

**Clusters of Scientific Innovation in the Middle East and North Africa
(COSIMENA)**

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German Science Week 2021

In the framework of the lighthouse project “Clusters of Scientific Innovation in the Middle East and North Africa” (COSIMENA), the DAAD Regional Office Cairo conducted one of its annual highlights, the German Science Week (GSW), from July 11th until July 15th, 2021. Through different formats such as eight presentations, four reports, four soft skills mini modules, ten scientific talks and a panel discussion about academia in times of the pandemic, the event consolidated the DAAD motto “Change by Exchange”. The virtual event facilitated a chance for promising Egyptian doctoral and postdoctoral candidates to network with high-profile professors, scientists, experts, policymakers and DAAD Alumni from Germany and Egypt. For five days, the scholars were invited on a journey through the German higher education and research landscape. Besides scientific advising, the German Science Week provided a concrete overview of databases and funding opportunities from the DAAD and other German universities and research foundations.

The event was inaugurated by **Ms. Isabell Mering, Director of the DAAD Regional Office Cairo**. Subsequently, **Mr. Philippe Maupai, Head of Science Department and Protocol at the Embassy of the Federal Republic of Germany in Cairo**, honoured the event with enriching greeting words. **Mr. Maupai** celebrated the interest of Egyptian scientists in German academia while addressing the richness of German social life. He considered the DAAD Alumni as core facilitators of binational relations, which vitalises the Embassy’s mission.

Overview German Higher Education and Research Landscape

Introducing the event’s scope, **Ms. Fatma Soliman**, Deputy Director of the DAAD Regional Office Cairo, presented the “DAAD and its Contribution to Scientific Collaboration”. She outlined the DAAD ‘Strategy 2025’ in three key words: international exchange, internationalisation, and global responsibility. In figures, the DAAD funded 1,060,000 individuals outside of Germany since 1950 of which the MENA region is a prime recipient.

Mr. Felix Bock, Marketing Coordinator at the DAAD Regional Office Cairo, broadened the scope from the DAAD specifically to “The German Study and Research Landscape” in general. In summing up the pillars of research investment, he referred to the ‘German Excellence Strategy’ and ‘Horizon Europe’ on the political level. The latter funding mechanisms ensure competitiveness and growth in the research landscape of Germany and Europe correspondingly.

“The DAAD and its Funding Mechanisms” provide access for international scholars to the German research landscape. **Ms. Heba Ahmed**, Programme Coordinator at the DAAD Regional Office in Cairo, referenced the German-Egyptian Research Short/Long Term Scholarship Programme (GERSS/GERLS), funded by the DAAD Regional Office Cairo in cooperation with the **Egyptian Ministry of Higher Education and Scientific Research (MHESR)**, and the German Egyptian Mobility Programme for Scientific Exchange and Excellence Development (GE-SEED), jointly funded by the DAAD and the Science Technology Development Fund (STDF). In the fields of Aeronautics, Space, Transportation and Energy, the DAAD and the **German Aerospace Centre (DRL)** offer the DRL-DAAD Research Fellowships. . In the fields of Aeronautics, Space, Transportation and Energy, the DAAD and the **German Aerospace Centre (DRL)** offer the DRL-DAAD Research Fellowships. Short-term Scholarships in Pharmacy are awarded by the DAAD-Stiftung through the **Prof. Dr Mahfouz Kassem** Scholarship. For the continuation of academic endeavours in Germany by postdocs, the Bilateral Exchange of Academics, Re-invitation Programme for Former Scholarship Holders, and the Postdoctoral Researchers International Mobility Experience (PRIME) are granted.

