

## RWTH Aachen



1870, North-Rhine / Westphalia\*  
33,000 students  
20 % international students  
www.rwth-aachen.de



## Technische Universität Berlin



1879, Berlin\*  
28,000 students  
20 % international students  
www.tu-berlin.de



## Technische Universität Braunschweig



1745, Lower Saxony\*  
13,000 students  
12 % international students  
www.tu-braunschweig.de



## Technische Universität Darmstadt



1877, Hesse\*  
21,000 students  
20 % international students  
www.tu-darmstadt.de



## Technische Universität Dresden



1828, Saxony\*  
35,000 students  
10 % international students  
http://tu-dresden.de



## Leibniz Universität Hannover



1831, Lower Saxony\*  
20,600 students  
12 % international students  
www.uni-hannover.de



## Karlsruhe Institute of Technology



1825, Baden-Württemberg\*  
19,000 students  
17 % international students  
www.kit.edu



## Technische Universität München



1868, Bavaria\*  
24,500 students  
20 % international students  
www.tum.de



## Universität Stuttgart



1829, Baden-Württemberg\*  
20,500 students  
22 % international students  
www.uni-stuttgart.de



## Doctorate in Germany

With its long tradition, the German doctorate in engineering, Dr.-Ing., has made a major contribution to the quality of the brand "Made in Germany". It stands for innovation, quality and an outstanding reputation.

The natural sciences are of high importance to fundamental research in technology, and therefore the Dr. rer. nat. (Doctorate in Natural Sciences) has always played a significant role in creating successful innovations.

Cooperation between engineering and the natural sciences and interdisciplinary research is important. If you wish to be part of this research environment you should choose to do your Dr.-Ing. at a TU9 University in Germany.

## Choose TU9 Universities for Doctoral Studies

TU9 Institutes of Technology are prestigious, internationally recognized research universities with a special focus on engineering, computer science, and the natural sciences. Founded in the era of industrialization, they have ever since contributed significantly to the development of engineering in Germany. Furthermore, TU9 universities are excellent in research, and stand out due to the close cooperation between university, research institutions and industry.



## Prof. Dr. rer. nat. Ernst Rank,

Founding Director of the International Graduate School of Science and Engineering and Professor of Computation in Engineering, TU München



"What is special about a doctorate in engineering or science at a TU9 technical university is that you are prepared not only for an academic career but also for a managerial role in industry. The best proof of this is that countless leaders of industry in German and international high-tech companies took their doctorate with us. You receive excellent preparation for these tasks, in the university departments, through cooperation with industry, and at the TU9 graduate schools."

## Research partnerships and technology transfer

Practice-oriented research and teaching are reflected in TU9's excellent contacts to large and medium-sized businesses. Many engineering doctorates are done with industrial partners, who profit from the know-how in the departments and in return commission research contracts with these institutes.

## Career prospects – Doctorates Made in Germany

Engineers and Scientists who gained their doctorate in Germany have excellent opportunities open to them in the job market. With a German Doctorate you will be a welcome researcher at universities, research institutions and in industry worldwide.

"It is the engineers who drive innovation forwards in the face of global competition, so that we can continue to live in prosperity and security, and in harmony with the environment."

Prof. Dr.-Ing. Ernst Schmachtenberg, Rector of RWTH Aachen, President of TU9 German Institutes of Technology

\*) founding year, federal state

For information and advice concerning doctoral studies at TU9 universities please contact

TU9 German Institutes of Technology

E-mail: [doctorate@tu9.de](mailto:doctorate@tu9.de)

Web: [www.tu9.de](http://www.tu9.de)

[www.tu9.de/doctorate](http://www.tu9.de/doctorate)

## Paths to a doctorate at TU9 universities

### The traditional doctorate

The traditional doctorate involves working as a research assistant in engineering departments or at research institutions as well as Laboratory Based Research. Research assistants are employed at the university, and not only work as researchers but also perform teaching, organizational and management tasks and gain leadership know-how. The traditional doctorate, as the first phase of your engineering career, prepares you for independent professional activity in the research sector and provides you with relevant qualification for a leadership position in the industry sector.

### Requirements

In Engineering, the traditional path to a Doctorate, the Dr.-Ing. is the norm and the doctoral degree is awarded for producing a substantial, independent research thesis under the supervision of a university professor. Finding a suitable doctoral advisor to supervise the doctoral thesis is necessary for the success of the doctorate. Before the doctoral candidates apply direct and in person to a professor of their choice, it is essential to investigate the main research topic and the Institute. Investigate first and then apply!

### Alternative paths to a doctorate: structured programmes

Although the traditional engineering doctorate continues to be the most common path to a doctoral degree in Germany, TU9 Universities also offer the opportunity to take a doctorate as the last and highest university qualification through:

### Structured Doctoral (PhD) Programmes

Doctoral programmes have a clearly defined curriculum with prescribed participation in seminars and the production of papers.

### Research Training Groups

Research training groups, or "Graduiertenkollegs", are organized and funded by the German Research Foundation (DFG). A group of researchers study a thematically similar subject with an interdisciplinary focus.

### Graduate Schools

Graduate schools are more interdisciplinary than the thematically more focused research training groups. In Graduate Schools participants are also expected to attend seminars and to produce papers.

Structured programmes provide a fixed curriculum with individual supervision, a predefined time to degree and a secure financial basis. There are a wide range of such programmes at TU9 universities.



## DOCTORATES MADE IN GERMANY DR.-ING. AND DR. RER. NAT. AT TU9 UNIVERSITIES

RWTH Aachen

Technische Universität Berlin

Technische Universität Braunschweig

Technische Universität Darmstadt

Technische Universität Dresden

Leibniz Universität Hannover

Karlsruhe Institute of Technology

Technische Universität München

Universität Stuttgart

**TU9** is the alliance of the leading  
**Institutes of Technology** in Germany



### Thanos Krontiris,

Research Assistant and Doctoral Candidate,  
TU Darmstadt



"Studying for a doctorate at a TU9 University gave me an excellent insight into research and university life in general in Germany. The German doctorate in engineering – the in-depth, independent devotion to a current research topic – is for me not only a new teaching paradigm but also a valuable supplement to my study so far."

Doctorate or research assistant vacancies are advertised on the institut's webpages or the university job databases and can be found at [www.tu9.de/doctorate](http://www.tu9.de/doctorate)

### Hale Yilmaz,

Research Assistant and Doctoral Candidate,  
RWTH Aachen



"I wanted to supervise projects where I could make use of the interface function of industrial engineers. My supervisor has always encouraged me to cooperate with other disciplines, so that I am currently running interdisciplinary projects with students of economics, mechanical engineering, textile engineering and business administration."

An overview of all structured doctoral programmes, graduate schools and research training groups at TU9 Universities can be found at [www.tu9.de/doctorate](http://www.tu9.de/doctorate)

Published by / Available from

TU9 German Institutes

of Technology

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1st edition 2010: 2,000 copies

Layout/production

Pfefferkorn & Friends GmbH,

Dresden

Photos

TU9 Alliance

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