Dear members and friends of KiNSIS, dear colleagues,

summertime often is that fruitful time in course of the academic year, when new research ideas are born, refined and discussed among colleagues in the semester break. Many of us have returned from their holidays and are looking forward to travelling to conferences, workshops and symposia to become exposed and acquainted with fresh ideas, which certainly is one of the privileges of the academic life. However, it is also the perfect time to remind ourselves that with KiNSIS, we have a vivid and lively platform for academic exchange right here in Kiel. I think that we felt such spirit in our annual KiNSIS Retreat in Sankelmark at the end of August, which for the first time was held in the summertime!

However, this summer has also confronted us with a serious drought reminding us of the severe societal challenges related to health, energy, and climate protection. New exciting research initiatives in KiNSIS address fundamentals as well as applications that have the potential to contribute solutions to these problems, such as „Talkative Power“ for new energy networks, „Plasma Nonequilibrium at Interfaces“ for the electrification of physical and chemical processes, or „Networked Matter“ for novel materials; and these are only a few new examples of the broad scope of the collaborative nano, surface and interface science in Kiel. You will find much more in this newsletter.

On behalf of the KiNSIS Board, I hope you will enjoy reading and will feel inspired.

Malte Behrens
KiNSIS spokespersons elected and confirmed in office

After the KiNSIS general meeting on June 10, the members of KiNSIS voted online on the appointment of their Board. The spokespersons represent the four central areas of KiNSIS, chemistry, engineering, life science and physics. Each one is elected by the members for a period of three years. Prof. Jeffrey McCord (Engineering) and Prof. Kai Rossnagel (Physics) successfully stood for re-election. After the regular expiry of his term, the deputy speaker Prof. Norbert Stock (Chemistry) left the Board. The members and his fellow speakers thanked him for his work. Prof. Malte Behrens (Chemistry) was elected as his successor.

Deputy speaker Prof. Regina Scherließ, who represents the field of Life Sciences, was elected in 2020 and will remain in the KINSIS Board for another year. The early career researchers will continue to be represented by Jun.-Prof. Huayna Terraschke (Chemistry) and Dr. Alexander Vahl (Engineering) within the Board. The elected spokespersons have accepted the vote. In the next three years they will continue to promote the processes already initiated for the KiNSIS strategy, and pave the ground for further collaborative projects.

KiNSIS has a new mail address (info@kinsis.uni-kiel.de), which will be used to inform members about current activities and upcoming events. As usual, you can also contact Julia Jedtberg (jfr@tf.uni-kiel.de) and Tina Kerby (tkk@tf.uni-kiel.de) directly for coordinating issues and Julia Siekmann (jsiekmann@uv.uni-kiel.de) for public outreach.

+++ Collaborative Research News Ticker +++

The CRC/TRR 247 „Heterogeneous Oxidation Catalysis in the Liquid Phase“ was extended with 5 KiNSIS projects from chemistry and physics from July 1. The second funding period of the Research Group „Biogeochemical Processes and Air-sea Exchange in the Sea-Surface Microlayer“ (BASS) with Prof. Bernd Hartke, Prof. Gernot Friedrichs was granted. The project at the interface to Kiel Marine Science originated from the former excellence cluster „Future Ocean“ and is coordinated by the University of Oldenburg. The RTG 2154 „Materials for Brain“ ends in March 2023. A draft proposal for a new RTG is in preparation. On April 27 and 28, the Retreat of the CRC 1461 „Neurotronics“ took place in the Seeburg near to the Kiel Fjord. On June 13 and 14 the retreat of the CRC 1261 „Biomagnetic Sensing“ took place in the Ev. Jugend-, Freizeit- und Bildungstätte Koppelsberg in Plön. Since June 15, Felix Heute is scientific coordinator of the CRC 1261 for the time of Mona Stölting’s maternal leave. The CRC 1261 Summer School „Magnetic Sensing and Applications in Medicine and Industry - State of the Art and New Prospects“ took place from August 24 - 26 at the Maritim Hotel, Kiel. The CRC 1461 Summer School took place from August 31 - September 2 at the Nature erlebniszentrum Kollhorst in Kiel. From September 5 - 8 the International Workshop of the CRC 1461 took place at CAU and at the Color Line ferry to Oslo, Norway. Follow the CRC 1261 on twitter: @biomagsensing.
Physicist Claus Ropers gives Diels-Planck-Lecture 2022

Prof. Claus Ropers from the Max Planck Institute for Multidisciplinary Sciences and the Georg-August-University Göttingen was honoured with the Diels-Planck-Medal 2022 for his pioneering experimental work in the field of ultrafast structural and electronic dynamics. He developed methods to understand the complex properties of materials and to directly investigate processes occurring in them on the time scale of femtoseconds. The award ceremony took place on June 30, as part of the conference „International Conference and Research Training Groups“.

