الجَمعيّة العِلميّة المَلكيّة
Royal Scientific Society

Under the Patronage of
Her Royal Highness Princess Sumaya bint El Hassan
President of the Royal Scientific Society

Alexander von HUMBOLDT STIFTUNG

FRONTIERS OF SCIENCE AND TECHNOLOGY

MENAGFOST 2026

Middle East and North African–German Frontiers of Science and Technology Symposium

Frontiers of AI-Driven Industrial Transformation, Sustainable Technologies and Green Innovation

13–16 November 2026 · Hashemites Auditorium, Royal Scientific Society, Al-Jubaiha, Amman, Jordan

Friday, 13 November

Arrival of participants. No official programme.

Saturday, 14 November OPENING · SESSION I · POSTERS

08:30–08:45 Gathering at the reception, Signia by Hilton Amman (Shmeisani)
08:45–09:15 Bus transfer, Signia by Hilton → Royal Scientific Society (RSS)

09:15–09:45 **Registration**

10:00–11:15 **Opening Session**
10:00–10:05 Jordanian National Anthem
10:05–10:10 Welcome · Master of Ceremony
10:10–10:20 Introductory Film · The Royal Scientific Society
10:20–10:30 Opening Remarks · Prof. Dr. Robert Schlögl, President, Alexander von Humboldt Foundation
10:30–10:35 Welcome Remarks · H.E. Dr. Bertram von Moltke, Ambassador of the Federal Republic of Germany to the Hashemite Kingdom of Jordan
10:35–10:55 Opening Address · HRH Princess Sumaya bint El Hassan, President of the Royal Scientific Society
10:55–11:05 Signing of the Memorandum of Understanding between the Royal Scientific Society and the Alexander von Humboldt Foundation
11:05–11:15 Group Photo

11:15–11:45 **Coffee Break and Speed Meeting**
Coffee and tea while meeting in short one-to-one conversations with changing partners across disciplines and countries.

11:45–12:00 Alexander von Humboldt Foundation: Funding Programmes and Activities (incl. CONNECT)
Dr. Tobias Böttcher and Anke Teubner, Alexander von Humboldt Foundation

12:00–12:10 **Opening Remarks by the Conference Chairs**
Dr. Diya Alsafadi, Conference Chair, Jordan, and Dr. Mohamad Bdiwi, Conference Chair, Germany

12:10–14:10 **SESSION I · Artificial Intelligence & Human-Centred Technologies**
Chairs Dr. Bushra Alhijawi (Princess Sumaya University for Technology) · Prof. Giang Nguyen (TU Dresden)
5–10 min Introduction by the session chairs
15 min **Artificial Intelligence and Societal Transformation in the Gulf: Human-Centered Innovation, Governance, and the Case of Saudi Arabia**
Dr. Désirée Kaiser, University of Bonn
15 min **AI That Supports, Not Replaces: Human-Centered Optimization for Smarter Healthcare**
Prof. Mohammad Abdel-Rahman, Princess Sumaya University for Technology
15 min **Operationalizing AI in Healthcare Crises: A Human-Centered Approach to Emergency Care and Patient Safety**
Fawzia Elsherif, Alexandria University
15 min **Beyond the Fitts List: Rethinking Human Oversight in Safety-Critical AI Systems**
Dr. Jonas Pöhler, Fraunhofer Institute for Intelligent Analysis and Information Systems IAIS
50–55 min Cross-disciplinary discussion between all four speakers and the audience, moderated by the session chairs

14:10–15:10 *Lunch*
15:10–15:55 Poster Flash Talks (Part I): Posters 01–17, all four topics
15:55–16:55 Poster Session I
16:55–17:25 *Coffee Break*
17:25–18:10 Poster Flash Talks (Part II): Posters 18–33, all four topics
18:10–19:10 Poster Session II
19:10 Bus transfer RSS → Signia by Hilton

