

2022 Korea-Germany S&T Workshop

Date and Time: November 21-22, 2022

Venue: Central Library (ZB), Forschungszentrum Jülich, Germany

Organizer: Forschungszentrum Jülich (FZJ), National Research Council of Science and Technology (NST), Embassy of the Republic of Korea in Bonn, Germany

Objectives: The aim of the FZJ-NST joint workshop is to strengthen existing cooperation in common areas of interest between the two organizations and search for potential areas for further collaboration. It is a venue for information sharing for researchers and also building network.

Tentative Programme:

Day 1 (November 21 (Mon), 2022) - Open Seminar

Time (CET)	Agenda / Details	Lead
08:30-08:55	Registration	
08:55-09:00	Group Picture in front of the Central Library	
Opening and Plenary Session (Venue: Lecture Theatre)		
09:00-09:05	Congratulatory Remarks	Seungjae Huh Consul General, Embassy of the Republic of Korea in Bonn, Germany
09:05-09:10	Greetings from South Korea Video	Dr. Bok Chul Kim Chairman, NST
09:10-09:30	Opening Remarks & Introduction of the Forschungszentrum Jülich (FZJ)	Prof. Wolfgang Marquardt Chairman, FZJ
09:30-09:50	Introduction of the National Research Council of Science & Technology (NST) and the FZJ-NST bilateral program	Dr. Chaejun Song Head, International Cooperation Team, NST
09:50-10:10	Cooperation between Germany and South Korea	Dr. Carolin Lange European and International Cooperation, DLR Project Management Agency

10:10-10:30	Programs for cooperation between Germany and South Korea	Dr. Won Keun Choi Director of the Korean Innovation Center (KIC) Europe GmbH
10:30-10:50	Introduction of EUREKA – a network for cross-border innovation	Katharina Lehmeier European and International Cooperation, DLR Project Management Agency
10:50-11:10	International cooperation in Horizon Europe and upcoming relevant calls	Dr. Gerd Schumacher Sustainable Development and Innovation, Business Areas, Project Management Jülich
11:10-11:30	Excellence, Impact and Implementation – Writing a Competitive HEU Proposal	Dr. Theda Backen Consultant EU Research Funding, Corporate Development, FZJ
11:30-11:40	Final report of the JESSICA project – a first FZJ-NST joint project	Alexander Eberst Photovoltaics (IEK-5)
11:40-13:00	Welcome Luncheon Welcoming by the Vice-Chairman of the FZJ, Mr. Karsten Beneke Opening of the buffet by the Consul General, Seungjae Huh	
Parallel Session 1: Bio and Chemistry (Venue: R209 / Session Chair: Prof. Jan K.G. Dhont)		
13:00-13:20	Endocrine-disrupting studies using alternative animal testing and application of metabolic flux	Dr. Changseon Ryu Environmental Safety Group, KIST EU
13:20-13:40	From plant nutrient uptake to green biorefineries	Dr. Holger Klose Head of Research “Alternative Biomass” Dr. Borjana Arsova Head of Research “Root Dynamics” Plant Science (IBG-2)
13:40-14:00	Frequency Mixing Magnetic Detection of Magnetic Nanoparticles for Immunoassays and Magnetic Particle Imaging	Prof. Hans-J. Krause Group Leader “Magnetic Field Sensors” Bioelectronics (IBI-3)
14:00-14:20	Health Break	
14:20-14:40	Untargeted screening of chemicals in environmental samples: <i>Toxic chemicals in ultra-fine particulate matters</i>	Dr. Seungyun Baik Environmental Safety Group, KIST EU
14:40-15:00	Analytics at the interface between Chemistry, Physics and Biology	Dr. Stephan Küppers Director, Central Institute for Engineering, Electronics and Analytics (ZEA-3)
15:00-15:20	Self-organized mesophase structures of rod-like viruses and DNA chains	Dr. Baeckkyoung Sung Biosensor Group, KIST EU

