

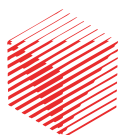
ERCIM

European Research Consortium
for Informatics and Mathematics

Connected Excellence in Research

Activity Report 2023

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ERCIM – the European Research Consortium for Informatics and Mathematics – aims to foster collaborative work within the European research community and to increase cooperation with European industry. In 2023, the members of ERCIM included 16 leading research establishments from 14 European countries. Encompassing about 10 000 researchers and engineers, ERCIM is able to undertake consultancy, development and educational projects on any subject related to its field of activity. ERCIM was founded in 1989.

What is ERCIM?

ERCIM aims to foster collaboration within the European ICST research community and increase cooperation with industry. Its members are centres of excellence across Europe. ERCIM is internationally recognised as a major representative organisation in its field. ERCIM provides access to all major ICST research groups in Europe and has established an extensive programme of working groups, publications, fellowships, and prizes. It is also the European partner of the World Wide Web Consortium (W3C).

ERCIM, a consortium of leading research institutions, focuses on information and communication science and technology (ICST) and related areas of mathematics. ERCIM has a successful track record of promoting ICST research and cooperation in Europe and beyond. Membership is open to top-level research institutions (including universities) in ICST.

Objectives

ERCIM's aim is to play a leading role in Information and Communication Technology in Europe by:

- Building a Europe-wide, open network of centres of excellence in ICST and Applied Mathematics.
- Excelling in research and acting as a bridge for applications.
- Being internationally recognised both as a major representative organisation in its field and as a portal giving access to all relevant ICST research groups in Europe.
- Liaising with other international organisations in its field.
- Promoting cooperation in research, technology transfer, innovation, and training.

International Cooperation

ERCIM considers it a high priority to develop cooperation with scientists all over the world. ERCIM is the European partner of the World Wide Web Consortium (W3C), the unique international standardisation body which sets the Web standards and protocols. Through W3C, ERCIM also participates in defining Web data standards which are of high importance to the research community. ERCIM participates in EU activities and projects. In 2023, ERCIM continued a series of thematic workshops with the Japan Science and Technology Agency (JST), initiated in 2021.

Consultancy

ERCIM experts have been involved in many advisory bodies convened by the European Commission. Additionally, ERCIM senior researchers are participating in several EC-funded roadmapping projects as partners, invited participants, or members of advisory boards.

Research Projects

In addition to many projects involving ERCIM member institutes, ERCIM is itself participating in several European Commission related activities and projects as coordinator or partner. In these projects, several member institutes carry out the research while the ERCIM Office takes care of administrative and financial tasks.

Working Groups

Working Groups are specialist networks set up by researchers, within which the ERCIM partners arrange regular workshops with invited external participation to study a specific topic and prepare international research projects.

Members

Member institutes are leading research establishments with excellent links to both national and international, academic, and commercial research communities. All current ERCIM members are national centres of excellence, independent of specific commercial ties. They have strong involvement in the research programmes of the European Union and their country, and joint projects with both small and medium-sized enterprises and large industrial companies.

Benefit of Membership

ERCIM is a Europe-wide network internationally recognised as a representative organisation in its field. Members can benefit from:

- International recognition as a leading centre for ICT R&D. ERCIM, a Europe-wide network of centres of excellence in ICT, is internationally recognised as a major representative organisation in its field.
- More influence on European and national government R&D strategy in ICT. ERCIM members team up to speak with a common voice and produce strategic reports to shape the European research agenda.
- Privileged access to standardisation bodies, such as the W3C, as well as other bodies with which ERCIM has established strategic cooperation.
- Invitations to join projects of strategic importance.
- Establishing personal contacts among executives of leading European research institutes during the bi-annual ERCIM meetings.
- Invitations to join committees and boards developing ICT strategy nationally and internationally.
- Excellent networking opportunities with more than 10,000 high-quality research colleagues across Europe. ERCIM's mobility activities, such as the fellowship programme, leverage scientific cooperation and excellence.
- Professional development of staff, including international recognition.
- Publicity through the ERCIM website and ERCIM News, the widely read quarterly magazine.

Innovation

In addition to research in computer science and mathematics, innovation and transfer of research results are among the ERCIM institutes' main assignments. ERCIM members play a pioneering role in creating small and medium-sized high-tech companies, an effective way of achieving such a transfer. Additionally, ERCIM members have a long track record of cooperation with European industry in R&D projects, generally within the framework of European programmes. As a network, ERCIM can help industrial partners locate the best scientific teams in Europe for a given domain.

Start-up support

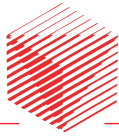
In 2021, ERCIM launched a start-up support programme for Europe, where partners in ERCIM offer help for start-ups, especially those related to mathematics and informatics (ICT), to expand their businesses in countries other than their own.

Cor Baayen Award

Each year, ERCIM presents a promising young researcher in computer science and applied mathematics with the prestigious Cor Baayen Award.

Publications

ERCIM publishes the quarterly magazine "ERCIM News", white papers, and policy documents.



ERCIM

European Research Consortium
for Informatics and Mathematics

ERCIM is holding general meetings in spring and fall of each year.

The 2023 spring meetings were held on 22-23 May 2023 in Espoo (Helsinki), hosted by VTT, the fall meetings, including the ERCIM AISBL general assembly, were held on 17-18 October 2023 in Porto, hosted by INESC-TEC.

The ERCIM community is supported by a consortium of two bodies:

- ERCIM AISBL an international non for profit association under Belgian law, carrying on the activities of ERCIM concerning collaborative research, networking, and support.
- ERCIM EEIG, the European Economic Interest Grouping, responsible for managing the ERCIM Office and the European part of W3C.

ERCIM Association

The ERCIM association is managed by the Board of the Association:

- Björn Levin, RISE, Sweden, President
- Chrisos Koulamas, ISI, Greece: Treasurer
- Gabriel David, INESC-TEC/University of Porto, Portugal: Secretary

and in addition:

- Han La Poutre, CWI, Strategy Task Group chair and Vice-President
- Dimitris Plexousakis, ICS-FORTH, Science Task Group chair
- Monica Divitini, NTNU, Human Capital Task Group chair
- Andreas Rauber, SBA Research and TU Vienna, Outreach Task Group chair.

ERCIM EEIG

The ERCIM EEIG is governed by the EEIG Board of Directors. In 2023 the board was composed of:

- Bruno Sportisse, Inria (president ERCIM EEIG)
- Fabio Martinelli, CNR
- Dimitris Plexousakis, ICS-FORTH

and supported by an Executive Committee composed of:

- Marie-Hélène Pautrat, Inria
- Maurice ter Beek, CNR
- Yannis Tsikikas, FORTH.

Science Coordination

A major activity within the scope of the Association's mission is related to the promotion of excellence in research and the maintenance of a strong portfolio of scientific activity, materialized in the form of ERCIM-led and coordinated joint research projects and ERCIM-hosted Working Groups. The Science Task Group aims to enable, encourage, sustain and coordinate scientific activities in the form of collaborative research projects and working groups in areas of ICST and Mathematics within which significant research activity is taking place at Institutions within and beyond ERCIM.

The Science Task Group is therefore divided into subtasks:

- Working Groups for building and maintaining a strong network of ERCIM researchers in the different scientific fields of competence of ERCIM.
- Expert Groups which are established on the initiative of ERCIM board to investigate current topics for a limited period with the aim to produce strategic papers or to coordinate relevant activities of common interest.
- Projects for stimulating the submission of ERCIM-led strategically relevant projects and for helping to define visionary topics.

The members of the Science Task Group in 2023 included:

Chair:

- Dimitris Plexousakis, FORTH

Members:

- Gabriel David, INESC
- Joost Goerts, Inria
- Ibrahim A. Hameed, NTNU
- Bartek Klin, University of Warsaw
- Christos Koulamas, ISI
- Han La Poutré, CWI
- Anne Lonquist, VTT
- Björn Levin, RISE SICS
- Katja Ojakangas, VTT
- Dominik Ślęzak
- Edgar Weippl, SBA.



Dimitris Plexousakis, ICS-FORTH
chair of the ERCIM Science Task Group

The Science Task Group can be contacted at tg-science@ercim.eu



4th Joint ERCIM-JST Joint Symposium

ERCIM and the Japan Science and Technology Agency (JST) organised the Fourth joint workshop in October 2023 in Kyoto, Japan. The workshop theme was “Exploring New Research Challenges and Collaborations in Artificial Intelligence, Big Data, Human-Computer Interaction, and the Internet of Things”. The workshop was hosted by JST as part of the Advanced Integrated Intelligence Platform project. The event offered European and Japanese participants an opportunity to report on recent research results in the aforementioned areas and to explore collaboration prospects within the framework of European Commission programs or corresponding initiatives of JST.

