

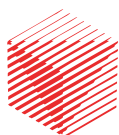
ERCIM

European Research Consortium
for Informatics and Mathematics

Connected Excellence in Research

Activity Report 2024

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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 2024, 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 mission is to help ensure Europe plays a leading role in the field of Information and Communication Technologies. To achieve this, ERCIM brings together a network of centres of excellence in ICST across Europe, fostering collaboration and innovation across borders. Through its participation in research projects, ERCIM not only advances scientific knowledge but also serves as a bridge between fundamental research and practical applications. As a trusted voice in the international ICST community, ERCIM actively represents European research interests on the global stage. In close cooperation with partners worldwide, including non-EU institutions and international organisations, ERCIM strengthens global research connections. The organisation also promote technology transfer, supports innovation, and nurtures the next generation of researchers through training and its fellowship programmes. By creating synergies across its diverse activities, ERCIM delivers meaningful impact for its members, contributes to national research strategies, and drives European excellence in ICST

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 2024, 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 ICST R&D. ERCIM, a Europe-wide network of centres of excellence in ICST, is internationally recognised as a major representative organisation in its field.
- More influence on European and national government R&D strategy in ICST. 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 ICST 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

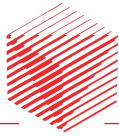
ERCIM provides a start-up support programme for Europe, where partners in ERCIM offer help for start-ups, especially those related to mathematics and informatics (ICST), to expand their businesses in countries other than their own.

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 Meetings: Connecting, Collaborating, Creating

ERCIM's holds twice-yearly meetings, each spring and autumn and typically hosted by a member institute. These meetings are a cornerstone of collaboration and community. They bring together the ERCIM network for energising face-to-face sessions, where Task Groups make progress, strategic ideas take shape, and the Board drives key decisions.

The autumn meeting also features the AISBL General Assembly, a forum for all members to connect, exchange, and help shape the future of European ICSTresearch. More than just formal events, ERCIM meetings are a dynamic space for building partnerships, sharing insight, and launching bold new initiatives.

The ERCIM 2024 spring meetins were hosted by ITIS Software, University of Málaga on 21-22 May 2024

The ERCIM 2024 fall meetings were hosted by SZTAKI in Budapest on 15-16 October 2024.

Governance

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 Poutré, 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 2024 the board was composed of:

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

and supported by an Executive Committee composed of:

- Marie-Hélène Pautrat, Inria
- 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 2024 included:

Chair:

- Dimitris Plexousakis, FORTH

Members:

- Gabriel David, INESC
- Joost Goerts, Inria
- Ibrahim A. Hameed, NTNU
- Christos Koulamas, ISI
- Decebal Mocanu, FNR/University of Luxembourg
- Han La Poutré, CWI
- Björn Levin, RISE SICS
- Katja Ojakangas, VTT
- Dominik Ślęzak, University of Warsaw
- João Vilela, INESC
- 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

ERCIM Visionary Event on Generative AI

Experts from across Europe gathered on 16 April 2024 in Brussels at the Maison Irène et Frédéric Joliot Curie to discuss the rapidly evolving landscape of generative AI and large language models (LLMs) at the ERCIM visionary event titled “Challenges and Opportunities of Foundational Models and Generative AI for Science and Society.”

Benoît Sagot of Inria opened the event with an overview of advancements in large language models (LLMs), focusing on the transformative effects of Transformer architectures. He discussed the trend towards larger models and the need for balancing data diversity with volume. Sagot also addressed concerns about the proprietary nature of training data, legal challenges, environmental impacts, and biases in these models that could reinforce societal stereotypes.

Following Sagot, Cécile Huet from DG Connect, European Commission, outlined the European GENAI4EU Initiative, which promises to boost the EU’s AI capabilities with a four billion Euro investment. The initiative aims to enhance supercomputing power, increase high-quality data availability, and support robust algorithmic development across various sectors including healthcare, climate change, and cybersecurity.

Liviu Stirba from DG Research and Innovation, European Commission, presented the activity and goals of the European Commission’s AI in Science group. He discussed AI’s transformative potential in scientific research. He underscored the need for an EU policy framework that optimizes AI use in scientific settings while ensuring competitiveness on a global scale.

In the session “Impact of Generative AI and LLMs on the Sciences”, Damien Gratadour of the Observatoire de Paris, explained the use of generative AI in building new brain models for giant astronomical telescopes, emphasizing the potential in fields like planet hunting and observing distant celestial objects.

Dong Nguyen of Utrecht University illustrated how LLMs could revolutionize the social sciences by enabling the analysis of large datasets, which could, for example, reveal trends in public opinion dynamics or track shifts in language use over time.