Claus Ropers is professor for experimental solid state physics and head of the Institute of Physics - Solid State and Nanostructures at the University of Göttingen. He is also director and scientific member at the Max Planck Institute for Multidisciplinary Sciences. After studying physics in Göttingen and Berkeley (USA), Ropers worked at the Max Born Institute in Berlin and received his doctorate from the Humboldt University in Berlin in 2007. Ropers has received many awards including the Carl Ramsauer Prize for the Diels-Planck-Medal and the Walter Schottky Prize of the German Physical Society, the Klung Wilhelmy Science Prize, the Ernst Ruska Prize and the Leibniz Prize of the German Research Foundation (DFG).

KiNSIS Doctoral Thesis Prizes 2022 have been awarded

The best dissertations from the areas of nano and surface science in Kiel are traditionally awarded on the occasion of the Diels-Planck-Lecture. This way promising young researchers from Kiel meet KiNSIS members from a broad variety of scientific disciplines and renowned scientists from all over the world. „We need such talented young scientists and methods of quantum optics. „With his methods, Claus Ropers has decisively shaped this field and is one of its world’s leading scientist. His extremely creative and original work has won several awards and has been published in high-ranking scientific journals“, said Nahid Talebi, Professor of Nanooptics at CAU, in her laudation.

Every year, the members of KiNSIS honour outstanding international scientists in the fields of nano and surface science with the Diels-Planck-Medal. The award is named after the Nobel Prize winners Max Planck and Otto Diels, the founders of the nano sciences in Kiel.

Dr. Jannick Jacobsen
„Synthesis, characterization, and investigation of the chemistry of metal-organic frameworks with tetralvalent metal ions (M = Ce, Zr, Hf)”

Dr.-Ing. Prasanth Velvaluri
„Thin-film flow diverter stents for the treatment of intracranial aneurysms”

Dr. Silja Flenner
„Implementation of phase contrast methods at the P05 nanotomography endstation at PETRA III: Enabling in situ experiments”

Each category is endowed with 1,000 euros.

Next call for applications 2023 for the Diels-Planck-Lecture and the Doctoral Thesis Prizes will be sent out soon
Research stays in Kiel: Nian Sun and Joshua Robinson

During this summer semester two international renowned scientists stayed at Kiel, partially also supported by KINSIS. Inspiring lectures and fruitful discussions further strengthened the connections and could be the basis for initiating joint scientific collaborations with new partners from KINSIS and other groups.

Prof. Nian X. Sun from Northeastern University, Boston, USA (W.M. Keck Laboratory for Integrated Ferroics, ECE Department) who is also one of the Critical Friends of KINSIS, stayed in Kiel with a Humboldt Research Award from May 4 - June 30. He gave several talks on various topics like Novel Pathogen Sensors, Multiferroic Magnetoelastics and Magnetoelastic Mechanical Antennas within the Colloquia of KINSIS and the Faculty of Engineering, as well as at the „International Intelligent Materials“ (IIM) conference in Kiel. During his visit, he interacted with several working groups from materials science, electrical engineering, and physics.

Prof. Dr. Joshua A. Robinson from the CAU partner institution Pennsylvania State University, USA (Center for 2D and Layered Materials, NSF 2D Crystal Consortium, NSF Center for Atomically Thin Multifunctional Coatings) stayed from July 6 - 26 at the group of Nahid Talebi at the Institute of Experimental and Applied Physics. Robinson met with members of several other groups, visited the Ruprecht Haensel Laboratory (CAU / DESY) and gave talks, e.g. at the IIM Conference and at the Physics Colloquium, to which KINSIS members were also invited. The topic was on Semiconductors and Metals at the Atomic Limit.

How does magnesium decompose? A Lab Visit at Lund University

When a cast is insufficient to stabilise a broken leg, screw implants can support the healing. Implants made of metallic magnesium even dissolve over time, so there is no need for another operation. „Magnesium exists naturally in our body. It is biocompatible and the degradation products are quite similar to our bones. Its alloys also promote bone growth and can have an anti-inflammatory effect“, says Dr. Berit Zeller-Plumhoff. As an applied mathematician Zeller-Plumhoff is working on the degradation process of magnesium alloys at the Institute for Metallic Biomaterials of Prof. Regine Willumeit-Römer, who is both a professor at CAU and head of institute at Helmholtz Zentrum Hereon in Geesthacht. The degradation processes are influenced by many factors that have not been fully investigated yet. Therefore Zeller-Plumhoff wants to develop a model that can be used to calculate in advance how magnesium will degrade under different conditions in the body. For this, she travelled to Prof. Dmytro Orlov at Lund University in Sweden in autumn 2021, financially supported by the KINSIS Early Career Programme.

