



RLS-SCIENCES AUTUMN

20 DECEMBER, 2022

The RLS-Sciences network had the opportunity to meet once again in person in September.

76 partners from five regions were able to join in Herrsching, Bavaria over four days, where they engaged in dedicated sessions for each of the five research groups, participated in interdisciplinary joint sessions to inspire new perspectives, and heard keynotes from high-level Bavarian experts on transversal themes. The RLS-Digital Health group was officially launched as the fifth research group in RLS-Sciences. Following the conference, each of the five research groups has embarked upon new and deepened joint activities, and the Overall Management group has been working to identify the best support options for each. This momentum will be key as the network prepares for the next joint activities. At the conference, Québec announced that they will host the 3rd Overall RLS-Sciences Conference in 2024.

This newsletter includes updates from before, during, and after the Herrsching conference and from partners. Happy reading!

- Fiona Rumohr, RLS-Sciences Management Team

RLS-SCIENCES AUTUMN SPECIAL NEWSLETTER

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RLS-SCIENCES OVERALL CONFERENCE 2022

From 18-21 September, the 2nd RLS-Sciences Overall Conference was hosted by Bavaria in Herrsching am Ammersee. Representing 5 regions, 76 experts engaged in dedicated thematic sessions (Energy, Aerospace, Small Satellites, and Digital Health), which comprised more than 45 presentations as well as internal panels and working sessions. To complement the thematic sessions, the conference also included joint sessions where all participants came together. These included contributions from political representatives, Thought Leadership Keynotes from Bavarian experts in the field of digital transformations, two interdisciplinary panels, networking sessions, and a session with representatives from regional funding agencies. These interdisciplinary sessions provided a unique added value for partners, bridging not only regions but disciplines.

Interdisciplinarity has long been a hallmark of RLS-Sciences within the different groups, and reached new heights in Herrsching. In the Energy Network, climate scientist exchanged with renewables specialists on how systems will be impacted and how to best prepare, such as for the integration of hydrogen into the energy mix. In Digital Health, clinicians and informaticians discussed the challenges and potentials of datasharing in healthcare systems and across borders. Global Aerospace Campus saw researchers prepare for their next cooperation steps before joining the 4th Global Aerospace Summit to exchange with industry on "Sustainable (Aero)Space: Protecting our Environment with Technological Innovations". The Small Satellites group, part of which met in Paris and connected to Herrsching virtually, where technicians and engineers made new models for ground station networks to enhance data sharing.

Following the conference, Bavarian lead scientists organised site visits, offering partners an opportunity to see first-hand Bavarian research and development infrastructure in the fields of high performance supercomputing at the Leibniz-Rechenzentrum, renewable energy at the TUM Chair for Energy Systems, and aerospace at the Ludwig Bölkow Campus.

The 3rd RLS-Sciences Overall Conference will be hosted by Québec in 2024. The inaugural RLS-Sciences Overall Conference was hosted by FAPESP in São Jose dos Campos, São Paulo in 2019. Vice-president from Québec, Prof. Kodjo Agbossou said, "Québec is delighted to be hosting the third Overall RLS-Sciences Conference. These conferences create key opportunities to develop both new and deeper connections between RLS-Sciences partners and regional research and innovation actors to move joint research work forward. We look forward to welcoming the network to Québec in 2024."



Photo Credit: WKS Bavaria-Québec/Alberta/International, 2022

RLS-DIGITAL HEALTH LAUNCHES AS FIFTH RLS-SCIENCES GROUP

The RLS-Sciences Overall Conference 2022 marked the official launch of **RLS-Digital Health** as the fifth RLS-Sciences group, after a preparatory phase and first exchanges in 2020 and 2021. The meeting in Herrsching was the first time the group had the opportunity to meet in person after a series of virtual exchanges. The first was in 2020 at the RLS Roundtable on COVID-19, hosted by Upper Austria, where Bavaria proposed expanding RLS-Sciences cooperation to include Digital Health. In Herrsching, partners from five regions exchanged based on their Joint Roadmap, which uses a matrix of use-cases and methods in digital health to guide the multiregional cooperation. The group is now preparing a first joint publication on international collaboration and federated learning, taking advantage of the different implementation in the partner regions. The group is led by Bavarian Lead Scientist Dr. Sebastian Bickelhaupt, head of the d.hip digital health data center and a senior physician in the institute of radiology at the Universitätsklinikum Erlangen. He is a specialist in diagnostic and interventional radiology. His research interests address the merging of disruptive medical imaging technologies with innovation healthcare IT to develop more effective, safer, and faster imaging approaches for individualized imaging.



Photo Credit: WKS Bavaria-Québec/Alberta/International, 2022

RLS-SCIENCES CONGRATULATES:

ENERGIEINSTITUT CELEBRATES 20 YEARS

The Energieinstitut celebrated its 20 year anniversary earlier this year together with its Forum Econogy. To mark the occasion, the question of the next twenty years in energy was embedded through each of the contributions. A key takeaway was the need for accessible research results.



