

MDC International PhD Program





“Here at the MDC, we are proud to welcome you to our vibrant, international research community. Your time as PhD student will be one of learning and excitement, but also one with some difficult or frustrating moments, in which new friends and colleagues can support you. No matter whether your road will take you to academia or other, equally exciting opportunities, we are there to help you achieve your goals.”



Uwe Ohler

Head of Graduate Committee, MDC



Who are we?

THE MAX DELBRÜCK CENTER FOR MOLECULAR MEDICINE IN THE HELMHOLTZ ASSOCIATION (MDC) IS A MAJOR BIOMEDICAL RESEARCH INSTITUTE IN BERLIN

WWW.MDC-BERLIN.DE



The Helmholtz Association is the largest scientific organisation in Germany. An annual budget of more than €3.4 billion finances 18 research centres and 34,000 staff members. Its remit is to pursue long term research goals on behalf of the German state and society. The Helmholtz Association's 5,000 graduate students conduct research in the key areas of energy, earth and environment, health, key technologies, structure of matter, aeronautics, space and transport.

MAX DELBRÜCK CENTER FOR MOLECULAR MEDICINE IN THE HELMHOLTZ ASSOCIATION

The Max Delbrück Center for Molecular Medicine (MDC) in the Helmholtz Association is one of the most important centers for biomedical research in Germany. It covers a broad, cross-disciplinary area connecting fundamental discoveries in the laboratory with the field of medicine and aims to develop new strategies and therapies to improve human health. The translation of basic findings into more personalised medical practice and new bedside technologies is a challenge that the institute has taken on.

Founded in 1992, the MDC has a strong international reputation. Since its foundation, the MDC has grown from 400 to more than 1,600 employees, representing more than 50 nationalities. Our mission – to be at the forefront of fundamental biomedical research – is supported by the ongoing development of our infrastructure and facilities, including expansion of the Berlin Institute for Medical Systems Biology (BIMSB), development of modern facilities for translational medicine in the Experimental and Clinical Research Centre (ECRC), a unique Ultrahigh-Field MR Facility, and a newly-planned *In Vivo* Pathology Laboratory.

Located on the Campus Berlin-Buch, the MDC is embedded in an environment of modern biomedical science. The institute works closely with the Leibniz Institut für Molekulare Pharmakologie (FMP), sharing facilities and several joint research groups. The MDC has established a range of institutional collaborations with all the major natural science institutes in Berlin, including the Max Planck Institutes, the Humboldt Universität zu Berlin, the Freie Universität Berlin, the Charité-Universitätsmedizin Berlin and the Berlin Institute of Health (BIH).

We are committed to meet today's challenges in biology and medicine and realise that excellent science requires outstanding researchers. With over 350 PhD students in several graduate programs, the MDC is helping to educate a new generation of scientists. If you aspire to be one of them:

Welcome to the MDC!



MDC International PhD Program

At MDC we are committed to train the next generation of young scientists.

The MDC International PhD Program, founded in 2003, is a collaboration between the Max Delbrück Center for Molecular Medicine in the Helmholtz Association (MDC) and the Humboldt-Universität zu Berlin (HUB), Freie Universität Berlin and Charité-Universitätsmedizin Berlin.

At MDC we believe that to be a great scientist, one needs to train a diverse set of competences, such as research skills, independent thinking, communication and writing, to name a few. We therefore offer a structured, research-oriented environment

complemented with career development opportunities where our PhD researchers can grow both personally and scientifically. We are happy to see various generations of our graduates excelling both in research and in alternative science-related career paths.

To achieve this, the MDC International PhD Program offers close supervision and monitoring of the students' progress through yearly committee meetings, lectures in various research areas, methodology workshops, introduction to new technologies, soft-skill courses and annual PhD retreats.

To help our PhD researchers keep track of the various activities and courses during their training, the PhD Program operates a Credit Point System for courses and conferences attended and participation in career development activities. This helps students structure their training so that it meets individual needs and interests.

The graduate office currently supports 380 PhD students, 40% are coming from abroad. Additionally, student representatives serve as a mechanism of communication between the student body and the graduate office.

