Doing your Doctorate at the TUM
Introduction to the TUM Graduate School

Prof. Dr. Tim Büthe & Dr. Stefanie Lernbecher,
TUM School of Governance, Center for Doctoral and Postdoctoral Studies

Slides kindly provided Zizheng Zhang, Associate Director, TUM Graduate School

Munich (HfP/TUM-GOV), 2 May 2019

www.gs.tum.de
TUM-GS Facts & Figures

- Established 2009
- Largest of its kind in Germany with automatic membership since 2014

- 17 Departmental Centers for Doctoral Studies
- 8 Thematic Centers, incl. 5 with external partners
- Dean of the Graduate School (member of the TUM) Extended Board of Management
- Doctoral Council

- Current members: ~7,200
- Intake in 2018: 1,876
- PhDs completed in 2018: 1,049
- female doctoral candidates: 38%
- international doctoral candidates: 27%
- Top 5 international countries of origin: China, Austria, Italy, India, Iran
Introduction to the TUM Graduate School

TUM-GS Facts & Figures: Number of Doctoral Candidates by GZ

Data as of the 1st of December 2018
TUM Graduate School - Objectives

- Provides a **common framework** for various doctoral programs – ensures high quality of training for doctoral students/candidates at TUM
- Ensures an **international** perspective – various exchange formats & funding initiatives
- Fosters **interdisciplinary** collaboration – across disciplines, institutions
- Strengthens **scientific and transferable skills** – 300+ courses per semester
- Increases visibility and **networking** of doctoral candidates – give them an identity and involve them
- Provides **career** orientation and promote social responsibility – prepare graduates for international careers
Alumni Survey 2017

“Skills gap” - what skills are needed after the doctorate?
(Self-reported competences at the end of the doctorate vs. skills needed in job)
Positive values: Skill acquired matched or exceeded need in position held after PhD
Negative values: Skills needs after doctorate exceeded training obtained during doctorate
If you had the chance of doing your doctorate again, in which qualification elements would you put more time and effort?

- Research visit abroad: 50%
- Career coaching: 40%
- Subject-specific training: 35%
- Conferences: 30%
- Soft skills training: 25%
- Software or hardware: 20%
- Proof-reading services: 15%
- Specialist literature: 10%
- Other: 5%
The TUM Graduate School in the Larger Context: Support and Career System for Junior Scientists

Postdocs
- TUM Talent Factory
- TUM Research Opportunities Week
- TUM University Foundation Fellowship
- TUM Junior Fellow (Fund)

Doctoral Candidates
- TUM Graduate School

Early Career Scientists
- TUM Faculty Tenure Track
- System and Academy
Doing your Doctorate at the TUM-GOV
Opportunities, Requirements, and Procedures

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The TUM-GS Program for Doctorates at TUM:
Your Individual Research Is the Core

- Individual research at Institute/Chair/Professorship
- Subject-related courses & qualification
- Transferable skills training
- International research phase
- Career support

Doing Your Doctorate at the TUM School of Governance
Supervision Agreement, Work Plan & Mentor

**Supervision Agreement**

- Foundation of a successful partnership
- Provides a plan for step-by-step success
- Structures your research
- Determines appropriate work conditions
- Establishes involvement in your academic environment

**2nd Supervisor and Mentor**

- Provide independent feedback based on own experience with advanced scientific research
- Identify them early to involve them from an early stage of your research project

Mentor also helps you with:

- Advice on work-life issues; insight into career options
- Building a network in academia and beyond

Doing Your Doctorate at the TUM School of Governance
Subject/Discipline-Specific or -Related Qualification

**Discipline-Specific Advanced Training**
- available at the chairs & departments
- possibility to take courses at international partner institutions
- 6 semester hours (63h à 60min) in advanced scientific discipline-specific or -related training (GOV: 3 courses of at least 2 SWS each)

**Publications / Scientific Community Scrutiny**
- at least one scientific peer-reviewed publication or conference proceeding, connected with the research of the dissertation research/project
- copy-editing/proofreading service to help prepare manuscripts for publication in English ("Lektoratsservice")
- TUM-GOV Center for Doctoral Studies ("GZ") as main contact point/gateway
Transferable Skills Training

What is it about?
• Wide range of courses
• Additional qualification
• Interdisciplinary experience
• Doctorate-oriented contents
• Career-oriented contents

Examples:
• Presentation Skills
• Scientific Paper Writing
• Grant Writing
• Successful cooperation in internat. teams
• Surviving complex projects
• Business Creation and Patent Law
• Career path in and outside academia
• Leadership & Responsibility
TUM-GS Kick-off Seminar

