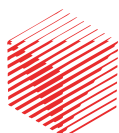




Cooperating for Excellence in Research

Activity Report 2019

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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 2019, the members of ERCIM included 17 leading research establishments from 15 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 to increase cooperation with industry. Its members are centres of excellence across Europe. ERCIM is internationally recognized as a major representative organization in its field. ERCIM provides access to all major ICST research groups in Europe and has established an extensive program of working groups, publications, fellowships and prizes. It also hosts the European branch 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 hosts the European branch of the World Wide Web Consortium (W3C), the unique international standardization body which sets the Web standards and protocols (HTML, HTTP, XML, etc.) since 1994. ERCIM participates in EU activities and projects. ERCIM has also established cooperation with Informatics Europe, ETSI, the European Telecommunications Standards Institute and with the European Mathematical Society.

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 the national and international, academic and commercial research communities. All current ERCIM members are national centres of excellence, independent of specific commercial ties. They have a strong involvement in the research programs 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 European-wide network internationally recognized as a representative organisation in its field. Members can 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, leverages 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 is one of the ERCIM institutes' current 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. In addition, 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 to locate the best scientific teams in Europe for a given domain.

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.

Structure and Organisation



The General Assembly of the ERCIM AISBL, held on 31 October 2019 in Rome, in conjunction with ERCIM's 30th anniversary celebration, unanimously elected Björn Levin, Business Manager of RISE-SICS in Sweden as its new President for a period of two years as of January 2020. Björn succeeds Jos Baeten from CWI who served as President of ERCIM since January 2018. The assembly also elected the board for a new term of office. From left: Gabriel David, INESC TEC/University of Porto, Secretary General; Fabio Martinelli, IIT-CNR, Dimitris Plexousakis, FORTH-ICS, Science Task Group chair, Christos Koulamas, ISI, Treasurer, Monica Divitini, NTNU, Human Capital Task Group chair; Jos Baeten, CWI, former President; Claude Kircher, Inria, former chair of the Human Capital Task Group; Björn Levin, RISE, President; Han La Poutre, CWI, Strategy Task Group chair, Jerzy Tiuryn, University of Warsaw, former Secretary General.

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 hosting the European branch of W3C.

ERCIM Association

The ERCIM association is managed by the Board of the Association. In October 2019, a new board was elected taking office in 2020:

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

and in addition:

- Han La Poutre, Institute of Computer Science, Foundation for Research and Technology (FORTH) – Hellas, Greece, Science Task Group chair
- Dimitris Plexousakis, Institute of Computer Science, Foundation for Research and Technology (FORTH) – Hellas, Greece, Science Task Group chair
- Monica Divitini, NTNU, Norway: Human Capital Task Group chair
- Andreas Rauber, SBA Research, Austria: Outreach Task Group chair

The majority of these board members lead a task group consisting of ERCIM member representatives or substitutes.

ERCIM EEIG

The ERCIM EEIG is governed by the EEIG Board of Directors. In 2018 the board was composed of:

- Bruno Sportisse, Inria (president ERCIM EEIG)
- Dieter Fellner, Fraunhofer-Gesellschaft
- Domenico Laforenza, CNR
- Dimitris Plexousakis, ICS-FORTH

and its activities were carried out by an Executive Committee composed of:

- Alexander Nouak, Fraunhofer Gesellschaft (chair)
- Thierry Priol, Inria
- Thanassis Mouchtaris, FORTH
- Fausto Rabitti, CNR.



ERCIM celebrated its 30th anniversary with a symposium co-located with the 2019 fall meetings in Rome. The event was organised and hosted by the National Research Council of Italy (CNR).

Dr. Emilio F. Campana, Director of the Department of Engineering, ICT and Technologies for Energy and Transportation of the National Research Council of Italy (CNR-DIITET), welcomed the participants and gave an overview of the various fields of activities of CNR related to ICT and applied Mathematics. ERCIM President, Jos Baeten from CWI, thanked Dr. Capana and the CNR for organising and hosting the meetings. He briefly presented ERCIM's success story while providing an outlook for the future. Khalil Rouhana, Deputy Director-General for Communications Networks, Content and Technology was introduced as a special guest. Mr. Rouhana presented the European Commission's point of view on the Digital Single Market 2.0 along with a presentation of Horizon Europe - the next research and innovation framework programme. He explained the status of the strategic planning process, how it focuses in particular on global challenges and European industrial competitiveness, and how it will widen participation and strengthen the European Research Area part of the programme. The presentation was followed by a lively discussion with the audience. Mr. Rouhana invited the ERCIM representatives to meet him in Brussels in order to discuss how ERCIM can contribute and provide input to Horizon Europe. .

The second part of the anniversary celebration consisted of a session on three high impact technologies in informatics and mathematics, presented by invited experts from ERCIM member institutes:

- Karthikeyan Bhargavan, Inria, gave a talk about Cyber Security
- Fosca Gianotti, CNR, introduced the Explainable Artificial Intelligence
- Harry Buhrman, CWI, founder of the quantum research institute QuSoft, gave a talk about the current state and the challenges for Quantum Computing.

The anniversary event concluded with a gala dinner in the fascinating historical rooms of Palazzo Ferrajoli with a gorgeous view on the Piazza Colonna.

The ERCIM community expresses the warmest gratitude to Fabio Martinelli, Director of IIT-CNR and the whole organising team for this very successful event.



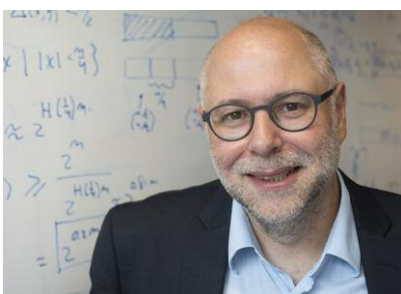
Dr. Emilio F. Campana, Director of the Department of Engineering, ICT and Technologies for Energy and Transportation of the National Research Council of Italy (CNR-DIITET).



Jos Baeten, CWI, ERCIM President.



Khalil Rouhana, Deputy Director-General for Communications Networks, Content and Technology.



Harry Buhrman, CWI (photo: CWI)



Fosca Gianotti



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 the topics for the yearly ERCIM Conference.

The members of the Science Task Group in 2019 included:

Chair:

- Dimitris Plexousakis, FORTH

Members:

- Stéphane Bordas, Univ. of Luxembourg (FNO)
- Gabriel David, INESC
- Björn Levin, RISE SICS
- Kyrre Lekve, SIMULA
- Thierry Priol, Inria
- Carlo Meghini, CNR
- Edgar Weippl, SBA.
- Tumo Tuikka , VTT.

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



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

Working Groups

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

A major activity of an ERCIM Working Group is to search actively for project funding that crosses national borders. ERCIM Working Groups contribute many of the articles in 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 2019

- Computational and Methodological Statistics
- Dependable Software-Intensive Embedded Systems
- Formal Methods for Industrial Critical Systems
- Multimedia Understanding through Semantics Computation and Learning - MUSCLE
- Trust and Security Management.

