



# KTH introduction



Introduction presented by:

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# KTH Royal Institute of Technology

One of the top technical universities in Europe





# Short facts about KTH

- Established 1827 in Stockholm, Sweden – home of the Nobel Prize
- 14,000 students including 2,000 PhD students, 5,000 employees of which 600 members of faculty
- People from more than one hundred nations
- World-leading research and education in ICT, Energy & Sustainability and Life Sciences, among other fields
- Ranked top 6 of technical universities in Europe



# Short facts about KTH

- World-Wide QS subject rankings 2016
  - Electrical Engineering: 17
  - Architecture and Built Environment: 24
  - Mechanical Engineering: 25
  - Civil and Structural Engineering: 40
  - Materials Science: 30
  - Chemical Engineering: 51-100 (same as e.g. UIUC, TUM)



# The Kingdom of Sweden

- About 9.8 million inhabitants, ~2 million of whom live in the capital of Stockholm
- Has a pleasant climate thanks to the warm Gulf stream in the north Atlantic sea
- Combines a beautiful natural setting with modern technology and vibrant cities
- Home of the Nobel Prize, and many famous export companies

Do you know which?



# Sweden makes a lasting impression

Swedish entrepreneurship and ingenuity has helped shape the worlds of communication, furniture, fashion, music and much more. And no matter what the industry, there always seems to be that engineering approach.



# Stockholm – a city of islands



## Stockholm: an international city

- The safest city in Europe according to The Economist in 2015, nr 4 in the world
- A multi-cultural European capital, communities from China, India and other countries
- Quick access to city, campus and nature with excellent transportation: public, by bicycle or even by boat
- **Swedes speak good English**, very limited need to learn Swedish while studying in Stockholm



# Stockholm: a dynamic environment, modern, historic, clean air and water



# Stockholm: cost of living

Many cities in China are more expensive than Stockholm in world-wide comparison

Rank 2015	City	Country
• 6	<b>Shanghai</b>	<b>China</b>
• 7	<b>Beijing</b>	<b>China</b>
• 12	London	United Kingdom
• 14	<b>Shenzhen</b>	<b>China</b>
• 16	New York City	United States
• 15	<b>Guangzhou</b>	<b>China</b>
• 21	<b>Shenyang</b>	<b>China</b>
• 24	<b>Qingdao</b>	<b>China</b>
• 26	<b>Nanjing</b>	<b>China</b>
• 27	<b>Tianjin</b>	<b>China</b>
• 29	<b>Chengdu</b>	<b>China</b>
• <b>106</b>	<b>Stockholm</b>	<b>Sweden</b>



















