



## **The University of Tübingen: Innovative. Interdisciplinary. International. Since 1477.**

**Dr. Fernando Mazo D’Affonseca, Research Coordinator at Brazilian Center**  
USP CAPES/PrInt Meeting, Sao Paulo, September 09 – 13, 2019



## Tübingen – at the heart of Europe





1477

1453 Renaissance in Italy

**University of Tübingen is founded**

1492 Columbus discovers the "New World"

1495 Leonardo da Vinci: "The Last Supper"

1498 Vasco da Gama: Sea route to India

1500 Pedro Álvares Cabral discovers Brazil

1509 Copernicus: Heliocentrism

1517 Martin Luther: Protestant Reformation



## History of the University

- **1477** Established by Count Eberhard the Bearded with 15 professors in four faculties: Theology, Law, Medicine and Philosophy
- **1535** The Reformation comes to Tübingen; the college of Protestant Theology is founded.
- **1817** The University gets two new faculties – of Catholic Theology and Political Economy. The latter was the first of its kind in Germany.
- **1863** Germany's first Science Faculty established in Tübingen
- **2012** **University of Excellence** under the German federal and state governments' Excellence Initiative





# Excellence Initiative

## Support:

- German Council of Science and Humanities
- DFG - German Research Foundation

## Objectives:

- promote cutting-edge research
- deepen cooperation between disciplines and institutions
- **strengthen international research cooperation**
- enhance the international appeal of excellent German universities





## Some famous historical figures



**Johannes Kepler**  
(1571-1630)  
Astronomer



**Wilhelm Schickard**  
(1592-1635)  
Astronomer



**Georg W.F. Hegel**  
(1770-1831)  
Philosopher



**Friedrich Miescher**  
(1844-1895)  
Biochemist



**Friedrich Hölderlin**  
(1770-1843)  
Poet



**Adolf Butenandt**  
(1903-1995)  
Biochemist



**Alois Alzheimer**  
(1864-1915)  
Psychiatrist



**Joseph Ratzinger**  
(\*1927)  
Theologian



# Nobel Prices

## Medicine

- 1991 - Bert Sakmann
- 1995 - Christiane Nüsslein-Volhard
- 1999 - Günter Blobel

## Chemistry

- 1904 - William Ramsay
- 1907 - Eduard Buchner
- 1923 - Fritz Pregl
- 1939 - Adolf Butenandt
- 1979 - Georg Wittig
- 1988 - Hartmut Michel

## Physics

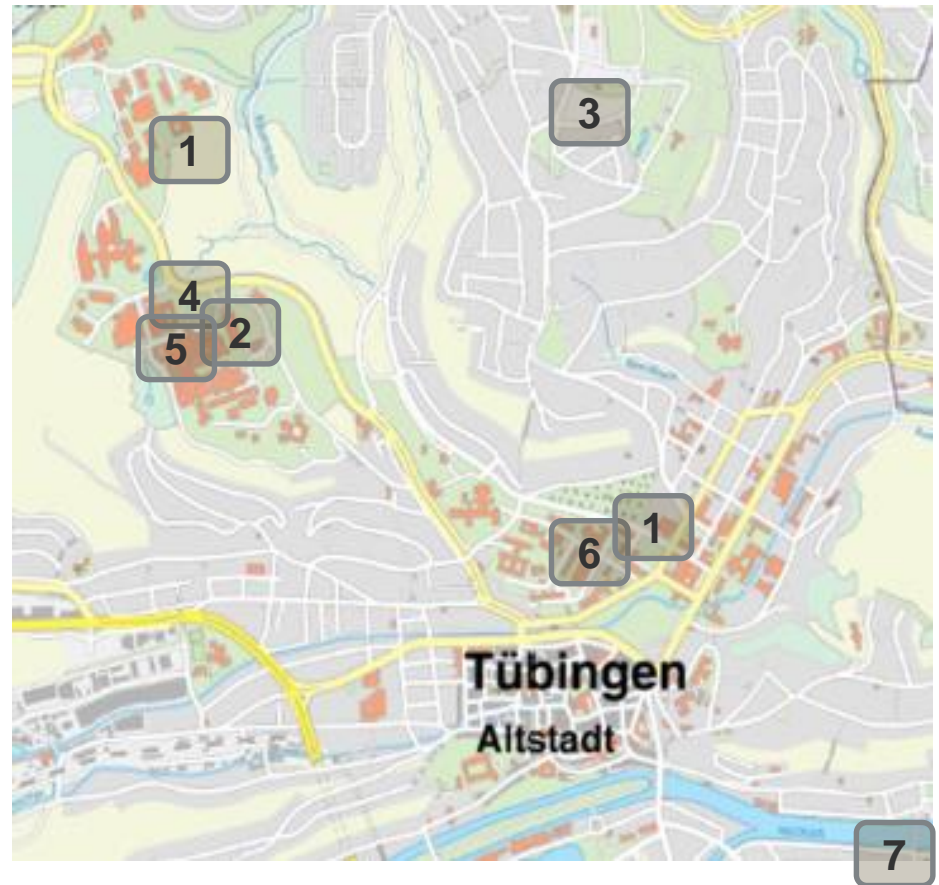
- 1909 - Ferdinand Braun
- 1967 - Hans Bethe



