UNIVERSITY OF TORONTO

MAX PLANCK GESELLSCHAFT

2021–2027

MAX PLANCK – UNIVERSITY OF TORONTO CENTRE FOR NEURAL SCIENCE AND TECHNOLOGY

Joint Ph.D. program between
the Max Planck Society (MPG) and
the University of Toronto (U of T)

IMPRINT

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Simpelplus.de

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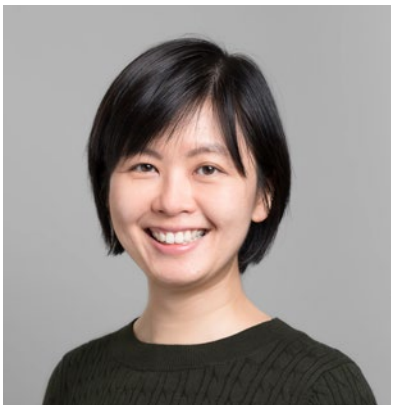


JOYCE POON

Co-Director, Max Planck Society

TAUFIK VALIANTE

Co-Director, University of Toronto

MESSAGE FROM OUR CO-DIRECTORS

We are both extremely excited to bring together scientists within the Max Planck Society and University of Toronto to create and deploy technologies to explore, understand, and ultimately interface these brain-inspired technologies with the human brain. The multidisciplinary nature of this endeavor is captured by the myriad of disciplines represented by the various participating Max Planck Institutes, University of Toronto Departments, and affiliated hospital research Institutes. As students, many of us can remember the first time we felt the thrill of discovery, be it big or small. Thus, a key mission of the Max Planck – University of Toronto Centre for Neural Science and Technology (MPUTC) is to create and keep that feeling alive, by inspiring and being inspired by the next generation of scientists towards the combined endeavor of neuroscience and neurotechnology.

Towards this end, the key activity that underpins the MPUTC's scientific mission is the Ph.D. training program. The Ph.D. training program will expose U of T students to the world-class science emerging between the University of Toronto and the Max Planck Society and within the MPUTC. Our world is our brains. The training of new minds in neuroscience and neurotechnology in the MPUTC will advance the interfacing to, and understanding of the brain in health and disease – something that for a surety is to change our world.

THE MPUTC

The Max Planck – University of Toronto Centre for Neural Science and Technology (MPUTC) is a collaboration between the German Max Planck Society (MPG) and the University of Toronto (U of T), which began in 2021. Prof. Dr. Martin Stratmann (President of the MPG), Rüdiger Willems (Secretary General of the MPG), Prof. Meric Gertler (President of U of T) and Prof. Edward H. Sargent (Vice-President of U of T) signed the agreement for the MPUTC, and the MPUTC was officially inaugurated on the 14th of April 2021.

The scope of the MPUTC is to conduct fundamental research in the field of neuronal science and technology. The Centre is jointly financed by the MPG and the U of T.

Prof. Dr. Martin Stratmann (left) and Prof. Dr. Meric Gertler (right) holding the jointly signed agreement for the MPUTC.

OUR MISSION

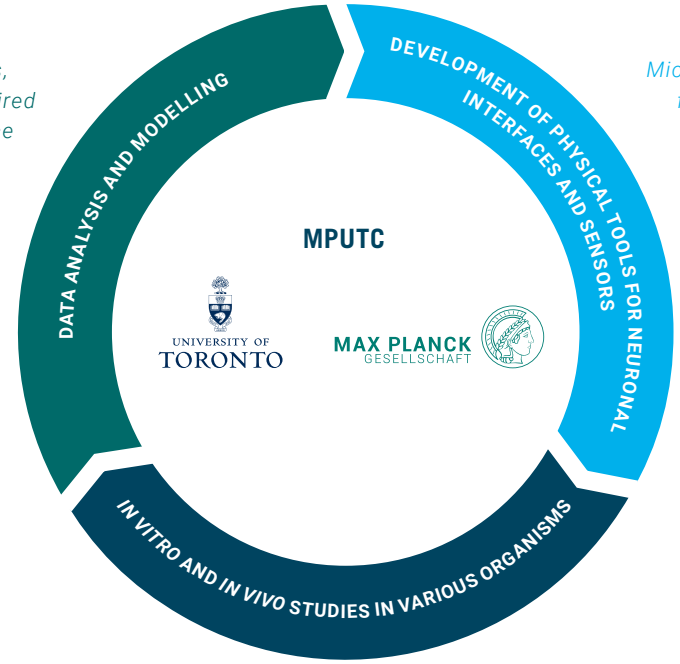
The human brain is one of the most powerful and complex systems in existence. In many ways, it is more powerful than any human-made computational system.