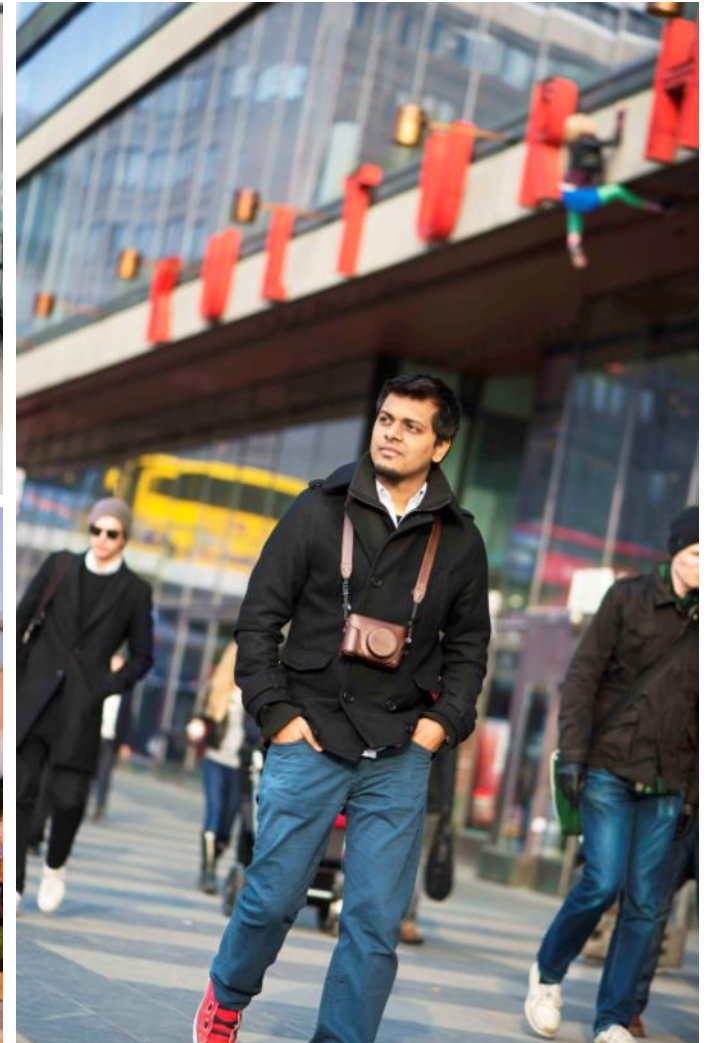






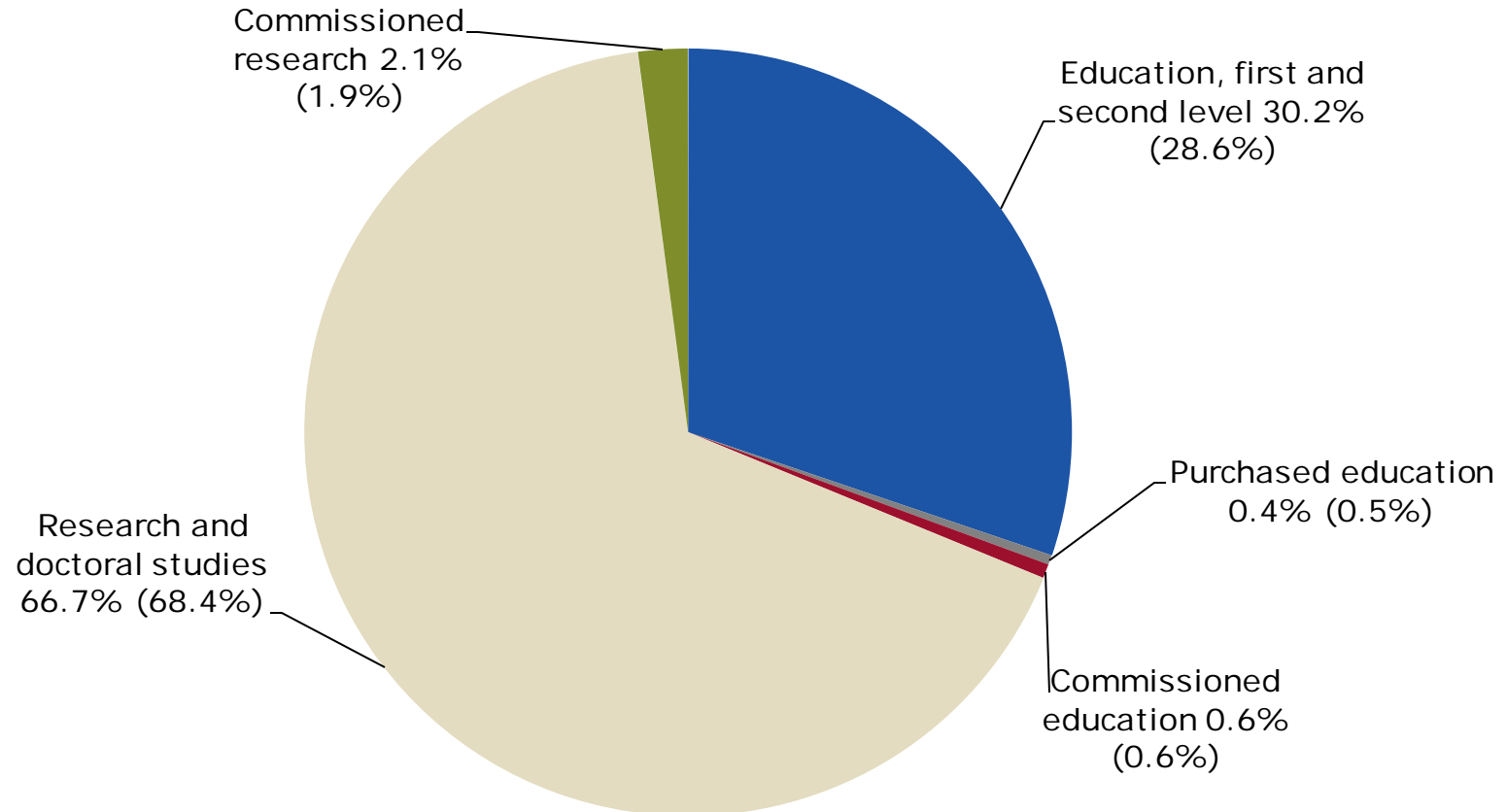


# Stockholm student life, part of the city



# KTH - Research-based operations

- Total Revenue SEK 4,243 (4,038) million



- Figures for 2014 (2013)