Mathieu Acher from INSA/Inria/CNRS/IRISA discussed the implications of LLMs in software engineering, highlighting their role in code generation and optimization. Acher pointed out how tools like GitHub Pilot and Llama-2 are integrating LLMs to transform coding, making advanced software development tools accessible to a broader audience.

The event continued with a session on “Generative AI and Future Perspectives” where Seán Ó hÉigeartaigh from the



Liviu Stirba from DG Research and Innovation, European Commission, presenting the activity and goals of the European Commission’s AI in Science group.

University of Cambridge presented on the need for stringent international cooperation in AI governance, highlighting the social and cognitive risks associated with AI, including the propagation of misinformation and the societal impacts of hate speech.

Haris Papageorgiou of the Institute for Language and Speech Processing discussed the role of LLMs as infrastructure for open science, highlighting both the potential benefits and risks, including issues related to data transparency and model biases. Anastasios Roussos from the Institute of Computer Science, Hellas (FORTH), explored the impact of generative AI in image and video synthesis, discussing both its innovative applications and the ethical concerns it raises, such as job displacement and copyright issues. Abdallah El Ali from Centrum Wiskunde & Informatica emphasized the importance of transparent and trustworthy human-AI interaction, discussing the implications of generative AI on content generation and public trust.

The event concluded with a panel discussion highlighting the necessity of integrating AI-generated content with human oversight to maintain information quality and addressed the critical role of multidisciplinary approaches in advancing AI technology effectively and ethically.

These discussions led to the creation of the ERCIM strategy report “Towards a Shared AI Strategy for European Digital Science Institutes and Organisations”.

The event was organised by Han La Poutré (CWI, TU Delft), Vice President of ERCIM, together with Marie-Hélène Pautrat and Joost Geurts (Inria), and sponsored by CWI and Inria.

<https://www.ercim.eu/publication/reports/AI-Report.pdf>



5th Joint ERCIM-JST Joint Symposium



ERCIM and the Japan Science and Technology Agency (JST) organised the fifth joint workshop on 17-18 October 2024 at SZTAKI in Budapest, Hungary. 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.

This workshop aimed to present recent results and emerging R&D work conducted in European institutions and in the context of the JST AIP (Advanced Integrated Intelligence Platform) project in Japan. This event provided an opportunity to its European and Japanese participants to discuss research challenges in these areas, as well as to consider collaboration prospects that may arise in the context of European programs and the relevant counterpart initiatives of JST.

In this workshop, invited participants investigated research challenges, social aspects as well as potential collaboration opportunities in the following topics:

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’,
4. Infrastructure and Service Resilience for Smart Society’.

A report on the workshop will be published on the ERCIM web site at <https://www.ercim.eu/publications/strategic-reports>

Participants of the 5th Joint ERCIM-JST Joint Symposium.





Jan Steffen Becker received the FMICS 2024 Best Paper Award from the PC chairs Anne Haxthausen and Wendelin Serwe.

FMICS'24 - 29th 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, reached its 29th edition. This year the participants met in Milan, Italy, during 9-11 September 2024.

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.

FMICS 2024 was chaired by Anne Haxthausen (Technical University of Denmark, Lyngby) and Wendelin Serwe (Inria Grenoble, France) and organised by the general chairs Matteo Pradella and Matteo Rossi (Politecnico di Milano, Italy) and their team as a co-located event of FM 2024, the 26th International Symposium on Formal Methods. As part of this co-location, FM and FMICS organised a joint Industry Day on 11 September. This is one of the reasons for which FMICS 2024 overall attracted about 100 participants from many countries worldwide, from academia as well as industry, making this a very well attended edition.

The international program committee, with 35 members from 15 different countries, received 22 submissions and decided to accept 14 papers after a rigorous reviewing process. The program moreover included two excellent invited keynote presentations, namely “The Business of Proof” by Byron Cook (Amazon Web Services, UK) and “B+ or how to model system properties in a formal software model” by Thierry Lecomte (Clearsy, France), both of which attracted many participants also from FM and from the other co-located conferences FACS, LOPSTR, PPDP and TAP. ERCIM and Inria generously sponsored the invited speakers.

Following a tradition established over the years, Springer sponsored the FMICS best paper awards. This year, the program committee selected the contributions “Safe Linear Encoding of Vehicle Dynamics for the Instantiation of Abstract Scenarios” by Jan Steffen Becker (German Aerospace Center, Oldenburg) as the FMICS 2024 Best Paper and “Logika: The Sireum Verification Framework” by Robby, John Hatcliff and Jason Belt (Kansas State University, USA) as the FMICS 2024 Best Tool Paper.