# Tübingen Research Campus



1. **University of Tübingen**
2. **University Hospital**
3. **Max Planck Campus**
  - Biological Cybernetics
  - Developmental Biology
  - Intelligent Systems
  - Friedrich Miescher Laboratory
4. **German Centers for Health Research**
  - Diabetes Research (DZD)
  - Infectious Diseases (DZIF)
  - Translational Cancer Research (DKTK)
  - Neurodegenerative Diseases (DZNE)
5. **Hertie Institute for Clinical Brain Research**
6. **Leibniz Institutes**
  - Knowledge Media Research
  - Human Evolution and Paleoenvironment (Senckenberg)
7. **Natural Science and Medical Institute, Reutlingen**







## Facts and Figures about the University Today

- **Comprehensive university** with first-class research and teaching in the natural and life sciences including medicine, economics, the social sciences as well as the humanities
- approx. **28,000 students** in total (**12.4 % international**)
  - 12,000 undergraduates and 16,000 graduates
  - graduates include **3,200 PhD students (33 % international)**
- more than **280 degree programs** in 130 subjects
- approx. **7,000 employees** (excluding hospitals)
  - including 4,800 academic staff and 530 professors
- some **750 doctorates** conferred annually
- **Budget (2018): € 589 M**, including € 203 M third-party funding



## Core research areas



Neuroscience

Artificial Intelligence and Machine Learning

Plant Molecular Biology

Translational Immunology and Cancer Research

Microbiology and Infection Research

Human Evolution and Archaeology

Language and Cognition

Education and Media

Geoscience and Environmental Science



## Profile areas



Medical Imaging

Pharmaceutical Research

Astrophysics and Elementary Particle Physics

Biochemistry

Ethics in Sciences and Humanities

History

Literary and Cultural Studies



# Clusters of Excellence (CoE) 2019-2025

**Clusters of Excellence** → connect universities with leading German research institutes and businesses.

Machine Learning: New Perspectives for Science (ML)

Controlling Microbes to Fight Infections (CMFI)

Image-Guided and Functionally Instructed Tumor Therapies (IFIT)





# Machine Learning: New Perspectives for Science (ML)

**Total budget:** € 37m

**Disciplines:** Machine Learning, Computer Science, Bioinformatics, Neuroscience, Physics, Geoscience, Linguistics, Ethics

**Partner:** MPI Intelligent Systems, Leibniz-Institut für Wissensmedien, University of Konstanz

**New professorships:** 2

CoE ML  
2019-2025

## Goals:

- Enable machine learning to take a central role in all aspects of science by designing algorithms that reveal complex structure and causal relationships from scientific data
- Understand how such a transformation will impact the scientific approach as a whole and study ethical implications