# 世界瞩目的科研实力



Two presidents: 美国总统、KTH校长  
一同观摩KTH有关燃料电池研究的最新进展

Picture taken September 4, 2013



# Five campuses close to industry



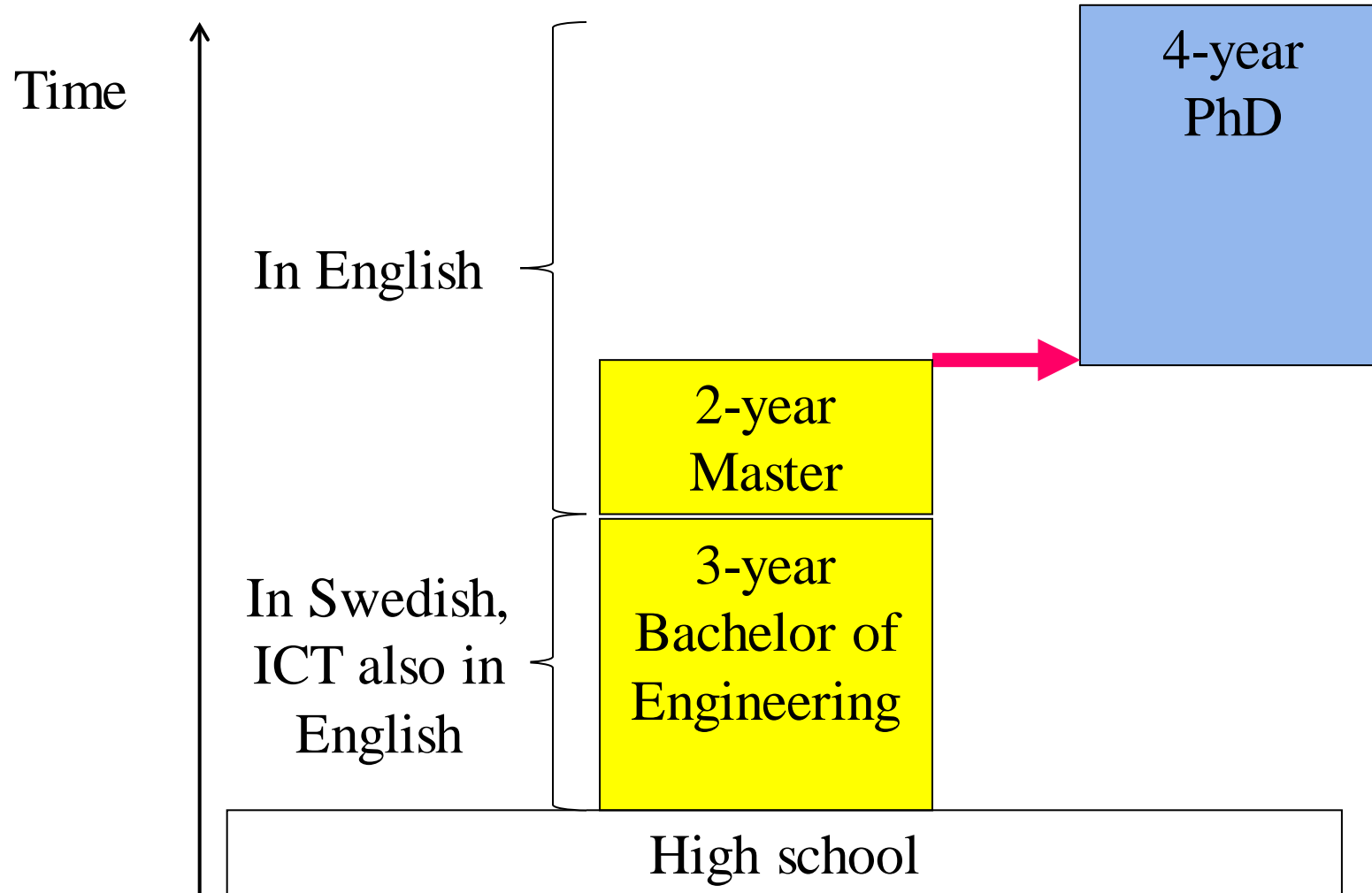




# Education in close collaboration with industry

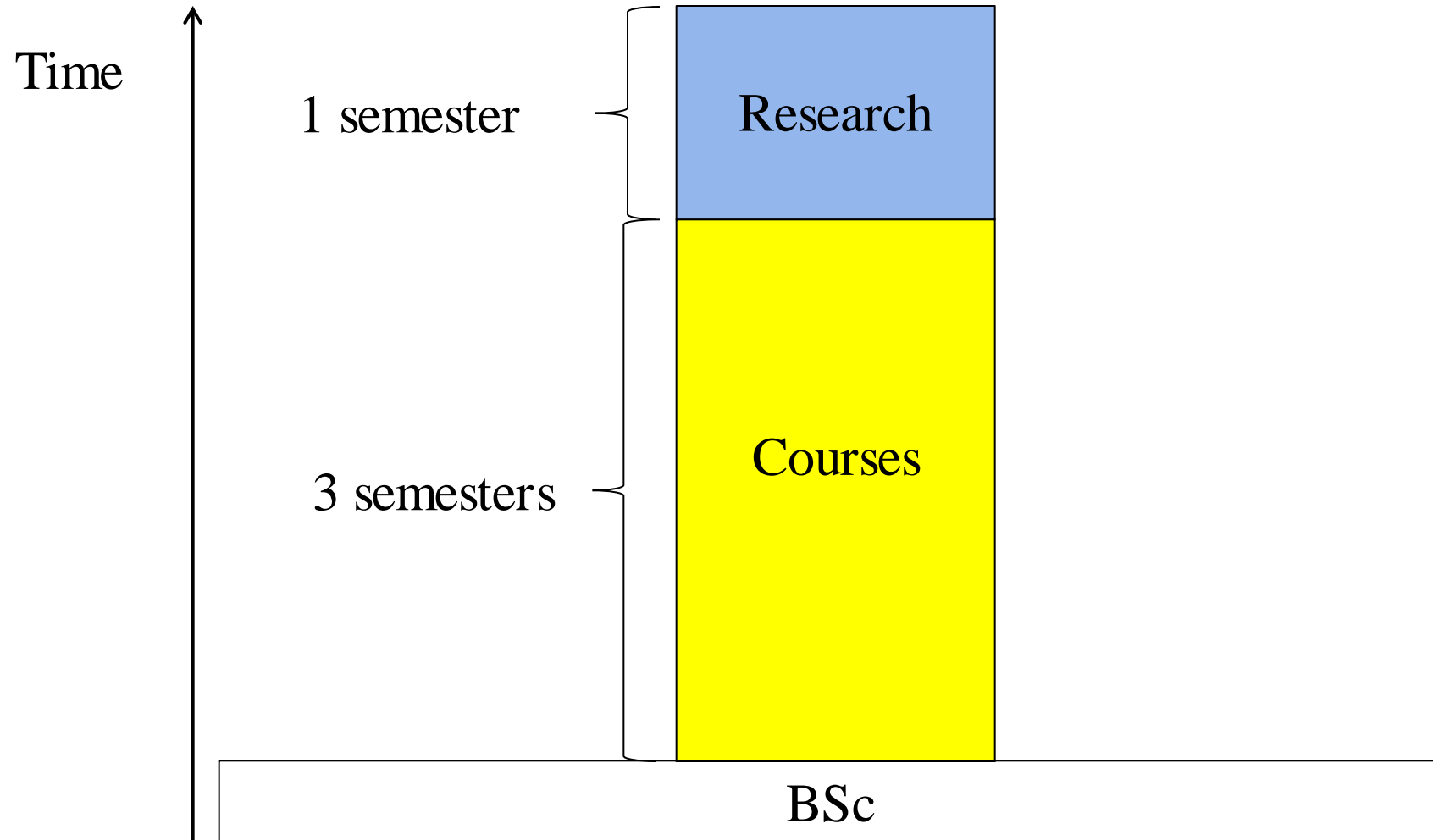
- KTH has five campuses in and around Stockholm city
- Each campus closely integrated with local industry
- Campus in Kista is surrounded by the world's largest collection of ICT businesses, more than 1000 companies, such as Ericsson, IBM, Intel, Sun, Compaq, Huawei, ZTE, and many more
- Final thesis can be written at a company, often leading to the first job after graduation