Computational and Methodological Statistics

The Working Group Computing and Statistics focuses on all computational and methodological aspects of statistics. Of particular interest is research in important statistical applications areas where both computational and/or methodological aspects have a major impact. The aim is threefold: first, to consolidate the research in computational and methodological statistics that is scattered throughout Europe; second to provide researchers with a network from which they can obtain unrivalled sources of information about the most recent developments in computational and methodological statistics as well as its applications; third to edit quality publications of high impact and significance in the broad interface of computing, methodological statistics and its applications.

Coordinator:

Erricos Kontoghiorghes, School of Computer Science and Information Systems, Birkbeck, University of London

Joint publications:

- Jae C. Lee, E. J. Kontoghiorghes, A. Colubi, B. Park, Interview of Professor Stanley Azen, Founder of Computational Statistics and Data Analysis (CSDA), Computational Statistics & Data Analysis, Volume 131, 2019, Page 1, <https://doi.org/10.1016/j.csda.2018.10.006>.
- F. Ferraty, P. Kokoszka, J.-L. Wang, Y. Wu, Editorial for the special issue on High-dimensional and functional data analysis, Computational Statistics & Data Analysis, Volume 131, 2019, Pages 10-11, <https://doi.org/10.1016/j.csda.2018.10.009>
- J. Einbeck, J. Hinde, S. Ingrassia, T.-I. Lin, P. D. McNicholas, Editorial for the 4th Special Issue on advances in mixture models, Computational Statistics & Data Analysis, Volume 132, 2019, Pages 143-144, <https://doi.org/10.1016/j.csda.2018.12.006>
- M.-Y. Cheng, M. Guindani, J. W. Lee, Y. Li, C. C. Liu, Special Issue on Biostatistics, Computational Statistics & Data Analysis, Volume 132, 2019, Pages 1-2, <https://doi.org/10.1016/j.csda.2019.01.004>
- C. Genest, I. Kojadinovic, F. Durante, Introduction to the special topic on copula modeling, Econometrics and Statistics, Volume 12, 2019, Pages 146-147, <https://doi.org/10.1016/j.ecosta.2019.07.002>
- Book of abstracts of the 13th International Conference on Computational and Financial Econometrics (CFE 2019) and 12th International Conference of the ERCIM (European Research Consortium for Informatics and Mathematics) Working Group on Computational and Methodological Statistics (CMStatistics 2019), Senate House, and Birkbeck, University of London, 14-16 December 2019. <http://www.cmstatistics.org/CMStatistics2019/BoA.php>

Co-organised event:

- The 12th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2019) took place at the Senate House and Birkbeck, University of London the 14-16 December 2019. Tutorials were given on Friday 13th of December 2019. The Conference took place jointly with the 13th International Conference on Computational and Financial Econometrics (CFE 2019). The CFE was a specialised group of the CMStatistics. This annual conference has become a leading joint international meeting at the interface of statistics, econometrics and computing. The CFE-CMStatistics 2019 programme consisted of 430 sessions, five plenary talks and over 1720 presentations. There were about 1880 participants. This was the biggest meeting of the conference series in terms of number of participants and presentations.
- The final CRoNoS meeting and the 2nd workshop on Multivariate Data and Software, Limassol, Cyprus, 14-16 April 2019. <http://www.cmstatistics.org/CRONOSMDA2019/>. The conference programme consisted of a course of approximately 19 hours complemented with 3 plenary talks, about 30 sessions and 145 presentations.

<http://www.cmstatistics.org/>

Dependable Software-Intensive Embedded Systems

Coordinator:

Erwin Schoitsch, Austrian Institute of Technology/SBA

Co-organised event:

- The Working Group (Erwin Schoitsch, AIT, and Amund Skavhaug, NTNU, organised the 14th International ERCIM/EWICS/ARTEMISWorkshop on “Dependable Smart Embedded and Cyber-Physical Systems and Systems-of-Systems”, a full day workshop co-located with SAFECOMP 2019 on 10 September 2019 in Turku, Finland. Papers and presentations are published in Springer LNCS 11699, Safecomp 2019. <https://kwz.me/h4q>

Formal Methods for Industrial Critical Systems

Formal methods have been advocated as a means of increasing the reliability of systems, especially those which are safety or business critical, but the industrial uptake of such methods has been slow. This is due to the perceived difficulty of mathematical nature of these methods, the lack of tool support, and the lack of precedents where formal methods have been proven to be effective. It is even more difficult to develop automatic specification and verification tools due to limitations like state explosion, undecidability, etc. The FMICS Working Group brings together researchers of the ERCIM consortium and beyond in order to promote the use of formal methods within industry.

Coordinator:

Jaco van de Pol, Aarhus University, Denmark

Co-organised event:

FMICS 2019 - 24th International Conference on Formal Methods for Industrial Critical Systems, Amsterdam, 30-31 August 2019. <https://fmics2019.fsa.win.tue.nl/>
FMICS Working Group: <http://fmics.inria.fr/>

MUSCLE - Multimedia Understanding through Semantics Computation and Learning

MUSCLE (formerly Image and Vision Understanding) is the ERCIM Working Group on multimedia understanding through semantics, computation and learning. It gathers teams from both ERCIM and non-ERCIM institutions whose expertise ranges from machine learning and artificial intelligence to image, video and audio processing, and multimedia database management. The group is closely collaborating with ibai-publishing (www.ibai-publishing.org) which provides open-access journals in the fields of Data Mining, Case-Based Reasoning, and Mass Data Analysis of Signals and Images.

Coordinator:

Davide Moroni, ISTI-CNR

Organised event:

7th International Workshop on Computational Intelligence for Multimedia Understanding (IWCIM), Sorrento, Italy, 26-29 November 2019. The workshop was organized in conjunction with SITIS2019. Josiane Zerubia (representative of the working group for INRIA) was invited speaker at the hosting conference.

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

Security and Trust Management

The ERCIM Working Group on Security and Trust Management aims at the following goals.

Research:

- foundations and applications of security and trust in ICT are investigated. Interactions between trust management and common security issues (e.g., confidentiality, integrity and availability) are studied;
- new areas connected with security management are being identifying and promoting, e.g., the management of dynamic and mobile coalitions;
- new areas connected with trust management, e.g., reputation, recommendation and collaboration, are being investigated too;
- a platform for presenting and discussing new trends is being proposed.

Education and dissemination of knowledge:

- a promotion of the growth of young researchers interested in the field of security;
- supports for the organization of meetings related to research issues in security and trust management;
- a forum for exchanging expertise, also with industry;
- the increase of a public awareness towards issues related to information security.

Topics of interest:

- rigorous semantics and computational models for security and trust;
- security and trust management architectures, mechanisms and policies;
- networked systems security;
- privacy and anonymity;
- identity management;
- ICT for securing digital as well as physical assets;
- cryptography.

