

# Swiss Federal Institute of Technology Zurich

At a Glance



#### Lino Guzzella

**Professor** 

Lino Guzzella, born in 1957, is a binational professor at the Swiss Federal Institute of Technology in Zurich, Switzerland. He has been a full Professor of Thermotronics in the Department of Mechanical and Process Engineering since 1999. Born: October 13, 1957 (age 58), Zürich, Switzerland

Education: ETH Zurich

https://www.ethz.ch/en/the-eth-zurich/organisation/executive-board/president/contact.html

"ETH Zurich takes its students seriously. It challenges them; it supports them; and it offers them an internationally attractive education."

Lino Guzzella, President of ETH Zurich



# Swiss Federal Institute of Technology in Zurich

# Eidgenössische Technische Hochschule (ETH) Zürich



Eidgenössische Technische Hochschule Zürich Swiss Federal Institute of Technology Zurich

Type Public Established 1855

Budget CHF1.56 billion (US\$1.62

billion)<sup>[1]</sup>

President Lino Guzzella
Rector Sarah Springman

**Administrative** 10,851 (headcount 2014), 8,143 staff (full-time equivalents 2014)<sup>[1]</sup>

**Students** 18'616<sup>[1]</sup>

Zürich, Switzerland

**Campus** Urban

Affiliations CESAER, EUA, Global Tech, IARU,

IDEA League

Website www.ethz.ch



#### ETH Zurich

Location: ETH Zurich, Switzerland

# Reputation and ranking

# **University rankings**

Global	
ARWU <sup>[9]</sup>	20
<i>Times</i> <sup>[10]</sup>	9
<b>QS</b> <sup>[11]</sup>	9
Europe	
ARWU <sup>[12]</sup>	4
Times <sup>[13]</sup>	4
<b>QS</b> <sup>[14]</sup>	5



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ETH Zurich is ranked among the top universities in the world. Typically, popular rankings place the institution as the best university in continental Europe and ETH Zurich is consistently ranked among the top 1-5 universities in Europe, and among the top 3-10 best universities of the world.

Historically, ETH Zurich has achieved its reputation particularly in the fields of chemistry, mathematics and physics. There are 21 Nobel Laureates who are associated with ETH. The most recent Nobel Laureate is Richard F. Heck who was awarded the Nobel Prize in chemistry in 2010. Albert Einstein is perhaps its most famous alumnus.

In 2015, the QS World University Rankings placed ETH Zurich at 9th overall in the world and 5th in the world in Engineering, Science and Technology, just behind the Massachusetts Institute of Technology, Stanford University, Cambridge University and National University of Singapore. ETH also ranked 6th in the world in Natural Sciences.

In 2015, Times Higher Education World University Rankings ranked ETH Zurich 9th overall in the world and 8th in the world in the field of Engineering & Technology, just behind the Massachusetts Institute of Technology, Stanford University, California Institute of Technology, Princeton University, Cambridge University, Imperial College London and Oxford University.

In a comparison of Swiss universities by Swiss UP Ranking and in rankings published by CHE comparing the universities of German-speaking countries, ETH Zurich traditionally is ranked first in natural sciences, computer science and engineering sciences.

In the survey CHE Excellence Ranking on the quality of Western European graduate school programs in the fields biology, chemistry, physics and mathematics, ETH was assessed as one of the three institutions to have excellent graduate programs in all considered fields, the other two being the Imperial College London and the University of Cambridge. ETH Zurich had an endowment of 1.56 billion CHF (approx. 1.62 billion USD) in the year 2014 to support its cutting-edge research.



#### The ETH Zurich

#### Main content

ETH Zurich is one of the leading international universities for technology and the natural sciences. It is well known for its excellent education, ground-breaking fundamental research and for implementing its results directly into practice.

Founded in 1855, ETH Zurich today has more than 18,500 students from over 110 countries, including 4,000 doctoral students. To researchers, it offers an inspiring working environment, to students, a comprehensive education.