# Structure of education at KTH





# Structure of MSc education at KTH



# MSc programmes 2016/2017

## **9 subject areas, >60 programmes:**

- Architecture and Civil Engineering, 9 programmes
- Electrical Engineering, 10 programmes
- Engineering Physics and Mathematics, 6 programmes
- Energy and Sustainable Development, 10 programmes
- Industrial Management and Innovation, 3 programmes
- Information and Communication Technology, 10 programmes
- Life Science Technology, Chemistry and Chemical Engineering, 7 programmes
- Materials Science and Engineering, 3 programmes
- Mechanical Engineering, 9 programmes





# Fees and Scholarships

- There are application and tuition fees for non-EU/EEA/Swiss citizens for 1st and 2nd cycle studies (BSc and MSc)
- The tuition fee is SEK155k (about RMB 120k, 12万人民币) for one year of full-time master study, architecture 70% higher and bachelor 20% lower
- Scholarships are available, for example:
  - KTH Scholarship (covering the tuition fee)
  - SI: the Swedish Institute
  - Joint programs: Erasmus Mundus and EIT (European Institute of Innovation and Technology)



# Joint MSc programmes: two degrees

## European Institute of Innovation and Technology (EIT)

- Combines education, research and business
- Master's programmes in ICT and Sustainable Energy
- Includes studies in two European countries
- Scholarships included

## Erasmus Mundus

- EU programme at Master's and PhD levels
- Includes studies in (at least) two European countries
- Scholarships covering tuition and living are available



# Application requirements and process

- Completed Bachelor's degree is required
- English proficiency has to be shown (TOEFL 90, IELTS 6,5 etc), but there is flexibility for interviewed students from partner universities, interviews in December 2015
- There are programme-specific requirements (see [www.kth.se/en/studies/master](http://www.kth.se/en/studies/master))
- Apply at [www.universityadmissions.se](http://www.universityadmissions.se)
- Online application period:  
October 16 to January 15