OUR RESEARCH SCHOOLS AND INTERNATIONAL EXCHANGE PROGRAMS

By joining the MDC International PhD Program you have the option to join one of our specialised research schools or exchange programs:

TransCard: Helmholtz Research School for Translational Cardiovascular and Metabolic Medicine

SignGene: Helmholtz German-Israeli Research School Frontiers in Cell Signaling and Gene Regulation

MDC-NYU PhD Exchange Program in Medical Systems Biology



**380 PhD RESEARCHERS ARE CURRENTLY ENROLLED IN
THE MDC PROGRAM REPRESENTING
53 DIFFERENT NATIONALITIES
80 NEW PhD RESEARCHERS ARE ADMITTED PER YEAR**

TransCard Research School



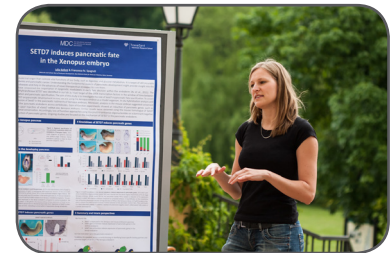
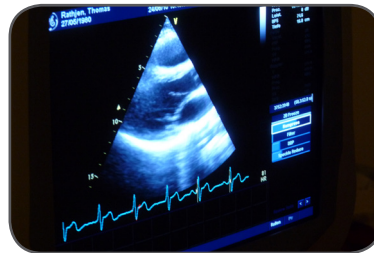
TransCard
Helmholtz Research School

The International Helmholtz Research School “Translational Cardiovascular and Metabolic Medicine” (TransCard) trains excellent young researchers at the interface of basic molecular, genetic, and clinical research with the goal of elucidating the molecular mechanisms causing cardiovascular and metabolic diseases and to transfer this knowledge from bench to bedside.

TransCard is a collaborative endeavor between the MDC and three universities in Berlin: HUB, FU, and the Charité - Universitätsmedizin Berlin. Our international partners include the Hubrecht Laboratory in Utrecht, Netherlands, the University of Arizona in Tucson AZ, USA as well as the Aviesan, Inserm & ITMO CMN in Paris, France.

Curriculum Highlights:

- Excellent & challenging research, and mentoring system
- Weekly lectures on the basics of cardiovascular & metabolic research and clinical applications with corresponding E-learning & seminars
- Clinical visits
- International conferences, courses, lab visits & annual retreats
- Personal development & transferable skills





"From bench to bedside", that's what we experienced during a two-day clinical visit in the cardiology department of the Helios Clinic, Berlin. Meeting patients and getting an insight into a physician's daily work showed quite plainly the necessity of our basic research to unravel disease causes and mechanisms to find new ways to diagnose and cure human diseases."

Anna Christa, PhD student, Germany



"It was really amazing I would say. Especially for people who are often stuck in the lab focused only on lab research, it is very essential for us to know how the clinical setup functions and what are the cutting-edge surgeries and medicines the doctors follow. (...) In sum, it was very cool! It was informative and very exciting for any 'all-lab PhD scientist' to learn and take his bench-work one more step ahead and closer to treating the patients. I'd thank TransCard for this superb opportunity."

Sudhir G. Tattikota, PhD student, India



Contacts

Spokespersons

Prof. Michael Gotthardt and Dr. Francesca Spagnoli

Scientific Coordinator

Dr. Inka Gotthardt

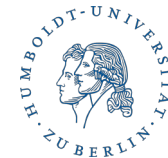
Find more about us at: <https://www.mdc-berlin.de/TransCard>

Email: transcard@mdc-berlin.de

MDC MAX DELBRÜCK CENTER
FOR MOLECULAR MEDICINE
IN THE HELMHOLTZ ASSOCIATION

CHARITÉ
UNIVERSITÄTSMEDIZIN BERLIN

Freie Universität  Berlin



German-Israeli Helmholtz Research School

SignGene

The International Helmholtz Research School “Frontiers in Cell Signaling and Gene Regulation” (SignGene) is a joint PhD program between MDC, Technion-Israel Institute of Technology in Haifa and the Hebrew University of Jerusalem in Israel. Funded by the Helmholtz Association, we offer first-class education for PhD students in a unique international environment.