The workshop was co-chaired by Dr. Katumi Emura, Director of the Fukushima Institute for Research, Education and Innovation at JST AIP Network Laboratory, and Prof. Dimitris Plexousakis, Director of the Institute of Computer Science at FORTH. It was attended by nine researchers from Europe and approximately 20 researchers from Japan. The workshop was structured around four parallel themes, each coordinated and facilitated by one researcher from Europe and one from Japan. The themes were:

1. Trustworthy and Reliable Human-Machine Symbiotic Collaboration,
2. Extracting Actionable Knowledge in the Presence of Uncertainty,
3. Trust in Data-Driven Research: The Role of Actors, Research Infrastructures, and Processes, and
4. Infrastructure and Service Resilience for a Smart Society.

Following opening remarks by the co-chairs, the first day’s keynote address was delivered by Prof. Hiroshi Ishiguro of Osaka University on “State-of-the-Art Human-Robot Interaction Research,” highlighting exciting achievements in interaction with robotic avatars and their advanced features. The second day featured a keynote address by Dr. Hiroko Tatesawa, Director of JST’s Department of Strategic Basic Research on Activities for Promoting Basic Research and International Collaboration. Beyond the plenary sessions, the four groups convened in parallel sessions, comprising presentations by members and lively discussions on challenges and topics for joint research.

Participants of the 4th Workshop jointly organized by ERCIM and the Japan Science and Technology Agency.

A detailed report was published in ERCIM News at <https://kwz.me/hD2>



Workshop on Privacy, Transparency, Sovereignty and Security

A collaborative workshop on privacy, transparency, sovereignty, and security was held on 27-28 April 2023 at the Inria Mediterranean Campus in Sophia Antipolis. The workshop was co-organized by the European projects TRAPEZE and E-CORRIDOR, and co-sponsored by Inria and ERCIM – the European Research Consortium for Informatics and Mathematics. The two-day workshop aimed to explore new ideas, share insights and collaborate on solutions that can benefit society in the fields of privacy, cybersecurity, and technology.

The first day of the workshop was dedicated to research and technology. Alexander Vasylychenko from TenForce started the presentations by discussing how TRAPEZE services can enable digital privacy, security, and identity. This was followed by Fabio Martinelli's presentation on the E-CORRIDOR approach for confidential analytics. The next presentation was by Sabrina Kirrane from the Vienna University of Economics and Business, who discussed blockchain-based resource governance for decentralized web environments. Jean-Paul Bultel from the French Alternative Energies and Atomic Energy Commission-CEA presented homomorphic encryption-based similarity matching for privacy-preserving interest-based data sharing.

Ilaria Matteucci from the Italian National Research Council discussed privacy issues and the automotive sector. Simone Fischer-Hübner from Karlstad University presented a talk on usable transparency and consent, which was delivered by videoconferencing. Roland Rieke from Fraunhofer-Gesellschaft presented machine-learning methods for in-vehicle intrusion detection, with access restricted to the presentation. João P. Vilela from INESC TEC, CISUC & University of Porto talked about the prediction of user privacy preferences in mobile devices via federated learning. The last presentation of the day was by Francesco di Cerbo and Volkmar Lotz from SAP, who jointly presented on privacy research topics at SAP. The day ended with lively discussions during a wine and cheese reception.

The second day of the workshop focused on two main areas: privacy policy and regulations and the innovative utilization of privacy technologies across different sectors. The day started with a two-hour session that brought together research and Data Protection Authorities (DPAs) as well as experts from the data protection community. The discussion explored the role of DPAs in promoting data protection and privacy across different sectors and jurisdictions. The session also discussed selected privacy-enhancing results of the TRAPEZE project, such as consent management through a citizen-centric privacy dashboard, policy language, and the concept of sticky consent policies. After the DPA session, presentations were given on the

challenges of trust and sovereignty awareness in global transactions, privacy and legal issues in big data, privacy-preserving passenger processing, data usage control, and protecting data and privacy in the public transport sector.

Martin Kurze (Deutsche Telekom), Ramon Martín de Pozuelo (CaixaBank), and Lauro Vanderborgh (Digital Flanders) gave an overview of the TRAPEZE use cases & their impact on society. Theo Dimitrakos from Huawei and University of Kent) gave a presentation titled "Challenges of trust and sovereignty awareness for global transactions in an increasingly fragmented polarized world" via video conferencing. Rigo Wenning (ERCIM/W3C) talked about "Privacy and legal issues in Big Data." Stefano Sebastio, from Collins Aerospace presented privacy-preserving passenger processing and operations solutions for multi-modal travels, followed by Paolo Mori (Italian National Research Council) who introduced a Data



Workshop participants.

usage control procedure via video conferencing. Fabio Podda (Azienda Mobilità e Trasporti Genova) and Liivar Luts (Tallinna Transpordiamet) jointly talked about how protecting data and privacy in public transport sector in the frame of the CitySCAPE project.

Alexander Vasylychenko and Fabio Martinelli, the coordinators of the TRAPEZE and E-CORRIDOR projects respectively, concluded the workshop summarising the topics and challenges presented and questions moving forward.

More than 60 participants attended the workshop, half of them online.

See also the workshop programme with links to some presentations: <https://kwz.me/hxd>

FMICS'23 - 28th International Conference on Formal Methods for Industrial Critical Systems

The yearly conference of the ERCIM Working Group on Formal Methods for Industrial Critical Systems, FMICS, the key conference at the intersection of industrial applications and formal methods, held its 28th edition in Antwerp, Belgium, from 20 to 22 September 2023.

The aim of the FMICS conference series is to provide a forum for researchers and practitioners interested in the development and application of formal methods in industry. It strives to promote research and development for improving formal methods and tools for industrial applications.



Djurre van der Wal and Mariëlle Stoelinga receive the FMICS 2023 Best Paper Award from the PC chairs Laura Titolo and Alessandro Cimatti.

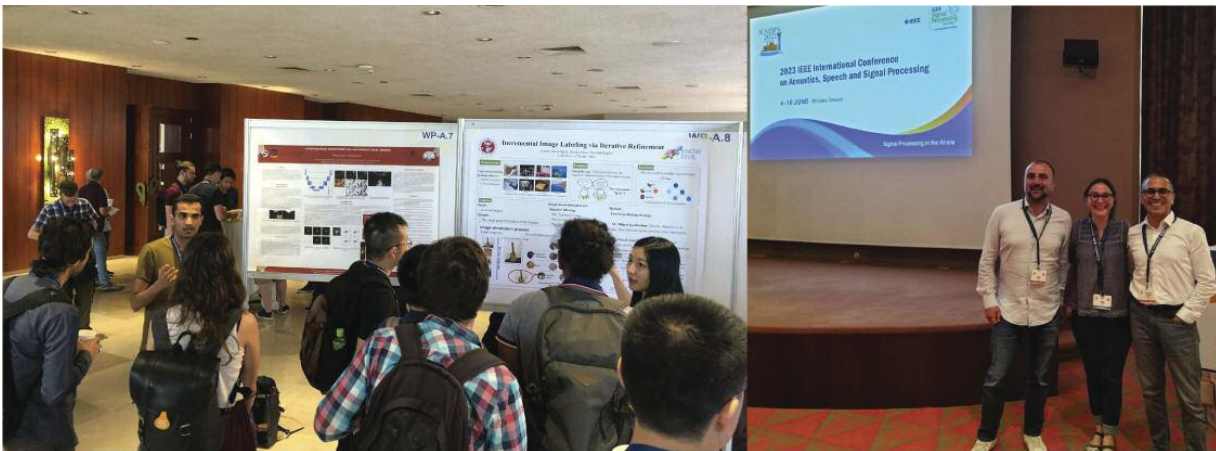
The conference was chaired by Laura Titolo (NASA Langley Research Center, AMA-NASA LaRC, Hampton, USA) and Alessandro Cimatti (Fondazione Bruno Kessler, Povo, Italy) and organised under the umbrella of CONFEST 2023, alongside with CONCUR, FORMATS, and QEST, and organised by the general chairs Guillermo Pérez (University of Antwerp, Belgium) and Jean-François Raskin (Université libre de Bruxelles, Belgium) and their team. FMICS 2023 attracted participants from many countries worldwide, both from academia and industry.

The international program committee, with 29 members from 15 different countries, received 24 submissions by authors from 12 different countries, and decided to accept 14 papers after a thorough reviewing process, including a rebuttal phase. The program moreover included two excellent invited keynote presentations, namely “Verification Conquers Fault Tree Analysis” by Joost-Pieter Katoen (RWTH Aachen University, Germany, and University of Twente, Enschede, The Netherlands) and “Combining automation with hands-on reasoning” by Anna Slobodova (Intel Corporation, Austin, Texas, USA), both of which attracted many participants also from the other CONFEST conferences.

