

Modeling Research Collaborations as Internationalization Strategy

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Deutsche Forschungsgemeinschaft

German Research Foundation (DFG)

Georg Bechtold

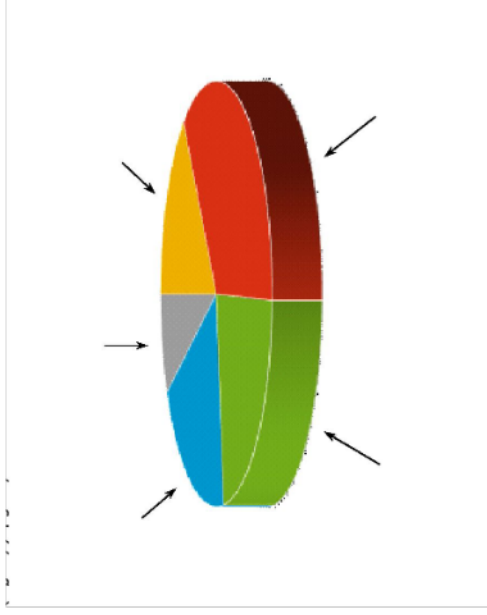
The DFG - Who We Are and What We Do

- ▶ **Central public funding organization** for basic research in Germany
- ▶ A **self-governing body** of science and research
- ▶ **Member organization** (universities, academies, research organizations)
- ▶ The **budget in 2019: € 3.3 billion in direct research funding**, provided primarily by the federal government and the 16 German Länder
- ▶ In **2019**, the DFG funded around **31,150 projects**



The DFG - Who We Are and What We Do

- ▶ serves **all branches of science and the humanities**
- ▶ fosters **scientific excellence** through competition
- ▶ No call, **no deadlines** (rare exceptions)
- ▶ supports **international cooperation** in research
- ▶ **advises** political and social decision-makers
- ▶ supports the **transfer of knowledge** between science and industry



Funding in 2019,
by scientific discipline

The DFG promotes international cooperation

Because....

- ▶ **Research transcends national boundaries**
- ▶ **Certain topics are best researched within the framework of international collaborative projects**
- ▶ **It is important to establish connections with countries in developing regions**
- ▶ ...

And in order to:

- ▶ **Further internationalize the German research landscape**
- ▶ **Facilitate cooperation between the world's top researchers**
- ▶ ...

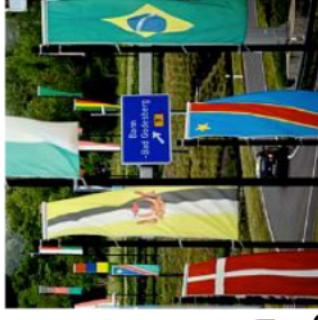


How Does the DFG Fund International Cooperation?

All DFG funding programs generally allow the integration of international components as e.g. **travel allowance, exchange of students/scientists.**

- ▶ **Researchers who work abroad** always need a **cooperation partner in Germany** who submits the proposal and/or invites the researcher

DFG support for projects with international partners is generally based on the **principle of mutual responsibility. Exception:** in cooperation with **developing countries DFG** can cover a part of the costs of the international partners.



DFG Office North America

DFG Office North America



DFG Office North America, New York City and Washington, DC

The USA and Canada play a leading role within the context of increasing globalization in science and research. North America – and especially the USA – continues to be the most competitive research region in the world. More than a quarter of the global funds spent on research and development are invested here, and more than half of all DFG-funded research fellows travel to North America after completing their doctorate for their important first career step.

Calls for Proposals in North America

[Further information](#)

The DFG maintains regional expertise at its headquarters in Bonn as well as running its own North American office in two locations, Washington D.C. and New York City. In Washington D.C., the DFG maintains close ties with North American funding organizations, facilitates transatlantic research projects, and helps to shape science policy dialogue. In New York, the focus is on the marketing of research funding, an effort conducted jointly with German partner organizations such as the German Academic Exchange Service (DAAD) and the Alexander von Humboldt Foundation (AvH), and in collaboration with German universities in North America. Together, these two offices facilitate contact between scientists and researchers in Germany and North America, support early-career researchers here on a DFG fellowship, and organize outreach activities to showcase German research regionally.