15-17 Kick-off seminars each year
80-100 doctoral candidates across all disciplines

Goals:
• Interdisciplinary exchange
• Strengthening personal networks
• Get to know TUM and its resources
• Transferable skills training

Fixed program parts:
• Intro to Good Scientific Practice
• Poster session
• Science/cultural/music program and networking
• Introduction to TUM services and entrepreneurship
International Research Phase

Possible Elements

- Individual research travel, incl. for field research
- Presentation of own research at international conferences
- Exchange programs
- Joint supervision programs
- Joint interdisciplinary summer/winter schools
- Various funding options
Internationalization Funding

What is it for?
• Research stays and international conferences abroad
• International summer schools, workshops etc.
• Invitation of international guest researchers/examiners

How much is it?
• 1.600 EUR + 1.400 EUR for research stays lasting longer than 4 weeks

Who is eligible?
• TUM research/teaching assistants
• Scholarship holders (e.g. DAAD, CSC, Begabtenförderungswerke etc.)
• Regular members of the TUM-GS, after the feedback talk

External candidates apply for the Internationalization Grant (1.600 EUR)
Internationalization Funding

How to apply?

TUM employment:
1. Dienst-/Fortbildungsreisegenehmigung
2. TUM-GS Application Form for international funding (→ TUM-GOV GZ, DocGS)
3. International activity
4. TUM Reisekostenstelle -> Auszahlungsanordnung
5. Send all relevant documents to the TUM-GS Management Office

Scholarship holders:
1. TUM-GS Application Form for international funding (→ TUM-GOV GZ, DocGS)
2. International activity
3. TUM-GS Application for the Refund of Travel Expenses (→ TUM-GOV GZ)
4. Send all relevant documents (incl. original receipts) to the TUM-GS Management Office

Internationalization Grant (external doctoral candidates):
• four application deadlines/year (→ TUM-GOV GZ)
TUM-GS Partnership Mobility Grant

Additional travel grant for research stays and workshops at partner universities

- Up to 500 EUR (within Europe, incl. Israel)
- Up to 1.000 EUR (outside Europe)
Other additional funding options

**Diversity Supplement Travel Grant**
- Supports international activities by doctoral candidates with family obligations and/or special health/other needs
- Additional funding of up to 500 EUR per activity

**TUM-GS Initiative Grant**
- For the organization of interdisciplinary doctoral workshops
- For initiatives by doctoral candidates and social projects
- Up to 2.000 EUR per activity
- At least two doctoral candidates from different TUM departments

Further information: [http://www.gs.tum.de/de/promovierende/finanzierung/](http://www.gs.tum.de/de/promovierende/finanzierung/)
Career Support

Through **coaching** you can get individual support in

- dealing with professional challenges
- defining your role in new (leading) positions involving new tasks
- finding an adequate work-life balance
- planning your further career…

**Coaching by TUM.Diversity**

- 80 places per year
- 4 hours individual coaching
- all costs will be covered by TUM
Overview of TUM-GS Programs and Services

Key Components of Basic Doctoral Program

GS & TUM School of Governance

- Supervision agreement
- Dissertation Research Proposal
- Second Supervisor and Mentor
- Kick-off seminar
- Subject-related advanced training
- Discussion of research in the international community via a peer-reviewed publication
- Involvement in the intellectual community at the department/institute
- Formal feedback on progress after at most 2 years
- Registration and at least 2-year membership

Optional Program

- Transferable skills training (50+ offers per semester)
- International research phase
- Summer Schools & targeted international networking
- Coaching and career services
- Graduate Council engagement
- Social and networking activities

Doing Your Doctorate at the TUM School of Governance
Graduate Council

Umbrella organization of all graduate center representatives
Speaker is a member of the Senate

Goals:
• exchange and networking
• discussing and influencing university policy
• support and help
• culture, sports and arts
  ➢ Supervisory Award

Sindre Haugland
Chair of Nonequilibrium Chemical Physics
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Matthias Caro
Chair of Mathematical Physics
Department of Mathematics
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Doctoral Candidates' Representatives

Represent Docs on Executive Board, TUM-GOV Center for Doctoral and Postdoctoral Studies
Represent TUM-GOV Docs on the TUM Graduate Council

Functions of the Executive Board:
• Deliberates and take major decisions within the authority of the GZ
• Advises academic and executive directors of the GZ on doctoral candidates' needs and wishes
• Conducts strategic planning for GZ (as input into/proposals to the GOV Faculty Senate (Fakultätsrat))

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