In Orlov’s laboratory, the heat released during the degradation of magnesium can be measured with so-called isothermal calorimetry measurements. This way conclusions can be drawn about the reactions happened earlier. At the same time it can be determined how much pressure is generated when hydrogen gas is released during magnesium decomposition. This gives further clues about the degradation processes. During her seven-week research stay, Zeller-Plumhoff used this method to dissolve magnesium for the first time in complex media that resemble blood plasma in protein composition, among other things. At the beginning of the evaluation of the experiments, she made a surprising discovery: different solutions show differences in the pressure released, but hardly in the amount of heat. The evaluation of the results is in progress.

„Research stays like this are great, especially at the beginning of your career, to try new methods and get to know other perspectives on your own research,“ says Zeller-Plumhoff.
Two international conferences at the CAU

From June 26 - 29, about two hundred national and international participants from science and industry came to Kiel to discuss the latest advancements in power electronics for distributed generation. The 2022 IEEE 13th International Symposium on Power Electronics for Distributed Generation (PEDG 2022) was held at the Wissenschaftszentrum Kiel and also hybrid. It was hosted by Prof. Marco Liserre (Chair of Power Electronics).

From June 29 - July 1, the conference International Intelligent Materials (IIM) took place at the Atlantic Hotel Kiel, hosted by Prof. Rainer Adelung (Functional Nanomaterials) and Prof. Kai Rossnagel (Solid State Research with Synchrotron Radiation).

Various topics of KiNSIS and its CRCs on new and smart materials have been discussed intensively and the Diels-Planck-Lecture and the KiNSIS Doctoral Thesis Prizes have been awarded.

PEDG 2022: https://pedg2022.org/

IIM 2022: https://intelligent.i-grat.de/

EU qualification programme on wind generation design

It takes highly qualified professionals to develop the technical solutions required for the energy transition. The transnational doctoral programme „WinGrid“, led by the University of Warwick (United Kingdom) provides up-to-date knowledge from science and industry to build reliable and efficient wind power plants. Next to universities and industrial partners from the UK, Denmark, the Netherlands, Ireland and Israel, the CAU is the only university in Germany participating.

From June 30 - July 7, the participants met in Kiel for a multi-day workshop with lectures, practical exercises and excursions. The annual review meeting also took place here.

„The energy transition is an international challenge. Therefore we set on a close and transnational cooperation between science and industry to train the next generation of professionals“, explains Marco Liserre, Professor of Power Electronics at CAU and host of the meeting in Kiel.

In WinGrid, the participants do their PhD at a university in another country. Additional stays at other research institutes or companies enable them to learn about the research approaches on site and get to know important players in the energy transition.

The focus of the meeting in Kiel was the role of power electronics in integrating wind plants into the grid. „We want to investigate, understand and improve this interaction to ensure a stable and efficient power supply,” says Dr. Marius Langwasser, coordinator of WinGrid at CAU. The central technical interface are power electronic components such as smart transformers, which Liserre has been working on for many years. In a power grid with decentralised producers and consumers of energy such as wind power or charging stations for electric cars, the demand and supply of energy is constantly changing. The intelligent transformers are supposed to help to regulate the fluctuations and ensure a reliable energy supply.

The programme „WinGrid: Wind farm – grid interactions: exploration and development“ is funded by the European Union as a Marie Skłodowska-Curie Actions with around 4.3 million euros.
**Research**

**CRC / TRR 247:**
www.uni-due.de/ sfbtrr247/

**Sharper than ever**

Vibrations are sensitive probes of molecular structures and help understanding their properties. They also represent an important test bed for theoretical methods that aim at modeling molecules. In a recent publication in *Physical Review Letters* Dr. Jan Homberg, Dr. Alexander Weismann and Prof. Richard Berndt along with Troels Markussen (Synopsis Denmark) demonstrate a new way of measuring vibrational spectra of single molecules on surfaces. Their approach combines subnanometer spatial resolution with order-of-magnitude increases of signal intensity and spectral resolution compared to existing methods. The experiments were carried out in a recently developed, high precision laboratory for experiments under extreme conditions.