The research of the School focuses on the following areas:

Cell Signaling: How do cells respond to changes in their environment? How do cells integrate multiple extracellular signals and relay this information into cellular decisions?

Gene Regulation: How is the activation and repression of single genes and gene batteries achieved? How does this information feed into global gene expression networks?

Quantitative Biology: How do the structure and physical properties of individual molecules or multiprotein complexes determine their functions? Can we build computational models to understand complex cellular processes?

Curriculum Highlights:

- 3-year advanced training in the fields of cell signaling, gene regulation, and quantitative biology
- Exciting research projects and dual mentoring by senior scientists from Germany and Israel
- Prolonged exchange visits in a partnering laboratory abroad
- Annual scientific symposia and thematic summer/winter schools

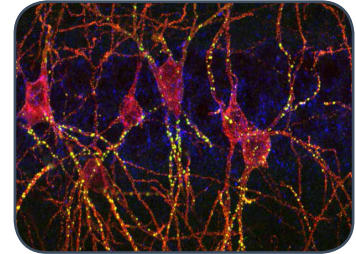
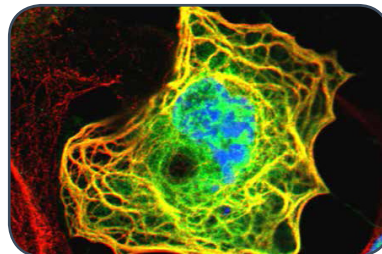
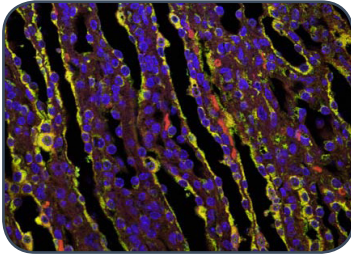
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TECHNION
Israel Institute
of Technology

**THE HEBREW
UNIVERSITY
OF JERUSALEM**



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Scientific Coordinator

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MDC Berlin

Israel

Spokespersons

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Professor of Basic Cancer Research
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Find more about us at: <https://www.mdc-berlin.de/signgene>

Email: signgene@mdc-berlin.de

MDC-NYU

PhD Exchange Program

The MDC-NYU Exchange Program is a joint program between the Berlin Institute for Medical Systems Biology (BIMSB) at MDC and the Center for Genomics and Systems Biology (NYU). It was launched in 2009 to train the next generation of system biologists. PhD students carry out joint research projects of partner labs in New York and Berlin and can spend up to 50% of their time at NYU. Both institutes have a strong reputation in systems biology and students can take advantage of state of the art technology platforms and a training program of advanced courses and personal development opportunities. Resources are available for travel from Berlin to New York for short and long term working periods as well as for course and conference participation. We plan to integrate additional international partners into the program to offer more collaborative opportunities for researchers and students.

Curriculum Highlights:

- Interdisciplinary research training in top ranking labs in Berlin and New York
- Students can spend up to 50% of their time at NYU
- Training in high-end technologies, such as deep sequencing, mass spectrometry, bioinformatics, and imaging
- Participation in interdisciplinary classes, student focused seminars and summer schools



Contacts

Berlin

Spokesperson

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Find more about us at: <https://www.mdc-berlin.de/bimbs>

New York

Spokesperson

Prof. Justin Blau

Chair, Department of Biology
New York University



I was fortunate to carry out my PhD project at two very exciting research centers in Germany and the United States. Being jointly supervised by Dr. Markus Landthaler (MDC-Berlin) and Dr. Christine Vogel (NYU) allowed me to benefit from the scientific guidance of two outstanding mentors and take full advantage of the exceptional scientific environment and infrastructure of both institutes. I was able to engage with faculty and peers from diverse backgrounds, establish collaborations in two countries, build an increasingly rich scientific network, and perhaps most importantly, publish papers from two different laboratories. Looking back, I can confidently say that the MDC-NYU PhD Exchange Program provides excellent training opportunities for the aspiring system biologist and prepares the students to actively engage with a global scientific community. Finally, it is worth noting that living in two of the scientifically and culturally most blistering cities in the world most certainly is a fascinating experience.

Mathias Munschauer, Postdoctoral Fellow, The Broad Institute of MIT and Harvard



What we offer

01 Welcome Center

Newly arrived PhD students are supported in their first steps in Berlin. We help you take care of everything from visas, work permits and residence requirements to get oriented in Berlin.