Presentations and Reports of German Universities and Research Institutions

Throughout the German Science Week, presentations with an overview of the different programmes, foci, and strategic goals of high-ranking German universities and research institutions were given. The **Kühne Logistics University (KLU)**, the **Freie Universität Berlin (FU Berlin)**, the **Philipps-Universität Marburg (UMR)**, the **Leibniz University Hannover (LUH)**, the **Technical University of Darmstadt (TU Darmstadt)**, the **Technische Universität Berlin (TU Berlin)**, and the **Technische Universität München (TUM)** were represented, including the prestigious the **Alexander von Humboldt Foundation (AvH)**.

The **KLU** accommodates future leaders in Logistics, Management and Supply Chain Management. 'Digitalization', 'New Value-Adding Processes', and 'Sustainability' are the **KLU** research foci. The Kühne Foundation awards university-specific PhD scholarships.

FU Berlin is renowned for its Area Studies and its outstanding education and research in the Humanities and Social Sciences. The member of the '**Berlin University Alliance**' was multiple times awarded with the 'German Excellence Strategy' by offering four 'Clusters of Excellence': 'Temporal Communities: Doing Literature in a Global Perspective' (Literature across time and space), 'NeuroCure' (New perspectives in therapies for neurological disorders), 'MATH+' (The Berlin Mathematics Research Center) and 'SCRIPTS' (Global challenges to liberal democracies as a model of order). The Rising Star 2.0 programme of Junior Fellowships targets top-early-career-scientists in Biology, Chemistry, and Pharmacy. Supervisors at **FU Berlin** can also apply for PhD Test Scholarships. In addition, **FU Berlin** offers an Erasmus+ programme.

Ms. Irene El-Khorazaty, Head of the Liaison Office of the **Philipps-Universität Marburg** in Cairo, noted that the university's main study fields are Life and Natural Sciences and Humanities and Social Sciences. At a glance, the key research areas are 'Security, Order, Conflict', 'Language Dynamics', 'Semiconductor Research', 'Neurosciences', 'Biosciences' and 'Medicine'. **PUM** offers an Erasmus programme, including exchange agreements with **Ain Shams University, Alexandria University, Cairo University** and the **American University in Cairo**. The Jameel Education Foundation Scholarship Fund Programme is designated to doctoral candidates from the MENA.

Education at **LUH** is focused on Engineering. The member of the '**TU9 Alliance**' of leading 'Universities of Technology' in Germany thrives in five research fields: 'Biomedical Research and Engineering', 'Quantum Optics and Gravitational Physics', 'Optical Technologies', 'Production Engineering', 'Interdisciplinary Studies of Science and Academia'. Two 'Clusters of Excellence' are led by the **LUH**: 'PhoenixD' and 'QuantumFrontiers'. **LUH** was as well a co-applicant in the 'Hearing4all Cluster'. The university also grants a binational doctoral cotutelle.

Another member of the '**TU9 Alliance**' directed to Engineering is **TU Darmstadt**. **TU Darmstadt** is a high-profile university in the fields of Energy and Environment (E+E), Matter and Materials (M+M), and Information and Intelligence (I+I). Tutor International is a project at **TU Darmstadt** that supports international students academically, culturally, and socially.

TU Berlin, as well a partner in the '**TU9 Alliance**', has six key application areas: 'Digital Transformation', 'Energy Systems, Mobility, and Sustainable Resources', 'Human Health, Humanities, and Educational Science', 'Urban Systems and Environmental Systems', 'Photonics and Optical Systems', and 'Materials, Design and Manufacturing'. **Ms. Ingy Nafie**, Head of the **TU Berlin Liaison Office in Cairo**, advised the doctoral and postdoctoral candidates to review the three 'Clusters of Excellence' at **TU Berlin**: 'Unifying Systems in Catalysis', 'Science of Intelligence', and 'MATH+'. These interdisciplinary projects include research opportunities for scholars in the corresponding fields of study. She, further, referenced two particular central institutes at **TU Berlin**: the **Central Institute School of Education** and the **Central Institute El Gouna**. **Campus El Gouna** focuses particularly on the challenges in the MENA region and was founded as a transnational educational transfer project.