Following a tradition established over the years, Springer sponsored an award for the best FMICS paper. This year, the program committee selected the contribution “Conformance in the Railway Industry: Single-Input-Change Testing a EULYNX Controller” by Djurre van der Wal, Marcus Gerhold, and Mariëlle Stoelinga (University of Twente, Enschede, The Netherlands) for the FMICS 2023 Best Paper Award

More information:

- FMICS 2022 conference website: <https://fmics2022.fsa.win.tue.nl/>
- Proceedings of the 27th Int. Conf. on Formal Methods for Industrial Critical Systems (FMICS'22). Springer LNCS, vol. 13487, 2022. <https://doi.org/10.1007/978-3-031-15008-1>
- ERCIM WG FMICS: <https://fmics.inria.fr/>



Poster session (left) and the workshop chairs (right).

11th International Workshop on Computational Intelligence for Multimedia Understanding

Around fifty researchers attended the International Workshop on Computational Intelligence for Multimedia Understanding (IWCIM), organized annually by the working group Multimedia Understanding through Semantics, Computation and Learning (MUSCLE) of the European Research Consortium for Informatics and Mathematics (ERCIM), which took place as a satellite workshop of IEEE ICASSP 2023 held in Rhodes, Greece, June 5, 2023. This year's workshop was also a huge success as previous venues with two oral sessions and one poster session, hosting eighteen papers authored by seventy-three researchers affiliated with nineteen institutions coming from twelve countries.

Multimedia understanding is an integral part of many intelligent applications in our social life, whether in our households or in commercial, industrial, service, and scientific environments. Analyzing raw data to provide them with semantics is essential to exploit their full potential and help us manage our everyday tasks. Nowadays, raw data typically come from a host of different sensors and other sources and are different in nature, format, reliability and information content. Multimodal and cross-modal analysis are the only ways to use them at their best. Besides data analysis, this problem is also relevant to data description intended to help storage and mining. Interoperability and exchangeability of heterogeneous and distributed data is a need for any practical application. Semantics is information at the highest level, and inferring it from raw data (that is, from information at the lowest level) entails exploiting both data and prior knowledge to extract structure and meaning. Computation, machine learning, statistical and Bayesian methods are tools to achieve this goal at various levels. The MUSCLE working group through IWCIM aims to address these emergent topics by growing a community of scientists and practitioners from the academy and industry.

More information:

- <http://wiki.ercim.eu/wg/MUSCLE/>
- <http://iwcim.itu.edu.tr>

Beyond Compliance 2023: Forum on Digital Ethics in Research



On 18-20 October 2023, the ERCIM Ethics Working Group co-organised with the CNPEN (French National Committee for Digital Ethics) and the University of Porto the second edition of the forum dedicated to digital ethics beyond compliance. The hybrid event at the Faculty of Engineering of Porto addressed the challenges and ethical considerations of digital technologies and research.

The first keynote covered artificial consciousness, exploring whether a 'digital mind' could be possible or foreseeable in the future. It addressed the moral and philosophical questions of technological singularity and the need for a legal regime related to the rights and responsibilities of digital persons. The session "AI: From ethics to regulation" highlighted the relationship between AI ethics narratives, standardisation, certification, self-regulation, and governance. A speaker noted the risk of algorithmic fairness becoming a distraction from legal regulation in the absence of artificial general intelligence. Despite the EU's leading role in AI regulation, the AI Act still leaves gaps in individual protection.

The second session focused on the importance of science in a digital world, featuring Citizen Science, which involves the public in gathering and analysing data, advancing research and social innovation. Trustworthy digital data research was discussed from an ethnographic perspective, emphasising relations of awareness and power.

The forum's second day began with presentations on data protection in the age of AI. Big data challenges privacy when machine-learning predicts individual behaviours. The need for data privacy technologies and practical application was stressed. The ambiguous status of inferred data in EU law requires clarification, prompting calls for a "right to reasonable inference" based on rigorous justification. Another concern is the secondary use of trained machine-learning models, a blind spot in data protection regimes needing regulation.

A tutorial on research ethics in digital science highlighted ethical reflection for researchers. Discussions then focused on the responsible use of generative AI in academia, noting that 2023 was marked by advancements in AI, especially ChatGPT. While AI can reshape scientific tasks, it also raises concerns about reproducibility and transparency. It is crucial to explore LLMs use cases in science and ensure generative AI maintains trust in scholarly knowledge. Researchers need a sober approach and 'epistemic humility' to understand the limitations of this technology.

The final session of the second day focused on environmental research ethics. One radical proposal suggested dismantling the illusions of AI to restore human intelligence for ecosystem resilience. Other speakers discussed the carbon footprint of AI models and researchers' moral obligation to consider environmental impacts.

The third day of the forum focused on ethical guidance and review for research beyond human subjects. Specific ethics guidelines are needed in the European evaluation scheme. Transparency must be adapted to fields like healthcare and virtual reality. The arrival of digital entities like metaverse avatars and chatbots emphasises ethical principles such as the 'principle of maintaining distinctions' between humans and digital entities, possibly achieved through watermarks. Regulatory decisions are needed to impose this principle and address legal issues of liability and sanctions. The session highlighted the need for distinct ethical approaches for AI technology projects to enable a human-centric digital research ecosystem. Education, training, and expertise were strongly emphasised for research ethics in digital sciences. The discussion also covered the operationalisation of safety principles in AI research within open-source practices, stressing safety, accountability, fairness, explainability, and data stewardship for trustworthy AI development.

The final keynote addressed the "Vienna Manifesto on Digital Humanism," which recognises that digitalisation offers opportunities but also raises concerns like monopolisation of the web, extremist opinions, privacy loss, and digital surveillance. The manifesto encourages academic communities, policymakers, and industry leaders to shape technology according to human values rather than allowing technology to shape humanity.

This roadmap concluded the 2023 forum on digital ethics in research. The programme and links to presentations are available at ERCIM Beyond Compliance, with recorded presentations on YouTube at YouTube Channel.

The program and the links to the presentations are available online at <https://www.ercim.eu/beyond-compliance> with recorded presentations on YouTube at <https://kwz.me/hD3>

Working Groups

The activities of a Working Group can be divided into several areas: workshops to build the community and maintain its vibrancy, projects to advance research and innovation in the group's area, and human mobility to ensure appropriately trained human capital. ERCIM provides some financial support to the Working Groups.

A major activity of an ERCIM Working Group is to actively seek project funding that crosses national borders. ERCIM Working Groups contribute many articles to ERCIM News.

The purpose of an ERCIM Working Group is to build and maintain a network of researchers in a particular scientific field. The Working Groups are open to any researcher in the specific scientific field.

Working Groups with activities in 2023

- Dependable Software-Intensive Embedded Systems
- Ethics - Beyond Compliance
- Formal Methods for Industrial Critical Systems
- MUSCLE - Multimedia Understanding through Semantics Computation and Learning
- Trust and Security Management.

Dependable Software-Intensive Embedded Systems

Co-organised event:

The DECOS Working Group co-organised the DECSoS Workshop at SAFECOMP 2023, the 42nd Conference on Computer Safety, Reliability and Security on 19 September 2023 in Toulouse.

Coordinators:

Erwin Schoitsch, Austrian Institute of Technology (SBA) and Amund Skavhaug (NTNU)

Ethics - Beyond Compliance

Co-organised event:

On 18-20 October 2023, the ERCIM Ethics Working Group co-organised with the CNPEN (French National Committee for Digital Ethics) and the University of Porto the second edition of the forum dedicated to digital ethics beyond compliance. (see page 7)

Coordinator:

Gabriel David (INESC)

<https://www.ercim.eu/beyond-compliance>

Formal Methods for Industrial Critical Systems

Co-organised event:

The Working Group organised the FMICS 2023 conference, which took place in Antwerp, Belgium on 20-22 September 2023 as part of the CONFEST umbrella conference (see report on page 8). The FMICS 2023 proceedings are published by Springer LNCS, volume 14290.

Coordinator:

Maurice ter Beek (CNR)

<http://fmics.inria.fr/>

MUSCLE - Multimedia Understanding through Semantics Computation and Learning

Co-organised events:

- The ERCIM Working Group Multimedia Understanding through Semantics, Computation and Learning (MUSCLE) organised the 11th International Workshop on Computational Intelligence for Multimedia Understanding as a satellite workshop of the 48th IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2023), which took place on the Greek island of Rhodes 4-9 June, 2023 (see report on page 9).

Coordinator:

Davide Moroni, ISTI-CNR

<https://wiki.ercim.eu/wg/MUSCLE/>

Security and Trust Management

Co-organised events

- The Working Group organised the 19th International Workshop on Security and Trust Management, co-located with ESORICS 2023 on 28 September 2023 in The Hague, The Netherlands. JJuan Enrique Rubio Cortés from University of Malaga was honored with the ERCIM STM Best PhD Thesis Award for his thesis titled "Analysis and Design of Security Mechanisms in the Context of Advanced Persistent". The STM 2023 proceedings are published by Springer LNCS, volume 14336.