Co-organised events

- 2019 ERCIM STM Best PhD Thesis. Awardee: Felix Günther, TU Darmstadt. Thesis: "Modeling Advanced Security Aspects of Key Exchange and Secure Channel Protocols". <https://kwz.me/h45>
- 15th International Workshop on Security and Trust Management STM2019, 26-27 September 2019 in Luxembourg. The conference featured three keynotes including one from the ERCIM STM Best PhD Thesis awardee as well as 10 paper presentations. <https://stm2019.uni.lu/>

Working Group coordinator:

Pierangela Samarati, University of Milan

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

Projects

In 2019, ERCIM participated in twelve 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 90 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 2020: 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
Boost 4.0	EU H2020 Innovation Action	partner	Fraunhofer-Gesellschaft ERCIM EEIG/W3C
CREATE-IoT	EU H2020 Coordination and support action	partner	ERCIM EEIG/W3C
Data Market Services	EU H2020 Coordination and support action	partner	ERCIM EEIG/W3C
Easy Reading	EU H2020 Research and Innovation Action	partner	ERCIM EEIG/W3C
GateKeeper	EU H2020 Innovation Action	partner	ERCIM EEIG/W3C
GEOLYTICS	French national projects	partner	ERCIM EEIG/W3C
HRADIO	EU H2020 Innovation Action	partner	ERCIM EEIG/W3C
MOSAICrOWN	EU H2020 Research and Innovation Action	partner	ERCIM EEIG/W3C
SDN-microSENSE	EU H2020 Innovation Action	partner	NTNU, ERCIM EEIG/W3C
SPECIAL	EU H2020 Research and Innovation Action	coordinator	ERCIM EEIG/W3C
WAI-Guide	EU H2020 Research and Innovation Action	coordinator	ERCIM EEIG/W3C
WAI-Tools	EU H2020 Innovation Action	coordinator	ERCIM EEIG/W3C

Funded projects with participation of ERCIM EEIG in 2019.



BOOST 4.0

Boost 4.0 is the biggest European initiative in Big Data for Industry 4.0. With a 20M€ budget and leveraging 100M€ of private investment. Boost 4.0 will lead the construction of the European Industrial Data Space to improve the competitiveness of Industry 4.0 and will guide the European manufacturing industry in the introduction of Big Data in the factory, providing the industrial sector with the necessary tools to obtain the maximum benefit of Big Data.



Within the project, ERCIM/W3C is responsible for tasks related to data governance and data protection, standardisation and certification. ERCIM/W3C is also involved in work on semantic models, vocabularies and registries.

Overall Project Objectives:

Global Standards:

Contribution to the international standardization of European Industrial Data Space data models and open interfaces aligned with the European Reference Architectural Model Industry 4.0 (RAMI 4.0)

Secure Digital Infrastructures:

Adaptation and extension of cloud and edge digital infrastructures to ensure high performance operation of the European Industrial Data Space; i.e, support of high-speed processing and analysis of huge and very heterogeneous industrial data sources.

Trusted Big Data Middleware:

Integration of the four main open source European initiatives (Industrial Data Space, FIWARE, Hyperledger, Big Data Europe) to support the development of open connectors and big data middleware with native blockchain support in the European Industrial Data Space.

Digital Manufacturing Platforms:

Open interfaces for the development of big data pipelines for advanced analysis services and data visualization supported by the main digital engineering, simulation, operations and industrial quality control platforms.

Certification:

European certification program of equipment, infrastructures, platforms and big data services for their operation in the European Industrial Data Space.

In 2018, BOOST 4.0 has contributed to the NIST QIF, NIST IOF, IEC Smart Factory, IEC AutomationML and ETSI CIM Working group. Initial plans for the creation of a business group at W3C are being set for coordination with other major initiatives on Industry 4.0 vocabulary development and smart factory information framework developments.

BOOST 4.0 - Big Data Value Spaces for Competitiveness of European COnnected Smart FacTories 4.0

EU funding: € 14 983 516

ERCIM's role:

ERCIM EEIG project partner

ERCIM/W3C contact:

Philipp Hoschka, Dave Raggett, W3C

ERCIM members involved:

Fraunhofer-Gesellschaft, ERCIM/W3C

Coordinator: Innovalia

Duration:

January 2018 to December 2020

<https://boost40.eu/>



CREATE-IoT

CREATE-IoT's aim is to stimulate collaboration between IoT initiatives, foster the take up of IoT in Europe and support the development and growth of IoT ecosystems based on open technologies and platforms. This requires synchronisation and alignment on strategic and operational terms through frequent, multi-directional exchanges between the various activities under the IoT Focus Areas (FAs). It also requires cross fertilisation of the various IoT Large Scale Pilots (LSPs) for technological and validation issues of common interest across the various application domains and use cases. CREATE-IoT will align the activities with the Alliance for Internet of Things Innovation (AIOTI) and will coordinate and support the upcoming LSPs in sustaining the ecosystems developed during those projects through mapping the pilot architecture approaches, address interoperability and standards approaches at technical and semantic levels for object connectivity, protocols, data formats, privacy, security, trusted IoT, open APIs and share the road-mapping with international initiatives.

The project will foster the exchange on requirements for legal accompanying measures, development of common methodologies and KPI for design, testing and validation and for success and impact measurement, federation of pilot activities and transfer to other pilot areas, facilitating the access for IoT entrepreneurs/API developers/makers, SMEs, including combination of ICT & Art.

Create-IoT - Cross Fertilisation through alignment, synchronisation and exchanges for IoT

EU funding: € 2.999,999

ERCIM's role:
ERCIM EEIG project partner

ERCIM/W3C contact:
Philipp Hoschka, Dave Raggett, W3C

ERCIM members involved:
ERCIM/W3C

Coordinator: SINTEF

Duration:
January 2017 – December 2019

<https://european-iot-pilots.eu/create-iot>



DMS Accelerator

DMS Accelerator aims at overcoming the barriers of data-centric SMEs and start-ups in Europe in data skills, entrepreneurial opportunities, legal issues and standardisation. Over three years, the project offers a comprehensive range of support and services to a total 150 European startups and SMEs: interactive webinars, mentoring, free entry to accelerators and incubators in four European countries, direct connections to top-tier investors, personalised training sessions (GDPR, IP, etc.), as well as getting a sponsored booth at the The Next Web conference.

DMS Accelerator offers to startups:

- *Webinars* - More than 50 online courses with one hour duration about GDPR, intellectual property, how to pitch in front of investors, how to find customers and much more.
- *Mentoring* - Support and advice from different experts on demand in a variety of areas to meet your most specific needs.
- *Content* - Guides developed by our partners based on their expertise and adapted to the selected startups needs easily at hand to support the acceleration process.
- *Promotion* - Attendance of relevant events in Europe, being part of the exhibition area or the protagonist of a pitch session. Additionally, a personal video to promote the startup.
- *Mobility Programme* - Access to other entrepreneurial ecosystems through a stage in one of our accelerators located in The Netherlands, Germany, Romania and Portugal.
- *Bootcamp* - participation at a final exclusive event with workshops and one-to-one sessions given by DMS experts in the field. An opportunity to growth, linkbuilding and increase experience.