<https://fmics.inria.fr/>
<https://fmics.inria.fr/2024/>

Proceedings of the 29th International Conference on Formal Methods for Industrial Critical Systems (FMICS'24), Milan, Italy, 9-11 September 2024. Lecture Notes in Computer Science, volume 14952, Springer, Cham, 2024. DOI: <https://link.springer.com/book/10.1007/978-3-031-68150-9>



John Hatcliff received the FMICS 2024 Best Tool Paper Award from the PC chairs Anne Haxthausen and Wendelin Serwe.

12th International Workshop on Computational Intelligence for Multimedia Understanding

Approximately forty researchers attended the International Workshop on Computational Intelligence for Multimedia Understanding (IWCIM), organized annually by the ERCIM Working Group Multimedia Understanding through Semantics, Computation and Learning (MUSCLE). The workshop took place as a satellite event of IEEE ISCAS 2024 held in Singapore on 21 May 2024.

Multimedia understanding is an essential part of many intelligent applications in our daily lives, whether in our households or commercial, industrial, service, and scientific environments. Analyzing data acquired from a multitude of multi-modal sensors to provide them with semantics is essential to exploit their full potential. Multimodal and cross-modal analyses are essential for maximizing their utility.

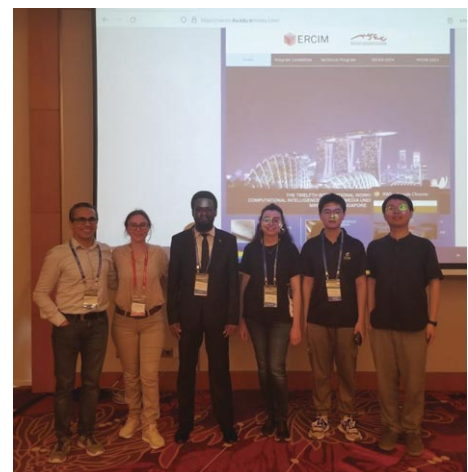
Through IWCIM, the MUSCLE Working Group aims to address these emergent topics by growing a community of scientists and practitioners from the academy and industry. The mission continues with the planning of the upcoming thirteenth IWCIM, details of which will be announced shortly.

The IWCIM 2024 website is hosted by Istanbul Technical University, and full-text papers may be accessed via IEEE Xplore.

The next edition will be featured as a special session during IEEE ISCAS 2025, which will take place in London from May 25th to 28th, 2025.

<https://iwcim.itu.edu.tr/technical.html>

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



Highlights from the venue.



Beyond Compliance 2024: Forum on Digital Ethics in Research



After Paris in 2022 followed by Porto in 2023, the third edition of the ERCIM Forum 'Beyond Compliance' was held in Budapest on 14-15 October 2024, at the HUN-REN Institute for Computer Science and Control. The 2024 event, which took place both in person and online, continued the discussion on the tough ethical issues faced by researchers in digital sciences. The scientific richness of these two days lay not only in the distinguished status of the speakers, but also in the wide range of cutting-edge topics covered. The diversity of contributions and the high calibre of Forum participants made it possible to explore digital issues from cultural, legal, (geo)political, historical, philosophical, and ethical perspectives.

The programme of the first day was marked by two particularly brilliant keynotes, masterfully delivered by Julian Nida-Rümelin ("Beyond Compliance: Digital Humanism") and Milad Doueihi ("Beyond Intelligence: Imaginative Computing"). While the first speaker focused on tracing the philosophical origins of Digital Humanism and describing its challenges through animism and mechanistic reductionism, the second one offered a historical and literary analysis of what we now refer to as thinking machines. These presentations revisited classic AI debates, drawing on the ideas of Turing, Gödel, Wittgenstein, and earlier thinkers such as Leibniz and Butler. Both speakers explored the intersection of humanity and digital technology, advocating for human-centered approach to AI. The German philosopher emphasized the centrality of human authorship, while the American historian discussed the transformative effects of digital memory on culture and knowledge. Ethically, both thinkers stressed the importance of responsibility in the use of technology, emphasizing that education should guide digital transformation. They both called for critical reflection to safeguard cultural values and advocated for the preservation of human relationships, while reflecting on how digital culture reshapes knowledge transmission.

The first session dedicated to the making of regulations featured three researchers. Firstly, Melodena Stephens discussed the complexities of AI regulation, emphasising the difficulty of implementing effective, intergenerational policies in a rapidly evolving technological landscape, and the need for a global, flexible, and ethically sound approach to address issues like human autonomy, security, and the future of jobs. Next, Anna Ujlaki critically reviews the political theory discourse on AI, focusing on its conceptual limitations, normative questions, and potential for addressing AI's integration into society, while highlighting the political risks and ethical dilemmas involved in AI regulation. Finally, Nikolaus Forgo discussed how, since the

introduction of computers into public administration, lawmakers have repeatedly overestimated the short-term effects of new technologies while underestimating their long-term impacts, exemplified by the development of data protection laws and the recent AI Act.