Coordinator:

Pierangela Samarati, University of Milan

<https://www.iit.cnr.it/STM-WG/>

Projects

In 2023, ERCIM participated in eight research projects funded by the European Commission either as coordinator or as a partner, as well as in one national French research project.

A European project can be a richly rewarding tool for pushing your research or innovation activities to the state-of-the-art and beyond. Through ERCIM, our member institutes have participated in more than 100 projects funded by the European Commission in the ICT domain, by carrying out joint research activities while the ERCIM Office successfully manages the complexity of the project administration, finances and outreach.

Horizon Europe: How can you get involved?

The ERCIM Office has recognized expertise in a full range of services, including:

- Identification of funding opportunities
- Recruitment of project partners (within ERCIM and through a strategic partnership with Ideal-IST)
- Proposal writing and project negotiation
- Contractual and consortium management
- Communications and systems support
- Organization of attractive events, from team meetings to large-scale workshops and conferences
- Support for the dissemination of results.

How does it work in practice?

Contact the ERCIM Office to present your project idea and a panel of experts within the ERCIM Science Task Group will review your idea and provide recommendations. Based on this feedback, the ERCIM Office will decide whether to commit to help producing your proposal. Note that having at least one ERCIM member involved is mandatory for the ERCIM Office to engage in a project.

If the ERCIM Office expresses its interest to participate, it will assist the project consortium as described above, either as project coordinator or project partner.

For more information, please contact:

Peter Kunz, ERCIM Office
 +33 4 92 38 50 10
 peter.kunz@ercim.eu

Project acronym	Project Type	ERCIM's role	ERCIM members involved
CIRPASS	EU DIGITAL Coordination and Support Action	partner	Fraunhofer-Gesellschaft, RISE, ERCIM EEIG/W3C
GateKeeper	EU H2020 Innovation Action	partner	ERCIM EEIG/W3C
GLACIATION	Horizon Europe Research and Innovation Action	partner	ERCIM EEIG/W3C
NEPHELE	Horizon Europe Research and Innovation Action	partner	Inria, ERCIM EEIG/W3C
SMARTEDGE	Horizon Europe Research and Innovation Action	partner	ERCIM EEIG/W3C
TERMINET	Horizon Europe Research and Innovation Action	partner	ERCIM EEIG/W3C
TRAPEZE	EU H2020 Innovation Action	partner	ERCIM EEIG/W3C
WAI-COOP	EU H2020 Coordination and support action	coordinator	ERCIM EEIG/W3C

Funded projects with participation of ERCIM EEIG in 2023.

CIRPASS



CIRPASS aims to prepare the ground for the gradual piloting and deployment of the DPPs from 2023 onwards, with an initial focus on the electronics, batteries, and textile sectors. The project consortium brings together a core network of leading organisations in building the European vision for a unified Digital Product Passport (DPP) approach across multiple value chains.

DPPs are crucial for enabling the EU's transition to a circular economy.

It is expected that the circular economy will replace wasteful linear economies by 2029. To get there requires turning around the linear supply chain system to create a whole circular ecosystem. Through the DPP, CIRPASS helps in laying the foundation for such an ecosystem across two value chains in three sectors: batteries, electronics and textiles, based on common rules, principles, taxonomy and standards. Specifically, the project aims to deliver at least three DPP prototypes for three sectors as well as reaching agreements on key data for circularity and sustainability. The consortium partners will also work together to provide recommendations for a data exchange protocol and system architecture, making sure that the product information contained in the DPP will be standardised and machine-readable.

By enabling a successful rollout of the DPPs in critical sectors, CIRPASS contributes to giving the European industry the possibility to implement the circular business model on a large scale and in a resilient way.

Building a balanced and open community dedicated to the roll-out of the DPPs and beyond

To ensure a cross-sectoral approach, CIRPASS unites leading European Research and Technology organisations, supported by three standardisation organisations, an experienced pool of circular economy and sustainability consultancies, several large European industrial associations, digital technologies and web experts as well as selected digital solution providers. Thanks to this community of expertise and knowledge sharing, the project will build consensus around the DPP concept and contribute to the development of common principles, prototypes and roadmaps for the deployment of DPPs across value chains, sectors and market participants.

Besides the collaboration of project partners, stakeholder engagement is a crucial part of CIRPASS' action plan. An ecosystem for stakeholder engagement will be set up. Various activities to activate companies and organisations from across Europe will be announced throughout the project, including joining Expert and Stakeholder groups, participating in CIRPASS's workshops and public events, responding to consultations and much more.

CIRPASS - Collaborative Initiative for a Standards-based Digital Product Passport for Stakeholder-Specific Sharing of Product Data for a Circular Economy

Total budget: € 2 358 663

EU funding: € 1 999 593

ERCIM's role:

ERCIM EEIG project partner

ERCIM/W3C contact:

Rigo Wenning

ERCIM members involved:

Fraunhofer-Gesellschaft, RISE, ERCIM/W3C

Coordinator:

CEA, France

Duration:

October 2022 – March 2024

<https://cirpassproject.eu/>



GATEKEEPER

GATEKEEPER was a European multi-centric large-scale pilot on smart living environments. The main objective is enabling the creation of a platform that connects healthcare providers, businesses, entrepreneurs, and elderly citizens and the communities they live in, in order to originate an open, trust-based arena for matching ideas, technologies, user needs and processes, aimed at ensuring healthier independent lives for the ageing populations.

The rising population of elderly in the EU member states is giving rise to new challenges in relation to independent living. The EU-funded GATEKEEPER project (Innovation Action) aims to ensure healthier independent lives for the ageing populations. It will connect healthcare providers, businesses, entrepreneurs, elderly citizens and the communities they live in. The goal is to create an open, trust-based arena for matching ideas, technologies, user needs and processes. The project will also incorporate data protection while underpinning value creation using advanced marketing patterns. The solutions deployed will involve 40 000 elderly citizens, as well as authorities, institutions, companies, associations and academics, and eight regional communities from seven EU member states.

GATEKEEPER was embodied in an open source, European, standard-based, interoperable and secure framework available to all developers, for creating combined digital solutions for personalised early detection and interventions that (i) harness the next generation of healthcare and wellness innovations; (ii) cover the whole care continuum for elderly citizens, including primary, secondary and tertiary prevention, chronic diseases and co-morbidities; (iii) straightforwardly fit “by design” with European regulations, on data protection, consumer protection and patient protection (iv) are subjected to trustable certification processes; (iv) support value generation through the deployment of advanced business models based on the VBHC paradigm.

Gatekeeper applied the Web of Things to healthcare. This helped to support further work by ERCIM on the Web of Things. ERCIM/W3C contributed to the project with work on the Web of Things, data, semantics, security, privacy, accessibility and standardisations and also contribute to dissemination and communication activities.

GATEKEEPER - Smart Living Homes
- Whole Interventions
Demonstrators for People at Health
and Social Risks

Total budget: € 22 596 059

EU funding: € 19 598 327

ERCIM's role:

ERCIM EEIG project partner

ERCIM/W3C contact:

Dave Raggett (W3C)

ERCIM members involved:

ERCIM/W3C

Coordinator:

MEDTRONIC IBERICA SA

Duration:

October 2019 – September 2023

<https://www.gatekeeper-project.eu/>



GLACIATION

GLACIATION stems from a thorough assessment of the current state of edge storage optimizations. The data ecosystem matures towards the edge where an increasing volume of data is created, collected, and shared by and between a growing number of users through heterogenous devices and applications.

Energy consumption, latency, and reliability will push data operations even more at the edge of the ecosystem. However, current storage, energy, and analytics optimisation approaches are focused on a cloud-based infrastructure.

The GLACIATION consortium proposes a solution to address the limitations and improve the energy, cost, and efficiency of storage optimization.

The solution proposed is an energy-aware storage optimization approach which combines relevancy and resource elasticity to optimize data placement in a distributed edge infrastructure.

The approach considers the data lifecycle and utilizes the relevancy of the data to ensure efficient and cost-effective data movement while still meeting the security, privacy, latency and reliability requirements of the edge applications.

GLACIATION is developing a platform that reduces energy consumption for data processing and analytics through AI-enforced minimal data movement operations.

This platform will enable organizations to deploy and manage analytics across the edge-core-cloud continuum in a secure, energy efficient, and simple manner. This is made possible by a Distributed Knowledge Graph (DKG) that spans across the edge-core-cloud continuum.

Objectives

The GLACIATION platform will allow for energy-efficient distributed flow of data from the edge to the cloud.

The AI-powered workflow allocation enhances energy-efficiency satisfying the computation needs. The AI engine handles the dynamically changing flow of data across the edge-core-cloud continuum for continuous training and optimisation of resources usage and workflow allocation.

Swarm technology allows to coordinate the applications at the edge for an optimal functioning of the GLACIATION platform with a data-centric approach.

Built-in intelligence will be needed to tackle the specific challenges of a data-centric approach relating to scalability, energy and bandwidth efficiency, dependability/trustworthiness, adaptability and transparency.