DMS Accelerator - Supporting the European data market providing free support services to data-centric SMEs and start-ups

EU funding: € 2 993 961

ERCIM's role:
ERCIM EEIG project partner

ERCIM/W3C contact:
Rigo Wenning

ERCIM members involved:
ERCIM/W3C

Coordinator:
Zabala, Spain

Duration:
January 2019 – December 2021

<https://www.datamarketservices.eu>



Easy Reading

The “Easy Reading” framework will improve the cognitive accessibility of original digital documents by providing real time personalisation through annotation (using e.g. symbol, pictures, videos), adaptation (using e.g. layout, structure) and translation (using e.g. Easy-to-Read, Plain Language, symbol writing systems). The framework provides these (semi-)automated services using HCI techniques (e.g. pop-ups/Text-To-Speech (TTS)/captions through mouse-over or eye-tracking) allowing the user to remain and work within the original digital document. This fosters independent access and keeps the user in the inclusive discourse about the original content. Services adapt to each user through a personal profile (sensor based tracking and reasoning of e.g. the level of performance, understanding, preferences, mood, attention, context and the individual learning curve).

ERCIM/W3C staff will provide technical guidance and clarification on the W3C standards and resources relevant to the project. This includes accessibility standards, with particular emphasis on current developments of accessibility for people with cognitive accessibility.

Easy Reading - A Framework for Personalised Cognitive Accessibility when using Original Digital Content

EU funding: € 1 992 063

ERCIM's role:

ERCIM EEIG project partner

ERCIM/W3C contact:

Shadi Abou-Zahra, W3C

ERCIM members involved:

ERCIM/W3C

Coordinator:

University Linz

Duration:

January 2018 – June 2020

<https://www.easyreading.eu>



GATEKEEPER

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.

By 2022, GATEKEEPER will be 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.

ERCIM/W3C W3C contributes 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

EU funding: € 19 598 327

ERCIM's role:
ERCIM EEIG project partner

ERCIM/W3C contact:
Dave Ragett (W3C)

ERCIM members involved:
ERCIM/W3C

Coordinator:
MEDTRONIC IBERICA SA

Duration:
October 2019 – March 2023

<https://www.datamarketservices.eu>



GATEKEEPER project participants.



GEOLYTICS

GEOLYTICS is a platform of analysis and forecast of the needs for displacements multimode on the whole of the territory. The project ended in 2019 and exploits the data of geolocation of mobile operators. The objective was to become the platform of reference on the French market then to give him an international potential.

Like GoogleAnalytics for the Web, it will allow the companies to identify the local potential related to the practices of displacements: zone of real attractivity of a trade, transport demand or of traffic (pedestrian, road, air, railway, etc.).

It falls under the Big plan Dated from New industrial France on the sets of themes of the control of new quantities of data (hundreds of million per day), of the development of advanced algorithms placed at the disposal of carrier sectors (transport, tourism, distribution).

The comprehension of the behaviors of the consumers, the citizens with a dynamic vision and “real time” is the challenge of Geolytics. It fits initially in the market of studies (2.7Md in France, 3.4Md in Germany and the U.K., 34Md with total).

The primary markets all are of the sectors in full change (smart city, saturation of transport in Ile de France). Geolytics will allow them:

- To evaluate the interest to create new lines of transport
- To improve the plan of displacements in an urban area, a department
- To define a marketing adapted to the practices of frequentation
- To calculate the local market share of current or potential storage areas.

GEOLYTICS was funded by French government.

GEOLYTICS - Multi-source Real-Time and Predictive Passenger Data Data Platform

Funding: € 321,000 (for ERCIM/W3C)

ERCIM's role:

ERCIM EEIG project partner

ERCIM/W3C contact:

François Daoust, Philipp Hoschka (W3C)

ERCIM members involved:

ERCIM/W3C

Scientific coordination:

IT4PM

Duration:

July 2017 – July 2019

<https://www.pole-scs.org/en/projects/geolytics/>



HRADIO

HRADIO (Hybrid Radio everywhere for everyone) focuses on radio service innovations enabled by convergence. While radio, with its rich editorial content, remains a highly popular medium, listening figures are slowly declining, particularly among youngsters. With the rapid rise of smartphones, radio faces competition from many new services including music streaming platforms. Regular radio today often does not include attractive features as known from vertical platforms. And if present, they are mostly not well integrated with the actual radio programme. This is where HRADIO will deliver.

Driven by the industry need to create attractive new radio experiences, the project will leverage the full potential of hybrid technology for radio – enabling the integration of cost-effective broadcast distribution with new online features. Broadcasters will be enabled to personalise radio services (while respecting privacy), to provide intuitive functionalities like time-shifting and, eventually, to foster and to exploit user engagement. HRADIO will pave the way to bring these features not only to broadcasters' native mobile applications, but also to portals, to connected radios and into the car. The core approach is to integrate validated solutions and to harmonise APIs which together will provide broadcasters with an abstracted service layer accessible across any device and distribution platform – ensuring sustainability and return of investment. Therefore, consumers will be able to access their personal radio services on different devices and platforms enabled by a seamless broadcast-internet integration for radio content distribution. All features will be tested in 3 phases of large-scale pilots involving broadcasters, app developers for mobile and automotive devices.

ERCIM/W3C leads the standardisation activities of the project, working with partners to align modelling and technical tasks with ongoing standardisation activities, and to identify and specify possible extensions to standards beneficial for the project. As such, ERCIM/W3C contributes to the definition of scenarios and requirements, the system architecture and specifications.

Eventually, HRADIO will publish its developments as ready-to-use Android and HTML client implementations including an extensive set of well documented APIs fostering new service developments for the radio sector.

HRADIO - Hybrid Radio everywhere for everyone

EC Funding: € 2.953,371

ERCIM's role:
Project partner

Scientific coordination:
Christine van Houtven, IMEC

ERCIM/W3C contact:
François Daoust, Dominique Hazael-Massieux, Philipp Hoschka, W3C

