

Funding Opportunities in North America for TUM Doctoral Candidates

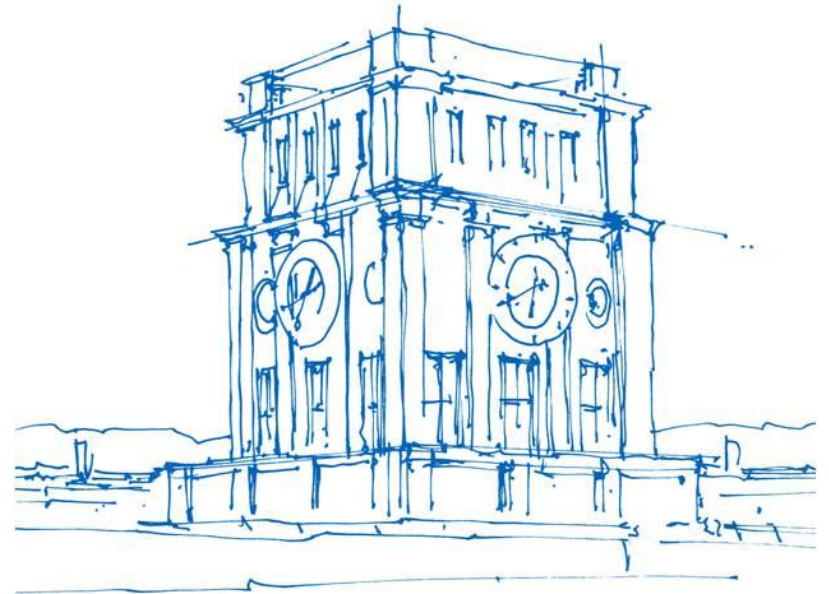
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San Francisco Liaison Office

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Uhrenturm der TUM

Funding Opportunities in North America for TUM Doctoral Candidates



- Who am I and why am I talking to you?
- TUM San Francisco Liaison Officer
- Bridge between TUM and North America
- Manage academic partnerships
- Represent TUM in Silicon Valley
- Manage TUM Alumni community

Funding Opportunities in North America for TUM Doctoral Candidates

What will we talk about?

How much money is there for R&D?

Where does all that money come from?

Where does all that money go?

What might my funding look like?

Case studies

Private funding options



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How much money is there for Research and Development?

In 2019, the world spent an estimated US \$2.4 Trillion on R&D

Roughly half of total world R&D spending comes from the United States and China

China will soon overtake the US in terms of % of GDP spent on R&D, and total amount expended

**Source: The World Bank*

Select R&D Powerhouses R&D Expenditures as a % of GDP*		
Country	% GDP	Total (\$B)
South Korea	4.53	(102.5 \$B)
Japan	3.28	(173.3 \$B)
Germany	3.13	(147.5 \$B)
USA	2.83	(657.5 \$B)
France	2.19	(72.8 \$B)
China	2.14	(525.7 \$B)
UK	1.70	(56.9 \$B)
Canada	1.54	(29.3 \$B)

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Where does the Money in North America come from?



Canada - \$40 B (CDN)*

1. Business Sector \$17,954 M
2. Higher Education & Non-Profit \$13,339 M
3. Federal & Provincial Government \$9,079 M

* Source: Statistics Canada



United States \$656 B (US) **

1. Business Sector \$463.7 M
2. Federal & State Governments \$142.9 M
3. Higher Education & Non-Profit \$ 48.5 M

** Source: Congressional Research Service

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Where does all that money go – *i.e. what types of research gets funded?*

- ✓ Projects that provide resources:
 - ✓ Giving access to unique facilities and equipment
 - ✓ Sharing of costs and risks
 - ✓ Exchange of techniques and insights
- ✓ Projects that increase capacities:
 - ✓ Strengthening and expanding knowledge bases
 - ✓ Attracting talent
 - ✓ Enhancing S&T-led economic performance

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Where does all that money go – *i.e. what types of research gets funded?*

- ✓ Projects that promote important objectives:
 - ✓ Address national, regional, and global problems
 - ✓ Exploit synergies
 - ✓ Enhance research and education landscape
- ✓ Projects that promote desired outcomes:
 - ✓ Create true intellectual partnerships
 - ✓ Mutual benefit from expertise, facilities, and resources
 - ✓ Newly formed or expanded international collaborations
 - ✓ Support for US/Canadian students and junior researchers = greater international experience and engagement

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What might *my* funding look like?

- ✓ Personal resources
- ✓ Foundation stipend
- ✓ Exchange programs
- ✓ Dual degree programs
- ✓ **Internships**
- ✓ **Visiting researcher**

Case studies →

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US Case Study: University of Washington (Seattle)

VISIT Program:

The Visiting International Student Internship & Training (VISIT) program at the University of Washington allows students who are pursuing degrees at universities outside of the United States to participate in **full-time, work-based supervised research** at the University of Washington.

- ✓ 3 Weeks to 1 year
- ✓ 32 Research hours per week
- ✓ J1 Visa required
- ✓ Program fee \$1,500 + expenses / Department may pay a stipend
- ✓ Networking with US and international colleagues



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US Case Study: University of Washington (Seattle)

VISER Program:

The Visiting International Student Engaged in Research (VISER) program permits students pursuing degrees at universities outside the United States to participate in a full-time prescribed course of study with a specific educational objective at the University of Washington.

- ✓ 13 – 24 Months
- ✓ 32 Research hours per week
- ✓ J1 Visa required
- ✓ Program fee: \$0, expenses only / Department may pay a stipend
- ✓ Networking with US and international colleagues



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Canada Case Study: McGill University (Montreal)

- ✓ Visiting Student
- ✓ Graduate Research Trainee

Canada Case Study: University of Alberta (Edmonton)

TUM – Alberta Joint Supervision Program

Joint supervision of PhD thesis; research stay may be up to 12 months, organized through TUM Graduate School



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Private Funding - Tips from the Mastermind: Mr. John Tsapogas, City University of New York

- ✓ Private foundations give money to people and institutions they know and like
- ✓ Every private foundation is different from every other private foundation
- ✓ Tailor your grant request to the aims and purposes of the foundation:
 - ✓ What do they want to accomplish or promote?
 - ✓ Get acquainted with program officers
 - ✓ Distinguish yourself as a “thought leader” in your area (at least in the program officer’s eyes)
 - ✓ Be persistent, be patient – there are a lot of foundations giving grants:

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- **American Express**
- **A T & T Foundation**
- **Bill and Melinda Gates Foundation**
- **Bristol-Myers Squibb Foundation**
- **Carnegie Corporation of New York**
- **Caterpillar Foundation - Multiple States & International**
- **Chevron**
- **Cisco Systems**
- **Citigroup Foundation**
- **Coca-Cola Foundation**
- **Credit Suisse Foundation**
- **Dow Chemical Company**
- **DuPont**
- **Estée Lauder Global**
- **ExxonMobil Community Investment**
- **Ford Foundation**
- **Goldman Sachs Foundation**
- **Hewlett Packard Global Investment**

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- **J.P. Morgan**
- **Levi Strauss**
- **MacArthur Foundation**
- **MasterCard Foundation**
- **Medtronic Foundation**
- **Micron Foundation**
- **Newman's Own Foundation**
- **Nike Foundation**
- **PepsiCo Foundation**
- **Procter & Gamble**
- **Prudential Foundation**
- **Rockefeller Brothers Fund**
- **Rohm and Haas**
- **Schering-Plough Corporation**
- **W.K. Kellogg Foundation**

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Questions and Answers

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