

# PhD@MDC 2021



369  
PhD  
students



55% women  
45% men

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

# TRAINING

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

in cooperation with Helmholtz

**Helmholtz Research Skill Development Course**

**Helmholtz Career and Leadership Course**

## 3

### **Student seminar series**

Student Seminar in Sys Biology

Student Seminar in Sys Medicine

X-Roads in Imaging and Data Science

## 4

### **Orientation sessions**

for new PhDs

## **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

# HIGHLIGHTS 2021



## 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 scientist who has written an outstanding PhD,



Photo: Felix Petermann, MDC



Photo: Felix Petermann, MDC

**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.

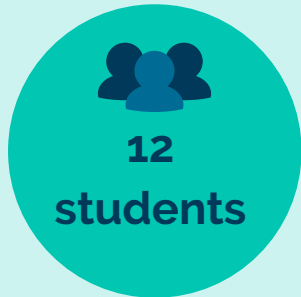
# 4 SPECIALISED RESEARCH SCHOOLS

## 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)



- 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
  - HEIBRiDS Spring School, March 28-31



# 4 SPECIALISED RESEARCH SCHOOLS

## MDC-NYU



- 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

Most recent paper: **Breimann L**, Morao AK, Kim J, et al. The H4K20 demethylase DPY-21 regulates the dynamics of condensin DC binding (accepted, Journal of Cell Science). Preprint: <https://doi.org/10.1101/2021.04.11.438056>

## Emerald

7

hosting research institutes



24

MD/PhD positions including 4 positions at MDC



### Emerald - International PhD Programme for Medical Doctors

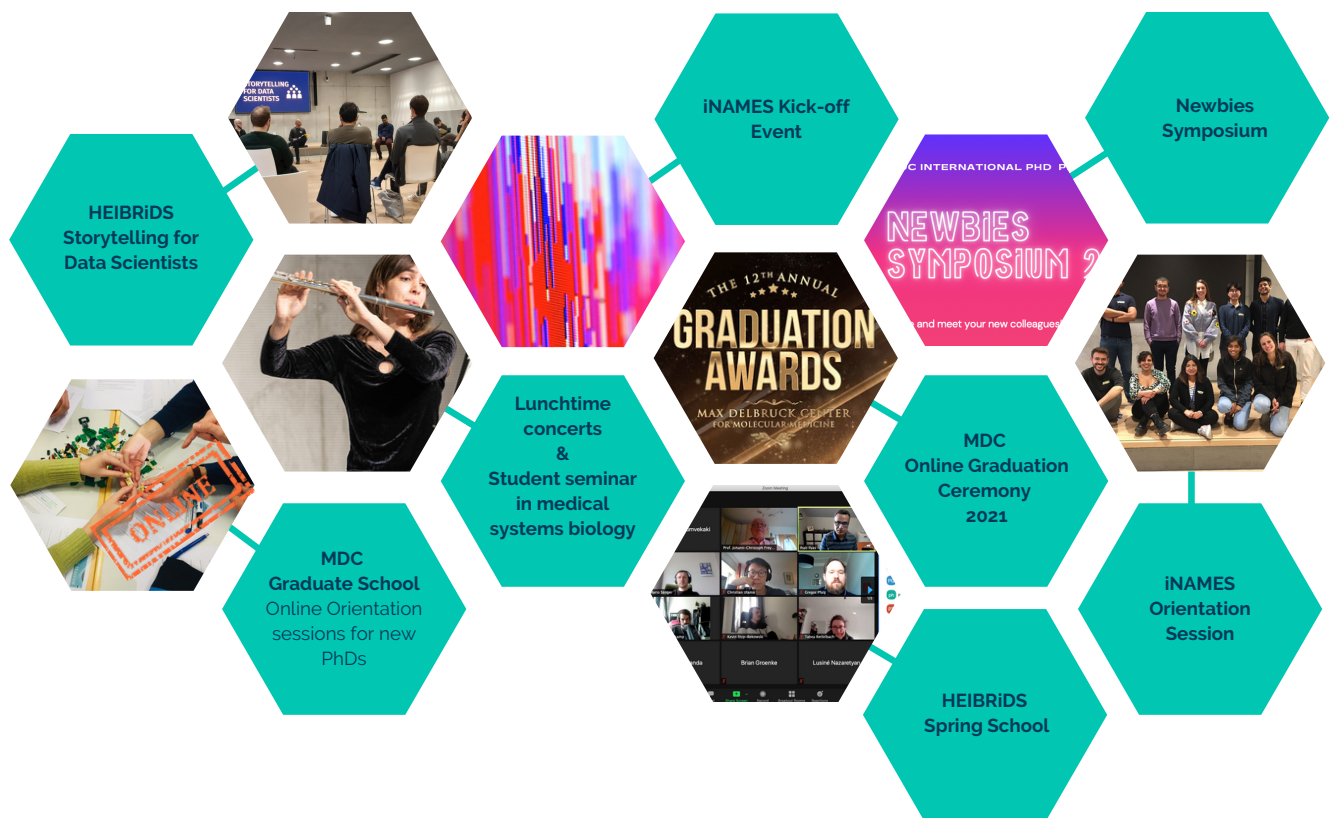
Bridging the gap between the clinic and the lab