Twenty-one Nobel Laureates have studied, taught or conducted research at ETH Zurich, underlining the excellent reputation of the university.

#### Research

ETH Zurich's main focus areas are as follows:

### World food system

At present, there are over seven billion people living on Earth, and by the year 2050 that figure is expected to have reached nine billion. How to feed that growing world population while at the same time preserving limited natural resources is one of the biggest challenges facing mankind.

#### Cities of the future

Cities are cultural centers and the driving force behind the local and global economy. However, in their present form they are not sustainable, from an ecological, social or economic point of view.

# Climate change

Climate change is one of the biggest challenges facing the world's population. The broad, interdisciplinary approach that is taken at ETH Zurich gives it a soundly based, holistic perspective on the problem of climate change.





Today's global energy system, which is mainly based on the use of fossil fuel resources, is not sustainable for a growing world population that is living in increasing prosperity. Energy research at ETH Zurich is therefore geared towards the aim of creating a 1-ton CO<sub>2</sub> society.

#### Health

A society with an ageing population poses major challenges for scientific research. At ETH Zurich, researchers from many different disciplines are working to ensure that we maintain a good quality of life into old age.

#### Risk research

In an increasingly networked world, the risks also become more complex and can assume global proportions. It is important to identify, understand and model these risks in order to be able to react more effectively to crises.

# Information processing

Nowadays, data can be processed more and more efficiently. ETH Zurich is carrying out ground-breaking work to tackle the technological, scientific and socio-economic challenges facing our information society.

#### **New materials**

Many of the achievements of modern society have only been made possible by the development of new materials. Materials research at ETH Zurich makes an important contribution to this work.

# **Industrial processes**

The commercial success of a company depends on its ability to produce innovative and reliable products while making efficient use of resources.



# **Education**

#### Main content

ETH Zurich trains true experts and prepares its students to carry out their tasks as critical members of their communities, making an important contribution to the sustainable development of science, the economy and society.

# **Policy**

ETH imparts not only methodological competences and disciplinary knowledge, but also interdisciplinary and system-oriented ways of thinking.

# **Figures**

Student numbers have increased significantly at ETH Zurich over the last few years. Today the figure is roughly 18,000; by 2020 it will be 20,000.



# **Study programs**

ETH Zurich offers an internationally attractive range of study programs.

# **Quality management**

ETH Zurich promotes quality, understood as the expression of a culture of change and of learning, at all levels.

# **Development**

ETH Zurich is continually developing its degree programs, courses and examinations. It is committed to the didactic training of its faculty and Assistants.

## **Innovation**

Initiatives and projects concerned with innovation of teaching are emerging in many parts of ETH. A team of specialists assists with these.



#### **Awards**

Good teaching is honored at ETH. Several awards are conferred by students



#### Innovedum

Innovedum finances initiatives which explore new ways to sustainably improve teaching and learning. The fund is overseen by the Rector.

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#### Prospective Master's degree students

#### Main content

ETH Zurich is one of the world's leading universities for technology and the natural sciences.

It is known for the excellent education it provides, its pioneering fundamental research and for the way its new findings are transferred directly into practical applications.

The Master's programs at ETH Zurich provide more in-depth and/or specialist knowledge and lead to a **degree that qualifies students for a profession**. Research is an integral part of the course.

At Master's level, ETH Zurich provides a stimulating and international environment for its students that prepares them perfectly for their future employment or for a doctorate. Many courses offer students the opportunity to spend several months on work placement outside ETH Zurich in addition to lectures and practical.

#### Individual selection

A Master's degree program offers the opportunity for in-depth study in an area selected by students individually. After attending lectures and practicals for two to three semesters, they write their first piece of independent research work in the form of the Master's thesis.

# Language of instruction

The language of instruction of many Master's programs is English. Some programs offer course work in English and German. A few programs are predominantly taught in German. For more information see Language requirements.