02 Introductory Sessions

First year PhD students participate in introductory sessions which give an overview of the MDC infrastructure, introduce the platform technologies and the facilities on campus, and provide useful tips for starting their PhD.

03 University Interface

The MDC Graduate Office together with the administrators at the Humboldt-Universität zu Berlin and Freie Universität Berlin assist you with all matters related to admission, enrolment, thesis submission and examination.

04 PhD Supervision

Our PhD students present annually their research project to the thesis committee. Committees consist of the PhD project advisor and two additional faculty members providing feedback on the PhD project and research progress, supporting both their scientific and personal development.

The MDC Graduate School supports all stages of PhD training

05 Lectures & Seminars

We offer a range of research seminars, from invited and internal speakers and dedicated teaching lectures. This allows our PhD students to broaden their scientific knowledge and network with the scientific community.

06 Method Courses

These courses aim to introduce PhD students to new techniques and high-end technologies. Courses include Statistics, Bioinformatics, Introduction to Deep-Sequencing and Mass Spectrometry.

07 PhD Symposia and Retreats

These annual interdisciplinary meetings are organized by students and serve as a forum for PhD researchers to present and discuss their work with their peers and network with the campus community, building new collaborations and friendships.

08 Soft Skill Training

Summer School workshops are offered to strengthen soft skills such as oral presentation, project management or scientific writing. These courses also include German classes and IT courses.

09 Travel Support

Travel and Collaboration funds are available to all PhD students and include support for their participation in international conferences, external workshops and collaborative visits.

10 Career Development

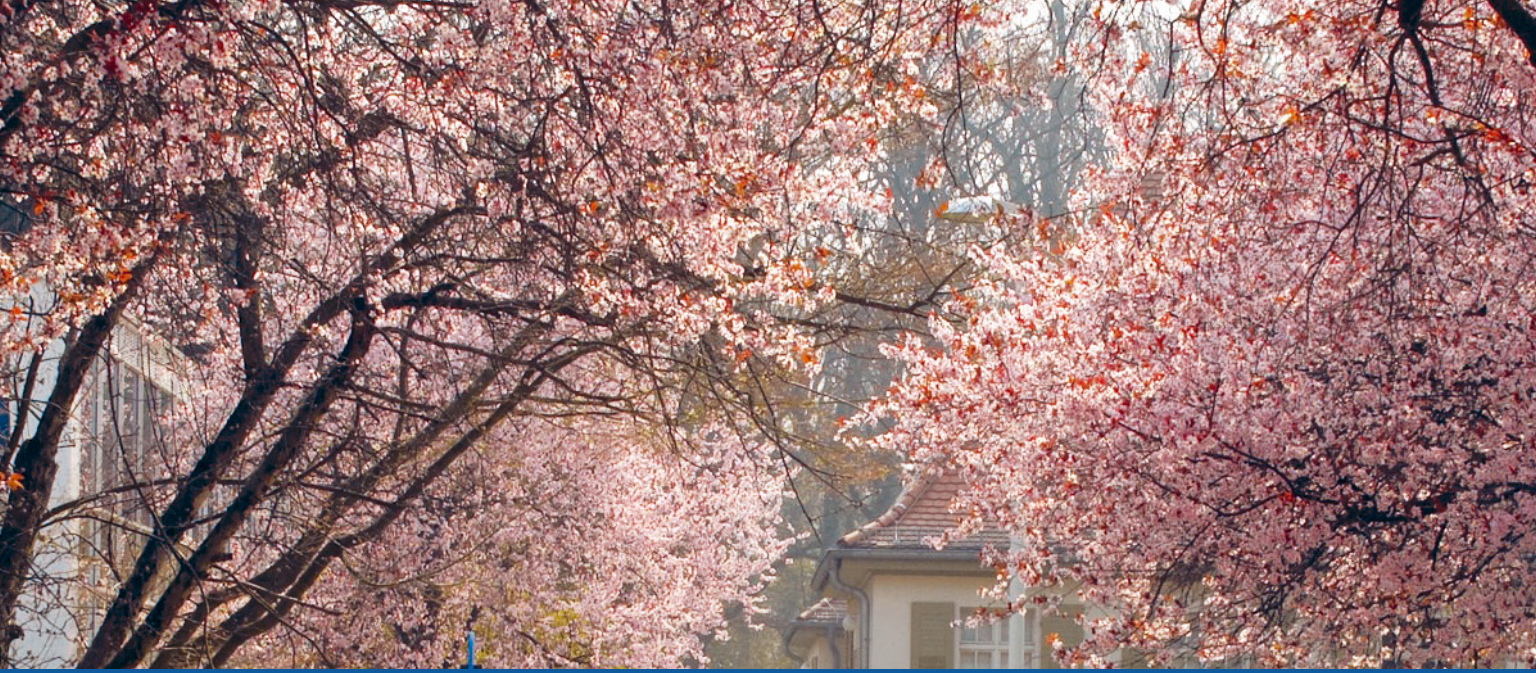
We support our students to prepare for their next career step with a series of career talks, workshops on CV-writing, applying for grants, and job applications.