The rest of the day featured two additional sessions dedicated to emerging topics and cultural influences. Anatole Lécuyer opened the emerging topics session by discussing the paradoxical effects of virtual reality and metaverse technologies, highlighting their history and their growing impact on the population, particularly children and young adults, and the emerging ethical questions surrounding them. He explored psychological effects such as the sense of embodiment, agency, and the Proteus effect, which leads users to behave according to the stereotypes of their avatars, while also examining the potential harms and benefits of VR, from therapeutic uses to the risk of altering identity. This fascinating discussion was extended by the following speakers, who were present in person: Michele Barbier and Ferran Argelaguet. They presented a project exploring the ethical challenges of social interactions in the metaverse, focusing on issues such as harassment, privacy, and the legal status of avatars, with the goal of fostering empathy, improving safety tools, and addressing social and cultural concerns around digital identities and regulation. Finally, and in a slightly unconventional style, Jean-Bernard Stefani discussed the concept of "conviviality" from Illich to highlight the moral dilemmas in the digital world, including its ecological impact, surveillance capitalism, algorithmic discrimination, and digital divides, while arguing that these issues require a critical approach and a shift towards more human-centered and de-automated technologies.

Finally, the last two remote speakers addressed the issue of cultural influences. Rockwell Clancy discussed the relationship between cultural responsiveness, psychological realism, and global AI ethics, highlighting the importance of understanding both the normative and empirical components of AI ethics, the challenges posed by cross-cultural contexts, and the need for culturally informed policy frameworks in AI development. Marianna Capasso presented a project on algorithmic discrimination, approaching it from a cross-cultural perspective. She highlighted how algorithmic discrimination should be understood in a nuanced way, using examples such as Amazon's CV screening system, which discriminated against women due to biased historical training data. She examined various forms of algorithmic discrimination, including indirect and statistical discrimination, and explored how culturally specific norms influence discriminatory behaviours.

The second day began with a session on cooperative agents. Elías Fernández Domingos discussed the importance of studying delegation to AI, explaining its issues and presenting a behavioral experiment where AI delegation improved coordination in a collective risk scenario, emphasizing the need for well-designed systems that maintain human agency while delegating tasks. Rebecca Stower explored ethical and psychological implications of human-robot interactions, focusing on errors in robot behaviour, the impact on trust and risk-taking, and the challenges of balancing data privacy and user preferences in robot design. Finally, Michael Fisher discussed the importance of ensuring trustworthiness in autonomous systems, emphasizing the need for reliability, transparency, and ethical decision-making, while also addressing sustainability concerns related to both the environmental impact of AI and robotics, as well as the unnecessary deployment of technology.

At midday, the Forum participants had the opportunity to attend the Tutorial Training expertly delivered by Alexei Grinbaum. He emphasized the importance of operationalizing AI ethics and explained that ethics in AI should be viewed as a valuable framework rather than a constraint. The scientist addressed a range of ethical challenges, including security risks in robotics, and introduced tools to facilitate discussions between ethicists and engineers. He presented training courses featuring exercises on dilemmas and the evaluation of AI projects in sectors like healthcare. He also explored the issue of responsibility in personalised education, focusing on topics such as bias, fairness, and the role of teachers.

For the first time, the Forum left some space for an “unconference” session which allowed participants to discuss, in a more informal way, Open Science and Nobel Prize in Computer Science.

Finally, the Forum concluded with a session dedicated to democracy that gave the floor to four speakers. Natali Helberger argued that AI is a powerful political tool that can either strengthen or undermine democracy, highlighting concerns about misinformation and the influence of big tech, while also recognizing AI’s potential to enhance communication. Siddharth Peter de Souza discussed the creation of data governance norms, emphasizing the role of civil society and advocating for a pluralistic approach to regulation that includes marginalized voices. Attila Gyulai explored the impact of AI on democracy, questioning the assumption that democracy is solely about autonomy, and suggesting that a more realistic understanding of democracy, which accounts for representation, manipulation, and the constructed nature of preferences, is necessary to address the challenges AI poses. Finally, Bjorn Kleizen examined the level of trust citizens have in AI systems used by governments, exploring how transparency and public perceptions influence trust, and emphasizing the need for long-term strategies to maintain trust in AI applications.

