PhD@MDC 2021

369 PhD students

64% coming from abroad
58 nations

2021 PhD RECRUITMENT

Spring 2021

393 applicants
55% women
45% men

57 interviewed candidates

25 new PhDs
8 central positions
10 group positions
6 iNAMES positions
1 MDC-NYU positions

76% international
64% women
36% men

Fall 2021

349 applicants
62% women
38% men

43 interviewed candidates

18 new PhDs
8 central positions
9 group positions
1 MDC-NYU positions

94% international
72% women
28% men
The MDC training offer for PhD students was rich in 2021 - despite difficulties caused by the pandemic, we were able to ensure a variety of training opportunities: like majority of content this year - mostly in an online form.

### 2021 Courses

**Good scientific practice**
Obligatory for all MDC PhDs

**Scientific and research-related training**
- Research data management
- Animal research and the 3Rs at MDC
- Processing and analysis of scientific images
- Carpentry workshops in R and Python

**Science communication**
- Presentation skills
- Introduction to scientific writing
- Slidewriting & storylining
- Storytelling techniques for scientists
- Presenting your research proposal: Pitch or Talk
- Preparing to write your thesis
- Thesis defense preparation
- Intercultural communication
- Open Science: How it works

**Project & Time management**
- From Surviving to Thriving
- Project Management: Applying essential project management tools

Collection of 107 free online courses curated from different training platforms

- Data science, analysis and visualisation
- Programming
- Machine learning
- Data management
- Life Science & Technologies
- Research integrity & ELSI
- Team work & Management
- Career development
- Personal development
- Well-being
- Writing & Language

**Student seminar series**
- Student Seminar in Sys Biology
- Student Seminar in Sys Medicine
- X-Roads in Imaging and Data Science

**Orientation sessions**
for new PhDs

in cooperation with Helmholtz

**Helmholtz Research Skill Development Course**
**Helmholtz Career and Leadership Course**
Newbies Symposium 2021

Newbies Symposium, a new MDC event that complements our student seminar series, was initiated in 2021. It will be organized regularly for the first-year PhD students to present their projects, exchange ideas with their fellow PhDs, postdocs and group leaders and for everybody to welcome our new colleagues at the MDC.

Prizes for MDC PhDs

Sabrina Geisberger from the Müller Lab has received the Marthe Vogt Award for her work on the effects of the high salt consumption on the immune system. This award is presented by the Forschungsverbund Berlin to a female scientists who has written an outstanding PhD.

Matthias Jürgen Schmitt from the Gargiulo Lab has been awarded the Curt Meyer Memorial Prize of the Berlin Cancer Society, for his work on how glioblastoma, a malignant brain tumor, becomes resistant to therapies.

Our warmest congratulations!
HIGHLIGHTS 2021

EMERALD - New PhD Programme for Medical Doctors started
Emerald, a new International PhD Programme for Medical Doctors, has started in 2021, with MDC being one of the 7 international hosting research institutions.

New Imaging Student Seminar Series launched
New student seminar series, X-roads in Imaging and Data Science, has been launched. Every 3rd Wednesday of the month, iNAMES PhD students, associates and guests present their exciting research projects in the area of biomedical imaging and data science.

New Imaging Lecture Series
New lecture series, "Frontiers in Imaging and Image Analysis" was launched in January 2021. Every 1st Wednesday of the month, excellent scientists working in the area of biomedical imaging and image analysis present their outstanding research to the MDC community and our guests.

Two SysBio Lecture Series
The winter semester series "Cell fate specification and engineering" and summer semester series "Multi-omics technology, computation and biology" hosted a large array of exciting talks on emerging topics. The online lectures had high participation rates and were followed by lively discussions.

Lunchtime Concert
Students of the renowned Barenboim-Said Akademie performed classic music pieces followed by the Student Seminar in Medical Systems Biology. The new format will hopefully become a regular one, as it was met with a lot of enthusiasm by both musicians and scientists.

