Funding Opportunities in North America for TUM Doctoral Candidates

Jeffrey R. Ouimet, JD
Technische Universität München
TUM Global & Alumni Office
San Francisco Liaison Office
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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
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

<table>
<thead>
<tr>
<th>Country</th>
<th>% GDP</th>
<th>Total ($B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Korea</td>
<td>4.53</td>
<td>(102.5 $B)</td>
</tr>
<tr>
<td>Japan</td>
<td>3.28</td>
<td>(173.3 $B)</td>
</tr>
<tr>
<td>Germany</td>
<td>3.13</td>
<td>(147.5 $B)</td>
</tr>
<tr>
<td>USA</td>
<td>2.83</td>
<td>(657.5 $B)</td>
</tr>
<tr>
<td>France</td>
<td>2.19</td>
<td>(72.8 $B)</td>
</tr>
<tr>
<td>China</td>
<td>2.14</td>
<td>(525.7 $B)</td>
</tr>
<tr>
<td>UK</td>
<td>1.70</td>
<td>(56.9 $B)</td>
</tr>
<tr>
<td>Canada</td>
<td>1.54</td>
<td>(29.3 $B)</td>
</tr>
</tbody>
</table>
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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

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: Statistics Canada

** 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

Contact:

Jeff Ouimet
TUM San Francisco Liaison Office
sanfrancisco@tum.de
101 Montgomery Street #1900
San Francisco, CA 94104
USA