11 Social Activities

Campus social events, such as the happy hour, help bring our community together. PhD students find a lot of different ways to get involved, from joining the MDC running club to contributing articles to the MDC newsletter.

12 Alumni Network

Alumni stay connected with the MDC by joining the MDC LinkedIn Networking group or the Society of Friends of the MDC (Freundeskreis des MDC).



Our Partner Universities

The MDC, as most research institutes in Germany, is not entitled to award academic degrees and therefore all PhD candidates must register with a university. The MDC Graduate School has partnerships with Berlin universities allowing students to obtain degrees from the Humboldt-Universität zu Berlin (HUB), Freie Universität Berlin (FU) or Charité-Universitätsmedizin Berlin. Most of our PhD candidates opt for partner universities in Berlin, but it is also possible to obtain the degree from any other university.

Humboldt-Universität zu Berlin

The Humboldt-Universität zu Berlin (HUB) has a history of over 200 years and is a proud „Alma mater“ to a total of 29 Nobel Prize winners and many other prominent personalities. There are about 30 000 students studying at the HUB, with almost a fifth of them coming from abroad. The HUB has been ranked as one of the best universities in the country in the major German university excellence competition.

www.biologie.hu-berlin.de

Freie Universität Berlin

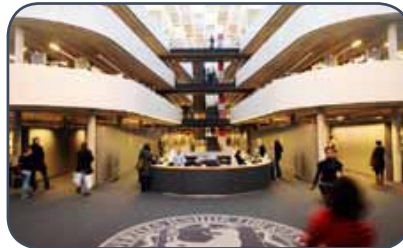
The Freie Universität Berlin (FU) is the youngest of Berlin's four universities and was established just over 60 years ago. Despite its young age, it has already been selected to be the “International Network University” within the Excellence Initiative and by extension one of Germany's top universities. Of its approximately 28,500 students, almost one fifth comes from abroad, and one quarter of its PhD students are international.

www.bcp.fu-berlin.de/en

Charité – Universitätsmedizin Berlin

This is a joint medical faculty of the HUB and the FU, combining basic with clinical research and patient care. It is the largest university hospital in Europe with more than 100 clinics and institutes extending over four campuses. The MDC has a very close partnership with the Charité: there are joint clinical research groups and major institutional collaborations, such as the Experimental and Clinical Research Center (ECRC).

www.charite.de



How do I apply to the MDC PhD Program?

Which degrees are recognised?

Applicants are required to hold a Masters degree, German Diploma or equivalent degree including a research project and written thesis.

Can I apply before I receive my degree?

It is not necessary that you have completed your degree at the time of application. However, you have to have been awarded your degree by the time you start your PhD, which is within six months after the interviews.

Does the program have specific language requirements?

The language of the PhD program is English. Proficiency in English is therefore a must. For your application, an English test is recommended but not mandatory.

Where and when can I apply?

For the International PhD Program applications are accepted only through the application web-portal. The portal is open usually twice a year for Spring and Fall Interviews. Exact openings and application details are indicated at:

www.mdcberlin.de/Application/

Which information has to be submitted for the application?

