



Physik-Department



Technische Universität München



from the  
smallest  
to infinity

# Study and Research Opportunities

▶ Technische Universität München  
Physics Department

## Why Physics at TUM?

### Unlimited Research Opportunities

We cover all the fields of modern physics.

FUNDAMENTAL | APPLIED | TECHNICAL

#### Biophysics

#### Condensed Matter Physics

#### Nuclear, Particle and Astrophysics

### Successful Career Path

Our students and researchers have the **strong analytical skills and experience** necessary for research in academia or industry – and are highly employable. Examples of positions our alumni hold:

- ▶ **Cell Technology Specialist**, BMW, Doctorate in Physics (2009)
- ▶ **Consultant**, PwC Strategy&, Master's in Applied and Engineering Physics and Keio-TUM Double Degree (2014)
- ▶ **Project Manager** for R&D, Infineon Technologies, Doctorate in Physics (2010)
- ▶ **Head of Quality Management and Business Excellence**, Siemens, Diploma in Physics (1994)
- ▶ **Research Scientist**, TRIUMF, Diploma (2004) and Doctorate (2008) in Physics
- ▶ Assistant **Professor** (since 2015), University of Waterloo, Master's in Engineering Physics (2004)
- ▶ **Founder and Chief Executive Officer**, Demoskopia, Master's in Biophysics (2013)



*"The study plan is very flexible and you can take very different courses – good university, many research facilities to do a Master's thesis or doctoral research, and no tuition fees."*

Santiago Varona Angulo from Spain, Master's in Nuclear, Particle and Astrophysics (2015)

### Expansive Network

Internationally accomplished scientists gather in our department and associated neighboring institutions – **25+ on Campus Garching alone**. Our large number of international partners multiply your possibilities. We have 1.300 physics students, 20% international, and 400 doctoral candidates.

*"As a physicist, you can be widely deployed in industry. Because of your strong analytical skills and persistency, you are great at solving complex problems. I am still very proud of having studied at the TUM Physics Department. Also, from an employer's perspective, I can strongly recommend it."*

Dr. Thomas Goldbrunner from Germany, Diploma and Doctorate in Physics (1997), now Product Strategy at BMW Group

### World-Class Facilities

Campus Garching is one of the biggest science and technology research campuses in Europe, and the largest number of its institutions are dedicated to physics. Whether it is a unique neutron source or an upcoming center for advanced laser applications or a new center of protein science, you will find everything you need to pursue your interests.

## Broaden Your Horizons

### STUDY

#### Master's Programs

- ▶ Master's in Applied and Engineering Physics (fully English-taught)
- ▶ Master's in Biophysics
- ▶ Master's in Condensed Matter Physics
- ▶ Master's in Nuclear, Particle and Astrophysics

International double degree and joint study programs are possible in combination with our Master's programs.

#### Bachelor's Program

- ▶ Bachelor's in Physics (fully German-taught)

#### Exchange Programs

As a student from one of our 135+ Erasmus and TUMexchange partner institutions, you can enjoy...

- ▶ **50+ English-taught courses** from our Master's programs in physics
- ▶ **Multidisciplinary study options** through our neighboring departments
- ▶ Paid **research assistantships** (as available)
- ▶ **Free German language courses**
- ▶ Peers from **top institutions** around the world
- ▶ Vast range of German-taught courses



*"Highly qualified professors and modern and well-equipped infrastructures – it has been a great experience."*

Silvia Spiga from Italy, former exchange student from University of Cagliari, now a doctoral candidate at Walter Schottky Institute (WSI)

### RESEARCH

#### Doctoral & Postdoctoral

Our department has **400+ ongoing doctoral projects in research groups** all over campus. The standard lab language is English. We are well funded and support high-risk research.

Find the right fit for your research, whether through an **exchange semester** during your Master's thesis, **collaboration** during your doctoral work or a fully funded **Research Opportunities Week** after completion of your doctorate.

**DIRECT TRACK OPTION – A GATEWAY TO DOCTORAL RESEARCH:** Excellent students can apply for a combined Master's and Doctoral degree. Streamline your application and earn your doctorate earlier: [www.ph.tum.de/direct](http://www.ph.tum.de/direct)

#### Short-Term Opportunities

See if we are a good fit by writing your final Master's thesis with us, choosing from our focused summer school options or contacting one of our research groups directly about doing an internship.

**TOP 15**  
worldwide  
(QS physics ranking)

**40+**  
research  
groups

**€20 MILLION**  
in external research funding  
from public sources each year

**4**  
TUM corporate research centers  
for interdisciplinary research

Our programs:  
[www.ph.tum.de/academics](http://www.ph.tum.de/academics)

Our research:  
[www.ph.tum.de/research](http://www.ph.tum.de/research)

## Dynamic & Collaborative Community

Our community is **international, inquisitive and engaging**, with an open dialog between students, researchers and professors – as well as a career mentoring program bringing students and alumni together.

TUM has all kinds of extracurricular **activities and events**, from summer music festivals to sporting events to international clubs – you will find people you connect with!

**Munich is buzzing** with the energy of top science and technology institutes and companies, drawing talent from across the globe. You can find restaurants for any taste, entertainment for any interest, **Olympic-class sporting facilities and natural beauty** – thanks to the nearby Alps and lakes – that everyone can enjoy. Munich is also compact, so you can get around without a car!

Life at TUM:

[www.tum.de/en/university-life](http://www.tum.de/en/university-life)

## Elite & Affordable

Degree programs have **no tuition fees**, and the small student fee (under 200€ per semester) gives you access to regional transportation and more. Summer program fees vary. As a student, you can apply for **student jobs, partial grants through TUM**, and DAAD **cost-of-living scholarships**.

## Experienced Support and Development Services

- ▶ Housing search assistance
- ▶ Language center
- ▶ UnternehmerTUM, Center for Innovation and Business Creation at TUM
- ▶ Student Fellow Program
- ▶ Financial aid
- ▶ Mentoring from alumni
- ▶ Career development
- ▶ Kids, family and elder care center



*"In addition to the success in my scientific projects, I fondly remember the great German friends who brought me a life full of fun and happiness. Along with this, Munich is an internationalized city that provides you with all the aspects of a lively life."*

Ali Aghebat Rafat from Iran, Master's in Applied and Engineering Physics (2014), now a doctoral candidate at the Center for Nanotechnology and Nanomaterials (ZNN)

## ENTREPRENEURSHIP AT TUM AND UNTERNEHMERTUM, CENTER FOR INNOVATION AND BUSINESS CREATION

**No. 1**

German university in entrepreneurial support

**700+**

spin-offs/start-ups  
(since 1990)

**14.000**

jobs created by start-ups  
(since 1990)

**1.500 m<sup>2</sup>**

space where students gather, discuss ideas and create prototypes (MakerSpace)

**Ask Us!** Dr. Maria Eckholt (International Affairs), Dr. Martin Sass (Master's programs) and Dr. Karl Dressler (Bachelor's program) would be delighted to speak with you further about researching or studying at the TUM Physics Department.

[study@ph.tum.de](mailto:study@ph.tum.de)

Learn more and apply:  
[www.ph.tum.de](http://www.ph.tum.de)

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