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>

ERCIM Webinar on AI Standardization

ERCIM organised a webinar on 22 March 2024 on AI standardization in support of the EU AI act, following the European Parliament's approval of the Act on 13 March 2024. This marked the transition to developing harmonized standards, as mandated to the European Committee for Standardization of AI (CEN-CENELEC JTC 21) by the European Commission.

The webinar, led by Lauriane Aufrant from Inria, head of the French delegation to JTC 21, concentrated on the committee’s work program and the possible role of ERCIM members in AI standardization. Aufrant detailed the committee’s mission to develop technical standards across key areas, aiming for publication by 2025. She emphasized the importance of academia and research institutions in ensuring the Act’s implementation is technologically current and socially beneficial.

Aufrant’s presentation provided insights into JTC 21’s interactions with ISO-IEC and the impact of standardization on science, the economy, and society. The session highlighted the critical role of collaboration in aligning the AI Act’s implementation with technological advancements and societal needs.

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 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 2024

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

Dependable Software-Intensive Embedded Systems

Organised event:

The DECOS Working Group organised the DECSoS Workshop on 17 September 2024 as part of SAFE-COMP 2024, the 43rd Conference on Computer Safety, Reliability and Security 17-20 September 2024 in Florence, Italy.

Coordinators:

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

Ethics - Beyond Compliance

Organised event:

The group organised the third edition of the Beyond Compliance Forum on 14-15 October 2024 and HUN-REN SZTAKI - Institute for Computer Science and Control, Budapest (see report on page 10)

Coordinator: Gabriel David (INESC-TEC)
<https://www.ercim.eu/beyond-compliance>

Formal Methods for Industrial Critical Systems

Organised event:

The group organised the FMICS 2024 conference, co-located with FM 2024 in Milan, September 9-11, 2024 (see report on page 8). The FMICS 2024 proceedings are published by Springer LNCS, volume 14952.

Coordinator:
 Maurice ter Beek (CNR)
<http://fmics.inria.fr/>

MUSCLE - Multimedia Understanding through Semantics Computation and Learning

Co-organised events:

- The group organised the 12th International Workshop on Computational Intelligence for Multimedia Understanding as a satellite event of IEEE ISCAS 2024 held in Singapore on 21 May 2024 (see report on page 9).

Coordinator:

Davide Moroni, ISTI-CNR
<https://wiki.ercim.eu/wg/MUSCLE/>

Security and Trust Management

Co-organised events

The group organised the 20th International Workshop in Security and Trust Management on 19-20 September 2024 in Bydgoszcz, Poland, co-located with ESORICS 2024. Each year, the group presents a Best PhD Award; this year it was awarded to Zheng Li from CISPA University.

The STM 2024 proceedings are published by Springer LNCS, volume 15235.

Coordinator:

Pierangela Samarati, University of Milan
<https://www.iit.cnr.it/STM-WG/>

European Projects

In 2024, ERCIM participated in four 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 ICST 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 the ERCIM Office at contact@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
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

EU-funded projects with participation of ERCIM EEIG in 2024.



CIRPASS

CIRPASS prepared the ground for the gradual piloting and deployment of the Digital Product Passports, and developed roadmaps for prototypes in three value chains: electronics, batteries and textiles.

The project consortium brought 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 closed with final event on 5 March 2024 in Brussels. The project published a video to understand better the work that was developed, as well as the achieved results, available from the project web site.

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/>



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 optimization 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:

Rigo Wenning

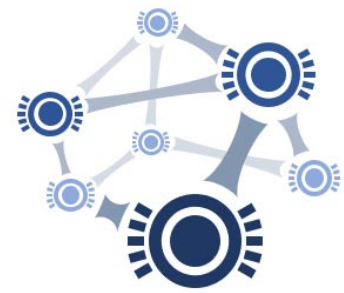
Scientific coordination:

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:

ERCIM/W3C

Duration:

January 2023 - December 2025

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

Empowering People

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)
- Rosa Bernal Carrera, Inria
- Decebal Constantin MOCANU, FNR
- Sanna Downing, VTT
- Adriana Lazzaroni, CNR
- Harald Lenschow, NTNU
- Emma Lière, ERCIM Office
- László Monostori, SZTAKI
- Katja Ojakangas, VTT
- Andreia Passos, INESC TEC
- Mónica 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.*



“

After receiving my PhD, I was a bit worried about having focused on a narrow field for an extended period. The ERCIM Alain Bensoussan Fellowship gave me the opportunity to step beyond and explore more topical fields. I was hosted by the prestigious institute, CWI. The experience I gained there has broadened my perspective and deepened my dedication to curiosity. I am now privileged to continue my work as a postdoctoral researcher at CWI, with the chance to further collaborate with those outstanding researchers from diverse backgrounds.