"TUM: The Entrepreneurial University" featured as the fourth member of the '**TU9 Alliance**'. **Dr Wael Mousa**, EuroTechPostdoc Programme Coordinator and Manager of the new EuroTechPostdoc2 at **TUM**, referenced the supportive **TUM** Talent Factory for postdocs and the TUM Global Postdoc Fellowship. **Dr Mousa** further explained the specifics regarding the EuroTechPostdoc2 Programme at **TUM**, which includes seventy Marie Skłodowska-Curie Fellowships.

DAAD fellow **Prof. Dr Moemen Hanafy**, Ambassador Scientist of the **AvH to Egypt**, presented the prestigious **AvH Foundation**. In how to “Become Part of a Worldwide Network”, the fellow Humboldtian outlined the Humboldt Research Fellowship and the Georg Forster Research Fellowship for promising postdoctoral and experienced researchers. He further referenced The International Climate Protection Fellowship and gave an overview of the foundation’s reputable awards.

In general, the German universities considered two tracks in applying for doctoral and postdoctoral positions, either through a structured or individual PhD. Through the means of scholarships, self-funding or university job vacancies, the individual PhD is the more standard procedure. The expert speakers considered knowledge of the German language a trump card for an academic career in Germany. After each presentation, an exchange was facilitated between the experts and the candidates. A virtual matchmaking chatroom was permanently operative during the event for questions.

Relating to the presentations, four DAAD-Alumni reported on their scientific, intercultural, social, and living experiences in Germany. The alumni shared the challenges and opportunities that came along during their studies and research abroad. Challenges included the weather, homesickness, accommodation, and banking. In coping with homesickness, DAAD Alumna **Amira Oraby**, PhD Student at the **University of Stuttgart**, related how she found home in the town twinning capital city of the German state of Baden-Württemberg: *“An interesting fact is that Cairo is a partner city of Stuttgart. A lot of cultural events in Stuttgart are dedicated to Cairo. Walking down the streets in the city of Stuttgart, I enjoy the footprint of my city”*.

In line with the university’s representatives, the DAAD Alumni unanimously agreed on the German language as a facilitator for networking. Skill enhancement in intercultural communication was considered an advantage for the future. Relating to the “Benefits of DAAD Scholarships for PhD Candidates”, **Dr AbdElMoniem Bayoumi**, DAAD Alumnus at the University of Bonn and Assistant Professor at **Cairo University**, stated that internationalising his communication skills was a stepping stone to obtain his current position at the **Egyptian Ministry of Communications and Information Technology (MCIT)**. *“I learned the skill of negotiation through internationalisation. It is not just about the language, but also about understanding the other’s mindset, culture, and history to acquire proximity in a conversation”*.

Besides financial aid, the DAAD Alumni recognized the benefits of DAAD scholarships to attend high-ranking German universities and to enter Germany’s specialized fields of study. *“Through experiencing different cultures and specialized international education, you can feed this gained technical knowledge back into Egypt and yourself”*, noted **Prof. Dr Ahmed El-Hussein Elnewishy**, DAAD Alumnus at **Friedrich Schiller University Jena** and **Cairo University** scholar at **The National Institute of Laser Enhanced Science**.

Prof. Dr Lars Gaiser, Director of the Orient Institute for Intercultural Studies at **Heilbronn University of Applied Sciences**, connected the reports on intercultural experiences by presenting an “Introduction to Intercultural Competence for Egyptian Graduates at German Universities”. *“Success in the academic career does not only depend on technical or specialized knowledge but as well on your awareness of the intercultural map”*, he stated in his talk.

Soft Skills Mini-Modules

Four professional trainers of the **DAAD Kairo Akademie (DKA)** offered practical soft skills mini modules for Egyptian doctoral and postdoctoral candidates willing to pursue an academic career in the German research landscape. Although these skills sets are rarely found in universities and research institutions, skill enhancement and capacity building are prerequisite personal assets for doctoral and postdoctoral researchers besides their academic expertise.