Sunday, 15 November SESSIONS II & III · LAB TOUR · JORDAN MUSEUM

07:15–07:30	Gathering at the reception, Signia by Hilton Amman (Shmeisani)
07:30–08:00	Bus transfer, Signia by Hilton → Royal Scientific Society (RSS)
08:00–08:30	Arrival at RSS and technical check for the Session II speakers
08:30–10:30	**SESSION II · Intelligent Manufacturing & Industrial Transformation** **Chairs** Prof. Mohammed Abdelrahman Mohammed Ghorab (Technische Universität Berlin) · Prof. Hussam Jihad Khasawneh (Al Hussein Technical University) **5–10 min** Introduction by the session chairs **15 min** **Beyond Connectivity: 6G and Quantum Technologies for Intelligent Industrial Systems** Dr. Bassem Arar, Dresden University of Technology (TU Dresden) **15 min** **A Cross-Disciplinary Closed-Form Model Framework for Machining Process, Dynamics and Energy and Its Integration with Physics-Informed AI for Intelligent Machining Systems** Prof. Chigbogu Ozoegwu, Dresden University of Technology (TU Dresden) **15 min** **Building Resilient Supply Chains: AI-Driven Cognitive Digital Twins for Real-Time Disruption Management** Prof. Islam Ali, Egypt-Japan University of Science and Technology **15 min** **Human Capital for the Twin Transition: Skills, Resilience, and Innovation for AI-Driven Sustainable Industrial Transformation** Dr. Nermin Mousa, Latakia University (formerly Tishreen University) **50–55 min** Cross-disciplinary discussion between all four speakers and the audience, moderated by the session chairs
10:30–11:00	*Coffee Break*
11:00–13:00	**SESSION III · Circular Economy, Green Chemistry & Sustainable Materials** **Chairs** Prof. Jakob Albert (University of Hamburg) · Prof. Mohamad Midani (NC State University / German University in Cairo) **5–10 min** Introduction by the session chairs **15 min** **Unlocking the Potential of Brown Macroalgae: Green Biorefinery Routes from Bioactive Compounds to Biodegradable Films** Dr.-Ing. Mariem Hamed, Hamburg University of Technology (TUHH) **15 min** **Electrochemical Carbon Dioxide Reduction (eCO_2RR): A Pathway Toward a Sustainable Chemical Industry** Dr. Ahmad Al Barakat Almasalma, Alantum Europe GmbH **15 min** **The Six-Legged Solution: Upcycling Organic Waste into Sustainable Protein and Bio-Fertilizer via Insect Biotechnology** Dr. Marwa Shumo, Sultan Qaboos University, Sultanate of Oman / University of Bonn, Germany **15 min** **From Lab Bench to Societal Impact: Bioengineered Nanomaterials for Precision Health and Sustainable Innovation** Prof. Samaa Abdullah, Applied Science Private University **50–55 min** Cross-disciplinary discussion between all four speakers and the audience, moderated by the session chairs
13:00–14:00	*Lunch at RSS*
14:00–15:00	RSS Lab & Innovation Tour (parallel thematic tracks)
15:00	**Bus departure from RSS to the Jordan Museum**
15:30–17:30	Cultural Programme: visit to the Jordan Museum, downtown Amman (2 hours, special opening for the symposium)
19:00	*Dinner in the City*
After dinner	Bus transfer to Signia by Hilton (time to be confirmed)

Monday, 16 November SESSION IV · COLLABORATION · CLOSING

07:45–08:00	Gathering at the reception, Signia by Hilton Amman (Shmeisani)
08:00–08:30	Bus transfer, Signia by Hilton → Royal Scientific Society (RSS)
08:30–09:00	Arrival at RSS and technical check for the Session IV speakers
09:00–11:00	**SESSION IV · Climate Resilience & WEFE Nexus Solutions** **Chairs** Dr. Almoayied Assayed (Royal Scientific Society) · Prof. Mariana Madruga de Brito (Helmholtz Centre for Environmental Research – UFZ) **5–10 min** Introduction by the session chairs **15 min** **From Nexus Models to Deployable Decision Support: AI-Ready Optimization for Climate-Resilient Water-Energy-Food Systems in Arid Regions** Dr. Sa'd Abdel-Halim Shannak, Hamad Bin Khalifa University (HBKU) **15 min** **Making Forecasts Actionable, Together: Flood and Drought Early Warning between Germany and MENA** Dr. Husain Najafi, Helmholtz Centre for Environmental Research – UFZ **15 min** **A Nexus Perspective on Transformative Shifts in Bioeconomy Sectors: Integrating Artificial Intelligence and System Dynamics** Dr. Florian Siekmann, Forschungszentrum Jülich **15 min** **Impact of Water Quality on Membranes for Water Treatment, Green Hydrogen and Fuel Cells in the Water–Energy–Food–Ecosystem Nexus** Prof. Ahmad Telfah, Royal Scientific Society, Jordan (DAAD Langzeitdozent and Chair Holder, Jordan–Germany Research Chair in Water Studies, DAAD–RSS) / Fachhochschule Dortmund, Germany **50–55 min** Cross-disciplinary discussion between all four speakers and the audience, moderated by the session chairs
11:00–11:30	*Coffee Break*
11:30–12:45	Workshop: Exchange on Collaboration Ideas *Participants discuss possible ideas for collaboration in small groups. Groups are based on the four sessions and moderated by the session chairs.*
12:45–13:30	Individual Exchange on Future Collaboration *Participants review collaboration ideas and individually discuss future joint research projects with potential collaboration partners.*
13:30–13:45	Wrap-up of the Sessions *Session chairs briefly summarise the key takeaways from the sessions.*
13:45–14:00	Closing Remarks
14:00	*Farewell Lunch*

Digital programme and agenda book
Scan the QR code to open the programme and the full agenda book (PDF) on your phone.