# Controlling Microbes to Fight Infections (CMFI)

CoE CMFI  
2019-2025

**Total budget:** € 53m

**Disciplines:** (Medical) Microbiology, Tropical Medicine, Immunology, Biochemistry, Plant Molecular Biology, Geosciences, Computer Science, Ethics and History of Medicine

**Partner:** MPI for Developmental Biology, MPI Intelligent Systems

**New professorships:** 2

## Goals:

- Elucidate major principles of microbial community dynamics to enable the development of novel and effective therapeutic means against antibiotic-resistant bacterial pathogens



# Image-Guided and Functionally Instructed Tumor Therapies (IFIT)

**Total budget:** € 46m

**Disciplines:** Oncology, Immunology, Imaging, Molecular Biology, Biochemistry, Pharmacology

**Partner:** MPI for Developmental Biology, MPI Intelligent Systems, German Cancer Consortium

**New professorships:** 3

CoE iFIT  
2019-2025

## Goals:

- Create a unique integrative setting to develop cancer therapies by combining:
  1. Functional Target Discovery and Molecular Therapies
  2. Immunology
  3. Imaging Sciences



# International Cooperation in Research and Teaching

More than 150 university partnerships and around 80 faculty partnerships with institutions of higher education in 62 countries.





## Brazilian Center of the University of Tübingen

The **Brazilian Center** supervises and organizes exchange programs and research projects between the German state of Baden-Württemberg and Brazil.



**Building the scientific bridge between Brazil and Baden-Württemberg**



## Existing cooperations with Brazilian universities

- 1983 Pontifícia Universidade Católica do Rio Grande do Sul, **PUCRS**
- **1984 Universidade de São Paulo, USP**
- **1985 Universidade de São Paulo, Campus de Ribeirão Preto, USP**
- 1985 Universidade Federal Fluminense, Niterói, RJ, **UFF**
- 1986 Universidade Federal de Pernambuco, Recife, PE, **UFPE**
- 1995 Universidade Federal do Rio Grande do Sul, **UFRGS**
- 2001 Universidade Federal de Santa Maria, RS, **UFSM**
- 2001 Universidade de Santa Cruz do Sul, RS, **UNISC**
- 2007 Centro Universitário, Lajeado, RS, **UNIVATES**



# The University of Tübingen played an important role for the CAPES/PrInt concept development



Prof. Dr. Bernd Engler (president of the University of Tübingen) and Prof. Dr. Abílio Neves (former CAPES president) discussing the Excellence Initiative

Fotos: Dr. Rainer Radtke

# 10-year cooperation with CAPES signed last year

INTERNACIONAL



ACESSO À  
INFORMAÇÃO



NOSSAS AÇÕES



Avaliação

Bolsas /  
Estudantes

Educação a  
Distância

Formação de  
Professores da  
Educação Básica

Tecnologia da  
Informação

Prêmio Capes de  
Tese

Prêmios

SOBRE A CAPES



## Universidade de Tübingen: novos acordos de cooperação

Publicado: Segunda, 15 Outubro 2018 18:33 | Última Atualização: Terça, 16 Outubro 2018 11:33

Abílio Baeta, presidente da CAPES, e Bernd Engler, presidente da Universidade Tübingen, na Alemanha, assinaram nesta segunda-feira, 15, dois planos de cooperação. Os acordos terão duração de dez anos e permitem a criação de projetos de pesquisas internacionais nos quais candidatos a doutorado e pesquisadores de pós-doutorado poderão participar.



Presidentes da CAPES e da Universidade Tübingen, na Alemanha, assinam planos de cooperação. (Foto: Créditos University of Tuebingen )





9.º Simpósio Brasil-Alemanha  
9. Deutsch-Brasilianisches Symposium

# Desenvolvimento Sustentável Nachhaltige Entwicklung

University of Hohenheim  
Sep 15 - 17, 2019



# Website Links and Contact Data

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