

Chemical Energy Storage and Conversion The Eighth German-Russian Week of the Young Researcher

**Kazan National Research Technical University named after A.N.Tupolev - KAI
German-Russian Institute of Advanced Technologies (GRIAT)
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In September 2018, the German Academic Exchange Service (DAAD) and the German Research Foundation (DFG) under the umbrella of the German Centre for Research and Innovation (DWIH Moscow) will hold the 8th German-Russian Week of the Young Researcher. The main goal of these weeks is to encourage wider networking and stronger partnerships among early career researchers. Doctoral and postdoctoral researchers as well as professors are invited to come together and to present their research projects in the field of “Chemical Energy Storage and Conversion” at the German-Russian Institute of Advanced Technologies in Kazan. The Week is organized with the support of the Embassy of the Federal Republic of Germany in Moscow.

Given the growing population and rising living standards, the world is faced with an increasing demand for energy. In fact, fossil fuels are not a sustainable resource and the natural reservoirs are limited. In all future scenarios, chemical energy storage and conversion plays a vital role to satisfy the increasing demand for energy. Innovative concepts offer opportunities for new processes without increasing harmful emissions of carbon dioxide (CO₂). Chemical research is the key for a fundamental understanding of energy conversion and it opens the door to a broad range of future technologies. Sustainable solar energy technologies are the basis for efficiently harvesting energy from sunlight. Innovative fuel cells can efficiently convert fuels and exploit new energy sources. New and robust catalysts based on elements that are more abundant will pave the road to more efficient processes. Thermoelectric materials, which generate electricity directly from heat, can also be used for energy conversion applications. Next-generation batteries with higher capacities and beyond lithium will flexibly store and transport energy, thus enabling higher degrees of mobility.

Together with experts and young scientists, we will discuss particular topics of interest for chemical energy storage and conversion. Special emphasize will be given to the challenges for improved materials and processes and their potential impact on existing and future applications and innovation. The organizers strive for a good mix of participants at different career stages and different fields of expertise that include contributions from Materials Chemistry, Physical Chemistry, Process and Chemical Engineering, and Theory.

German-Russian Weeks of the Young Researcher take place in Russia once a year in order to discuss current topics of mutual interest. After focusing on several topics such as “Energy” (2011), “Health” (2012), „Aviation and Space“ (2013), „Global History“ (2014), “Discrete Geometry” (2015), “Urbanism” (2016), and “Computational Biology” (2017), this year we discuss the “Chemistry of Energy Storage” at the German-Russian Institute of Advanced Technologies (GRIAT) located at one of the leading Russian universities the National Research Technical Tupolev University (KAI). GRIAT is a unique educational platform that unites German and Russian universities and companies, trains multilingual engineers with global engineering skills, encourages multinational research and development activities, and promotes cross-cultural understanding and friendship between Germany and Russia.

For more information, feel free to contact us:

Dr. Wilma Rethage, DFG Russia, Tel. +7 495 956 26 91, E-mail: russia@dfg.de

Dr. Andreas Hoeschen, DAAD/DWIH Moscow, Tel. +7 495 974 63 69, E-mail: dwh@daad.ru