DKA Trainer **Dr Mona EL Tobgui** targeted one of the core challenges expressed by the candidates throughout the week: “How to contact a Supervisor/Professor in Germany?”. She kicked-off the presentation with a principal advise before uptaking the application process: *“Assess your interest in internationalisation before taking steps. If doubtful, the steps you take will be ineffective. Take*

first your commitment seriously and then pursues the pathway". In regard to the application itself, she addressed the 'FITTER-Model': "*Follow-up. Introduce yourself with impact and enthusiasm. Target specific researchers and professors. Turn a social conversation into a professional chat. Engage and Research*". One core aspect of the 'FITTER-Model' is "Self-Marketing". In this regard **DKA Trainer Dr Heba Salama** underlined that "*the cover letter is by far the most decisive in attracting a supervisor. It is the most important letter in the application*".

The **DKA** trainers offered an interactive and practical approach to the soft skills mini-modules. Networking skills, proactive "Communication Skills", "Self-Marketing", and "Problem Solving & Critical Thinking" are essential skills for any researcher who aims to internationalise his or her career, while the reports of the DAAD Alumni represented successful best-practice examples thereof.

Scientific Talks

In the spirit of the COSIMENA slogan: "Sustainability: A call for action in our daily life", the scientific talks catered to the global challenge of sustainability across the COSIMENA issue-driven clusters. In relation to the 'Water Cluster, **Prof. Dr Hani Sewilam**, Rector's Delegate for African Countries at **RWTH Aachen University** in Germany, titled his talk "Sustainability is Everyone's Business and Responsibility". His research engaged water recycling options and the water footprint in relation to water scarcity as a global challenge. **Prof. Dr Andrea Cominola**, Assistant Professor of Smart Water Networks at the **Einstein Center Digital Future** at **TU Berlin**, linked the cluster of 'Water' and 'Urbanism' by addressing "Intelligent Urban Water Ecosystems: Digital Technologies and Citizens' Awareness for Water-Wise Cities". From water to food as basic human needs, **Dr Klaus Jacob**, Political Scientist and Researcher on Environmental and Sustainability Governance in Comparative perspective at **FU Berlin**, engaged "Transformations of Food Systems to Sustainability" by efficiency within the cluster of 'Agriculture'.

Both **Mr. Moritz Jäger-Roschko**, **KLU**, and **Dr Samira Iran**, **TU Berlin**, addressed within the cluster of 'Economy' the potential of recycling and circular economy in relation to consumption and post-consumption of plastics and clothing respectively. **Mr. Jäger-Roschko's** talk was titled "Towards a Circular Economy for Plastics –Avoiding Landfill through Novel Recycling Methods". **Dr. Iran** in turn shed light on the influence of consumer values, attitudes, and practices in fostering "Sustainability in the Fashion Field".

Within the cluster of 'Energy', **Prof. Dr Björn Vollan**, Head of the Research Group Sustainable Use of Natural Resources at **PUM**, and **TUM** researchers **Dr Omar Hijazi** and **Dr Tim Kunkowski** focused on life cycle assessments in regard to sustainability. **Prof. Dr Vollan** walked the scholars through "Sustainable Climate Finance and its Impact (SUF1)" by assessing the life cycle and consumption of solar energy infrastructure in rural areas. **Dr Hijazi** and **Dr Kunkowski** analysed the life cycle of biogas plants in questioning: "Sustainability by Biogas Production, is that possible?" Both **Prof. Dr. Sven Steinigeweg**, by reporting on "Sustainability in Research and Education in Ostfriesland" at the University of Applied Sciences Emden/Leer, and **Ms. Katrin Schweigel**, Coordinator of the **University Alliance for Sustainability (UAS)**, by reviewing "Sustainability Management and Climate Protection at FU Berlin", addressed the responsibility of higher education and universities in relation to the UN Sustainable Development Goals.