Ezgi DEMIRCAN-TUREYEN
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 2024, 8 young scientists started an ERCIM PhD Fellowship, and 33 fellows were hosted during the year. This represents 223 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 2024, 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

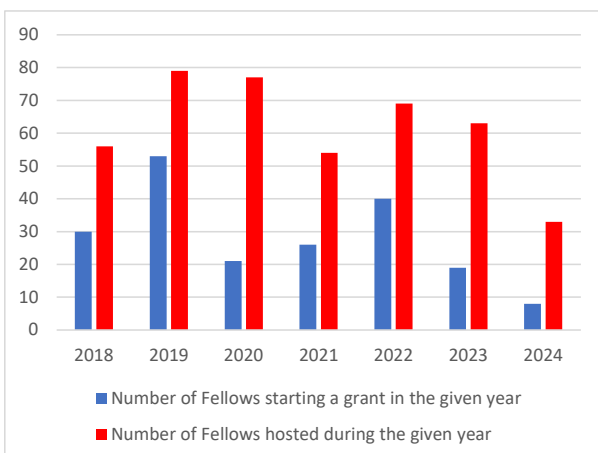
Candidates must:

- 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.

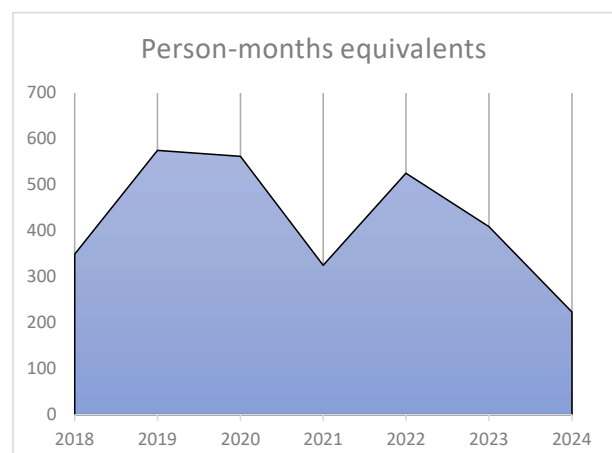
Deadlines for applications are currently 31 March and 30 September each year.

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 2018 to 2024.



Person-months equivalents for the fellows hosted from 2018 to 2024.

ERCIM Fellows Community Event 2024

ERCIM organized an online community event for its fellows and guests for the fourth time on 8 November 2024.

Due to significant demand and keen interest, ERCIM has once again hosted its community event, marking the fourth edition of this initiative since its inception during the pandemic in 2021. The core aim remains consistent with the earlier events: fostering engagement and collaboration among ERCIM fellows. This year's event broadened its scope to include not only fellows hosted between 2021 and 2024, their scientific coordinators, and representatives from ERCIM member organizations but also invited external post-doctoral researchers. The virtual gathering brought together 40 participants, creating a dynamic platform for idea exchange and connection-building.

The event's design accounted for various challenges, including the diverse global participation of postdoctoral researchers at different stages of their fellowships and across multiple countries. Striking a balance between a concise schedule and the opportunity to present 18 posters was a key consideration, alongside ensuring the event remained free for all attendees. By utilizing the online platform "Gather Town," organizers successfully met these requirements.

The event commenced with a series of engaging presentations in the keynote room:

- Welcome and General Presentation of ERCIM by Monica Divitini (NTNU)
- ERCIM News Presentation by Peter Kunz (ERCIM Office)
- ERC Experience Feedback by María Naya-Plasencia (Inria)
- Some General ERCIM Tips by Mohammed Ramadan (former fellow at RISE)
- Expanding Horizons: A Researcher's Transition by Mahnaz Sinaie (former fellow at VTT)

The event included a brief break for discussion, fostering open dialogue and interaction. The heart of the event lay in its dynamic poster sessions, spread across three virtual rooms on the "Gather Town" platform. These sessions not only showcased the outstanding research of ERCIM postdocs but also helped participants discover shared interests. Fraunhofer Gesellschaft, our German member organization, took the opportunity to host a dedicated stand to introduce their institute.

The event received overwhelmingly positive feedback, with participants valuing the networking opportunities and expressing enthusiasm for future events. An anonymous survey conducted after the event and completed by all participants revealed that 100% of them felt the program met their expectations and found it beneficial. 95% of them thought that we should renew the experience.

In-House Staff Exchange Programmes

In 2024, the ERCIM Human Capital Task Group compiled information on staff exchange programmes offered by a selection of ERCIM members. These programmes aim to foster exchanges between participating institutions. A comprehensive overview has been published in a downloadable document.