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



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

# OUTLOOK 2022



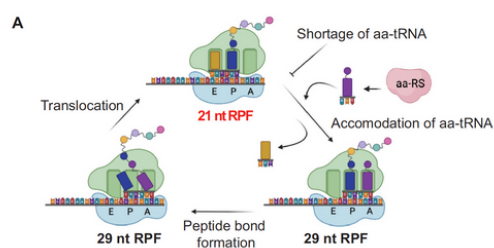
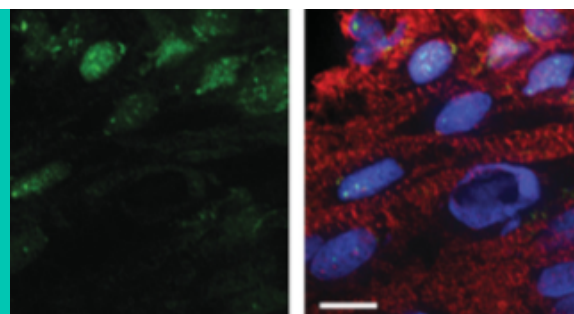
Photos & Images: Felix Noak, David Ausserhofer, Christin Sünkel, Sanja Drakulic, Weizmann Institut, DAAD.

# 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

Radke, M., Victor Badillo-Lisakowski, et al. (2021) Science Translational Medicine.

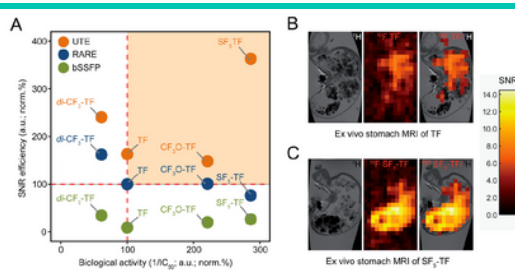
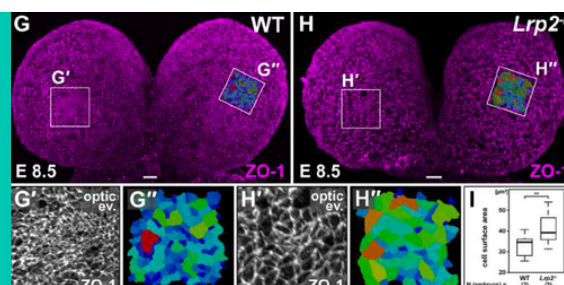


## Charcot-Marie-Tooth mutation in glycyl-tRNA synthetase stalls ribosomes in a pre-accommodation state and activates integrated stress response

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.

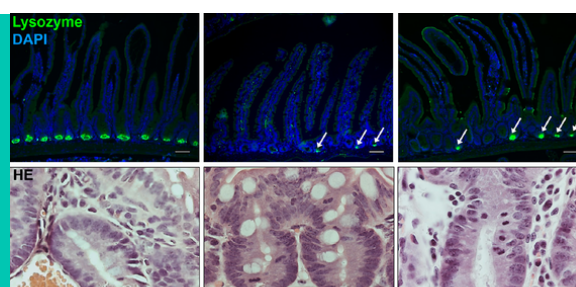


## Pentafluorosulfanyl (SF<sub>5</sub>) as a superior <sup>19</sup>F magnetic resonance reporter group: Signal detection and biological activity of teriflunomide derivatives

Christian Prinz et al. (2021) ACS Sensors.