CircRTrain successfully ended
CircRTrain successfully ended with an online final meeting. 16 graduates are now ready to embark on fulfilling careers in academia and industry.

iNAMES-HEIBRiDS DAAD Summer School funding awarded
DAAD has awarded funds for the Summer School in Imaging and Data Science "Advances in Applied Biomedical Research: On the Crossroads of Life Science, Data Science and Medicine" that will be held in September 2022 in Kyiv, Ukraine.

Summer School "Single-Cell Systems Medicine"
An innovative program bridging clinical and basic research and computational approaches has been fully funded. The summer school will take place in Berlin at the end of May 2022.

Carpentries Workshops in R and Python
Introductory workshops for acquiring core computational skills for data management and analysis in the life sciences were held. Carpentries workshops are inclusive and hands-on, empowering students to learn new skills and build confidence in using them in their work.

Carpentries Instructor Training
Four MDC colleagues attended the two-day Carpentries Instructor Training. Certified instructors can teach Carpentries workshops, and assist towards reaching more people and building core computational skills across our community.
## 4 SPECIALISED RESEARCH SCHOOLS

### iNAMES

- **3** Berlin partners (MDC, Humboldt-Universität zu Berlin, Charité Universitätsmedizin Berlin)
- **1** Israeli partner (Weizmann Institute of Science, Rehovot, Israel)

**iNAMES - MDC-Weizmann Helmholtz International Research School for Imaging and Data Science from THE NAno to the MESo**

- 2 recruitment rounds: Fall 2020 and Spring 2021
- 8 iNAMES-funded PhD students + 4 associates
- Monthly Student Seminars
- Monthly Peer Mentor Group meetings
- Orientation session + Design Thinking workshop, October 28

**Outlook 2022:**
- Study visits to WIS, Rehovot, Israel
- Summer School in Berlin, Jun 2022
- Symposium in Rehovot, Nov 2022
- Kick-off event, Fall 2022

### HEIBRiDS

- **4** Einstein Center Digital Future (ECDF) partners (Charité, HU zu Berlin, FU Berlin, TU Berlin)
- **6** Helmholtz Centers partners (MDC, AWI, DESY, DLR, GFZ, HZB)

**HEIBRiDS**

- 11 first-author publications
- Participation in 29 national and international conferences
- HEIBRiDS Spring School, March 22-25
- Workshop on Scientific Integrity, June 23
- Carpentries Workshops in R and Python, October - November
- HEIBRiDS Retreat, November 3-4

**Outlook 2022:**
- Recruitment of 8 PhD students

https://doi.org/10.1103/PhysRevFluids.6.113801

57 student publications since the start of the program
Two new students joined the program in 2021: Lena Nitsch (Ludwig lab) and Philipp Roth (Metzger lab). Yun-Hsuan Huang was recruited to the program by Ilaria Piazza.
Laura Breimann and Nicolai Kastelic successfully defended their PhDs
Thomas Sparks was awarded the 10x Genomics Award and will have the opportunity to visit Stockholm for an internship next year
All research visits and exchange meetings on hold due to COVID-19 related travel restriction
New partner institutions will be added to the program

Emerald - International PhD Programme for Medical Doctors
Bridging the gap between the clinic and the lab

Emerald Programme, launched in 2021, will recruit 24 medical doctors to carry out a PhD in cutting-edge research in European centres of excellence in life sciences and biomedicine.

Hosting centers: VIB (Belgium), The Netherlands Cancer Institute (NKI; the Netherlands), Max Delbrück Center for Molecular Medicine (MDC; Germany), Instituto Gulbenkian de Ciência (IGC; Portugal), Centre for Genomic Regulation (CRG; Spain), Institut Curie (IC; France), Biotech Research and Innovation Centre (BRIC; Denmark).
EVENTS 2021

HEIBRIDS Storytelling for Data Scientists

MDC Graduate School Online Orientation sessions for new PhDs

Lunchtime concerts & Student seminar in medical systems biology

iNAMES Kick-off Event

MDC Online Graduation Ceremony 2021

HEIBRIDS Spring School

Newbies Symposium

Photos & Images: Michael Gotthardt, David Ausserhofer, Eirini Kouskoumvekaki, Sanja Drakulic, Petya Jordan, Communications MDC.