Photo Credit: Energieinstitut at the Johannes Kepler Universität Linz, 2022

Managing director, Dr. Robert Tichler, presented key data from the Energieinstitut's last two decades. Of particular note was the growth in project participation, which rounds out to 105 per year based on the most recent years. Since inception, the institute has participated in over 650 projects and 210 peer-reviewed publications. At present, the Energieinstitut also leads 4 European framework projects, which cover more than 57 project partners in 21 countries covering 4 continents. These include RLS-Sciences partners in Bavaria, Québec, and Western Cape. The Energieinstitut was also the recipient of the 2022 Cross-Border Award for its cooperation in Lower Bavaria-Upper Austria-South Bohemia. Dr. Tichler says, "Participation in the RLS-Energy Network opens up numerous opportunities for the Energieinstitut to conduct research on a global level via the multilateral scientific cooperation. Due to its interdisciplinary orientation, the Energieinstitut can provide important inputs on regional energy transitions in the RLS partner regions."

The **Energieinstitut at the Johannes Kepler Universität** is a partner in the RLS-Energy Network.

RLS-SCIENCES CONGRATULATES:

PROF. KLAUS SCHILLING AWARDED BAVARIAN CONSTITUTION MEDAL

On 2 December, 2022, Prof. Klaus Schilling was awarded Bavaria's Constitutional Medal by the Bavarian Parliament in recognition of his contributions to the field of small satellites. His work to initiate curriculum on space technology at the University of Würzburg included the SpaceMaster program and Satellite Technology courses. In parallel, he undertook pioneering work with his teams to bring new technologies into space. In 2005, these efforts produced Germany's first pico-satellite, UWE-1, which optimised the parameters for internet from space. In 2007, new heights were reached with the founding of the independent research institute Zentrum für Telematik, which has produced the four NetSat satellites for self-organisation of optimum observation configurations and now the three TOM satellites for 3D Earth observations. These achievements have secured Prof. Schilling and the Zentrum für Telematik as one of the worldwide leading institutions on multi-satellite systems. New activities are already underway to develop a research factory for small satellites- a European first. In 2023, the TOM satellites will be launched. These have been realised as part of the RLS-Small Satellites research group efforts in the Telematics International Mission. RLS-Sciences congratulates Prof. Schilling on the receipt of this award.



Photo Credit: Bildarchiv Bayerischer Landtag, 2022



Photo Credit: Zentrum für Telematik, 2022

Prof. Klaus Schilling at the **Zentrum für Telematik** is the Lead Scientist of RLS-Small Satellites.

RLS-SCIENCES CONGRATULATES:

PROF. KAMAL AL-HADDAD RECIPIENT OF 2023 IEEE MEDAL IN POWER ENGINEERING



The Institute of Electrical and Electronics Engineers has awarded Prof. Kamal Al-Haddad the 2023 IEEE Medal in Power Engineering. Prof. Al-Haddad holds the Canada Research Chair in Electrical Energy Conversion and Power Electronics at the École de Technologie Supérieure (ÉTS) in Montréal. The award recognises his contributions to technologies related to the generation, transmission, distribution, application, and use of electrical energy for the betterment of society. In Hersching, he focused on the integration of renewable energies in hybrid smart grids and potentials for international collaboration.

Prof. Kamal Al-Haddad at **ÉTS** is a partner in the RLS-Energy Network.

FAPESP HOSTS GLOBAL RESEARCH COUNCIL SECRETARIAT

As of September, FAPESP hosts the Executive Secretariat of the Global Research Council (GRC), a virtual organization comprising the heads of more than 60 science and engineering funding agencies on all continents. The GRC was established in 2012, with the first Executive Secretary hosted at the National Science Foundation (US), followed by the German Research Foundation (DFG) and United Kingdom Research and Innovation.



The Executive Secretariat is one of the GRC's 3 decision-making bodies. Its main role is to mediate relations between the Governing Board and members, organize the communication structure, and foster intra-organizational interaction. The GRC plans for significant expansion of its activities. Euclides de Mesquita Neto, deputy chair of FAPESP's Adjunct Panel for Special Programs and Research Collaboration, will be the GRC's Executive Secretary for a five-year term. He has stated that multilateral cooperation will be a key focus.

FAPESP is a partner in RLS-Sciences. Prof. Euclides de Mesquita Neto is former vice-president of RLS-Sciences from São Paulo.



BIDT LAUNCHES NEWEST GRADUATE CENTER COHORT

The Bavarian Institute of Digital Transformation (bidt) has launched its new cohort of post-doctoral researchers for its **Graduate Center**. Seven young researchers receive funding from the Bavarian Ministry of Science and the Arts for a period of up to four years. The funding includes personnel funds for the postdocs, research funds and support for networking and further qualification in the field of digitization. Dr. Andrzej Liebert, one of the new cohort members, presented his project in Herrsching. Projects range from health to social media to mobility, all in relation with digitalization.

bidt is a partner in the RLS-Expert Dialogue on Digitalization and RLS-Digital Health.

RLS-SCIENCES DIGITAL WEEK 2023

As in 2021 and 2022, the RLS-Sciences network will host an all virtual RLS-Sciences Digital Week in 2023. RLS-Sciences Digital Weeks comprise 2 hour sessions each day for five days, covering the different RLS-Sciences research groups and creating virtual spaces for the groups to exchange in their thematic area in an open format with the rest of the RLS-Sciences network. Dates for the 2023 Digital Week will be announced soon!