GLACIATION - Green Responsible
Privacy-preserving Data Operators

Total budget: € 8 256 914

EU funding: € 8 256 914

ERCIM's role:

ERCIM EEIG project partner

ERCIM/W3C contact:

Rigo Wenning

ERCIM members involved:

ERCIM/W3C

Coordinator:

Ministero dell'economia e delle
finanze - MEF, Italy

Duration:

October 2022 – September 2025

<https://glaciation-project.eu/>



NEPHELE

NEPHELE is a Research and Innovation Action project funded by the Horizon Europe programme under the topic “Future European platforms for the Edge: Meta Operating Systems”. Its vision is to enable the efficient, reliable and secure end-to-end orchestration of hyper-distributed applications over programmable infrastructure that is spanning across the compute continuum from Cloud-to-Edge-to-IoT, removing existing openness and interoperability barriers in the convergence of IoT technologies against cloud and edge computing orchestration platforms, and introducing automation and decentralized intelligence mechanisms powered by 5G and distributed AI technologies.

The NEPHELE project aims to introduce two core innovations, namely:

- An IoT and edge computing software stack for leveraging virtualization of IoT devices at the edge part of the infrastructure and supporting openness and interoperability aspects in a device-independent way. Through this software stack, management of a wide range of IoT devices and platforms can be realised in a unified way, avoiding the usage of middleware platforms, while edge computing functionalities can be offered on demand to efficiently support IoT applications’ operations.
- A synergetic meta-orchestration framework for managing the coordination between cloud and edge computing orchestration platforms, through high-level scheduling supervision and definition, based on the adoption of a “system of systems” approach.

The NEPHELE outcomes are going to be demonstrated, validated and evaluated in a set of use cases across various vertical industries, including areas such as disaster management, logistic operations in ports, energy management in smart buildings and remote healthcare services. Two successive open calls will also take place, while a wide open-source community is envisaged to be created for supporting the NEPHELE outcomes.

NEPHELE - A lightweight software stack and synergetic meta-orchestration framework for the next generation compute continuum

Total budget: € 9 127 711

EC Funding: € 9 127 711

ERCIM's role: Project partner

ERCIM members involved:

Inria, ERCIM/W3C

ERCIM/W3C contact:

François Daoust

Scientific coordination:

National Technical University of Athens - NTUA, Greece

Duration:

September 2022 - August 2025

<https://nephele-project.eu/>



SmartEdge

Swarm intelligence consists of a network of endpoint devices that are able to generate and process data at source. An entire network becomes more intelligent and flexible when individual edge devices can identify and share vital information with peers. From healthcare systems to self-driving vehicles, sharing this information must be done without compromising reliability, security, privacy and scalability. The EU-funded SmartEdge project will provide a solution in a low-code programming environment using three tools: continuous semantic integration, a dynamic swarm network and a low-code toolchain for edge intelligence. The solution will be demonstrated in the automotive and health sectors, among others.

The objective of the SmartEdge project is to enable the dynamic integration of decentralised edge intelligence at runtime while ensuring reliability, security, privacy and scalability. We will achieve this by enabling a semantic-based interplay of the edge devices of such systems via a cross-layer toolchain that facilitates the seamless and real-time discoverability and composability of autonomous intelligence swarm. Hence, an application can be freely built by distributing the processing, data fusion and control across heterogeneous sensors, devices and edges with ubiquitous low-latency connectivity. The goal of this project is to develop a SmartEdge solution with a low-code tool programming environment with various tools: (1) Continuous Semantic Integration (CSI); (2) Dynamic Swarm Network (DSW); and (3) Low-code Toolchain for Edge Intelligence. CSI allows the SMARTEDGE solution to interact with devices according to a (i) standardized semantic interface, via a (ii) continuous conversion process based on declarative mappings and scalable from edge to cloud, and (iii) providing a declarative approach for the creation and orchestration of apps based on swarm intelligence. DSW provides (i) automatic discovery and dynamic network swarm formation in near real time, (ii) hardware-accelerated in-network operations for context-aware swarm networking, and (iii) embedded network security. The low-code tool chain provides (i) semantic-driven multimodal stream fusion for Edge devices; (ii) swarm elasticity via Edge-Cloud Interplay; (iii) adaptive coordination and optimization; (iv) cross-layer toolchain for Device-Edge-Cloud Continuum.

The SmartEdge solution will be comprehensively demonstrated over four application areas: manufacturing, automotive, and health care via the strong collaboration of eight industrial partners, Dell, Siemens, Bosch, IMC, Conveq, Cefiel and NVIDIA with eight research institutes.

SmartEdge - Semantic Low-code Programming Tools for Edge Intelligence

Total budget: € 7 353 640

EC Funding: € 7 353 640

ERCIM's role:
Project partner

ERCIM/W3C contact:
Rigo Wenning

Coordination:
Consorzio Nazionale Interuniversitario per le Telecomunicazioni (CNIT)

ERCIM members involved: E
ERCIM/W3C

Duration:
January 2023 - December 2025

<https://www.smart-edge.eu/>



TERMINET

The vision of TERMINET is to provide a novel next generation reference architecture based on cutting-edge technologies such as SDN, multiple-access edge computing, and virtualisation for next generation IoT, while introducing new, intelligent IoT devices for low-latency, market-oriented use cases.

TERMINET's primary intention is to bring (more efficient and accurate) decisions to the point of interest to better serve the final user targeting at applying distributed AI at the edge by using accelerated hardware and sophisticated software to support local AI model training using federated learning. Our solution aspires to reduce the complexity of the connecting vast number of heterogeneous devices through a flexible SDN-enabled middleware layer. It also aims to design, develop, and integrate novel, intelligent IoT devices such as smart glasses, haptic devices, energy harvesting modules, smart animal monitoring collars, AR/VR environments, and autonomous drones, to support new market-oriented use cases. Great expectation of the proposal is to foster AR/VR contextual computing by demonstrating applicable results in realistic use cases by using cutting-edge IoT-enabled AR/VR applications. By designing and implementing an IoT-driven decentralised and distributed blockchain framework within manufacturing, TERMINET aims to support maintenance and supply chain optimisation. TERMINET's solution intends to apply a vertical security by design methodology by meeting the privacy-preserving and trust requirements of the NG-IoT architecture. To foster standardisation activities for the IoT ecosystem, TERMINET will provide novel disruptive business models.

For the evaluation of its wide applicability, TERMINET will validate and demonstrate six proof-of-concept, realistic use cases in compelling IoT domains:

- User-Centric Devices in Smart Farming
- Pathway of Personalised Healthcare
- Smart, Sustainable and Efficient Buildings
- Prediction and Forecasting System for Optimising the Supply Chain in Dairy Products
- Group Training Surgery Using VR-enabled IoT Technologies
- Mixed Reality and ML Supported Maintenance and Fault Prediction of IoT-based Critical Infrastructure.

TERMINET - Next Generation Smart Interconnected IoT

EC funding: €3 991,389

ERCIM's role:

ERCIM EEIG project partner

ERCIM members involved:

ERCIM/W3C

Scientific coordination:

University of Western Macedonia

ERCIM/W3C contact:

Dave Raggett

Duration:

November 2020 - October 2023

<https://terminet-h2020.eu/>

TRAPEZE

TRAPEZE – Transparency, Privacy and Security for European Citizens – is a European Innovation Action with the ambitious goal of driving a cultural shift in the protection of the European data economy. It aims to achieve this by reconstructing the concepts of control, transparency and compliance through technical and methodological, citizen-first, innovations. The project will lead the way in putting often-misplaced cutting-edge technologies to practical use for the citizens.

TRAPEZE is aiming to become a lighthouse for European and global initiatives that aspire to deliver citizen-first, cyber-resilient, innovation.

To make this goal a reality, TRAPEZE aims to put citizens' security and privacy into their own hands by providing them, first of all, with innovative dashboards that will enable fine-grained and dynamic control of their data protection preferences across all relevant controllers. These will be accompanied by transparency and feedback mechanisms that will allow data subjects to comprehend the complex flows of their data and actively participate in the prevention, detection, and reporting of legal noncompliance or incidents, and in exercising their legal rights. Furthermore, to ensure citizens of all groups, skills, and physical abilities can manage and monitor their data flows, TRAPEZE will place a special emphasis on usability, but also privacy preferences and sociological aspects across different member states, seeking to establish a feedback loop with its end-users internationally.

TRAPEZE is significantly different from existing approaches in that it does not attempt to protect the citizen by abruptly reshaping the European digital economy. Instead, it seeks to empower the data subject, while enabling a realistic, steady, transition to a more trustworthy data ecosystem that extends beyond online services and deep into the controllers' data silos. TRAPEZE aims to enable privacy-aware and privacy-preserving data value chains by leveraging the concepts of linked data graphs and distributed ledgers (blockchain). Linked data will be used to control the handling of the payload data (actual personal data relating to the citizen) stored and processed by controllers', or processors' systems, even downstream (re-sharing from controller to controller/processor) in the data value chain. Blockchain technology will ensure compliance and decentralisation of records of processing activities, as well as immutability and non-repudiation of said records (with GDPR compliance in mind).