**Ultrafast electronic dynamics in quantum materials**

When materials are bombarded with ions, as in the production of tiny structures on semiconductors, highly complex processes take place. A research team from Vienna University of Technology and CAU (Prof. Michael Bonitz) has now been able to reconstruct the extremely fast processes for the first time. To do so, they combined sophisticated measurements with computer simulations. Thus, on a time scale of one femtosecond - the billionth part of a millionth of a second - they showed what happens when an ion penetrates ultra-thin quantum materials such as graphene and molybdenum disulphide. Electrons are emitted from the material during this process, and by comparing them with precise computer simulations, conclusions can be drawn about how the processes take place. The results were published in the journal *Physical Review Letters* as Editors’ suggestion.

**CRC/TRR 247 on catalysis extended with projects from KiNSIS**

Catalysis is a key technology in chemistry: Almost all of our everyday objects come into contact with at least one catalyst during their production to make it cheaper, more environmentally friendly or possible at all. But the details of the highly complex processes are often unknown. A better understanding at the atomic level and more sustainability and efficiency are the goals of the Transregional Collaborative Research Centre 247 „Heterogeneous Oxidation Catalysis in the Liquid Phase“. It is based within the „Ruhr Allianz“ (Ruhr-Universität Bochum, TU Dortmund University and University of Duisburg-Essen). After four succesful years it was now extended by the German Research Foundation (DFG). KiNSIS is now involved with five projects (of 20 in total) from chemistry and physics: Prof. Malte Behrens (Solid State Chemistry and Catalysis), Prof. Olaf Magnussen (Interface Physics), Prof. Swetlana Schauermann (Surface Chemistry and Catalysis) and Dr. Sharif Najafi Shirtari (Solid State Chemistry and Catalysis). About 1.6 million euros will go to Kiel. Behrens established the CRC/TRR at the University of Duisburg-Essen and was spokesman during the first funding period before moving to the CAU and KiNSIS in 2020.

**KiNSIS Affiliation for Publications**

KiNSIS would like to increase its visibility within the university and on national and international level by indicating the affiliation in publications to KiNSIS. It is not mandatory but would be greatly appreciated if KiNSIS members indicate the affiliation to KiNSIS where appropriate. The KiNSIS Board came up with the following suggestions that have been presented and discussed in the general assembly.

**Example:**
A Highly Impactful Publication on Nano, Surface and Interface Science A.Aaaaaa 1,2, B. Bbbbbb 1, C. Cccccc 2,3, D. Dddddd 4, E.-F. Ffffff 2,3,4, G. Hhhh-Iiiii 1,3

**Long form:**
3 Kiel Nano, Surface and Interface Science KiNSIS, Kiel University, Christian-Albrechts-Platz 4, D-24118 Kiel, Germany

**Short form:**
3 Kiel Nano, Surface and Interface Science KiNSIS, Kiel University, Germany
Optimal conditions for the Ruprecht Haensel Lab at DESY

The Ruprecht Haensel Laboratory (RHL) is not only a place to study structural, electronic and dynamic properties of materials with the help of photons. It is also the heart of the long-standing intensive cooperation of the CAU and KINISIS with the Deutsches Elektronen-Synchrotron DESY in Hamburg. With the opening of the Center for X-Ray and Nano Science (CXNS) on April 12, the RHL has finally been given a physical home on the site of DESY - and by this also the research of Prof. Lutz Kipp, Prof. Olaf Magnussen, Prof. Martin Müller, PD Bridget Murphy, and Prof. Kai Rossnagel.

At the CXNS high-tech laboratories with mutually complementary, nanomaterials analysis and research methods are concentrated and directly connected to the DESY large-scale research facilities. This way the CXNS is a unique, multi-institutional, interdisciplinary platform for research with X-ray light in combination with nano and material sciences. It was funded with 18 million euros from federal funds, from the states of Hamburg and Schleswig-Holstein and from the participating research institutions.

The keys were symbolically handed over to its users of the CAU, the Helmholtz Centre Hereon and DESY by the Federal Research Minister Bettina Stark-Watzinger, Hamburg’s Science Senator Katharina Fegebank and Schleswig-Holstein’s Science Minister Karin Prien. In her welcoming address, Stark-Watzinger emphasized the important role of basic research creating knowledge that flows into the „innovation pipeline“ and is urgently needed facing major challenges such as pandemics or climate change. CAU President Prof. Simone Fulda stressed the role of the RHL as the spatial interface of the successful cooperation between large-scale research, top university research and research-related teaching. „For our groups from the nano, life and surface sciences, the CXNS offers optimal conditions to develop innovative instruments and methods for nano research and the exploration of complex materials. “

Interdisciplinary research building ZEVS in progress

The Centre for Networked Sensor Systems (ZEVS) aims at bringing together expertise in sensor technology in one place for medical, maritime and energy applications and for gaining environmental data. This goal has come much closer since the symbolic foundation stone was laid down on March 7 at the Faculty of Engineering.