Our mission is to unravel the mystery of the brain by creating novel tools to interrogate brain activity. These tools will be used in our collaborative network to perform *in vitro* and *in vivo* experiments within a variety of organisms (vertebrate and invertebrate) to gain new insights in the functional processing of the brain. These newly acquired data will be analyzed to develop understanding, to generate new experiments, and improve brain-computer interfaces. The data can also lead to new brain-inspired artificial intelligence algorithms.

As the highest-ranked, and the largest University in Canada, U of T provided me with the greatest working environment I could imagine, alongside with our vibrant group.

MPG Researcher

Biophysical models, Neuroscience-inspired artificial intelligence (AI) and computing



Micro-/nanotechnology for neural interfaces and sensors

Human neurons, microcircuits and behavior

YOUR ACADEMIC CAREER

The MPUTC offers an unique chance at an international Ph.D. program involving at least two collaborating labs of the Max Planck Society and the University of Toronto. You will complete your academic requirements at and earn your Ph.D. from the University of Toronto while being able to conduct research at a Max Planck Institute.

Your Ph.D. project will start in an affiliated department of the University of Toronto, where you complete any course requirements, learn, and deepen your knowledge for future research. When you are based at the University of Toronto, you will be financially covered by the U of T. During your time in Germany, you will receive a work contract at the project-affiliated Max Planck Institute for three years. During your time at the Max Planck institute, mutual visits and exchanges with Toronto are expected.

1–2 YEARS AT THE UNIVERSITY OF TORONTO
(AWARDS/ STIPEND)

- Complete coursework and academic requirements onsite*
- Start your scientific career

2–3 YEARS AT A MPI IN GERMANY
(CONTRACT)

- Conduct your research
- Participate in national and international conferences
- Travel between Canada and Germany

PH.D. EXAMINATION AT THE UNIVERSITY OF TORONTO

* Requirements and deadlines might differ between departments

SALARY IN GERMANY

In the Max Planck Society (MPG), Ph.D. students are considered employees and are offered contracts according to the German civil servant salary scale (TVöD). In the MPG, Ph.D. students are given a minimum of 65% TVöD 13 contract, which guaranties a yearly gross income of ~34 300 €. The net after tax income is at least about ~23 180 € (in 2022).

It is and will always be indescribably exciting for me to be enrolled in a Max Planck Institute, where dozens of Nobel Prize laureates have worked.

MPG Researcher

WHY GERMANY AND THE MAX PLANCK SOCIETY?

Since its founding in 1948, the Max Planck Society (formerly Kaiser Wilhelm Society) has become a recognized world leader in scientific research, with 20 Nobel Laureates. Additionally, the MPG is, according to Nature Index, third among the world's research institutes in research output1. As a self-proclaimed "nation of poets and thinkers", Germany supports its scientific institutes, creating world-class and unique facilities with excellent support for scientific research and freedom. German research institutes promote the integration of international researchers by primarily utilizing English as the working language while also offering German classes to employees who would like to learn the German language. The MPG offers a family friendly environment by providing additional help and support for childcare while also promoting your personal development with training courses and regular occupational health checks.

The MPG promotes a guided on-boarding process nurtured by a strong team spirit. Therefore, working within the MPG offers a great work-life balance to all employees. The MPG has a diverse program that will allow you to learn for you future career. For more information please visit:

https://www.mpg.de/career

Every employee and Ph.D. student receives 30 days of paid vacation in addition to public holidays that will give you plenty of time to explore Germany and Europe.

Germany has a strong economy. In 2020, Germany had the second lowest unemployment rate (4.31%) among all G7 countries[1]. Many career oppotunities await you after your graduation.

BE AN INTERNATIONAL STUDENT AT THE MPUTC
The MPUTC encourages young researchers to create an international network for their future career.

In Germany, I was able to travel to many amazing historic European towns in my free time to immerse myself in the unique cultures, architectural styles, and sights on offer.

U of T Student

1 ↘https://www.theglobaleconomy.com/

WHY CANADA AND THE UNIVERSITY OF TORONTO?

Since its establishment in 1827, the University of Toronto has steadily improved its scientific outreach and educational teaching to become the top ranked university in Canada and one of the top 20 universities worldwide[2]. Since its first Nobel Prize in 1923, U of T faculty and alumni have received 10 more Nobel Prizes. U of T is a member of the Association of American Universities, an organization of the leading universities in North America.

The University of Toronto has a diverse offer of disciplines like arts, social and natural sciences, and professional programs like engineering and medicine.

The city of Toronto itself is vibrant and friendly. Almost 50% of its population is born abroad and more than half of the population identifies as belonging to a visible minority group[3], making Toronto an international highlight of a lifetime.