# After graduation

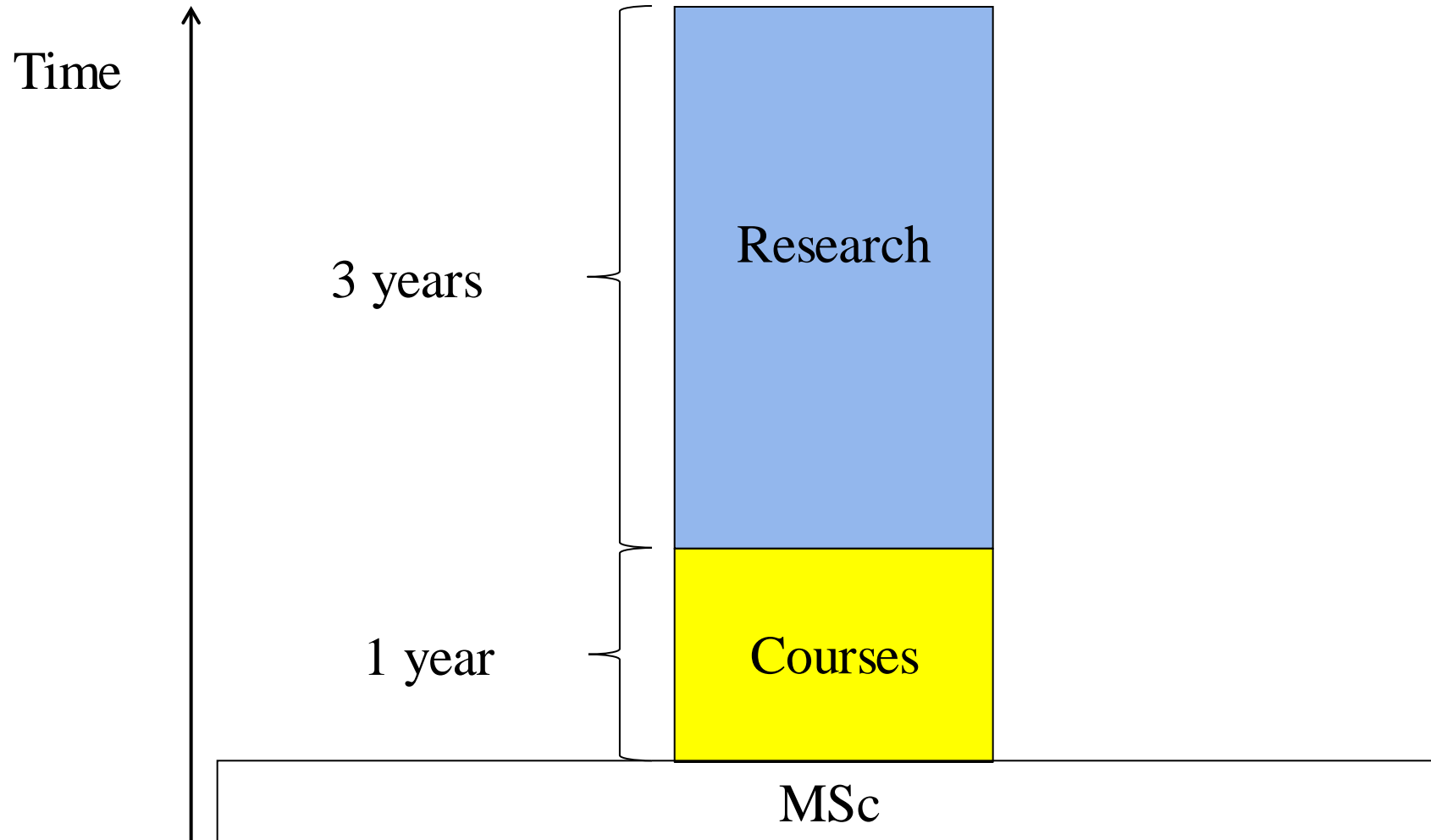
- After a KTH MSc degree:
  - 6 months residence permit to look for a job or a PhD student position
  - KTH PhD student positions are publically announced at the web site, KTH MSc students may have an advantage
  - In 2014, 10 former KTH MSc students from China enrolled as KTH PhD students with CSC scholarships
- After a KTH PhD degree: offer of permanent residence permit in Sweden
- KTH graduates find positions all over the world