This report details incoming and outgoing staff exchange opportunities offered by several ERCIM member institutes, aiming to promote collaboration, international experience, and skill development among researchers, including PhD students, postdocs, and academic staff. Each program varies by:

- Duration (from short-term visits of 10 days to multi-month stays),
- Target group (PhD students, postdocs, senior researchers),
- Funding (host-funded, self-funded, or supported by national/international grants),

- Call structure (some are competitive annual calls, others are rolling or case-by-case).

Participating Institutions Include:

- INESC TEC (Portugal)
- Fraunhofer Gesellschaft (Germany)
- CWI (Netherlands)
- CNR & its institutes IIT and ISTI (Italy)
- NTNU (Norway)
- ITIS UMA (Spain)
- Inria (France)

Each section explains the application process, eligibility, funding model, and specific goals of the program. Many programs support both incoming international researchers and outgoing local researchers seeking experience abroad.

<https://www.ercim.eu/images/FP/StaffExchange.pdf>

Nicola Messina - Winner of the 2024 Cor Baayen Award

Nicola's research is distinguished by its high quality, interdisciplinary approach, and significant impact. His work spans across multiple domains, including Artificial Intelligence, Computer Vision, Deep Learning, and Multimedia Information Retrieval. He has made substantial contributions to both the theoretical and applied aspects of these fields, with measurable scientific and practical outcomes.

During his PhD, Nicola began exploring the ability of neural networks to understand and process relationships between objects in computer vision. He also made important contributions in multimodal artificial intelligence by developing innovative and efficient methods for aligning representations of complex neural networks in both visual and language modalities.

His work in multimedia information retrieval has demonstrated immediate real-world applicability. This is exemplified by VISIONE, a large-scale video search system that won the 2024 international Video Browser Showdown competition and secured second place in 2023. VISIONE has been employed by the Italian national public broadcaster RAI, as part of the AI4Media European project, to facilitate efficient browsing of audiovisual archives.

More recently, he has expanded his research focus to include the application of attentive deep learning techniques for structural health monitoring and the preservation of cultural heritage. This new direction highlights his ability to engage in highly interdisciplinary research and to address complex challenges across different fields.

Nicola's professional experience also includes international collaborations with esteemed European universities and participation in various Italian and European research projects, such as AI4Media, AI4EU, INAROS, AI4CHSites, ADA, and Smart News. In addition to his research, he is involved in teaching and dissemination activities, offering instruction and guidance to students on topics related to deep learning, computer vision, and multimodal processing.

In 2021 and 2022, Dr. Messina received the ISTI Young Researcher Award, recognizing him as one of the top young researchers (under 32 years old) at ISTI-CNR, Italy.

Overall, Dr. Nicola Messina is an outstanding early-career researcher who has achieved remarkable success during his PhD and postdoctoral work, combining scientific innovation with societal and commercial impact.

Nicola Messina is currently employed at the Information Science and Technologies Institute, National Research Council (ISTI-CNR), Italy, where he is associated with the Artificial Intelligence for Multimedia and Humanities Laboratory (AIMH). He received his PhD in 2022 from the University of Pisa, Italy, with a thesis titled "Relational Learning in Computer Vision," supervised by Fabrizio Falchi, Giuseppe Amato, and Marco Avvenuti.

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



Nicola Messina (left) receives the Cor Baayen Award from ERCIM President Björn Levin at the ERCIM Fall Meetings in Budapest on 16 October 2024.

Recognising Excellence in Emerging Talent

The Cor Baayen Early Career Researcher Award is a prestigious annual prize celebrating outstanding early career researchers in computer science and applied mathematics. Introduced in 1995 and named after ERCIM's first president, the award honours scientific promise and achievement through a rigorous selection process. With a €5,000 prize, it stands as one of Europe's most respected accolades for rising research talent.

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 early-career researchers, as well as industrial R&D. ERCIM considers its outreach activities as an important tool for community engagement and collaboration. 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 made a significant contribution 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.

EOSC and GAIA-X

ERCIM has initiated efforts to monitor and coordinate information exchange among its members regarding their activities in key European initiatives EOSC and GAIA-X. This aims to foster awareness, identify synergies, and support informed collaboration within the ERCIM community.



*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 cutting-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' aimed at reporting on joint activities was one of the first 'joint actions'. ERCIM rapidly evolved from an internal publication to a magazine covering reports and news about scientific projects from all over Europe and even beyond.

Today, ERCIM News is published in print and online. In 2024 the printed edition had a circulation of 1000 copies and more than 8600 readers are subscribed to the online edition.

From the outset, 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 2024 ERCIM News published the issues no. 136 to 139. 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 and appreciation on this occasion.