OUTLOOK 2022

New partners in the MDC-NYU exchange program

iNAMES Summer School Berlin 2022

PhD Retreat 2022

HEIBRIDS PhD Recruitment 2022

Regular NEWBIE symposia

DAAD

iNAMES-HEIBRIDS DAAD Summer School Imaging & Data Science Kyiv, Ukraine

DAAD Summer School: Imaging & Data Science Kyiv, Ukraine

Hybrid SysBio lecture series on RNA biology

Photos & Images: Felix Noak, David Ausserhofer, Christin Sünkel, Sanja Drakulic, Weizmann Institut, DAAD.
**PUBLICATION PRIZE 2021**

In 2021, 5 publication prizes were awarded: Victor Badillo Lisakowski (Gotthardt Lab), Samantha Mendonsa (Chekulaeva Lab) and Izabela Kowalczyk (Hammes-Lewin) received the MDC Prize for Outstanding Publication, while Christian Prinz (Niendorf Lab) and Christina Brischetto (Scheidereit Lab) received a Honorable Recognition for Outstanding Publication. The funds for the prizes were donated by the Society of Friends of the MDC and Dr. Pritzsche-Stiftung.

**Therapeutic inhibition of RBM20 improves diastolic function in a murine heart failure model and human engineered heart tissue**


**Charcot–Marie–Tooth mutation in glycyl-tRNA synthetase stalls ribosomes in a pre-accommodation state and activates integrated stress response**

Samantha Mendonsa et al. (2021) Nucleic Acids Research.

**Neural tube closure requires the endocytic receptor Lrp2 and its functional interaction with intracellular scaffolds**

Izabela Kowalczyk et al. (2021) Development.

**Pentafluorosulfanyl (SF5) as a superior 19F magnetic resonance reporter group: Signal detection and biological activity of teriflunomide derivatives**

Christian Prinz et al. (2021) ACS Sensors.

**NF-κB determines Paneth versus goblet cell fate decision in the small intestine**

Christina Brischetto et al. (2021) Development.
Congratulations to our 2021 graduates!

Avery, Ellen Germaine
Bahry, Ella
Bastos de Oliveira, Marta
Bauer, Daniel
Baytek, Gülkiz
Bikou, Maria
Böhmert, Laura
Breimann, Laura
Bulut, Selman
Buonfiglioli, Alice
Burkert, Christian Martin
Danner, Eric Wcislo
Debus, Karlien Yvonne
Dhamodaran, Arunraj
Di Francescantonio, Silvia
Dudaniec, Krystyna
Fatima, Nida ul Forbes, Martin
Hazapis, Orsalia-Georgia
Holler, Karoline
Hu, Bo
Huang, Yimin
Kastelic, Nicolai
Kowalczyk, Izabela
Kühnmund, Johannes
Loof, Gesa
Mysczyszyn, Adam
Ojeda Alonso, Julia Anai
Patarcic, Inga
Petermann, Markus
Peters, Jonas
Pfeilschifter, Janina Marie
Plewa, Natalia
Prinz, Christian
Riazy, Leili
Sanchez-Carranza, Oscar
Schakiel, Henrike
Simonovic, Sinisa
Skarlatou, Sophie
Skroblyn, Tessa Lara
Suarez Artiles, Lorena
Subramanian, Sethuraman
Tufan, Ahmet Bugra
Vieira e Vieira, CarlosHenrique
Wang, Jianhui
Wreczycka, Katarzyna
Xavier, Audrey Helena
Zhou, Zhimin

Elisabeth Baumann, Nikita Dewani, Friederike Gutmann, Jacobo Lopez Carballo, Samantha Mendonsa, Pragati Nalinkumar Parakkat, Tijana Perovic, Somesh Sai, Enes Senel, Miriam Wandres.

Thank you for your devoted work!