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News



https://www.dfg.de/en/dfg_profile/head_office/dfg_abroad/north_america/index.html

DFG

Examples for Funding Programs

Funding International Research

- German research partner



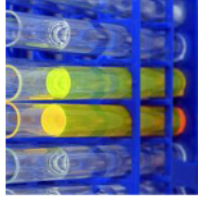
- Joint project idea

- Initial funding? DFG program **Initiation of International Collaboration**

https://www.dfg.de/en/research_funding/programmes/international_cooperation/initiation_international_collaboration/index.html

- Project funding? E.g. DFG program **Individual Research Grants**

https://www.dfg.de/en/research_funding/programmes/individual/research_grants/index.html



What is an International Research Training Group?

- ▶ **Bilateral doctoral research and training program** of a German university and a partner institution abroad
 - set up and run by of **5-12 senior researchers** on each side
 - innovative and focused **research programme**
 - specific **qualification programme** (courses, workshops, joint summer schools)
 - transparent and structured **supervision and mentoring**
 - **Reciprocal research stays** of 6-12 months at partner site

Benefits:

- ▶ synergies through complementary resources
- ▶ early integration into the international research community,
- ▶ better qualification for careers in- and outside of academia
- ▶ **Building block for sustainable individual and institutional cooperation**

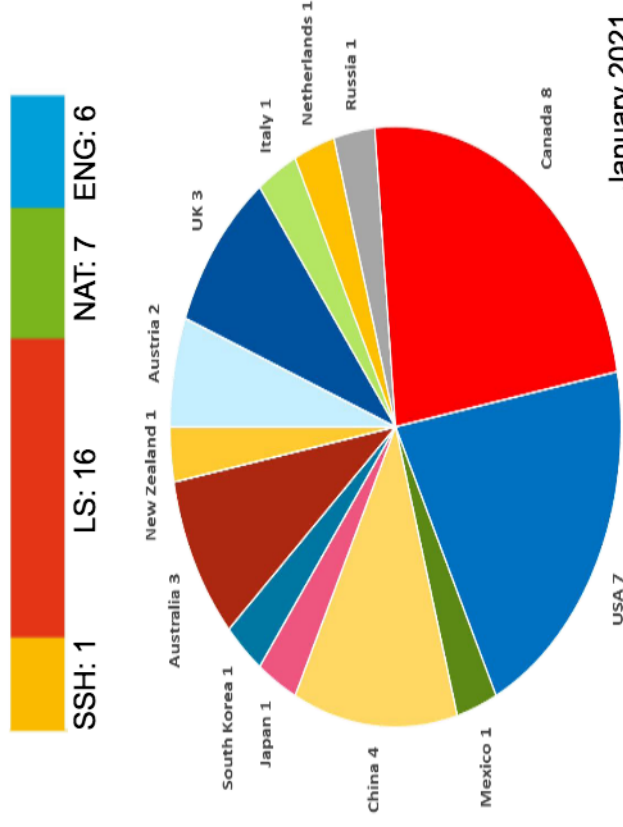
What is an International Research Training Group? DFG Funding is available for...

- ▶ Up to 9 years
- ▶ People
 - 2-3 consecutive cohorts of 10-15 PhD students each
 - Postdocs (1-2)
 - Participating undergraduates
- ▶ Resources
 - Research cost: consumables, literature, documentation etc.
 - Qualification and mobility: research stays, curricular activities, joint workshops, guest etc.)
 - Support funds: e.g. for coordination, recruitment, gender equality measures...
⇒ foreign partner needs complementary funding!
 - basic support for +/- same no. of doctoral candidates (posts, research cost)
 - cooperation (research stays, joint events etc.)

International Research Training Groups Canada as largest partner country

- ▶ total budget for IRTGs and RTGs:
~220M EUR (2019)
- ▶ open to all fields of science & humanities
- ▶ bottom-up: no priority topics; no quota,
no priority countries for IRTG
- ▶ **34 IRTG = 15% of 225 RTGs**
- ▶ partners in **13** countries w/wide
- ▶ largest partners: Canada, USA, China
and Australia

IRTGs by subject area and by partner country



January 2021

Recent Calls for Proposals

https://www.dfg.de/en/dfg_profile/head_office/dfg_abroad/north_america/index.html