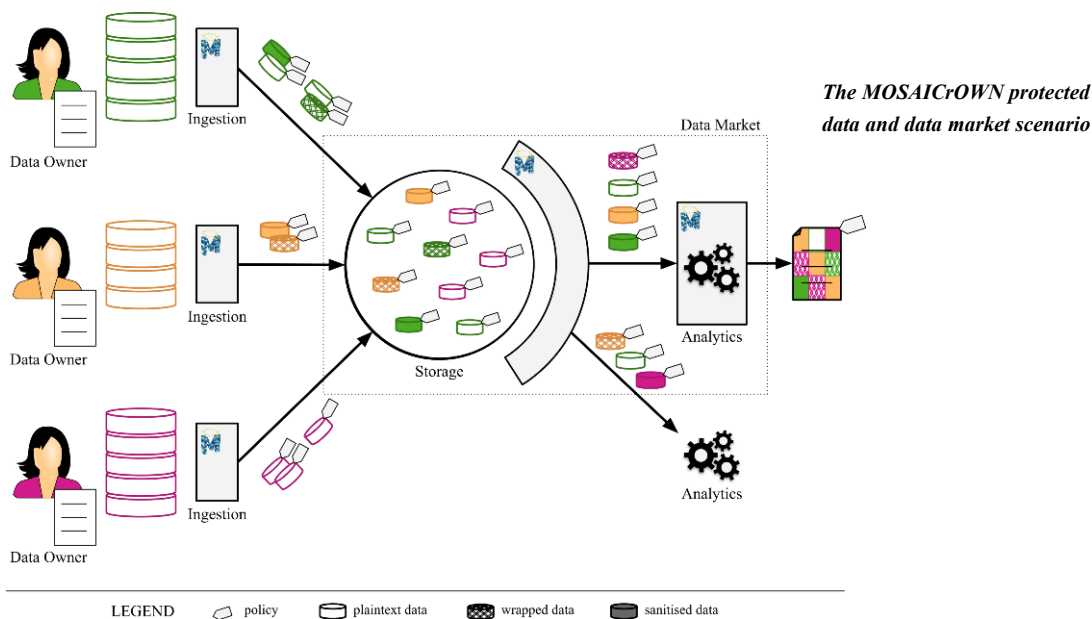
Duration:
September 2017 - February 2020

<https://www.hradio.eu/projects/>



MOSAICrOWN

MOSAICrOWN - Multi-Owner data Sharing for Analytics and Integration respecting Confidentiality and OWNeR control - is a Horizon 2020 project that aims at enabling data sharing and collaborative analytics in multi-owner scenarios in a privacy-preserving way, ensuring proper protection of private, sensitive, and confidential information. MOSAICrOWN will provide effective and deployable solutions allowing data owners to maintain control on the data sharing process, enabling selective and sanitized disclosure providing for efficient and scalable privacy-aware collaborative computations.



The application of data analysis techniques over large data collections provides great benefits, to the personal, business, research, and social domains. The availability of large data collections recording actions and choices of individuals and organizations can lead to great improvement in the understanding of how the world operates. The continuous evolution of ICT is enabling the realization of such vision at a fast pace, supporting the realization of architectures enabling collaborative data sharing and analytics. Clear obstacles towards the realization of such potential and vision are security and privacy concerns. Indeed, the loss of control over data and potential compromise of their confidentiality can have a strong detrimental impact on the realization of an open framework for enabling the sharing of data from multiple independent data owners.

The goal of providing effective data protection in multi-owner scenarios entails several challenges. MOSAICrOWN tackles such challenges with a gradual approach, addressing first policy specification and data governance, and then developing enabling technologies providing data wrapping and data sanitization techniques for enforcing data protection.

The result of MOSAICrOWN will be a set of modular tools providing for an enriched data market scenario and protection to data across the whole life-cycle.

MOSAICrOWN - Multi-Owner data Sharing for Analytics and Integration respecting Confidentiality and OWNeR control

EC Funding: € 3 203 750

ERCIM's role: Project partner

ERCIM members involved: EEIG ERCIM

ERCIM/W3C contact: Rigo Wenning

Scientific coordination:
Pierangela Samarati, University of Milan

Duration:
January 2019 - December 2021

<https://mosaicrown.eu/>



SDN-microSENSE

The smart energy ecosystem constitutes the next technological leap of the conventional electrical grid, providing multiple benefits such as increased reliability, better service quality and efficient utilization of the existing infrastructures. However, despite the fact that it brings beneficial environmental, economic and social changes, it also generates significant security and privacy challenges, as it includes a combination of heterogeneous, co-existing smart and legacy technologies. Based on this reality, the SDN-microSENSE project intends to provide a set of secure, privacy-enabled and resilient to cyberattacks tools, thus ensuring the normal operation of EPES as well as the integrity and the confidentiality of communications. In particular, adopting an SDN-based technology,

SDN-microSENSE will develop a three-layer security architecture, by deploying and implementing risk assessment processes, self-healing capabilities, large-scale distributed detection and prevention mechanisms, as well as an overlay privacy protection framework. Firstly, the risk assessment framework will identify the risk level of each component of EPES, identifying the possible threats and vulnerabilities. Accordingly, in the context of self-healing, islanding schemes and energy management processes will be deployed, isolating the critical parts of the network in the case of emergency. Furthermore, collaborative intrusion detection tools will be capable of detecting and preventing possible threats and anomalies timely. Finally, the overlay privacy protection framework will focus on the privacy issues, including homomorphic encryption and anonymity processes.

ERCIM/W3C is involved in the project's pilot and demonstration scenarios, energy ecosystem standardization, and dissemination. Interoperability testing from ERCIM/W3C will strengthen the proposed SCADA & ICS standardisation activities and also consider aspects of accessibility, privacy, security, and internationalization.

SDN-microSENSE - microgrid reSilient Electrical eNergy SystEm

EC Funding: € 7 992 463

ERCIM's role:
Project partner

ERCIM/W3C contact:
Philipp Hoschka

Coordinator:
AYESA ADVANCED TECHNOLOGIES SA

ERCIM members involved: E
NTNU, EEIG ERCIM/W3C

Duration:
May 2019 - April 2022

<https://www.hradio.eu/projects/>



SDNmicroSENSE consortium meeting in October 2019 in Athens.

SPECIAL

The EU funded research and innovation action SPECIAL (Scalable Policy-aware Linked Data Architecture For Privacy, Transparency and Compliance) addresses the contradiction between Big Data innovation and data protection compliance requirements by proposing a technical solution that makes the achievement of both of these goals realistic. SPECIAL allows citizens and organisations to share more data, while guaranteeing compliance with the General Data Protection Regulation (GDPR), thus enabling both trust and the creation of valuable new insights from shared data.

The SPECIAL project has aimed to address the contradiction between Big Data innovation and privacy-aware data protection by proposing a technical solution that makes both of these goals realistic. To this end it has developed technology that: (i) supports the acquisition of user consent at collection time and the recording of both data and metadata (consent, policies, event data, context) according to legislative and user-specified policies; (ii) caters for privacy-aware, secure workflows that include usage/access control, transparency and compliance verification; (iii) demonstrates robustness in terms of performance, scalability and security all of which are necessary to support privacy preserving innovation in Big Data environments; and (iv) provides a dashboard with feedback and control features that make privacy in Big Data comprehensible and manageable for data subjects, controllers, and processors.

Early on in the project, the use cases (developed from Telecoms and Financial Services industries) underwent a thorough legal and technical analysis. Both the uses cases and the insights gained from the analysis were used to develop the SPECIAL usage policy language and supporting vocabularies. Which, subsequently lead to the development of a log vocabulary that can be used to record data processing and sharing events, and the compliance checking algorithm that can be used for both ex-post and ex-ante compliance checking. Consequently, the legal partners worked closely with the technological development partners in order to provide a solutions based on the principles of privacy by design and privacy by default.

The resulting policy language and vocabularies formed the basis of initial discussions around standardisation. Towards this end, SPECIAL launched a W3C Data Privacy Vocabularies and Controls Community Group (DPVCG) on May 25th 2018 (the day the GDPR came into effect). The objective of the DPVCG is to provide a platform for engagement with the wider community, to gather additional uses cases and to develop standard vocabularies that can be used for personal data processing consent, transparency and GDPR compliance.



