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überregional**Research platform CELEST and Cluster of Excellence POLiS inaugurated**

**The Center for Electrochemical Energy Storage Ulm & Karlsruhe (CELEST), Germany's largest research and development platform in the field of electrochemical energy storage, is off to a flying start. The KIT, Ulm University and the Centre for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW) celebrated the inauguration of the joint research platform and its first outstanding success with guests from politics, research and industry: the approval of the Cluster of Excellence Post Lithium Storage (POLiS) in the Excellence Strategy of the federal and state governments.**

Germany's largest electrochemical energy research platform was officially launched today, Tuesday, 26 March: At the Center for Electrochemical Energy Storage Ulm & Karlsruhe (CELEST), researchers from various disciplines are developing high-performance and environmentally friendly energy storage systems – which are urgently needed for a successful energy revolution and climate-friendly electric mobility. The platform was co-founded by the Karlsruhe Institute of Technology (KIT), Ulm University and the Centre for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW). State Secretary of the Federal Ministry of Education and Research (BMBF), Christian Luft and head of the Ministry of Science, Research and the Arts Baden-Württemberg, Ulrich Steinbach, attended the inauguration ceremony at the Helmholtz Institute Ulm to honour the platform's first outstanding success: In the highly competitive Excellence Strategy of the federal and state governments the partners acquired Germany's only Cluster of Excellence in battery research. The multi-location Cluster of Excellence Post Lithium Storage (POLiS) receives funding of about 50 million euros for the next seven years.

State Secretary Christian Luft gave a welcoming speech at the opening ceremony where he emphasised the great importance of battery research in tackling current societal challenges: 'Efficient energy storage systems are the key to securing future energy supply and mobility. In order to achieve this, we need new and cost-effective battery concepts that store more electricity, charge quickly and are safe. I am delighted that CELEST and the Cluster of Excellence POLiS are contributing to this important task and the BMBF's umbrella concept of a "Battery Research Factory" with their foundational work'.

Ministerial Director Ulrich Steinbach, head of the Ministry of Science, Research and the Arts Baden-Württemberg, added: 'The state government of Baden-Württemberg recognised the strategic importance of battery technologies early on and supported them accordingly. The acquisition of the POLiS cluster, the activities in the FET Flagship Battery 2030+ and many other university projects in Baden-Württemberg demonstrate our strength in battery research. We have reserved further funding for this research field in the state budget. This way we will bring excellent research and industrial application even closer together.'

The inauguration ceremony for CELEST and POLiS was held at the Helmholtz Institute in Ulm (HIU): The HIU's inception in 2011 marked the beginning of the successful battery research collaboration between KIT, Ulm University and ZSW. The research platform CELEST pools the competencies of 29 institutes and 45 working groups, embracing the entire chain from basic research to practical development and battery production. The platform's research foci 'lithium ion technology', 'energy storage beyond lithium' and 'alternative technologies for electrochemical energy storage' cover

all relevant research topics with regards to electrochemical energy storage. Alongside industrial collaborations and technology transfer, CELEST aims to promote young scientists and thus also offers a graduate school.

The founding partners KIT, Ulm University and ZSW have traditionally been strong in battery research. The official launch of the research platform CELEST and the Cluster of Excellence POLiS is the next big step on the path to novel energy storage systems. 'The launch of CELEST marks a milestone in energy research and paves the way for the European research initiative Battery 2030+, where we strive to play a leading and internationally visible role in developing the technology for next-generation batteries together with research institutions from all over Europe. Energy research is a key focus area at KIT. We are excited to combine our strengths and competencies with those of our partners in the best possible way with this new platform and our joint Cluster of Excellence,' says Professor Holger Hanselka, President of the Karlsruhe Institute of Technology.

His counterpart Professor Michael Weber, President of Ulm University, also views the new platform as an excellent addition to the research environment of the Science City Ulm: 'Basic electrochemical research has been a tradition at Ulm University since the 1980s. Today, the University, the Helmholtz Institute Ulm and the ZSW cover the entire development chain of battery research in the Science City Ulm. These activities feed into the CELEST research platform, which was co-founded with the KIT and realised the outstanding achievement of acquiring the Cluster of Excellence,' says Professor Weber. In the Cluster of Excellence POLiS scientists in Ulm and Karlsruhe are conducting research into novel, powerful and sustainable battery technologies. Unlike many batteries that power laptops, smartphones or electric cars today, these future energy storage devices are designed to work without the use of the finite elements lithium and cobalt.

The Centre for Solar Energy and Hydrogen Research Baden-Württemberg builds the main bridge to practical application: 'Our contribution to the activities of CELEST and POLiS are 30 years of experience in applied battery research plus Europe's biggest research platform for the industrial production of large lithium-ion cells,' explained Dr. Margret Wohlfahrt-Mehrens, who heads the battery research at the ZSW and the POLiS research unit.

At the launch festivities, researchers from Karlsruhe and Ulm provided insights into their scientific work and presented their new battery research platform and Cluster of Excellence: 'The sites in Ulm and Karlsruhe cover the entire spectrum of battery research – from experimental basic research of atomic-scale elementary processes to multi-scale modelling of relevant processes and the development of new storage materials and laboratory cells. CELEST bundles this expertise that goes all the way to the near-series production of large battery cells at the ZSW', explained Professor Maximilian Fichtner, director of the new platform and spokesman of the Cluster of Excellence POLiS. 'The CELEST initiative makes us one of the world's largest players in battery research. CELEST has already started to radiate its appeal – substantiated by its success in the Excellence Strategy as well as numerous industry requests for collaboration,' the deputy director of the HIU continued.

After the festivities, more than 100 guests had the opportunity to experience battery research first hand: The laboratories of the Helmholtz Institute Ulm and the ZSW Laboratory for Battery Technology (eLaB) opened their doors and offered guided tours.

Pictures of the event are available after 3 p.m. at:  
<https://kurzlink.de/celest>

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Ms. Niyousha Karimi Paridari: PhD student focusing on solvent and Na ion co-intercalation in graphitic materials  
Photo: Laila Tkotz (KIT)