15:20-15:40	Phase behaviors of charged DNA-viruses in external fields	Dr. Kyongok Kang Biomacromolecular Systems and Processes (IBI-4)
15:40-16:20	Q&A and Discussion	
Parallel Session 2: Energy (Venue: Lecture Theatre / Session Chair: Dr. Gerd Schumacher)		
13:00-13:20	KIST Europe-based FZJ-NST collaboration research topics and joint project development strategies in energy sector	Dr. Sangwon Kim Biosensor Group, KIST EU
13:20-13:40	Development of High-Temperature PEM Fuel Cells based on Ionic Liquids	Dr. Carsten Korte Group Leader Dr. Christian Rodenbücher „Physicochemical labor“ Electrochemical Process Engineering (IEK-14)
13:40-14:00	Interfaces in Energy Storage and Energy Conversion in Fuel and Electrolyzer Cells	Dr. Lucy Dittrich Postdoc Prof. Florian Hausen Group Leader “Interface Electrochemistry” Fundamental Electrochemistry (IEK-9)
14:00-14:20	Health Break	
14:20-14:40	Technologies for the minimization and stabilization of radioactive waste (ILW/LLW) generated from operation and decommissioning of nuclear facilities	Dr. Keunyoung Lee Nuclear Fuel Cycle and Environment Research, KAERI
14:40-15:00	Pre-disposal Research: Waste Management Concepts for Special Radioactive Waste	Prof. Giuseppe Modolo Group Leader "Innovative Waste Management Strategies", Nuclear Waste Management (IEK-6)
15:00-15:20	Degradation analysis and development of durable solid oxide cell for efficient hydrogen and electricity production	Dr. Dong Woo Joh KIER
15:20-15:40	Solid Oxide Cells at IEK-1: From materials and processing to costs and recycling	Dr. Norbert Menzler Head Department “Solid Oxide Cells” Materials Synthesis and Processing (IEK-1)
15:40-16:20	Q&A and Discussion	
Parallel Session 3: Quantum Technology (Venue: R301 / Session Chair: Seong Su Park)		
13:00-13:30	Research in the European Center of Excellence RAISE: Advancing AI Applications on Novel Computing Architectures	Dr. Anderas Lintermann Leader Simulation and Data Lab "Highly Scalable Fluids & Solids Engineering" Jülich Super Computing Centre (JSC)

13:30-14:00	Quantum Solvability and Quantum Safe Cryptography	Dr. Seong Su Park R&D Center Director, Quantum Technology Research Department, ETRI
14:00-14:30	Explorativ devices for future information technology	Prof. Detlev Grützmacher Institute Director Semiconductor Nanoelectronics (PGI-9)
14:30-14:45	Health Break	
14:45-15:15	Superconducting transmon qubits for scalable quantum computing platform	Dr. Yongho Lee Center for Superconducting Quantum Computing System, KRISS
15:15-15:45	Quantum Theory, Algorithms and Control for Quantum Technologies	Dr. David Edward Bruschi Institute for Quantum Computing Analytics (PGI-12)
15:45-16:20	Q&A and Discussion	

Day 2 (November 22 (Tue), 2022) – Site Visit and Research Group Meeting

GRI researchers from Korea will visit Jülich research institutes that are related to their research interests. Korean and Jülich researchers could also meet in small groups on the afternoon of November 22 to discuss potential research topics together.

Time (CET)	Agenda / Details	Lead
10:00-10:45	Visit to the Peter Grünberg Institute (Meeting point: Building 02.14)	Semiconductor Nanoelectronics (PGI-9)
11:00-12:00	Visit to the Institute of Energy and Climate Research (Meeting point: Building 03.2, E1)	Electrochemical Process Engineering (IEK- 14)
12:00-13:30	Small Group Meetings & Lunch in Lecture Theatre / Foyer of the Central Library	
13:30-13:45	Closing (Venue: Lecture Theatre)	