SPECIAL



SPECIAL - Scalable Policy-aware linked data architecture for privacy, transparency and compliance

EC funding: €3 991,389

ERCIM's role:

ERCIM EEIG project coordinator

ERCIM members involved:

ERCIM/W3C

Scientific coordination:

Sabrina Kirrane, WU Wien

Administrative coordination:

Jessica Michel Assoumou, ERCIM Office

Duration:

January 2017 – December 2019

<https://www.specialprivacy.eu/>



WAI-GUIDE

WAI-Guide, Authoritative Implementation Guidance and International Cooperation to Support Training, Awareness Raising, and Capacity Building, is an H2020 coordination and support action that drives sustainable impact for more scalable and affordable digital accessibility solutions. WAI-Guide aims to:

- Provide authoritative implementation guidance and training, thereby growing capacities of available accessibility experts;
- Accelerate tooling support for accessible content authoring, thereby making it more cost efficient to create accessible content;
- Identify and address gaps in accessibility standardisation, thereby increasing the coverage of digital accessibility requirements.

WAI-Guide achieves these objectives by conducting its work as an integral part of the vendor-neutral environment of the World Wide Web Consortium (W3C). WAI-Guide draws together key expertise from industry, end-user representation, public bodies, research, and other fields, to develop core accessibility solutions that are internationally consensed and recognised as authoritative references.

WAI-Guide develops open, royalty-free resources for a variety of audiences, each having a role in digital accessibility. This includes accessibility trainers and educators, consultants and service providers; vendors, developers, and integrators of authoring tools and content management systems; and designers, developers, procurers, project managers, and others involved throughout accessibility implementation processes. WAI-Guide is uniquely positioned and qualified to develop best practices for digital accessibility that are rigorously vetted through the open collaborative W3C Process, and that are harmonised with the authoritative interpretation of the internationally recognised W3C standards for accessibility. WAI-Guide comes at an opportune time to support implementation of the European Directive on Web Accessibility. It strengthens the European Digital Single Market and supports its alignment with global standards on digital accessibility.

WAI-GUIDE - Authoritative Implementation Guidance and International Cooperation to Support Training, Awareness Raising, and Capacity Building

EC funding: € 1 499 743

ERCIM's role:
Project coordinator

ERCIM members involved:
ERCIM/W3C

Scientific coordination:
Shadi Abou-Zahra, W3C

Administrative coordination:
Jessica Michel Assoumou, ERCIM Office

Duration:
January 2019 – December 2021

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



WAI-TOOLS

WAI-Tools, Advanced Decision Support Tools for Scalable Web Accessibility Assessments, drives innovation with sustainable impact on the entire field of web accessibility evaluation and repair through:

- Building on the on-going international standardisation efforts on web accessibility conformance testing;
- Ensuring consistent accuracy across automated, semi-automated, and manual web accessibility testing;
- Pursuing leading edge technologies for website testing, including dynamic and mobile web applications;
- Leveraging the existing market of commercial, free, and open source web accessibility evaluation tools;
- Demonstrating large-scale web accessibility monitoring built on open standards and open source tools.

WAI-Tools achieves this by carrying out key efforts in the vendor-neutral environment of the World Wide Web Consortium (W3C). WAI-Tools draws together key expertise from industry, public bodies, and research to develop common understanding of web accessibility requirements in exchange with the existing community and networks of the W3C Web Accessibility Initiative (WAI).

WAI-Tools is uniquely positioned and qualified to develop authoritative resources that are coordinated and aligned with the on-going European and international efforts on web accessibility standardisation, including W3C Web Content Accessibility Guidelines (WCAG) 2.1, the expected revision of EN 301 549, and upcoming EC definition of mobile requirements and monitoring methodology in light of the EU Directive on web accessibility.

WAI-Tools maximises the impacts while minimising the use of project resources by building on existing open source tools from leading market vendors, rather than investing in teething troubles of less mature tools. WAI-Tools deploys testing tools in existing web accessibility monitoring observatories and integrates these differing national approaches using open data, to demonstrate easier and more cost effective assessment of web accessibility requirements at scale.

WAI-TOOLS - Advanced Decision Support Tools for Scalable Web Accessibility Assessments

EC funding: € 1 999,812

ERCIM's role:
Project coordinator

ERCIM members involved:
ERCIM/W3C

Scientific coordination:
Shadi Abou-Zahra, W3C

Administrative coordination:
Jessica Michel Assoumou, ERCIM Office

Duration:
November 2017 – October 2020

<http://www.w3.org/WAI/Tools/>

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 that has been in existence since 1994. This programme facilitates the participation of young scientists in research teams within ERCIM member institutes by organizing postdoctoral fellowships. In addition to mobility in high quality teams, it helps participants further their understanding of the European research environment and carrier capabilities. The second key activity is the Cor Baayen Young Researcher Award that 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 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. Since 2020 the group is chaired by Monica Divitini, NTNU who succeeds Claude Kirchner, Inria who coordinated the group in 2019. Participants of the Task Group:

- Claude Kirchner, Inria, chair (Monica Divitini, NTNU, since 2020)
- Harald Lenschow, NTNU
- Adriana Lazzaroni, CNR
- Emma Lière, ERCIM Office
- Laszlo Monostori, SZTAKI
- Jerzy Tiuryn, University of Warsaw
- Bettina Touré, Fraunhofer
- Edgar Weippl, AARIT
- Leon van der Torre FNR.



Claude Kirchner, Inria, chair of the ERCIM Human Capital Task Group in 2019.

“Alain Bensoussan” Fellowship Programme

The PhD Fellowship Programme has been established as one of the premier activities of ERCIM. Since its inception in 1991, over 650 fellows have passed through the programme. In 2019, 53 young scientists commenced an ERCIM PhD Fellowship and 79 fellows have been hosted during the year. This represents 575 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 to improve their knowledge of European research structures and networks and to gain more insight into the working conditions of leading European research institutions. In 2019, many of the hosted fellows were native of countries outside the European Union. This reflects ERCIM’s contribution to make Europe not only the world’s biggest ‘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 institute. Fellows can apply for second year in a different institute.

Conditions

Candidates must:

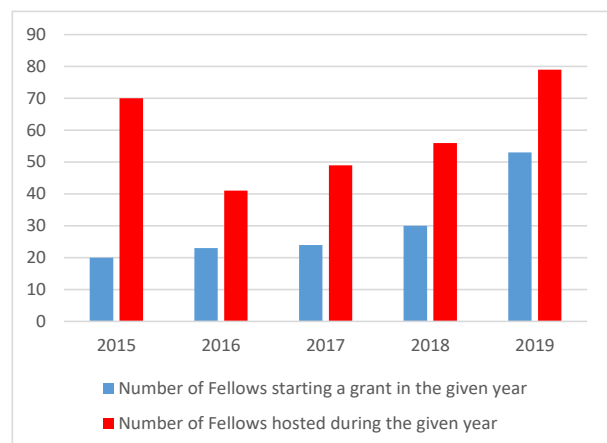
- have obtained a PhD degree during the last eight years (prior to the application deadline) or be in the last year of the thesis work with an outstanding academic record
- be fluent in English
- have completed their PhD before starting the grant.