By presenting inspirational research open for further engagement, the researchers offered both indirect and direct scientific advising for prospective academics. In order to raise awareness of the junior scholars for the importance of sustainability across disciplines, the GSW has given a window into the state of the art of German research on sustainability, while offering matchmaking and networking opportunities.

Panel Discussion

The German Science Week concluded with the highlight of the week, a Panel Discussion entitled “The Impact of the Corona Pandemic on Higher Education”, moderated by the DAAD Director, **Ms. Mering**. The panel was a virtual discussion about the academic career at the times of the pandemic amongst a group of experts from the **German Embassy in Cairo** and German universities. The representatives of the institutions shared facts and different perspectives about the topic while providing insightful and useful information for researchers who plan to internationalise their academic career in Germany.

Digitalization and quality education were central themes to this discussion. The question of mobility and internationalisation was raised as a pressing issue by the DAAD Cairo Director. The group of experts observed how despite the current physical distancing measures the virtual, hybrid, digital formats and technical assets allowed for internationalisation and even benefited international cooperation. The panellists agreed that the digitalization of higher education with positive effects on the environment entered an accelerated phase due to the pandemic.

In this regard, **Prof. Dr Fritz Kühn**, Dean of Internationalisation since 2007 at **TUM**, underlined the importance of student feedback in regard to quality control of digitalized teaching. He observed how virtual education translated into a broadened sense of freedom for the students. Regarding the downside, **Dr Michael Groll**, Project Coordinator at the International Office of **PUM**, noted that virtuality can never fully substitute for real-life university experiences. He discussed however the positive trend of enlarging free and open access to online data with positive results for international research.

Ms. Nora Jacobs, Programme Manager of Strategic Partnerships and Networks at the Centre for International Cooperation at **FU Berlin**, opted to focus on internationalising students and junior researchers without an established network. For senior researchers, she considered the digital formats sufficient to ensure international cooperation. In line, **Ms. Evelina Skurski**, Head of Division International Scientific Cooperation, Office of International Affairs at **TU Berlin**, underlined that “*internationalisation is also digitalization. We need to redefine internationalisation into global reach*”. In regard to mobility, the panellists forecasted the long-term effects of the Covid-19 travel policies.

Besides digital mobility and internationalisation, the panel discussed how the university’s funding mechanisms and resources have been affected due to the pandemic. **Ms. Skurski** regarded that the predominantly public funding of the German university landscape renders the negative financial impact manageable. Resources for Technical Universities, highly dependable on private industrial funding, plummeted however drastically, according to **Prof. Dr Kühn**.

The overall need for global efforts in facing global challenges was expressed by the panel. In this regard, **Mr. Maupai** of the German Embassy in Cairo concluded the panel with a positive note: “*We are slowly seeing the bright lines after a long time because of the vaccine, which was brought to life by working together globally in record timing, showing the human race’s resilience*”.

The German Science Week exemplified the positive effects of digitalization in fostering international cooperation, networking and matchmaking opportunities for Egyptian doctoral and postdoctoral candidates across physical borders and despite the pandemic. Insights into the German higher education and research landscape facilitated capacity building for the prospective scholars to pursue their future academic careers in Germany. Besides skill enhancement, scientific advising was formulated by several experts, researchers and scientists. Interdisciplinary research and sustainability were central to the scientific talks. In discovering both the challenges and the opportunities of academic life in Germany, the candidates could make a well-informed assessment of their future career choices.

While the German Science Week planted the seeds for international collaborations, the DAAD Regional Office Cairo is looking forward to witnessing the harvest of this growing strategic international network.