# Career prospects after a KTH degree

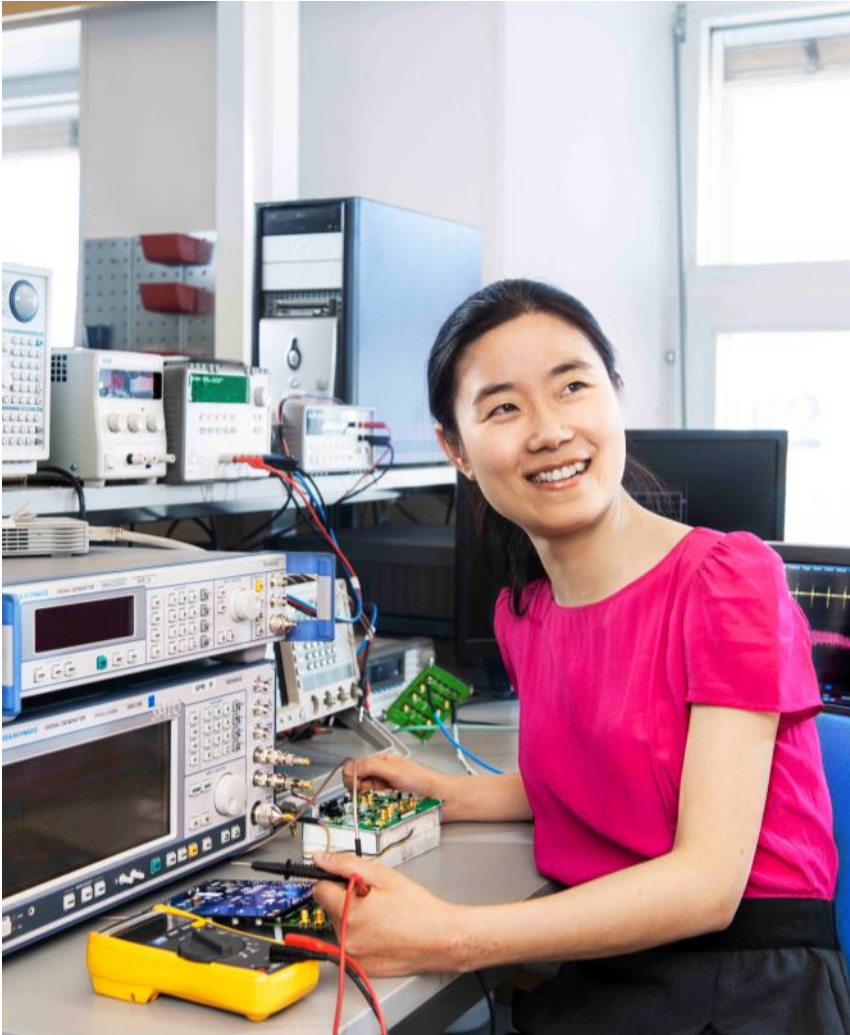
- 2016 statistics for master programs:
  - 40% had a job even before graduation
  - >90% had a job within one year of graduation
  - >30% became PhD students

# Structure of PhD education at KTH





# PhD studies



- Three years of full-time research, one year of courses
- Engages more than 2,200 people
- A large proportion international PhD students
- A candidate has to apply for a position
- All PhD student positions are announced on the KTH web site: [www.kth.se/en/om/work-at-kth/vacancies](http://www.kth.se/en/om/work-at-kth/vacancies)
- Employment with a salary if admitted, but competition for positions



# KTH – CSC Program

## KTH 公派项目

- Thanks to an agreement between KTH and the Chinese Scholarship Council (国家留学基金委), a number of scholarships can be offered to Chinese citizens applying to KTH. The scholarships available are aimed for PhD students, Postdocs and Visiting Scholars.
- Every year,
  - 50 scholarships for Full PhD (48 months);
  - 20 for Guest Doctoral Studies (up to 24 months)

See more:

- [www.kth.se/gongpai-china](http://www.kth.se/gongpai-china)
- [china.kth.se](http://china.kth.se)



# KTH alumni hold prominent positions

- Graduates find careers in international companies like Ericsson, IBM, ABB, Astra Zeneca and Microsoft
- Many MSc students do the master thesis project at, or in cooperation with, a company.
- KTH is the leading supplier of CEOs for Swedish industry



# Things you can do after finishing education at KTH...



- PhD Candidate in Biomedical Engineering  
ETH Zurich, Switzerland
- Master in Medical Imaging  
KTH, 2012
- Bachelor in Biomedical Engineering  
Zhejiang University, 2010

# Things you can do after finishing education at KTH...



## 顾纯元 博士

Chairman & President  
ABB North Asia and China

- PhD in Mechanical Engineering  
KTH 公派博士生, 1987
- Bachelor in Power Engineering  
Shanghai Jiao Tong University, 1982