You have to submit information about your education, degree, research skills and interests, a letter of motivation and contacts of two referees. We also recommend uploading available academic certificates and transcripts of English language tests.

What happens next?

The group leaders of MDC will review applications and short-listed candidates will be invited for interviews about 8 weeks after the application deadline. Interviews usually take place twice a year.

What is the interview in Berlin all about?

The interview and final evaluation in Berlin last four days and include a short presentation of your research project, a panel interview, lab presentations of recruiting group leaders and personal interviews with your groups of interest. Travel expenses and accommodation will be fully covered.



How do I apply to the MDC PhD Program?

When do I start my PhD?

We ask all students to start within six months of the interview at MDC. All PhD students are registered with the Graduate School and have independent of their affiliation full access to the training program and travel grants of the Graduate School.

Can I expect some support arriving in Berlin?

The MDC Welcome Center supports all students on arriving in their first steps moving to Berlin including VISA and residency.



"The annual PhD retreat, funded by the Graduate School, is a great occasion to get into contact with all the groups on campus and learn about their research. Discussions with other PhD students about our projects give inspiration for new ideas and collaborations, not to mention the opportunity to talk in depth with famous international scientists from our field."

Paul Markus Müller, PhD Student, Germany

When do I know whether I have been accepted to the program?

You will be notified within three days after the interview.

How am I paid?

PhD students receive an initial 3-year work contract according to the German public system including health and social insurance and pension scheme. It may be extended further upon agreement with your supervisor and thesis committee.



"To improve the analysis of my data and my experimental plans, I attended a course at the Cold Spring Harbor Laboratory. The travel funds from our Graduate School and my lab covered all the course costs and gave me the opportunity to learn new methods I could apply to my work, but also brought me up-to-date with the gene expression field."

Kivia Aparecida Pontes de Oliveira, PhD student, Brazil

Life on Campus



The MDC is located at the Campus Berlin-Buch on the North Eastern part of Berlin. Reaching the Campus from the city center takes 30 minutes with the S-Bahn, while many MDC employees reach work by bike.

The Campus Berlin-Buch is a modern science and biotechnology park with a clear focus on biomedicine, where more than 2,200 people work. It provides a unique environment for scientific collaborations, facilitated by the proximity of two research institutes (MDC and FMP), university clinics and more than 50 biotechnology companies. For more information on the Campus, please refer to: http://www.bbb-berlin.de/index_en.html

By joining MDC you are not only taking advantage of its excellent scientific environment but you are also becoming a member of an international community of young researchers, who are actively supported throughout their stay at MDC. Upon your arrival in Berlin you can stay at one of the campus guesthouses before finding your own accommodation.

Our green campus offers plenty of outdoor space to relax as well as modern artwork exhibitions. You can meet friends over a beer at the Friday after-work “happy hour” or at any of the parties and events organised by our community. Social events for newcomers and cultural outings downtown are organised by the Graduate office. There is a range of sports clubs and classes you can join (i.e. running club, kung fu, tango, soccer, basketball, fitness classes and more).



Living in Berlin

With a population of 3.5 million people Berlin is home to 600,000 foreign nationals from abroad and 134,000 university students

Berlin accomodates 4 universities, 3 opera houses, 175 museums and 2,500 public parks and gardens

There are more than 700 bikes per 1,000 inhabitants and Berlin's streets are lined with 400,000 trees





“The annual PhD committee meetings are a useful opportunity for us to take some time to reorganise and reanalyse our results. They help us to define where we are standing at the moment and where our project is heading. Unbiased comments and criticism from the committee members are always welcome and can provide some external insight, revealing new perspectives and/or possible flaws in our projects.”

Igor Pongrac, PhD Student, Croatia

“As a foreign student, I particularly appreciate the kind help from the Graduate School on visa extension and the generous offer of ‘Deutsch’ courses.”

Jiaxuan Chen, PhD student, China



“It was great to receive support from the Graduate Office for registration as a doctoral student at the Humboldt University: first we were given an overview of the whole enrolment and thesis submission/ defence process, and then also got a brochure summarising in English all steps, contact details and documents required. For a foreigner understanding the German university regulations can be quite a daunting task, but we felt lucky to have such a comprehensive support and assistance!”

Valentina Mosienko, PhD Student, Belarus

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