Recent Calls for Proposals with Partner Organizations in North America

Call for Proposals	Timeline / Submission Deadline	North American Partner Organizations	More Information
NSERC-DFG Lead Agency Activity on Sustainable Processes & Chemistry	Step 1: modified Alliance International Collaboration Grant at NSERC, 7. Dec. 2022 (8:00pm EST/2:00pm CEST) Step 2: Full Proposal at DFG, 6. Juni 2023 (5:00pm local time)	Natural Sciences and Research Council of Canada (NSERC)	https://bit.ly/3qgNkRtC
NSF-DFG Lead Agency Opportunity in Molecular and Cellular Biology	Since 2022 Submission on a rolling basis	National Science Foundation (NSF)	https://bit.ly/3mpk4N7
NSF and DFG Opportunity for Collaborations in Advanced Manufacturing	Since 2021 Submission on a rolling basis	National Science Foundation (NSF)	https://bit.ly/3qISSbb
Possibility for German-American Collaboration within SSRC's Media & Democracy Program	Since 2018 Submission on a rolling basis	Social Science Research Council (SSRC)	https://bit.ly/2Og6tqn
DFG-IRTG/NSERC-CREATE	Since 2016 Submission on a rolling basis	Natural Sciences and Research Council of Canada (NSERC)	https://bit.ly/3qeFUXx https://bit.ly/3qblPTI

N O T E: If you do not find any suitable options here, please do not hesitate to [get in touch with us](#). We welcome the opportunity to look for solutions tailored to your needs.



Thank you!

For more information

- ▶ About the DFG: <http://www.dfg.de>
- ▶ About RTG/IRTG: <http://www.dfg.de/gk>
- ▶ About German research institutions: <http://research-explorer.de>

February 21, 2023

Research &

Internationalization

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Drexel
UNIVERSITY

OFFICE OF GLOBAL ENGAGEMENT

“To design the future through the innovative integration of education, scholarship, diverse partnerships, and our global community”

Drexel’s Strategic Plan
2030



**educates
“purpose-driven global
citizens”**

Drexel 2030
Imperative



Education & scholarship through diverse partnerships in global community



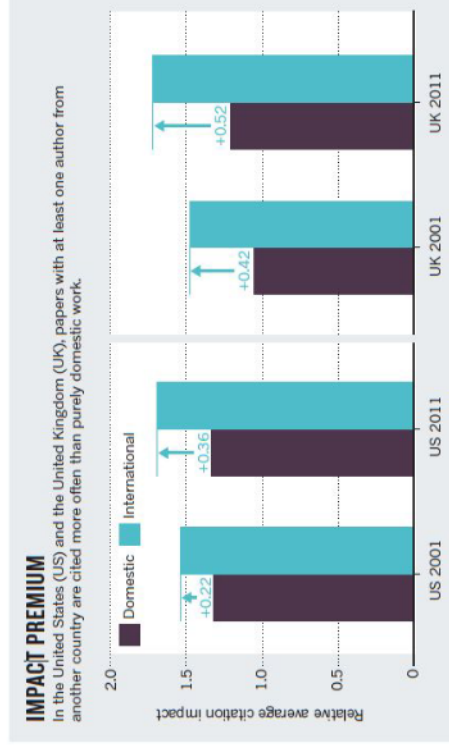
transdisciplinary and applied research and creative activity



immersive experiential learning, external partnerships

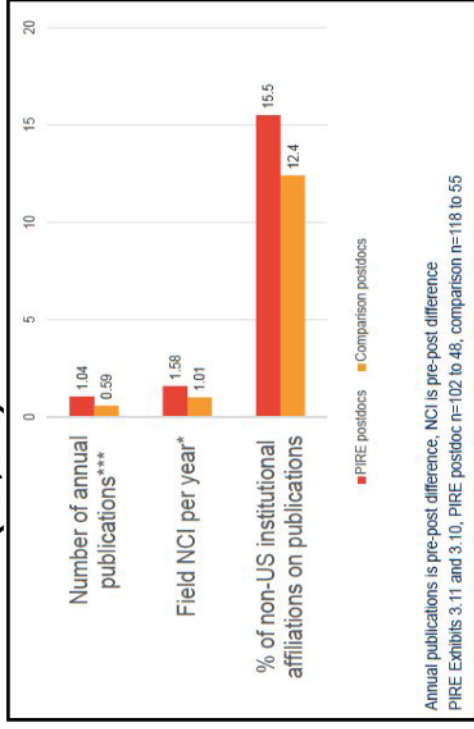
"We need diverse teams -- working across borders, cultures and disciplines -- to solve global problems, and to help navigate social and geopolitical challenges."