JOINT WORKSHOPS, CONFERENCES, AND SEMINARS

The MPUTC will schedule workshops, conferences, and seminars to stimulate exchange between all partners and enable the exploration of new synergies for future projects.

Toronto is a very lively and diverse city where you can become friends with many friendly people from all parts of the world while enjoying authentic foods and experiences from many different cultures.

U of T Student

2 World University Rankings 2021 | Times Higher Education (THE)
3 ↘https://www12.statcan.gc.ca/census-recensement/2016/as-sa/fogs-spg/Facts-cma-eng.cfm?LANG=Eng&GK=CMA&GC=535&TOPIC=1

LEADERSHIP TEAM

The leadership team consists of the two co-directors and their respective associate directors, who, together with the scientific coordinators, plan the joint activities of the MPUTC. The leadership team is supported by two project coordinators who arrange official meetings and outreach. Together with the Scientific Advisory Board, the leadership team decides and monitors the overall scientific direction.

MAX PLANCK SOCIETY, GERMANY

JOYCE POON
Director

STUART PARKIN
Associate Director

MICHAEL BRUNK
Scientific Co-ordinator

KATJA WOLDT
Program Co-ordinator

UNIVERSITY OF TORONTO, CANADA

TAUFIK VALIANTE
Director

ZHONG-PING FENG
Associate Director

LUKA MILOSEVIC
Scientific Co-ordinator

JENNY FAN
Program Co-ordinator

SCIENTIFIC ADVISORY BOARD

AHMET HOKE
John Hopkins University

ANDRÉ LONGTIN
University of Ottawa

WILLIAM GREEN
IBM

VIVIAN MUSHAHWAR
University of Alberta

GROUP PHOTO OF THE MPUTC INAUGURATION
(starting from top left corner) Meric Gertler, Martin Stratmann, Stépahne Dion, Sabine Sparwasser, Joyce Poon, Taufik Valiante, Klaus Baum, Metin Sitti, Viola Priesemann, Zhong-Ping Feng, Luka Milosevic, Sheena Josslyn, Ted Sargent, Sean Hill and Kevin Smith

OUR VALUES OF EQUITY, DIVERSITY & INCLUSION

The MPUTC is strongly committed to diversity within its community and especially welcomes applications from racialized persons / persons of colour, women, Indigenous / Aboriginal People of North America, persons with disabilities, LGBTQ2S+ persons, and others who may contribute to the further diversification of ideas.

JOIN OUR INTERNATIONAL PH.D. PROGRAM

The Max Planck – University of Toronto Centre offers the opportunity for jointly supervised Ph.D. thesis research between the participating MPG and U of T.

All applications and students are warmly welcome.

For general inquiries contact us: max.planck@utoronto.ca

To submit a proposal for a joint Ph.D. project, visit our website at https://mpc.utoronto.ca and complete the brief project template.

For more information visit our webpage at https://mpc.utoronto.ca/
or write us an e-mail at max.planck@utoronto.ca

FOR FURTHER READINGS:

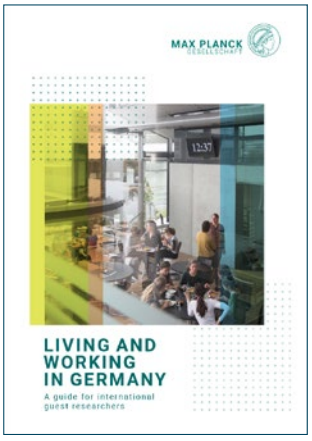
UNIVERSITY OF TORONTO

SCHOOL OF GRADUATE STUDIES

www.sgs.utoronto.ca

WELCOME TO STUDENT LIFE

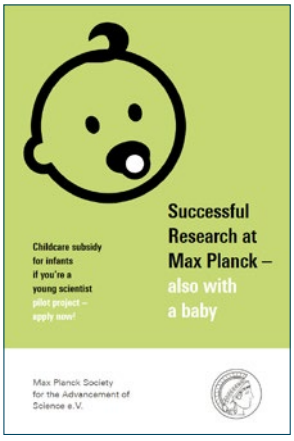
studentlife.utoronto.ca



LIVING AND WORKING IN GERMANY – A GUIDE FOR INTERNATIONAL GUEST RESEARCHERS

This 76 page guideline from the MPG headquarters will give you all necessary information that you need when coming to Germany.

Link to document



SUCCESSFUL RESEARCH AT MAX PLANCK – ALSO WITH A BABY

A pilot project launched by the MPG to support childcare when both parents are working full-time.

Link to document

Joint Ph.D. program between the Max Planck Society (MPG) and
the University of Toronto (U of T)

mpc.utoronto.ca