In 2024 ERCIM News issues covered the following special themes:

- ERCIM News 136: Large Language Models
- ERCIM News 137: Extended Reality
- ERCIM News 138: Sustainable Cities
- ERCIM News 139: Software Security

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

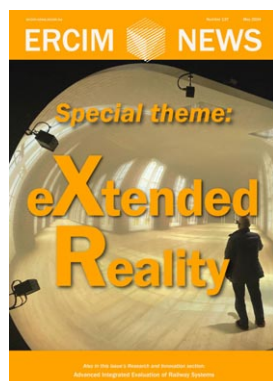
Members of the ERCIM News Editorial Board in 2024

Central editor:

- Peter Kunz, ERCIM Office

Local editors:

- Ferran Argelaguet, Inria, France
- András Benczúr, SZTAKI, Hungary
- José Borbinha, Technical University of Lisbon, Portugal
- Monica Divitini, NTNU, Norway
- Marie-Claire Fougue, W3C
- Lida Harami, ICS-FORTH, Greece
- Athanasios Kalogeras, ISI, Greece
- Georgja Kapitsaki, UCY, Cyprus
- Annette Kik, CWI, The Netherlands
- Nguyen Hung Son, University of Warsaw, Poland
- Alexander Nouak, Fraunhofer-Gesellschaft, Germany
- Laura Panizio, University of Malaga, Spain
- 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 2024.

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.

ERCIM Membership

ERCIM is one of the most recognized ICST 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 ICST and Applied Mathematics;
- Excelling in research and acting as a bridge for ICST 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.

Benefit of ERCIM membership

Institutions, as members of ERCIM AISBL, benefit from:

- **International recognition** as a leading centre for ICST R&D. ERCIM, a European-wide network of centres of excellence in ICST, is internationally recognised as a major representative organisation in its field;
- **More influence** on European and national government R&D strategy in ICST. 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 ICST 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;
- **Increased visibility** 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)

Institutions member of ERCIM in 2024



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ERCIM Office Staff

(as of December 2024)

- Dominique Hazael-Massieux, Manager
- Caroline Baron, Deputy Manager
- Laurent Carcone, Systems Engineer
- Peter Kunz, Communications, ERCIM News Central Editor, Project Coordinator
- Vivien Lacourba, IT Manager
- Emma Lière, Project Assistant and Fellowship Programme Coordinator
- Jessica Michel Assoumou, Project Coordinator
- Pascale Peyrol, Project Controller
- Catherine Riou, Administrative Assistant

ERCIM Office

ERCIM has an office in southern France, hosted by Inria and located on the premises of the Inria Sophia Antipolis – Méditerranée Research Centre, situated in a vibrant research environment (and serenaded by cicadas). The ERCIM Office manages the day-to-day operations of ERCIM and serves as the European partner of the World Wide Web Consortium (W3C).

With its experienced team, the ERCIM Office provides support to ERCIM members in managing European projects, taking on financial and administrative tasks either as coordinator or partner. This enables member institutes to focus on scientific activities without the burden of complex administrative processes. To date, the office has contributed to more than 100 successful projects. The projects active in 2024 are listed in the “Projects” section of this report and include several involving W3C, showcasing how ERCIM facilitates collaboration between research institutions and W3C in the field of Web standardization.

The ERCIM Office operates under the responsibility of the ERCIM EEIG Board of Directors and is also entrusted with the financial management of ERCIM AISBL.

In addition, the ERCIM Office provides broad administrative and communications support to the entire ERCIM community. This includes managing the ERCIM Fellowship Programme and delivering Communications and Operations services such as website maintenance and development, editing ERCIM News, event coordination, social media outreach, secretariat services, and support for the Cor Baayen Award. The Office also oversees reporting, internal knowledge management, member communication, and the administration of tools such as mailing lists and wikis. Thanks to its central coordination role, the ERCIM Office plays a vital part in ensuring the smooth and efficient functioning of the ERCIM network.



The ERCIM office is located in the Inria Sophia Antipolis - Méditerranée Research Centre premises.



*Dominique Hazael-Massieux,
manager of ERCIM*



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>

The World Wide Web Consortium (W3C) is an international public-interest non-profit organization that develops standards and guidelines to ensure the Web remains open, accessible, internationalized, private, and secure.

Founded by Web inventor Tim Berners-Lee, W3C brings together member organizations, a dedicated staff, and the public to collaboratively develop web standards. Led by President & CEO Seth Dobbs and a Board of Directors, W3C's mission is to lead the Web to its full potential.

W3C's funding comes primarily from membership dues, supplemented by some grants. These resources support a team of about 50 staff members, employed either directly or through W3C Partners, formerly known as Hosts, which include ERCIM (Europe), Keio University and WCAP (Japan), and Beihang University (China).



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