TRAPEZE's proposed architecture and tools will be developed and evaluated under real-world conditions in three pilot scenarios in government, telecommunication and IT services, and banking. All three pilots involve the processing and aggregation of large amounts of personal data from various data sources, with policies specified at different levels of granularity.

TRAPEZE is not starting from scratch, but builds on a decade of EU-funded research in security and privacy, as well as on proprietary solutions and know-how, towards marketable innovations.



TRAPEZE - TRANsparency, Privacy and security for European citIZEns

EC Funding: € 4 995 812

ERCIM's role:

Project partner, administrative coordination

ERCIM/W3C contact:

Jessica Assoumou

Coordination:

TENFORCE BVBA

ERCIM members involved:

ERCIM EEIG/W3C

Duration:

September 2020 - August 2023

<https://www.trapeze-project.eu>



WAI-COOP

The power of the World Wide Web is in its universality. Websites and web tools should work for all people. This means they should be designed and coded so that people with disabilities can use them. However, this is not the case with all sites. The WAI-CooP project will provide a unique model to support implementation of the international standards for digital accessibility. Specifically, it will establish vendor-neutral overviews of available training, tools and resources internationally. It will also analyse technological advances and provide opportunities for key stakeholders to share resources and exchange best practices. The project will support EU public bodies in the process of implementing the Web Accessibility Directive.

The objectives of the WAI-CooP projects are to:

- Establish vendor-neutral overview on available training, tools, and resources internationally
- Analyse technological advancements and coordinate with relevant research and development
- Provide opportunities for key stakeholders to share resources and to exchange best practices.

WAI-CooP achieves this by building on the existing wealth of authoritative guidance available from the W3C Web Accessibility Initiative (WAI), to provide a one-stop shop for the broad spectrum of key stakeholders involved in the implementation of digital accessibility, including public bodies and private entities; organisations representing people with disabilities; product, service and training providers; researchers; and policy makers.

WAI-CooP is uniquely positioned to establish necessary dialogs with key stakeholders to help exchange best practices in the community, provide technical clarification and guidance, and refine the authoritative guidance from W3C. WAI-CooP is also uniquely positioned and qualified to help ensure coordination and harmonisation of accessibility standards and practices, raise awareness and build technical capacities in Europe and internationally.

WAI-CooP maximises its impact by utilising transparent and open processes of the W3C to invite all key stakeholders, and by integrating project results into relevant W3C standardisation and EDF networks, to ensure longer-term sustainability beyond the project. WAI-CooP provides direct support for European Union (EU) public bodies in the process of implementing the Web Accessibility Directive (WAD), while using a non-exclusive approach that benefits organisations and governments internationally wanting to implement digital accessibility.

WAI-CooP - Web Accessibility Initiative – Communities of Practice

Total budget: € 1 499 987

EC funding: € 1 499 987

ERCIM's role:

Project coordinator

ERCIM members involved:

ERCIM/W3C

Scientific coordination:

Kevin White, W3C

Administrative coordination:

Jessica Michel Assoumou, ERCIM Office

Duration:

January 2021 – December 2023

<https://www.w3.org/WAI/about/projects/wai-coop/>

Human Capital

Human Capital (HC) is a central concern within all organizations. In ERCIM, its main focus is the European cooperation of different entities with their own HC policies. To this end, we are currently building on two key activities. The first is the ERCIM post-doctoral fellowship programme, which has been in existence since 1991. This programme facilitates the participation of young scientists in research teams within ERCIM member institutes by organizing post-doctoral fellowships. In addition to mobility in high-quality teams, it helps participants further their understanding of the European research environment and career capabilities. The second key activity is the Cor Baayen Young Researcher Award, which acknowledges the achievements of young research scientists from European teams in informatics or mathematics.

There is scope for further development of both of these tools, but we would also like to create new schemes for mobility between ERCIM members. In particular, in addition to post-docs, we would like to foster the mobility of all scientists, including PhD students, engineers, and management and administration professionals.

ERCIM's Human Capital Task Group is in charge of supervising these actions and proposing new directions.

Participants of the Task Group:

- Monica Divitini, NTNU, (chair)
- Sanna Downing, VTT
- Adriana Lazzaroni, CNR
- Harald Lenschow, NTNU
- Emma Lière, ERCIM Office
- Laszlo Monostori, SZTAKI
- Katja Ojakangas, VTT
- Andreia Passos, INESC TEC
- Monica Pinto, ITIS UMA
- Bettina Touré, Fraunhofer-Gesellschaft
- Edgar Weippl, SBA Research
- Leon van der Torre, FNR.



*Monica Divitini,
chair of the
ERCIM Human
Capital Task
Group.*



“

The ERCIM fellowship has been a transformative journey, expanding my academic horizons and providing invaluable networking opportunities. Engaging in cutting-edge research and collaborating with professionals have shaped my future career. Grateful for the enriching experience and lessons gained, I look forward to applying them in my academic and professional pursuits.



Md Roman BHUIYAN
Former ERCIM Fellow

“Alain Bensoussan” Fellowship Programme

The postdoctoral Fellowship Programme has been established as one of the premier activities of ERCIM. Since its inception in 1991, more than 700 fellows have passed through the programme. In 2023, 19 young scientists started an ERCIM PhD Fellowship, and 63 fellows were hosted during the year. This represents 409 person-months.

The ERCIM Fellowship Programme is open to young researchers from all over the world. It focuses on a broad range of fields in Computer Science and Applied Mathematics. The fellowship scheme also helps young scientists improve their knowledge of European research structures and networks and gain more insight into the working conditions of leading European research institutions. In 2023, many of the hosted fellows were natives of countries outside the European Union. This reflects ERCIM’s contribution to making Europe not only a worldwide important ‘brain factory’ but also a large ‘brain magnet’ in the

field of informatics and applied mathematics. The fellowships are of 12 months duration (with a possible extension), spent in one of the ERCIM member institutes. Fellows can apply for a second year in a different institute.

Conditions

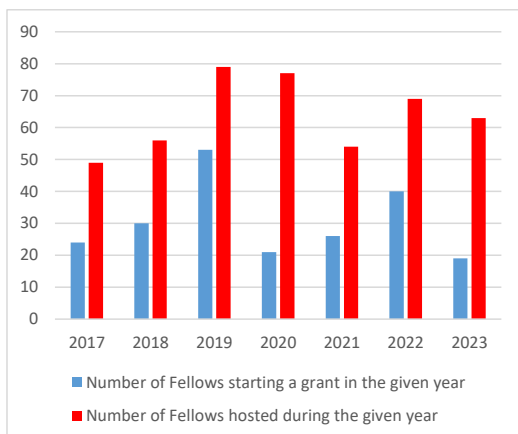
Candidates must:

- have obtained a PhD degree during the last eight years (prior to the application deadline) or be in the last year of the thesis work with an outstanding academic record,
- be fluent in English,
- have completed their PhD before starting the grant.

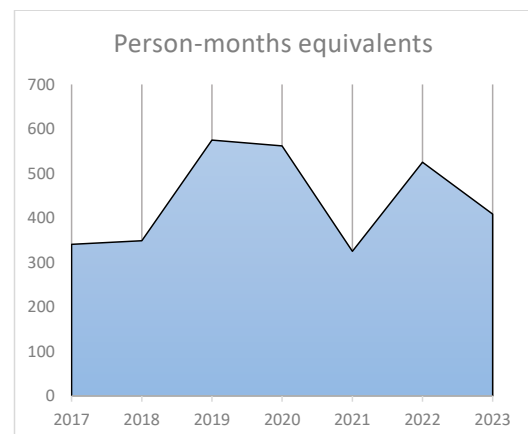
Deadlines for applications are currently 31 March and 30 September each year.

Since 2005 the Fellowship Programme has been named in honour of Alain Bensoussan, former president of Inria, one of the three ERCIM founding institutes.

<http://fellowship.ercim.eu>



Number of fellows hosted from 2017 to 2023.



Person-months equivalents for the fellows hosted from 2017 to 2023.

ERCIM Fellows Community Event 2023

On 8 November 2023, ERCIM organised its third online community event for the postdoctoral fellows and guests.

Due to high demand and interest, ERCIM has decided to repeat its community event, first held during the pandemic in 2021. The primary objective remains to promote interaction among ERCIM fellows. This third event included not only fellows but also their coordinators and representatives from ERCIM member organisations. A total of 48 participants met online to exchange ideas and foster connections.

The event design considered several constraints, including the global audience of postdocs at various stages of their fellowships in different countries. It also aimed for an optimal duration for an online event, balancing brevity with the presentation of 27 posters. Additionally, the event was cost-free

for all participants. The online platform "Gather Town" was used to accommodate these needs.