## NF- $\kappa$ B determines Paneth versus goblet cell fate decision in the small intestine

Christina Brischetto et al. (2021) Development.







# 48 GRADUATES

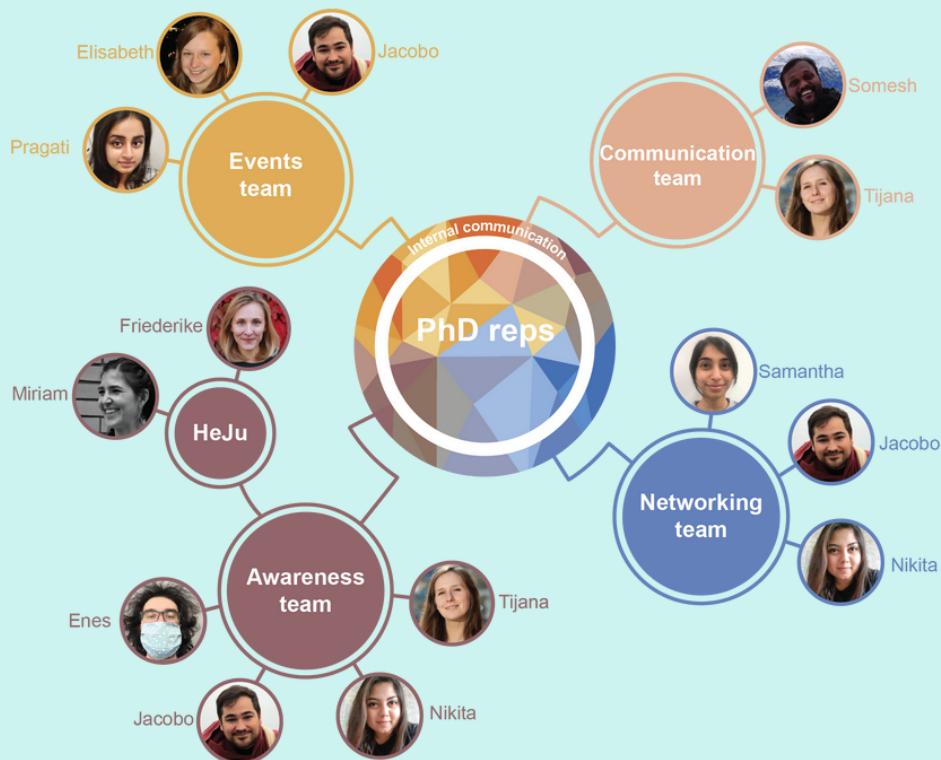
Congrats to our 2021 graduates!

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 Franciscantonio, Silvia  
Dudaniec, Krystyna

Fatima, Nida ul  
Forbes, Martin  
Hazapis, Orsalia-Georgia  
Holler, Karoline  
Hu, Bo  
Huang, Yimin  
Kastelic, Nicolai  
Kowalczyk, Izabela  
Kühnemund, Johannes  
Loof, Gesa  
Myszczyzyn, Adam  
Ojeda Alonso, Julia Anai  
Patarcic, Inga  
Petermann, Markus  
Peters, Jonas  
Pfeilschifter, Janina Marie

Plewa, Natalia  
Prinz, Christian  
Riazy, Leili  
Sanchez-Carranza, Oscar  
Sczakiel, Henrike  
Simonovic, Sinisa  
Skarlatou, Sophie  
Skroblyn, Tessa Lara  
Suarez Artiles, Lorena  
Subramanian, Sethuraman  
Tufan, Ahmet Bugra  
Vieira e Vieira, Carlos Henrique  
Wang, Jianhui  
Wreczycka, Katarzyna  
Xavier, Audrey Helena  
Zhou, Zhimin

## 10 PHD REPRESENTATIVES



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

**Thank you for your devoted work!**