43 million euros of the total costs (around 61 million euros, with lecture hall building) are provided by the state and 18.3 million euros from the European Regional Development Fund (EFRE). „The ZEVS combines basic research, applied research and technology transfer and is thus an important building block for the further development of the entire university“, said CAU Vice President Prof. Eckhard Quandt.

Among others, Science Minister Karin Prien (left), (former) Dean Prof. Lorenz Kienle, Finance Minister Monika Heinold, Kiel’s Mayor Dr. Ulf Kämpfer and CAU Vice President Prof. Eckhard Quandt took part in the ceremony. © Jürgen Haacks, CAU

„The laboratory infrastructure will promote excellent research, cooperation with industry, junior research groups and spin-offs“, said Prof. Martina Gerken, head scientist at ZEVS. © Jürgen Haacks, CAU
Postdocs of KiNSIS are discussing regularly

Why did you create the network of the KiNSIS Early Career Group Leaders?

Huayna Terraschke: As early career researchers, we have common goals and similar questions. What is the next step as a postdoc, how do we shape our academic career successfully? How to write a funding proposal, deal with teaching load or recruiting students? Receiving feedback from colleagues about what is beneficial and especially about what is missing is very helpful. Above all, the intensive discussions concerning our experiments are extremely important.

Alexander Vahl: And we wanted to create an interdisciplinary exchange platform for postdocs to get to know about each other’s research topics and working methods, so we can support each other or cooperate. With this approach we are very close to the idea of KiNSIS in general.

Both of you have been elected to the KiNSIS Board as spokespersons for young scientists. What was your motivation?

Terraschke: We can contribute with our perspectives to decisions, e.g. about funding measures for young researchers. But we also learn a lot for our own academic careers. For example, how can I bring colleagues together to set up a collaborative research centre in the future?

Vahl: It is very exciting to learn about university politics as another side of academia, next to research and teaching. The regular exchange with the other postdocs is also important to get a picture of the group’s interests and concerns we are representing.

How does this exchange look like?

Terraschke: Since summer 2021, we have an OLAT group and meet online every week – only two or three appointments had to be cancelled so far! Every week, someone delivers a short update, for example, about their current research progress and receives the feedback from the other colleagues.

Who can attend?

Vahl: The group aims at postdocs from the surface and nano sciences in the fields of chemistry, physics, engineering and life sciences having or starting their own research group. That can also be junior professors. Anyone who wants to discuss a topic or give feedback on KiNSIS is cordially invited. You find the link in the OLAT group - just join!

Exchanging Career Experiences for Breakfast

Within the framework of the International Intelligent Materials 2022, the 2. Women in Science and Engineering Breakfast took place on July 1.

The concept of this interactive event included different theme tables covering various family and career topics. In the different groups, experienced female experts from research and the research environment provided young scientists with their knowledge and experience on one of the following topics:

• Compatibility of an academic career with a family (Bridget Murphy, CAU; Svetlana Mintova, Normandy University, France)
• Women in start-up companies (Christina Wittke, myStandards GmbH)
• Industry or academia? (Iris Hayes, Phi-Stone AG; Berit Zeller-Plumhoff, Helmholtz Zentrum Hereon Geesthacht)
• Alternative career paths in academia (Sonja Reich, CAU; Eva Sittig, CAU)
• Career promotion after the PhD/Postdoc: EU and German funding opportunities (Lisa Lugert, CAU).

The event was well received and participants enjoyed the informal setting and relaxed atmosphere with lively discussions and exchange of information. It was funded by KiNSIS, the CRCs 1261 and 1461, and the RTG 2154.

Text and Photo: Tina Kerby
KiNSIS Young Academy: First Main Meeting has taken place

The KiNSIS Young Academy is a network for doctoral researchers from the working groups of the KiNSIS areas and master students who are interested in research. It aims at getting to know different disciplines and working groups for the exchange of ideas, finding ways to collaborate and the discussion of challenges as a doctoral researcher.

In the beginning of 2022, the members had their first main meeting. They discussed online how to organize their network with the help of a statue and a committee to represent the interests of the doctoral researchers within KiNSIS. An election for the committee was held amongst volunteer students from the KiNSIS work groups. The elected committee now consists of Maren Dworschak, Niklas Kohlmann, Fabio Aldo Kraft, Stefanie Lehmann and Christopher Rahtk. Anyone else who would like to be part of the committee and organize activities or discuss funding measures for doctoral researchers is still very welcome to get in touch.