Annex

Databases

DAAD PhDGermany Database

<https://www2.daad.de/deutschland/promotion/phd/en/13306-phdgermany-database/>

EURAXESS

<https://euraxess.ec.europa.eu/>

Academics.com

<https://www.academics.com/>

Funding Opportunities: German Research Foundations

Friedrich Naumann Foundation for Freedom

<https://www.freiheit.org/>

German Academic Scholarship Foundation

<https://www.studienstiftung.de/en/>

DFG German Research Foundation

<https://www.dfg.de/en/>

Heinrich Böll Foundation

<https://www.boell.de/en/startpage>

Robert Bosch Foundation

<https://www.bosch-stiftung.de/en>

Alexander von Humboldt Foundation

<https://www.humboldt-foundation.de/en/>

Kühne Foundation

<https://www.kuehne-stiftung.org/>

DAAD 'Strategy 2015'

https://www2.daad.de/medien/der-daad/medien-publikationen/publikationen-pdfs/2007_web_daad_strategie_eng.pdf

'German Excellence Strategy'

https://www.dfg.de/en/research_funding/excellence_strategy/index.html

'Horizon Europe'

https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls_en

German Universities

Kühne Logistics University (KLU)

<https://www.the-klu.org/>

Freie Universität Berlin (FU Berlin)

<https://www.fu-berlin.de/en/index.html>

Technical University of Darmstadt

<https://www.tu-darmstadt.de/universitaet/index.en.jsp>

Leibniz University Hannover

www.tu-darmstadt.de/universitaet/index.en.jsp

Technische Universität Berlin (TU Berlin)

<https://www.tu.berlin/en/>

Technical University of Munich

www.tum.de/en/

Philipps-Universität Marburg

<https://www.uni-marburg.de/en>

Heilbronn University of Applied Sciences

<https://www.hs-heilbronn.de/en>

RWTH Aachen University

<https://www.rwth-aachen.de/go/id/a/?lidx=1>

University of Applied Sciences Emden/Leer

<https://www.hs-emden-leer.de/en/>

'Clusters of Excellence'

FU Berlin

<https://www.fu-berlin.de/en/exzellenz/cluster/index.html>

LUH

<https://www.uni-hannover.de/en/forschung/profil/herausragende-projekte/exzellenz/>

TU Berlin

<https://www.tu.berlin/en/themen/excellence-strategy/#:-:text=Three%20Clusters%20of%20Excellence%20are,opportunity%20to%20extend%20this%20financing.>

Scholarships

FU Berlin Test Scholarships

<https://www.fu-berlin.de/en/international/faculty-staff/project-funding/test-scholarships/index.html>

FU Berlin Rising Star 2.0 programme of Junior Fellowships

<https://www.bcp.fu-berlin.de/en/forschung/rising-star/index.html>

FU Berlin Erasmus+ Programme

[https://www.fu-](https://www.fu-berlin.de/en/studium/international/studium_fu/auslandssemester/erasmus_in/index.html)

[berlin.de/en/studium/international/studium_fu/auslandssemester/erasmus_in/index.html](https://www.fu-berlin.de/en/studium/international/studium_fu/auslandssemester/erasmus_in/index.html)

PUM Jameel Education Foundation Scholarship Fund Program

<https://www.uni-marburg.de/en/international/from-abroad/doctoral-candidates/jameel-scholarship>

PUM Erasmus Programme

<https://www.uni-marburg.de/en/studying/studying-at-umr/exchange/erasmus>

TUM Global Postdoc Fellowship

<https://www.tum.de/en/research/postdocs/tum-global-postdoc-fellowship/>

TUM EuroTechPostdoc2 Program

<https://www.tum.de/en/research/postdocs/eurotechpostdoc/>

Support for doctoral and postdoctoral candidates

TU Darmstadt TUTOR International

<https://tutor-international.de/en/home/>

TUM Talent Factory for Postdocs

<https://www.forte.tum.de/en/talent-factory/>

TUM Research Opportunities Week for Postdocs by TUM Talent Factory

<https://www.tum.de/en/research/postdocs/research-opportunities-week/>