The fellows are appointed either by a stipend (an agreement for a research training programme) or a working contract. The type of contract and the monthly allowance/salary depends on the hosting institute.

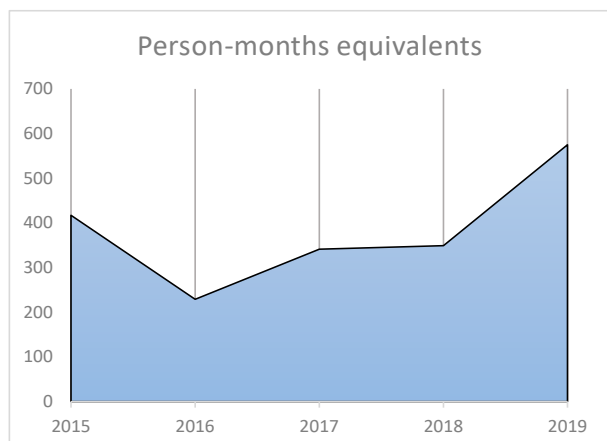
Deadlines for applications are currently 30 April and 30 September each year.

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 2015 to 2019.



Person-months equivalents for the fellows hosted from 2015 to 2019.

“

ERCIM fellowship programme helped me enhance my research skills in AI and its applications and expand my professional network. Thanks to this fellowship, I discovered interesting new research tracks and got my new job. I strongly recommend!



Rachid OUCHEIKH
Former ERCIM Fellow



“

Choosing to become an ERCIM Fellow is one of the best things that I could have done for myself both personally and professionally. I worked beside leading scientists in my field and was effectively mentored throughout the fellowship period. I am a better scientist because of this experience. I highly recommend this program to new PhDs looking to get a strong start on their career.



Melissa BEASON
Former ERCIM Fellow



“

The ERCIM fellowship was a life-changing - career-wise - experience: it helped me expand my professional network and it gave me an opportunity for new position in my hosting institute, NTNU.



Zacharoula PAPANITSIOU
Former ERCIM Fellow



“

Thanks to the ERCIM post-doctoral fellowship, I gained experience in cybernetics, learned new image processing skills, and participated in a interdisciplinary - and still on-going - small satellite project. Moreover, I met a wonderful group of scientist and engineers with whom I am still working!



Joseph GARRETT
Former ERCIM Fellow



ERCIM Fellows hosted in 2019

- Adnan Akhuzada Adnan at RISE SICS AB
- Mahdi Amani at NTNU
- Noe Barrera Gallegos at NTNU
- Naveed Bhatti at RISE SICS AB
- Steffen Bondorf at NTNU
- Amyr Borges Fortes Neto at UCY
- Rachael Boyd at NTNU
- Maximiliano Bueno at NTNU
- Bijoy Chand Chatterjee at NTNU
- Indranil Chowdhury at NTNU
- Rob Comber at RISE SICS AB
- Thu Lan Dam at NTNU
- Naveen Kumar Dasanadoddi Venkategowda at NTNU
- Henri Der Sarkissian at CWI
- Raj Narayan Dhara at NTNU
- Youcef Djenouri at NTNU
- Naveed Ejaz at Fraunhofer Gesselschaft
- Ahmed Elaraby at NTNU
- Noha El-Ganainy at NTNU
- Beatriz Galindo Prieto at NTNU
- Joseph Garrett at RISE SICS AB
- Konstantina-Stavroula Giannopoulou at NTNU
- Javier Gómez Escribano at NTNU
- Muhammad Hanif at CNR
- Jia-chen Hua at NTNU
- Mudassar Aslam Jadoon at NTNU
- Mads Sielemann Jakobsen at NTNU
- Pushpendu Kar at NTNU
- Jalal Khodaparast Ghadikolaei at NTNU
- Marinos Koutsomichalis at NTNU
- Timur Luguev at Fraunhofer Gesselschaft
- Silverio Juan Martinez Fernandez at Fraunhofer Gesselschaft
- Luis Alberto Martinez Vaquero at CNR
- Fereshteh Mirjalili at NTNU
- Amir Mosavi at NTNU
- Dag Nilsson at NTNU
- Kalia Orphanou at CWI
- Michael Osadebey at NTNU
- Dmitrii Ostrovskii at INRIA
- Rachid Oucheikh at NTNU
- Zacharoula Papamitsiou at NTNU
- Rita Pimentel at RISE SICS AB
- Enislay Ramentol at RISE SICS AB
- Thiago Rocha Silva at NTNU
- Muhammad Safdar at NTNU
- Hector Eloy Sanchez Sardi at Fraunhofer Gesselschaft
- Azamolsadat Seyedi at NTNU
- Kshitij Sharma at NTNU
- Younghak Shin at NTNU
- Jan Slechta at NTNU
- Nikolas Tapia at NTNU
- N Varatharajan at NTNU
- Ylika Velaj at CWI
- Pantelis Vikatos at CNR
- Danyu Yang at NTNU
- Erjon Zoto at NTNU

2019 ERCIM Cor Baayen Young Researcher Award for Ninon Burgos and András Gilyén

The 2019 competition for the ERCIM Cor Baayen Young Researcher Award was highly competitive with 16 final nominees. A selection committee composed of members from ERCIM and Informatics Europe eventually awarded two outstanding young researchers in recognition of the outstanding scientific quality of their research and the impact on science and society they have already achieved in their short career: Ninon Burgos (CNRS) and András Gilyén (Caltech) with an honorary mention to Paris Carbone (RISE). The award was presented at the European Computer Science Summit (ECSS) in Rome on Tuesday, 29 October 2019.

Ninon Burgos

Ninon Burgos, nominated by Anne Canteaut (Inria) is a researcher in the ARAMIS Lab at the Brain and Spine Institute (ICM) of the French CNRS in Paris. She joined the ARAMIS Lab in 2017 when she was awarded a PRESTIGE Postdoctoral Research Fellowship (a European “Marie Skłodowska-Curie” fellowship programme). She completed her PhD in 2016 at University College London in the Centre for Medical Image Computing under the supervision of Sébastien Ourselin. In 2012 she obtained a MSc in Biomedical Engineering from Imperial College London and an Engineering degree from the French Graduate School in Electrical Engineering and Computer Science (ENSEA). Her research currently focuses on the development of computational imaging tools to improve the understanding and diagnosis of dementia. The main focus of her PhD was the development of image synthesis algorithms for MR-based attenuation correction in hybrid PET/MR scanners, and for detecting pathological abnormalities in the reconstructed PET data. During her first postdoctoral position at UCL, she decided



The Cor Baayen Young Researcher Award was presented during a ceremony held at ECSS 2019 in Rome. From left: András Gilyén, Ninon Burgos, Cor Baayen, ERCIM president, and Enrico Nardelli, Informatics Europe president.

to tackle the problem of automatic MR-based radiotherapy treatment planning in the pelvic region by developing a new framework combining segmentation and image synthesis. Ninon has already received high recognition from the research community. She got more than ten invitations to give presentations at external meetings, received three travel awards to attend major international conferences, a prize for her oral presentation at the PSMR 2015 conference in Italy, and a prize for the best publication in the European Journal of Medical Physics "Physica Medica" in 2017.