# Things you can do after finishing education at KTH...

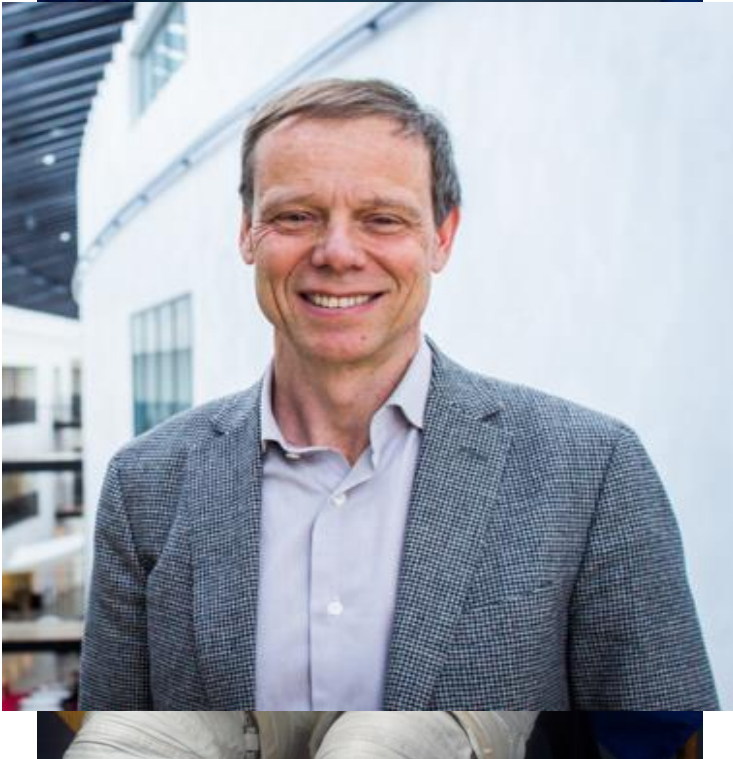


## 徐匡迪 院士

- Vice Chairman of CPPCC National Committee  
第十届全国政协副主席, 2003-2008
- Chairman of CAE, 中国工程院院长, 2002-2010
- Mayor of Shanghai, 上海市市长, 1995-2001
- Senior Researcher in Material Sciences  
KTH 公派访问学者, 1986
- Bachelor in Metallurgy  
University of Science & Technology Beijing,  
1959



# Things you can do after finishing education at KTH... **go into space!**



## **Prof. Christer Fuglesang** Professor in Space Physics, KTH

- Mission crew STS-116 & STS-128 Shuttle Discovery, NASA-ESA 2006 & 2009
- Astronaut at European Space Agency 1992-present
- CERN, Switzerland, 1991
- PhD in Experimental Particle Physics Stockholm University, 1986
- Master in Engineering Physics KTH, 1981

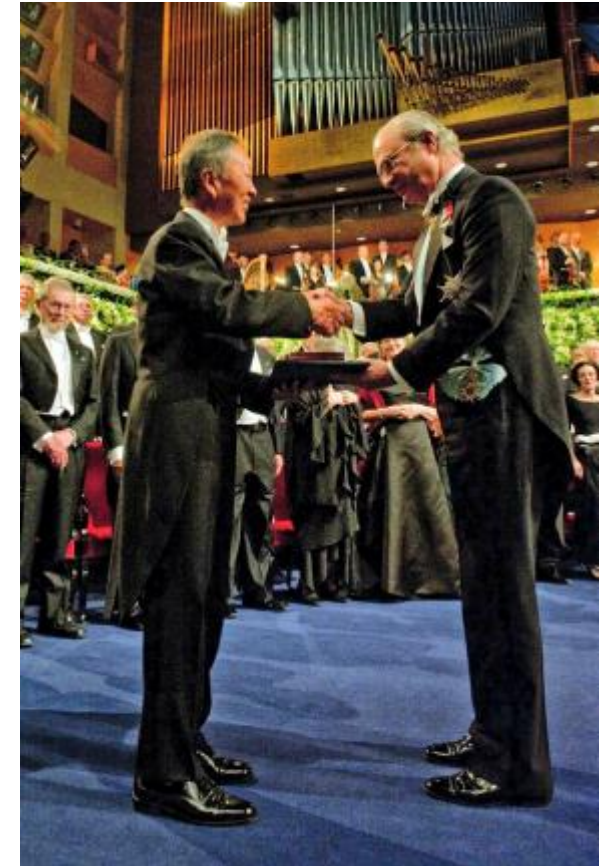
# Things you can do after finishing education at KTH... **collect the Nobel prize!**

## Prof. Hannes Alfvén



- Nobel Prize in Physics, 1970 for Magnetohydrodynamics  
磁流体力学 (等离子物理)
- Professor in Electrical Engineering  
University of California, 1967-1991
- Professor in Electromagnetic Theory and Electrical Measurements  
KTH, 1940-1991
- PhD in Electromagnetic Waves  
Uppsala University, 1934

# Nobel Prize ceremony in Stockholm on December 10 every year



... may take a few years after graduation...





ROYAL INSTITUTE  
OF TECHNOLOGY

# Welcome to KTH!

