre de Bruxelles, Belgium	<i>Sets for Constrained Control</i>	
Bernardo Innocenti Université Libre de Bruxelles, Belgium	<i>Evidence in Innovation in the field of Orthopaedics - How an engineer can help a surgeon to apply and t the new tools</i>	
Alix Partridge Junior Brias Fellow National Robotarium, UK	<i>Sustainability in Soft Robotics</i>	
25/04/24		
Stefan Gerth Brias Fellow Fraunhofer Institute for Integrated Circuits, Germany	<i>Automation in X-ray based plant phenotyping - From Plant to data</i>	
Fabrizio Dabbene Brias Fellow CNR - IEIT, Italy	<i>Tworthy and reliable AI - Scalable classifiers and conformal predictions</i>	
AJung Moon Brias Fellow McGill University, Canada	<i>Sustainable ‘Relationship’ with Interactive Robots</i>	
Krzysztof Olejarczyk Brias Fellow Casimir Pulaski University of Radom, Poland	<i>Cycloidal Drive - Design, experimental research, applications</i>	
26/11/24		
Andrea Roli Brias Fellow Università di Bologna, Italy	<i>A cybernetic perspective of adaptive robots</i>	
05/12/24		
Hiroki Ishizuka Osaka University, Japan	<i>Toward the Realization of Sensing Mimicking Skin-Nerve Models</i>	
21/01/25 Brias Opening Ceremony 2025		
Marius Gilbert Vice-rector of research and valorization Université Libre de Bruxelles, Belgium	<i>Welcome</i>	
Pieter Ballon Vice-rector research Vrije Universiteit Brussel, Belgium		
Frank Deconinck Brias co-director Vrije Universiteit Brussel, Belgium		
Serge Jaumain Brias co-director Université Libre de Bruxelles, Belgium		

Ann Nowé <i>BriAS Programme Director</i> Vrije Universiteit Brussel, Belgium	<i>Introduction to the 2025 BriAS theme on Sustainable Robotics, AI and Automation</i>
Emanuele Garone <i>BriAS Programme director</i> Université Libre de Bruxelles, Belgium	

23/01/25

Antonella Ferrara <i>BriAS Fellow</i> Università degli Studi di Pavia, Italy	<i>Traffic control for freeway networks and sustainability-related objectives</i>
Rodolphe Sepulchre KULeuven, Belgium	<i>Regulation without calibration</i>

30/01/25

Yilin Mo <i>BriAS Fellow</i> Tsinghua University, China	<i>Data-Driven Learning of a Verifiable Controller Inspired by MPC</i>
Yailen Martínez Jiménez <i>Junior BriAS Fellow</i> Vrije Universiteit Brussel, Belgium	<i>Application of Reinforcement Learning in different scheduling scenarios</i>

13/02/25

Andrea Roli <i>BriAS Fellow</i> Università di Bologna, Italy	<i>Dynamical criticality: from cells to robots</i>
Luca Magri <i>BriAS Fellow</i> Imperial College London, UK	<i>Scientific machine learning for chaotic forecasting and real-time digital twinning</i>

20/02/25

Guillaume Slizewicz <i>BriAS-OHME</i> Resident Artist, Belgium	<i>Artistic creation in the age of generative machines: an introduction to the creative exploration of AI, automation and its impacts.</i>
Miguel Méndez von Karman Institute, Belgium	<i>Integrating Scientific Machine Learning in Fluid Dynamics Engineering</i>

27/02/25

Alessandra Parisio <i>BriAS Fellow</i> University of Manchester, UK	<i>Optimisation-based control of flexible resources in multi-energy networks</i>
Panagiotis Symeonidis <i>BriAS Fellow</i> University of the Aegean, Greece	<i>ChatGPT and AI for Medicine</i>

06/03/25

Marco Nicotra
BrIAS Fellow
University of Colorado
Boulder,
USA

*Systematic Design of Control Barrier Functions using
Dynamic Safety Margins*

Elias Fernández Domingos
Junior BrIAS Fellow
Vrije Universiteit Brussel,
Belgium

Delegation to AI in a collective Risk Dilemma

13/03/25

Giang Nguyen
BrIAS Fellow
Dresden University of
Technology,
Germany

*Softwarised Networks for Networked and Sustainable
Cyber-Physical Systems*

Bram Vanderborght
BrIAS Programme Director
Vrije Universiteit Brussel,
Belgium

*Core robotic technologies for sustainable robotics
startups*

13/03/25

Anastasia Krouglova
KULeuven,
Belgium

*Multifidelity Simulation-based Inference for
Computationally Expensive Simulators*

20/03/25

David Canella
Honorary BrIAS Fellow
Université Libre
de Bruxelles,
Belgium

*The new generation of plant vaccines and biostimulants
for sustainable and smart agriculture: a lignocellulose
biorefinery renaissance*

Luca Rossini
Junior BrIAS Fellow
Université Libre
de Bruxelles,
Belgium

The future of model-driven insect pest control

27/03/25

Hannu Toivonen
BrIAS Fellow
Helsinki University,
Finland

Artificial intelligence as an expander of human creativity?