András Gilyén

András Gilyén, nominated by Ronald de Wolf (CWI and University of Amsterdam), is a researcher at Caltech (previously at CWI until June 2019). András graduated on May 29, 2019, at the University of Amsterdam with the distinction "cum laude". His thesis is about quantum algorithms, and more generally about the theoretical computer science (TCS) aspects of quantum

computing, an interdisciplinary field combining physics, computer science, and mathematics. His thesis is based on a number of publications in the very best conferences: three papers in STOC and FOCS, which are the two most prestigious annual conferences in TCS, and are its analogues of Nature and Science; and one paper in SODA, which is the world's premier algorithms conference. The thesis develops a new framework for quantum algorithms, called "quantum singular value transformation". The work of András has already been quite influential in the field of quantum computing: other researchers have realized András's new framework is extremely versatile and powerful, and are seeking out his help to apply it to their own problems. He recently became a postdoctoral fellow at the world-famous California Institute of Technology (Caltech), working with Profs. John Preskill, Fernando Brandão, and Thomas Vidick. He has also been accepted to participate in the very selective program on quantum computing in Spring 2020 at the Simons Institute in Berkeley.

2019 Award

Winners (*ex aequo*):

- Ninon Burgos (CNRS), nominated by Inria
- András Gilyén (Caltech), nominated by CWI

Honorary mention:

- Paris Carbone (RISE), nominated by RISE-SICS

Finalists:

- Mário Antunes (IT Aveiro), nominated by INESC-ID
- Constantinos Costa (University of Pittsburgh), nominated by the University of Cyprus
- Pavlos Fafalios (FORTH-ICS), nominated by FORTH-ICS
- Riccardo Guidotti (ISTI-CNR), nominated by ISTI-CNR
- Lucca Hirschi (Inria), nominated by Inria
- Csaba Kerepesi (SZTAKI), nominated by SZTAKI
- Sebastian Lapuschkin (Fraunhofer HHI), nominated by Fraunhofer Gesellschaft
- Elena Mocanu (University of Twente), nominated by CWI
- Panagiotis Papadopoulos (Brave Software Inc.), nominated by FORTH-ICS
- Theofanis Raptis (IIT-CNR), nominated by IIT-CNR
- Christof Weiß (University Erlangen-Nürnberg), nominated by Fraunhofer Gesellschaft
- Naomi Woods (University Of Jyväskylä), nominated by VTT
- Marcin Wrochna (University of Oxford) nominated by the University of Warsaw

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 young researchers having completed their PhD thesis in one of the "ERCIM countries". The Cor Baayen Award is a young 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.

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 2019 the printed edition had a circulation of 2000 copies and more than 8000 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 2019 ERCIM News published the issues nos 116 - 120. 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 their warmest thanks on this occasion.

In 2019 ERCIM News issues covered the following special themes:

- ERCIM News 116: Transparency in Algorithmic Decision Making
- ERCIM News 117: 5G
- ERCIM News 118: Digital Health
- ERCIM News 119: Smart Things Everywhere

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

ERCIM News Editorial Board (as of December 2019)

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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 as well as the European branch of 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 the 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 with more than 80 successful projects. The projects in which the ERCIM Office was involved in 2018 are presented in the section “Projects” in this report. They also include projects with participation of the W3C. Some include both W3C and ERCIM members. They provide an example of how ERCIM can facilitate cooperation between research institutes and the W3C with its interest in Web standardization.

Hosting and managing the European branch of W3C is another major task of the ERCIM Office.

The ERCIM Office is under the responsibility of the ERCIM EEIG Board of Directors but also handles ERCIM AISBL financial matters and 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 web sites and by producing ERCIM News.

ERCIM Office Staff

(as of December 2019)

- Philipp Hoschka, manager
- Caroline Baron, finance and administration manager
- Peter Kunz, communications, ERCIM News central editor, project coordinator
- Vivien Lacourba, IT manager
- Alexandra Lacourba, event manager and W3C European members administration
- Emma Lière, project assistant and Fellowship Programme coordinator
- Jessica Michel Assoumou, project coordinator
- Claire Moreau, assistant accountant
- Linh Nguyen, project coordinator and assistant
- Pascale Peyrol, project assistant
- Catherine Riou, administrative assistant
- Jean-Guilhem Rouel, systems engineer

Finances

Throughout 2019 ERCIM traded as a consortium consisting of ERCIM EEIG and ERCIM AISBL. ERCIM operated with a gross turnover of 6.2 M€.

ERCIM AISBL	
Receipts	136,678 €
ERCIM Office	
Receipts	872,787 € (including 475,598€ from
EU contracts)	
Total received by the EU	1.272,738 €
<i>Total Office turnover</i>	1.614,927 €
W3C Europe	
Receipts	3.255,251 € (including 617,451 € from
EU contracts)	
Total received by the EU	1.782,687 €
<i>Total W3C Turnover</i>	4.420,487 €
Total turnover	6.172,092 €



ERCIM and W3C

ERCIM hosts the European headquarters of the World Wide Web Consortium (W3C). ERCIM and W3C aim to strengthen research relationships throughout Europe to better support the development of Web technology and to jointly share the results of their collaboration.

Six of the European W3C Offices are based at ERCIM institutes, namely at CNR (Italy) CWI (Benelux); FORTH (Greece); Inria (France), SZTAKI (Hungary); and RISE SICS (Sweden). W3C Offices in Europe work with their regional Web communities to promote W3C technology in local languages, broaden W3C's geographical base, and encourage international participation in W3C activities. Specifically, the W3C Offices help organize meetings and workshops.

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 very heavily swayed by its members, several of them having interests in the Web (such as HTML5, Mobile Web, Social Web, Web Privacy and Security, Big 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 of standards.

Finally, hosting the W3C allows ERCIM members to benefit from the know-how and expertise of the W3C team, and to increase its visibility based on W3C's worldwide reputation. The joint efforts of ERCIM and the W3C have started to increase Web research cooperation in Europe.

W3C is the international forum for the development of technology standards and for stewardship of the Web. The organization creates open standards for technology and best practices so that the Web connects people and serves as a platform for innovation. W3C is building an Open Web Platform to connect humanity in a way that makes access to knowledge more efficient and equitable.

The boundaries of this platform are drawn by the Members and the larger Web community. The platform includes the HTML5 specification, CSS, SVG, WebFonts (WOFF), a growing number of APIs, and many other technologies, all designed to work together on any platform, for any person, anywhere.

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.

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.

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, leverages 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)

Institutions member of ERCIM in 2019:



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