Due to the corona lockdown, there have not been many activities like lab visits and lunch meetings this year so far, but more are planned. Join their OLAT group to get all information!

Sept. 25-30: Block course on fundamental catalysis science

The Baltic Sea Catalysis Institute („Ostsee-Lehrverbund Katalyse“) is the youngest of several joint Catalysis Institutes for a multi-perspective teaching of all aspects of modern catalysis science of the German Catalysis Society (GeCatS). It was initiated by working groups from CAU, the Leibniz Institute for Catalysis Rostock, the Leibniz Institute for Plasma Science and Technology e.V. (INP) Greifswald, the University of Greifswald, and the University of Rostock. The Lehrverbund’s curriculum offers an advanced training block course to Master and PhD students and is comprised of two parts („A: Fundamental catalysis science“ and „B: Industrial catalysis applications“) altering every second year. This year’s course on part A is taking place from September 25 – 30 at Rostock University, supported by KiNSIS.

The best dissertations of 2021 within KiNSIS

During the Diels-Planck-Lecture 2021 with award winner Prof. R. Stanley Williams from the Texas A&M University (see last newsletter) the best dissertations from the areas of KiNSIS in the year 2021 have also been awarded. Both ceremonies took place in the CAU’s Audimax on November 9, 2021 with strict corona rules. „We are pleased to have such talented, creative and enthusiastic young researchers in the nano and surface science“, said Prof. Jeffrey McCord from the KiNSIS Board, who hosted the event together with his fellow spokesperson Prof. Kai Rossnagel. „With these awards, we want to encourage them in their excellent work and wish them every success in their further research."

Engeneering
Dr.-Ing. Patrick Hayes
„Converse magnetoelectric resonators for biomagnetic field sensing“

Life Sciences
Dr. Jennifer Strehse
„SDR super-family members carbonyl reductase and sniffer from Daphnia species and Mytilus spp.: Oxidative stress response, biomonitoring of sea-dumped munitions and molecular biomarker for TNT contaminations“

Dr.-Ing. Salih Veziroglu
„Functional metal oxide surfaces: Photocatalytic, self-Cleaning and micro-/ nanostructuring applications“

Physics
Dr. Sebastian Meyer
„First principles investigation of complex magnetism in ultrathin film systems“

NEXT CALL FOR APPLICATIONS 2023 for the Doctoral Thesis Prizes will be sent out at the end of 2022. Every KiNSIS member can make suggestions.
KiNSIS members have the opportunity to propose new members to the KiNSIS Board at any time. They should be professor or postdoc at the CAU or at one of its partner institutions. The members vote on admission at the next KiNSIS general meeting. Until then, there is the possibility of provisional membership. Provisional members are included in the email list and are invited to events, but have no voting or application rights yet, e.g. for funding. Following the last general meetings on December 10, 2021 and June 10, 2022, new members were voted on digitally. The following researchers have joined KiNSIS in 2022 as new members so far:

**Prof. Dr. Zeynep Altintas**
Biomaterials, Institute of Materials Science, CAU

**Dr.-Ing. Hamzeh Beiranvand**
Power Electronics, Department of Electrical and Information Engineering, CAU

**Prof. Dr. Daniela Berg**
Working group on the early recognition of Parkinson’s Neurological Clinic, CAU / University Medical Center Schleswig-Holstein (UKSH)

**Dr. Petro Feketa**
Automation and Control, Department of Electrical and Information Engineering, CAU

**Prof. Dr. Manuel van Gemmeren**
Catalyst Controlled Selective Transformations and Ligand Design, Otto Diels Institute for Organic Chemistry, CAU

**Dr. Jannick Jacobsen**
Functional Nanomaterials, Institute of Materials Science, CAU

**Prof. Dr. Klaus Jansen**
Algorithms and Complexity, Department of Computer Science, CAU

**Prof. Dr. Dirk Nowotka**
Dependable Systems Group, Department of Computer Science, CAU

**Dr. Matthias Kalläne**
Electronic Structure / Synchrotron Radiation, Institute of Experimental and Applied Physics, CAU