Mehrdad Asadi
Junior BrIAS Fellow
Vrije Universiteit Brussel,
Belgium

Augmenting Machine Learning Pipeline with Explainability

03/04/25

Denis Dochain
UCLouvain,
Belgium

Adaptive control of reaction systems

Michel Kinnaert
Université Libre
de Bruxelles,
Belgium

*Some tips for the design of fault diagnosis systems
through two case studies*

10/04/25

Gianluca Bianchin
UCLouvain,
Belgium

*Time-varying Feedback Optimization for Highly Dynamic
Transportation Systems*

Gilles Delansnay
UMons,
Belgium

*Optimizing Fast Charging of Li-i Real-Time Path Planning
Using Zonotopic Extensions to Rapidly-Exploring Random
Trees*

Alejandro Goldar Junior BRIAS Fellow Université Libre de Bruxelles, Belgium	<i>Optimizing Fast Charging of Li-ion Batteries: Overcoming Measurement and Computational Constraints</i>
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8/05/25

Paolo Falcone BRIAS Fellow Chalmers University of Technology, Sweden	<i>Cautious-by-design motion planning. The role of prediction</i>
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Hideyuki Sawada BRIAS Fellow Waseda University, Japan	<i>Robotics and machine learning techniques for understanding, controlling and predicting physical phenomena</i>
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15/05/25

Rafael Bello BRIAS Fellow Universidad Central “Marta Abreu” de las Villas, Cuba	<i>Considerations about the research on XAI at UCLV: generation of factual and counterfactual explanations</i>
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Willem Zuidema BRIAS Fellow University of Amsterdam, The Netherlands	<i>Under the hood: what LLMs learn about our language, and what they teach us about us</i>
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28/05/25

Ilya Kolmanovsky BRIAS Fellow University of Michigan Ann Arbor, USA	<i>Exploiting Supervisory Schemes and the Interplay Between Computations and Closed-Loop Properties in Model Predictive Control</i>
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Bruno Sinopoli BRIAS Fellow Washington University in St. Louis, USA	<i>Linear Methods for Dimensionality Reduction: is there life beyond PCA?</i>
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Dr. Vincenzo De Florio SCK CEN, Belgium	<i>Music of the orbits: A dynamic system’s musical (and geometrical) representations</i>
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28/05/25 BRIAS Closing Ceremony

Ann Nowé BRIAS Programme Director Vrije Universiteit Brussel, Belgium	<i>Celebrating Two Years of Sustainable Robotics</i>
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Emanuele Garone BRIAS Programme director Université Libre de Bruxelles, Belgium	
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Non-programme events

Piano concert

02/05/24

Simon Vaskou
Belgium
F.Chopin, M.Ravel, S.Rachmaninov, S.Prokofiev

BrIAS/CEVIPOL Seminar

07/05/25

Arun Chaudhary
USA
The Filibuster for Democracy

Crossing Wires - Arts, AI & Robotics (in collaboration with OHME)

26-28/05/25

y
Dewi Brunet
BrIAS-OHME
Resident Artist
Belgium
Art installation: Plantoid

Kris Verdonck
BrIAS-OHME
Resident Artist
A Two Dogs Company,
Belgium
Art installation: The Garden of the Future

Guillaume Slizewicz
BrIAS-OHME
Resident Artist,
Belgium
Art installation: Carbon Technostructure

Gijs de Heij
Belgium

Sarah Howard
University of Leeds,
UK
AI in education: Where are the opportunities?

Jo Tondeur
Vrije Universiteit Brussel,
Belgium

Guillaume Slizewicz
BrIAS-OHME
Resident Artist,
Belgium
Workshop: Carbon Technostructures

Gijs de Heij
Belgium

Héctor Cruz Enríquez,
Universidad Central Marta
Abreu de las Villas,
Cuba
Creating conditions for the successful adoption of AI in
developing countries: interdisciplinary applied research
strategies

Willem Zuidema
BrIAS Fellow
University of Amsterdam,
The Netherlands
Vicious and virtuous interaction between Art and
Generative AI

Marianne de Heer Kloots,
University of Amsterdam,
The Netherlands

Geraint Wiggins
Vrije Universiteit Brussel,
Belgium
More than Generative AI: Creative Computers and the
Future of Humans

Hannu Toivonen
BrIAS Fellow
University of Helsinki,
Finland

Yannick Jacquet
Belgium

Ne croyez rien de ce que vous voyez sur internet ! IA et Deepfake

Closing Night of Crossing Wires

28/05/25

Guillaume Slizewicz
BriAS-OHME
Resident Artist
Belgium

Creative Collaborations – Art, Design and Human-Robot Interaction

Yael Edan
BriAS Fellow
Ben Gurion University
of the Negev,
Israel

Concert & Exhibition: La Présence d’Olivier Messiaen

14/06/25

Pierre Thomas
Piano

Concert: piano & opera

Sabine Lawalrée
Piano

Laura Elisabeth Verlinden
Opera singer

Bern Wery
Visual artist

Exhibition: oil paintings and watercolour illustrations



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21-23 Report



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