The core of the event was the poster sessions, held in three virtual rooms. These sessions showcased the scientific work of ERCIM postdocs and facilitated the identification of common interests. VTT, ERCIM's member organization from Finland, hosted a stand to showcase their institute. Additionally, Rosa Bernal Carrera, European Affairs Officer at Inria, gave a presentation titled "EU - Marie Skłodowska-Curie Actions (MSCA) Postdoctoral Fellowships: An Opportunity for ERCIM Fellows to Explore."

Feedback for the event was positive, highlighting valuable networking opportunities and a desire to participate in future events. An anonymous post-event survey revealed that 98% of respondents felt the program met their expectations and found it helpful.



Screenshot from the ERCIM community online session on "Gather Town".



Rianne de Heide, winner of the 2023 Cor Baayen Young Researcher Award.

Cor Baayen Early Career Researcher Award 2023

Winner:

Rianne De Heide (Free University Amsterdam), nominated by CWI

Honorary mention

- Denis Merigoux (Inria), nominated by Inria

Finalists

- Karol Bołbotowski (University of Warsaw), nominated by University of Warsaw
- Michele Giuliano Carlino (University of Ferrara), nominated by Inria
- Ricardo Gonçalves Macedo (INESC TEC), nominated by INESC TEC
- Iacovos Ioannou (CYENS Centre of Excellence) nominated by University of Cyprus
- Jani Koskinen (Helsinki Region Transport HSL), nominated by VTT
- Anastasios Papagiannis (Isovalent), nominated by FORTH-ICS

Selection Committee

The Selection Committee members were Gabriel David (INESC-TEC), Monica Divitini (NTNU – chair of the ERCIM Human Capital Task Group), Anna Gambin (University of Warsaw), Georgia Kapitsaki (University of Cyprus), Bruno Levy (Inria), Kostas Magoutis (FORTH) and Fabrizio Sebastiani (ISTI-CNR). The decision was unanimous.

2023 Cor Baayen Early Career Researcher Award for Rianne de Heide

The ERCIM Selection Committee for the Cor Baayen Young Researcher Award unanimously selected Rianne de Heide, nominated by CWI, as the winner for 2023. An honorary mention was given to Denis Merigoux from Inria.

Rianne de Heide's research covers a wide range of topics in mathematical statistics, with a focus on learning from data. Her work utilizes Bayesian learning as a tool, often critically evaluated and extended, with a strong theoretical component. She explores aspects such as optional stopping, misspecification (using incorrect but useful models), philosophical problems in induction, and bandits, spanning disciplines like philosophy, psychology, and AI.

Particularly notable is her work on optional stopping/safe testing, introducing a new statistical method for hypothesis testing with significant scientific and societal potential. She is also working on explainable machine learning and developing a new theory for hypothesis testing with e-values in the context of multiple testing.

Her independent and original ideas have led to well-cited publications across different subfields in top venues, forming the foundation for numerous follow-up papers by others in the field. Dr. de Heide effectively communicates complex mathematical ideas to both general and technical audiences.

We also commend Dr. de Heide for her active role in teaching. During her PhD, she developed a successful master's course on Machine Learning Theory for the Dutch MasterMath program.

Rianne is currently employed at Vrije Universiteit Amsterdam. She obtained her PhD in 2021 from Leiden University, with part of her work carried out at CWI. Her thesis, "Bayesian Learning: Challenges, Limitations and Pragmatics," was supervised by P.D. Grünwald and J.J. Meulman and won the W.R. van Zwet Award 2022 for the best Dutch dissertation in mathematics and operations research, awarded by the Dutch Society for Statistics and Operations Research.22 for the best Dutch dissertation in mathematics and operations research.

The Cor Baayen Young Researcher Award

The Cor Baayen Young Researcher Award, given to a promising young researcher in computer science and applied mathematics, was created in 1995 to honour the first ERCIM President and is open to early career researchers having completed their PhD thesis in one of the "ERCIM countries". The Cor Baayen Award is an early career researcher prize: The selection panel therefore considers the quality of the PhD thesis and all the achievements done up to the nomination date. The award carries a prize of € 5,000. The winner is invited to the ERCIM autumn meetings.

<https://www.ercim.eu/human-capital/cor-baayen-award>



Outreach

The ERCIM Outreach Task Group is responsible for the communication between ERCIM and its wide range of stakeholders. They include national and international funding bodies, the research community in informatics and applied mathematics, with a focus on both senior scientists and young researchers, as well as industrial R&D. ERCIM considers its outreach activities as an important tool for community building. These include publications such as the ERCIM News magazine, the ERCIM web site and the support and organisation of scientific events.

The well-established ERCIM News magazine, under the responsibility of the editorial board, has already successfully contributed to ERCIM's reputation in the scientific community. It is also a good example of the close cooperation between all ERCIM institutes. In addition to ERCIM News, a number of strategic reports have also been published.



*Andreas Rauber,
SBA Research, chair of
the ERCIM Outreach
Task Group*

ERCIM News

Since ERCIM's creation in 1989, the quarterly ERCIM News has been reporting on leading edge European research and developments in Information and Communication Science and Technology (ICST) and Applied Mathematics.

When Inria, CWI and former GMD founded ERCIM in 1989, the establishment of an 'in-house magazine' with the aim of reporting on joint activities was one of the first 'joint actions'. ERCIM rapidly evolved from an in-house magazine to a publication covering reports and news about scientific projects from all over Europe and even beyond.

Today, ERCIM News is published in print and online. In 2022 the printed edition had a circulation of 1500 copies and more than 8600 readers are subscribed to the online edition.

From the early issues on, each issue has focused on a special theme identified by the editorial board. The ERCIM News series has thus become a unique collection providing an overview on a wide range of research topics in ICST and Applied Mathematics. All articles in ERCIM News are written by the scientists themselves and professionally edited. The structure of the articles and the limited length also make them comprehensible for non-experts. Thanks to these unique characteristics, ERCIM News has become well-known in the world of scientific publications, and regular positive feedback from our readers has encouraged us to continue in this way. Indeed, our readership comprises not only scientists, but also students, decision makers, professionals within the industry, representatives from the European Commission, and politicians.

In 2023 ERCIM News published the issues nos 132 - 135. Since its creation, more than 2,000 articles have been published. The popularity of ERCIM News can be credited primarily to our authors to whom the ERCIM editorial board wants to express its warmest thanks on this occasion.

In 2023 ERCIM News issues covered the following special themes:

- ERCIM News 132: Cognitive AI & Cobots
- ERCIM News 133: Data Infrastructures and Management
- ERCIM News 134: Explainable AI
- ERCIM News 135: Climate Resilient Society

<https://ercim-news.ercim.eu>

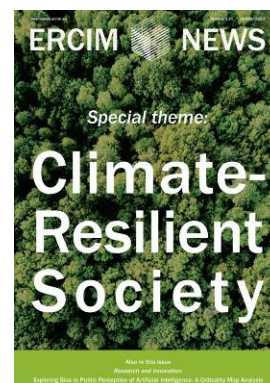
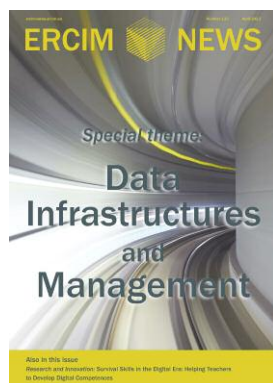
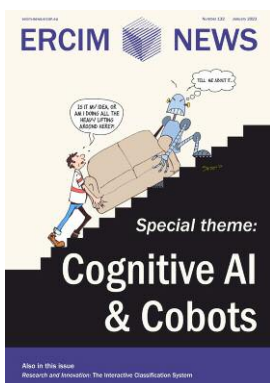
ERCIM News Editorial Board in 2023

Central editor:

- Peter Kunz, ERCIM Office

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- Ferran Argelaguet, Inria, France
- Andras Benczur, SZTAKI, Hungary
- José Borbinha, Technical University of Lisbon, Portugal
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- Erwin Schoitsch, AIT Austrian Institute of Technology GmbH/SBA, Austria
- Thomas Tamisier, LIST, Luxembourg
- Maurice ter Beek, ISTI-CNR, Italy



The four issues published in 2023.

ERCIM Membership

ERCIM is one of the most recognized ICT Societies in Europe. By joining ERCIM, your research institution or university can directly participate in ERCIM's activities and contribute to the ERCIM members' common objectives to play a leading role in Information and Communication Technology in Europe:

- Building a Europe-wide, open network of centres of excellence in ICT and Applied Mathematics;
- Excelling in research and acting as a bridge for ICT applications;
- Being internationally recognised both as a major representative organisation in its field and as a portal giving access to all relevant ICT research groups in Europe;
- Liaising with other international organisations in its field;
- Promoting cooperation in research, technology transfer, innovation and training.