**Dr. Ralf Köhl**
Algebra, Department of Mathematics, CAU

**Prof. Dr. Olaf Landsiedel**
Distributed Systems, Department of Computer Science, CAU

**Dr. Simone Lipinski**
Universitäres Cancer Center Schleswig-Holstein, UCCSH, Research Coordination, UKSH

**Dr. Sebastian Mangelsen**
Solid State Chemistry and Catalysis, Institute of Inorganic Chemistry, CAU

**Dr. Sharif Najafi**
Solid State Chemistry and Catalysis, Institute of Inorganic Chemistry, CAU

**Prof. Dr. Alexander Schaum**
Automation and Control, Department of Electrical Engineering and Information Technology, CAU

**Dr. Stefan Schröder**
Multicomponent Materials, Institute of Materials Science, CAU

**Dr. Leonard Siebert**
Functional Nanomaterials, Institute of Materials Science, CAU

**Jun.-Prof. Dr.-Ing. Jan Trieschmann**
Theoretical Electrical Engineering, Department of Electrical and Information Engineering, CAU

**Prof. Dr. Arne Traulsen**
Department for Evolutionary Theory, Max Planck Institute for Evolutionary Biology, MPI

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All KiNSIS members:
www.kinsis.uni-kiel.de/en/people
**Patricia Fuchs** was honoured with the Petersen Prize of Technology for her work at the interface of signal processing and medical diagnostics in the CRC 1261 „Biomagnetic Sensing“. For her bachelor thesis on the development and implementation of magnetic cardiac axis determination she won the first prize in the category „Bachelor“. It is endowed with 2,000 euros. Her supervisor was Prof. Gerhard Schmidt, Department of Electrical and Information Engineering. With this award, the Prof. Dr. Werner Petersen Foundation honours outstanding theses in computer science and engineering of high industrial, medical, economic or social significance of universities in Northern Germany.

**Dr. Katia Nchimi Nono** was one of the selected participants of the 71st Lindau Nobel Laureate Meeting (Chemistry) 2022. From June 26 - July 1 about 600 participants could meet around 30 Nobel Laureates in Lindau in person. Nono joined the CAU in July 2021 as a postdoctoral fellow of the Alexander von Humboldt Foundation. In the group of Jun.-Prof. Huayna Terraschke she investigates the potential of iron oxide nanocomposites in the production of photothermal energy and the degradation of organic pollutants through homogeneous photocatalysis.

**Dr.-Ing. Mariya Pravdivts-eva**, Molecular Imaging North Competence Center (MOIN CC) and Department of Radiology and Neuroradiology, UKSH, has received the W.S. Moore Award from the International Society for Magnetic Resonance in Medicine (ISMRM). Her research in the group of Prof. Olav Jansen (UKSH), „Pseudo-Evaluation in Intracranial Aneurysms on Black-Blood MRI: Effects of Flow Rate, Spatial Resolution, and Additional Flow Suppression“, is the result of a collaboration between UKSH, the University of Magdeburg, and the University of Wisconsin School of Medicine and Public Health, USA. The W.S. Moore Award is given for outstanding clinical research in the field of magnetic resonance.

The Aerosol Society awarded **Jana Schembera**, pharmacist and PhD student in the group of Prof. Regina Scherließ, the Drug Delivery to the Lungs (DDL) career development Grant. Her doctoral thesis aims at the development of an inhalable dry powder platform for mRNA vaccines. The flexible grant up to 5,000 pounds is intended to support new and emerging scientists by funding projects which contribute to a scientist’s career development.

**Dr.-Ing. Fabian Schütt** from the Group „Functional Nanomaterials“ (Prof. Rainer Adelung, CAU) and Dr. Tino Schmied (Dresden University of Technology) have won the renowned international „INNOspace Masters“. The competition, initiated by the German Space Agency, honours groundbreaking ideas for space travel and other fields. They received 400,000 euros to implement their joint project: They aim to develop lightweight protective caps based on aeromaterials that are easy to adapt to different forms and enable frequency selectivity. This could help to protect electronics against interference and increase the security of digital communication in a variety of application areas.

**Dr.-Ing. Leonard Siebert** has won the „Material Vital Prize 2021“ for the „Best Sustainable Development in the Field of Polymers for the Health Sector“. The materials scientist from the „Functional Nanomaterials“ working group (Prof. Rainer Adelung) was awarded for smart wound plasters, which he developed on the basis of hydrogels for the treatment of chronic skin wounds. The prize was awarded by the Federal Ministry of Education and Research (BMBF) for the funding guideline „Material Innovations for Healthy Living: ProMatLeben - Polymers“. It is endowed with 5,000 euros.