Editorial, *Nature* 2021



Greater faculty productivity and impact (UPI, 2017). Impact Premium (Nature 2013)

Greater productivity and impact for global PostDocs (NSF, 2018)

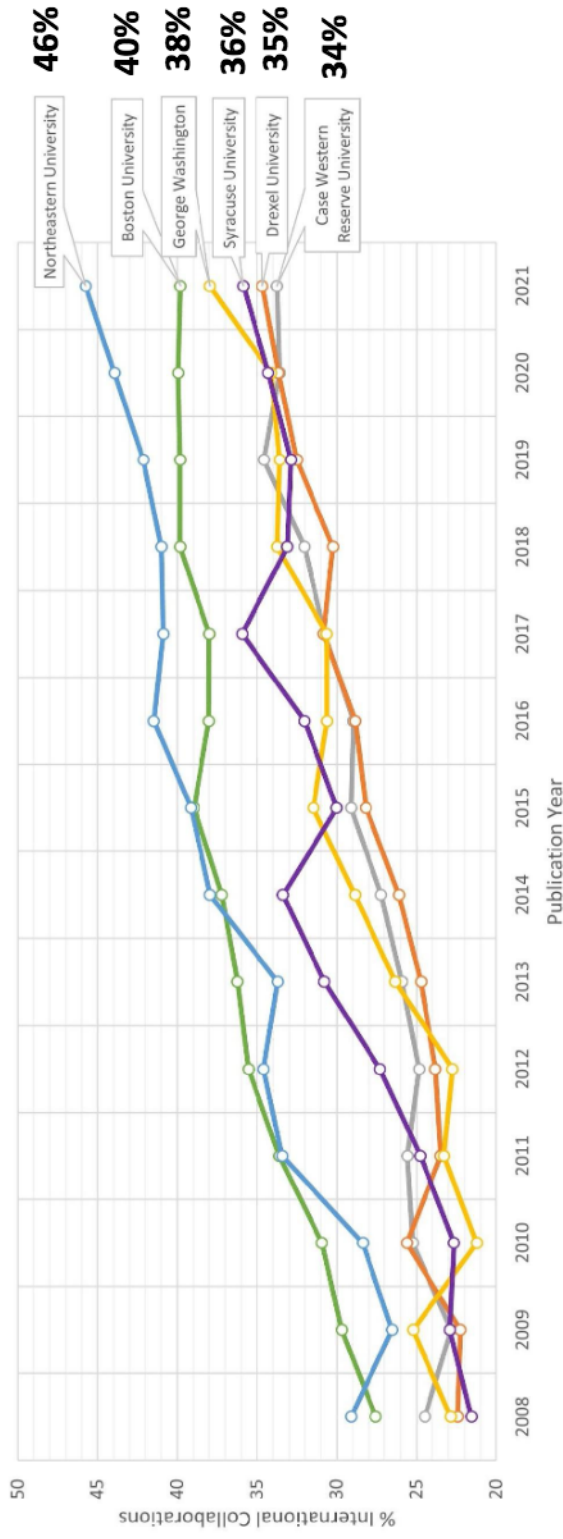


"International scientific collaboration is a must" in an "age of research driven by international collaborations"***

*UNESCO 2014; **Adams, *Nature* 2013

International research collaborations: 2008 - 2021

Drexel's top collaborating countries: China, Canada, UK, Germany, France, Italy, Japan



Research publications with at least one international collaborator 2008-2021 (InCites-Web of Science)

Action Items for Advancing Global Research



Creating Systems

Develop Global Research Operations Guide (NSPM 33):

- Contracts and intl law
- Hiring intl contractors
- Paying intl vendors
- IRB for intl projects
- Export control/security

Invest in expertise:

- Global research compliance
- Positions in HR, Counsel, tax, risk management...
- Coordinate efforts within supporting units

Securing Funding

- Start-up and seed funds + Research Awards for Global projects in various disciplines w strategic partners

- Structures to support funding from foreign foundations and donors

- Funding & infrastructure to support short-term visiting scholars

- Support for intl Graduate Students (funding, advising, mentoring)

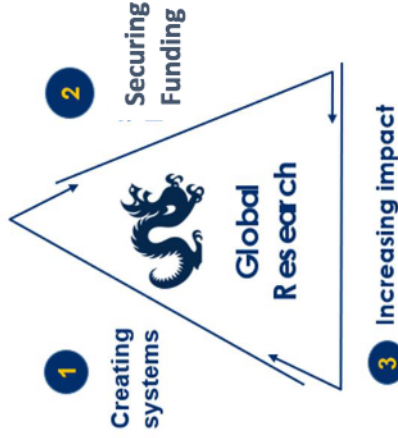
Increasing Impact

- Incentivize applied / translational projects with global partners, including patents, transnational start-up incubators

- Increase civic and corporate engagement abroad through research

- Track and publicize data on Global research (use for rankings, funding apps)

- Commit to Global as part of hiring, FAR, tenure and promotion decisions



Global Research Collaborations: Three Examples

Interdisciplinary Centers

Center for Functional Fabrics and A.J.