Benefit of ERCIM membership

Institutions, as members of ERCIM AISBL, benefit from:

- International recognition as a leading centre for ICT R&D. ERCIM, a European-wide network of centres of excellence in ICT, is internationally recognised as a major representative organisation in its field;
- More influence on European and national government R&D strategy in ICT. ERCIM members team up to speak with a common voice and produce strategic reports to shape the European research agenda;
- Privileged access to standardisation bodies, such as the W3C which is hosted by ERCIM as to other bodies with which ERCIM has also established strategic cooperation. These include ETSI, the European Mathematical Society and Informatics Europe;
- Invitations to join projects of strategic importance;
- Establishing personal contacts among executives of leading European research institutes during the bi-annual ERCIM meetings;
- Invitations to join committees and boards developing ICT strategy nationally and internationally;
- Excellent networking possibilities with more than 10.000 high-quality research colleagues across Europe. ERCIM's mobility activities, such as the fellowship programme, leverage scientific cooperation and excellence;
- Professional development of staff including international recognition;
- Publicity through the ERCIM website and ERCIM News, the widely read quarterly magazine.

For further information about how to join ERCIM AISBL, please contact the ERCIM Office (contact@ercim.eu)

How to become an ERCIM Member

- Prospective members must be outstanding research institutions (including universities) within their country;
- Applicants shall address a request accompanied by short description to the ERCIM Office. The description must contain:
 - Name and address of the institute;
 - Short description of the institute's activities;
 - Staff (full time equivalent) relevant to ERCIM's fields of activity;
 - Number of European projects currently involved in;
 - Name of the representative and the alternate.
- Membership applications will be reviewed by an internal board and may include an on-site visit;
- The decision on admission of new members is made by the General Assembly of the Association, in accordance with the procedure defined in the Bylaws (<http://kwz.me/U7>), and notified in writing by the Secretary to the applicant;
- Admission becomes effective upon payment of the appropriate membership fee in each year of membership;
- Membership is renewable as long as the criteria for excellence in research and an active participation in the ERCIM community, cooperating for excellence, are met.

The Institute for Software Engineering and Software Technology of the University of Malaga Joined ERCIM

The Institute of Software Engineering and Technology (ITIS, or ITIS Software) joined ERCIM in 2023. ITIS is a unit of the University of Malaga dedicated to scientific and technical research. The main objective of ITIS is to contribute to the development and application of software technologies through research, innovation, training, and technology transfer. Due to the transversal characteristics of software, the Institute is an interdisciplinary center in which specialists in different technological areas and application domains work together to advance these technologies. ITIS is oriented towards the foundations, tools, and applications of Software Technologies and Software Engineering for industry and society, with a special focus on five main areas: Automated Software Engineering, Data Science and Engineering and Artificial Intelligence, Cybersecurity, Smart Networks and Services, and Applications of Software Technologies and Software Engineering. The working language at the Institute is English.



Pedro Merino, Director of ITIS (left) and Bjoern Levin, RISE, President of ERCIM.

ITIS research staff is composed by more than 50 doctors and 50 PhD students and technicians. The unit has a large catalogue of open research infrastructures to support research on big data, security, fog computing, 5G & 6G and artificial intelligence.

ITIS is strongly committed to fostering collaborations at the national and international levels both with companies and research institutions. The unit has R&D contracts with companies such as ABENGOA, ACERINOX, ADLINK, ATOS, DEKRA, EMERGIA, IBM, INDRA, KEYSIGT TECHNOLOGIES, ORANGE, TECNATOM, TELEFONICA, TELVENT, NEC LABS, NOKIA, and SIEMENS, among others. During the last five years

the unit has been active in more than 20 European projects from H2020 and Horizon Europe, with special focus on 5G and 6G. ITIS is also active in international organizations like 5G IA & 5G PPP, 6G IA & JU SNS, ETSI & 3GPP, Network Europe, European Big Data Value Association (BDVA)/Robotics & Data, European Cybersecurity Organisation (ECSO), and now ERCIM. The average external funding of the Institute is 3,5M€ per year.

The Institute is located in Málaga, the capital of the Costa del Sol, in Andalusia, Spain [L2]. Málaga is a fantastic place to live and work, with an average temperature of 18°C and a high quality of life. It is a cosmopolitan city, with an impressive history and an interesting present, both cultural and technological. Málaga is also home to the Malaga TechPark [L3], a technology park where more than 65 international companies in ICT have their headquarters and R&D centers and with which the Institute has a strong relationship and ongoing collaborations.

Institutions member of ERCIM in 2023:



Consiglio Nazionale delle Ricerche
Area della Ricerca CNR di Pisa
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www.iit.cnr.it



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Electrical Engineering, N 7491 Trondheim, Norway
<http://www.ntnu.no/>



Centrum Wiskunde & Informatica

Centrum Wiskunde & Informatica
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RISE SICS
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Fonds National de la
Recherche Luxembourg

Fonds National de la Recherche
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www.fnrl.lu



SBA Research gGmbH
Floragasse 7, 1040 Wien, Austria
www.sba-research.org/



Foundation for Research and Technology – Hellas
Institute of Computer Science
P.O. Box 1385, GR-71110 Heraklion, Crete, Greece
www.ics.forth.gr



Eötvös Loránd Research Network
Számítástechnikai és Automatizálási Kutató Intézet
P.O. Box 63, H-1518 Budapest, Hungary
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I.S.I. – Industrial Systems Institute
Patras Science Park building
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The ERCIM office is located in the Inria Sophia Antipolis - Méditerranée Research Centre premises.

ERCIM Office

ERCIM has an office in Southern France, hosted by Inria and located in the Inria Sophia Antipolis - Méditerranée Research Centre premises, nestled amongst researchers (and surrounded by cicadas). The ERCIM Office manages the day-to-day business of ERCIM and is the European partner the World Wide Web Consortium (W3C).

With its team of experts, the ERCIM Office provides assistance to ERCIM members in managing European projects by performing financial and administrative tasks, either as coordinator or partner. Member institutes can thus fully concentrate on scientific work, unburdened by time-consuming administrative tasks. The office has been involved in more than 100 successful projects. The projects in which the ERCIM Office was involved in 2023 are presented in the section “Projects” in this report. In 2023, they all include projects with the participation of W3C. They provide an example of how ERCIM can facilitate cooperation between research institutes and W3C with its interest in Web standardization.

The ERCIM Office is under the responsibility of the ERCIM EEIG Board of Directors and also handles ERCIM AISBL financial matters. The Office supports the whole ERCIM community in administrative matters such as the management of the ERCIM Fellowship Programme, as well as in communications, for example by hosting and maintaining websites and by producing and publishing ERCIM News.

*Dominique Hazael-Massieux,
manager of ERCIM*

Dominique Hazael-Massieux appointed Manager of ERCIM

Dominique Hazael-Massieux was appointed as the new manager of ERCIM EEIG by the ERCIM EEIG board of Directors, effective from June 2023. Dominique took over from Philipp Hoschka, who served as the manager from December 2016 to June 2023.

Over the years, Dominique has been involved in developing and running a number of W3C technical programs. He took a leading role in the Mobile Web Initiative and has also contributed to the advancement of Web Real-Time Communications. Furthermore, Dominique has spearheaded the work on the Immersive Web. Additionally, he launched and has managed the W3C Community Management program.





ERCIM and W3C

ERCIM hosted the European headquarters of the World Wide Web Consortium (W3C) from 2003 until the formation of W3C Inc. in January 2023, and has been its European partner since then. ERCIM and W3C aim to strengthen relationships throughout Europe to better support the development of Web technology and to jointly share the results of their collaboration.

Two of the European Chapters are currently based at ERCIM institutes, namely at FORTH (Greece) and SZTAKI (Hungary). Originally, W3C Offices were located at the ERCIM institutes CWI, Fraunhofer-Gesellschaft, FORTH, SZTAKI, CNR, RISE/SICS, and STFC. W3C Chapters in Europe work with their regional Web communities to promote W3C technologies in local languages, broaden W3C's geographical base, and encourage international participation in W3C activities.

As a consortium of members from many European countries, ERCIM creates a balance between European diversity and necessary homogeneity by building bridges between different cultures and facilitating the movement of technical ideas within academia and across borders. W3C is steered by its members, who have interests in the Web (such as Web Privacy and Security, Web Payments, Web of Things, Linked Data, etc.), whereas ERCIM jointly has widespread interest in many research fields where Web standards are rarely used. ERCIM then helps to gather those Web communities and make them work together.

Moreover, ERCIM members have strong ties with industrial partners and start-up companies. This is an excellent opportunity for W3C to enlarge its cooperation with European industry, which can broaden its participation in the making and adoption of standards. Finally, hosting W3C allows ERCIM members to benefit from the know-how and expertise of the W3C team, and to increase their visibility based on W3C's worldwide reputation. The joint efforts of ERCIM and W3C have started to increase Web research cooperation in Europe.

<https://w3.org>



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