At this year’s CAU faculty award ceremony, **Dr. -Ing. Leonard Siebert** was honoured for the best dissertation in the Faculty of Engineering. His work, entitled „Additive and Self-Organised Manufacturing“, was supervised by Prof. Rainer Adelung in the Group of „Functional Nanomaterials“. CAU President Prof. Simone Fulda and Vice-President Prof. Nele Matz-Lück congratulated the 14 prize winners, who presented their work in the small auditorium of the Audimax and also via video conference. The CAU dissertation prizes are endowed with 1,000 euros each.

The German Society for Epileptology (DGfE) has appointed **Prof. Dr. Ulrich Stephani**, Clinic for Pediatric and Adolescent Medicine II at UKSH and former Dean of the Medical Faculty at CAU, as an honorary member. The DGfE thus recognizes Ulrich Stephani’s special services to the further development and dissemination of knowledge about epilepsy and the promotion of research, prevention, diagnosis and treatment.
Transfer & Outreach

DATES

European Researchers’ Night Science Day
September 30, 10:00-22:00, Seeburg & other locations in Kiel

KINSIS Colloquium
Prof. Michael Bonitz, CAU
„Electron dynamics in graphene nanostructures“
October 5, 12:00, online

Ringvorlesung Synchrotron
PD Dr. Bridget Murphy, CAU
„Beleuchtung der Dynamik und Struktur von Flüssigkeitsoberflächen“
October 28, 12:00, Chemiehörsaal 1, Otto-Hahn-Platz 5

KINSIS Colloquium
Prof. Angelika Brückner
(Leibniz-Institut für Katalyse e. V., Rostock, Critical Friend of KINSIS)
November 2, 12:00, online

General Meeting of KINSIS and Get together
November 25, 13:30, Lecture hall D, Audimax

Colloquia within the areas of KINSIS:
www.kinsis.uni-kiel.de/en/dates-and-events

CAU Innovation GmbH for industrial projects was founded

In March 2022, the CAU Innovation GmbH was founded to simplify and intensify (regional) cooperation with companies. At the KINSIS Transfer Lunch on April 29, Axel Koch, Head of the Transfer Department, CAU, presented the new instrument and its further perspectives online. The GmbH focuses on industrial projects led by CAU scientists and in particular on increased cooperation with regional industry. With CAU as the sole shareholder, the GmbH is highly flexible and attractive, both for new research projects, but also as a platform for new transfer initiatives and formats, Koch emphasized.

Transfer Lunch

In the KINSIS Transfer Lunch on February 11, Dr.-Ing. Rodrigo Lima de Miranda gave insights into the way of founding the ACQUANDAS GmbH as a successful spin-off of the CAU. Together with the audience, useful tips and challenges were discussed online on how to get from a PhD to your own company as a scientist.

Open lecture series

In the summer semester started an open lecture series („Ringvorlesung“) on the application of synchrotron radiation in physics, chemistry and biology at the CAU. It gives an overview how this tool can be used to colleagues from different disciplines and the interested public. Members of KINSIS and the Deutsches Elektronen-Synchrotron DESY gave lectures on using synchrotron radiation in general (Prof. Kai Rossnagel), on chemical processes in the interstellar space (Prof. Melanie Schnell), nanoporous materials (Prof. Norbert Stock) or luminescent materials (Jun.-Prof. Huayna Terraschke). PD Dr. Bridget Murphy will give the last talk on October 28.

First school internships at KINSIS

After receiving several requests from school students to do their „Schulbetriebspraktikum“ (school internship), four 15 year old school students visited the CAU in the first half of 2022. The internship is mandatory in the 9th grade to get first insights into the working life in a company or an institution outside the school.

With the help of several KINSIS groups of physics, material science, electrical engineering, pharmacy and chemistry, an interdisciplinary and varied programme was developed. This way Bendix, Keyvan, Lilly and Linus got a varied overview of different departments and locations. They stayed around two days at every group getting a first glimpse into research and study programmes and carrying out simple experiments themselves. These initial experiences will now be evaluated to decide whether KINSIS would like to offer those internships actively in the future.

The groups of Rainer Aderlungs, Franz Faupel, Martina Gerken, Marco Liserre, Kai Rossnagel, Regina Scherl and Gerhard Schmidt, Norbert Stock and Huayna Terraschke have been involved.

KINSIS Colloquium and Transfer Lunch

The KINSIS Colloquium takes place online on the first Wednesday of every month at 12:00. Members and guests are cordially invited to present their research here.

In addition, the KINSIS Transfer Lunch takes place once or twice during the semester (Fridays, 12:00). KINSIS members and CAU staff present and discuss topics from the field of technology transfer.

If you would like to present or discuss a topic, please get in touch: jsiekmann@uv.uni-kiel.de