Drexel Nanomaterials Institute:

Joint collaborations with partners in Korea and Japan to incorporate MXenes into yarn in functional fabrics and smart textile device

Urban Health Collaborative:

Salud Urbana en América Latina (SALURBAL) project to study how urban environments and policies impact health with institutions in Chile, Colombia, Brazil, Argentina, Mexico

AgeWell Collaboratory:

Virtual Shoes: Using Virtual Reality to Enhance Safety and Foster Better Design for Older Adults in the Built Environment with Politecnico di Milano

Research Co-ops (Students) with Industry

Coop in Germany:

Chemical engineering lab on theranostics and colloids at Bochum University

Coop in South Korea:

National NanoFab Center (KAIST, Daejeon)

Coop in Greece:

Education development with cultural organizations and hospitality management

Coop to Launch Global Companies:

Close School of Entrepreneurship provides start-up funds for students launching their own companies

Research with Social Impact

FMC in India Collaboration:

Chemical corporation FMC; Drexel's Public Health and Business; and Indian NGO "Community Pure Water" study the health impact and community attitudes toward FMC's clean water project in India (reverse-osmosis water-filtration plants)

World Vision in Africa

Collaboration:

World Vision and the Dornsife Global Development Scholars Program at Drexel implement capacity-building programs for bridging gaps between scientific research, development practice, and applied problem-solving in public health across Africa.



UAS7 - 7 German Universities of Applied Sciences

Prof. Dr. Andreas Zaby
President UAS7 and Berlin School of Economics and Law

ABOUT UAS7

UAS7 is a strategic alliance of seven leading German Universities of Applied Sciences (UAS), with representations in Germany, North and South America. UAS7 universities excel in applied teaching and research and have a strong focus on internationalization. With our representations abroad we promote international academic exchange by providing opportunities for teaching and research collaborations, study abroad and internship opportunities, and alumni relations.



Hochschule für
Wirtschaft und Recht Berlin
Berlin School of Economics and Law



HSB
Hochschule für Business



HAW
HAMBURG



Technology
Arts Sciences
TH Köln



Hochschule für
Angewandte
Wissenschaften
HM
University of Applied Sciences



FH MÜNSTER
University of Applied Sciences



HOCHSCHULE OSNABRÜCK
UNIVERSITY OF APPLIED SCIENCES

UAS7 - Research Strategies

- UAS7 is committed to the applied sciences and thus following the guiding principle "Shaping social innovation" not only in teaching but also in research and transfer regarding international research activities
- UAS7 international research focus and research projects explicitly refer to global challenges
- Strategic partnerships of UAS7 universities serve to build profiles at the highest level
- UAS7 universities raise awareness of international / EU activities among research institutes; present research performance in an international context at conferences and through publications and raise awareness of peer review activities among researchers
- Various funding agencies and organizations fund UAS7 research collaborations with foreign cooperation partners

International Research Collaborations at UAS7 Universities – 3

Examples

- **HAW Hamburg** (with 22 partners from EU and Malaysia)

“*BIO PLASTICS EUROPE*” - The project addresses the topic of sustainable solutions for bio-based plastics on land and at sea. It intends to develop sustainable strategies and solutions for bio-plastic products.

- **HWR Berlin** (12 partner from EU incl. Ryerson University, Baruch College NY, University of South Florida)

“*Models and Methods for an active ageing workforce: an international academy*” - The main objective of the MAIA Academy is to create a unique research and innovation staff exchange network focused on the ageing problem in manufacturing.

- **HS Bremen** (Marie Skl. Curie Programme – with EU and other European members)

“*Advancing Space Access Capabilities - Reusability and Multiple Satellite Injection*” - The purpose of the project is to develop a program that focuses on several specific areas of cutting-edge space access research.