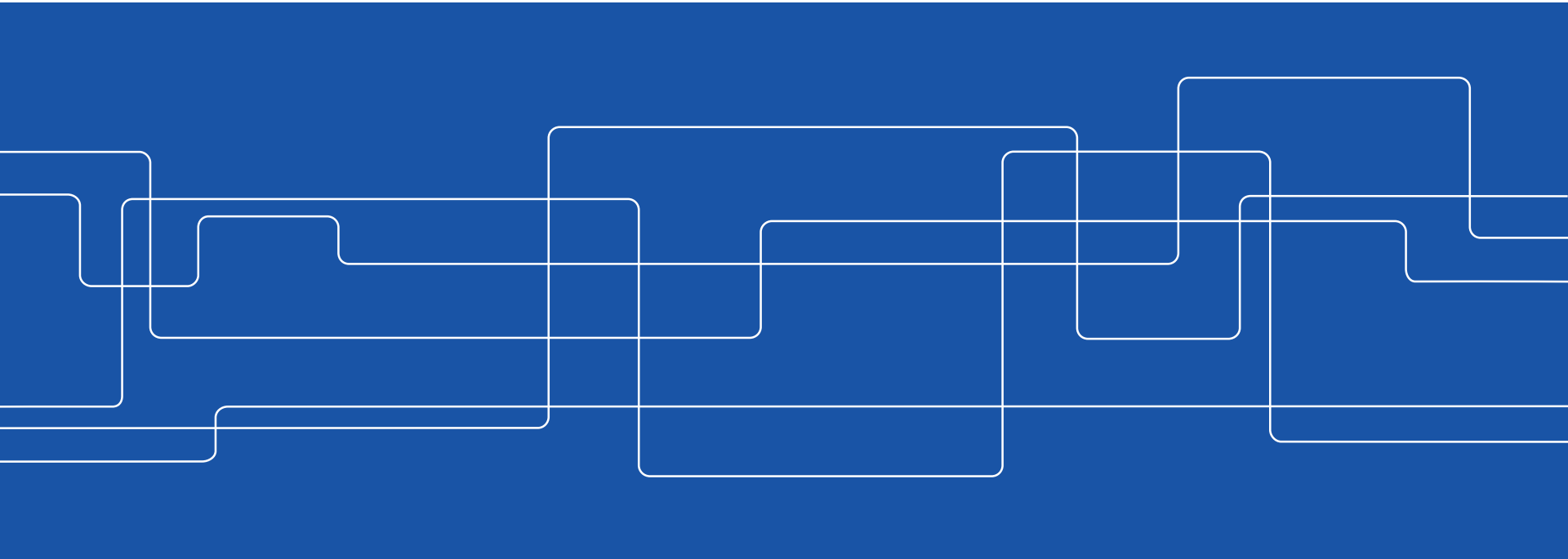




Master's program in Nanotechnology

School of Electrical Engineering and Computer
Science (EECS)

Mattias Hammar 20200820



KTH Royal Institute of Technology

- Founded in 1827; Main campus built in 1917
- Oldest and largest TU in Sweden; ~13500 students (2018)



KTH – Kista satellite campus (1987 -)



5 km

QS World University Rankings (2019):

- University (global) : **98**
- Europe: **33**
- Technology and engineering university: **36**

QS subject rankings:

- Electrical Engineering: **19**
- Materials Science: **26**



KTH Flemingsberg

KTH Södertälje

KTH Kista

Karolinska Institutet

SciLifeLab

EECS

Stockholm University

Engineering Physics

Electrical Engineering

Mechanical Engineering

Built Environment

Vehicle Engineering

KTH Main campus | Metro

Architecture

Library

Biotechnology

Management

Open Lab

Computer Science

Courtyard

Chemical Science

Mathematics



KTH School organization and focus areas

KTH Schools	Research platforms
Architecture and the Built Environment	<p>The diagram illustrates KTH's research focus areas. At the center is a blue circle labeled 'KTH'. Surrounding it are five other circles, each representing a research platform: 'Materials' (grey), 'Transport' (white), 'Energy' (green), 'ICT' (yellow), and 'Life Science Technology' (red). These circles are interconnected by a network of light blue lines, forming a circular structure around the central KTH node.</p>
Electrical Engineering and Computer Science	
Chemical Science, Biotechnology and Health	
Engineering Sciences	
Industrial Engineering and Management	

Nanotechnology

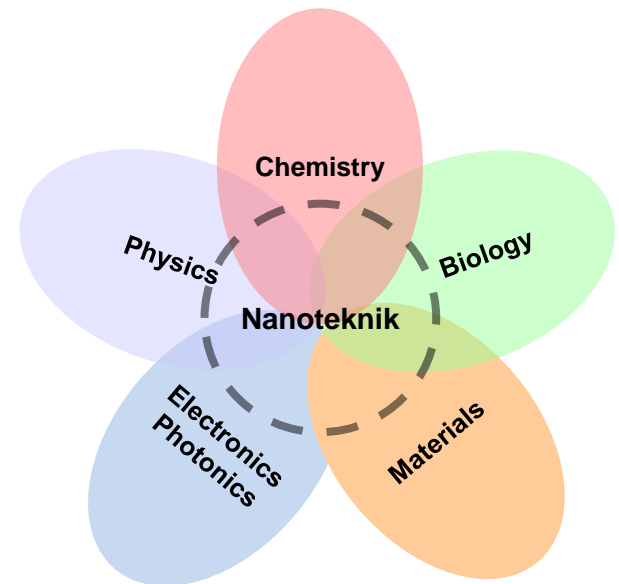
- Materials technology at the nanometer level
 - Synthesis, control, analysis and understanding of materials properties with nano-structuring
 - Components and functional materials with critical dimensions < 100 nm
- Interdisciplinary
- Application oriented
 - Information technology, Medical, Sensing, Construction materials
 - ...



There's Plenty of Room
at the Bottom

An invitation to enter a new field of physics.

Richard P. Feynman, APS meeting, Caltech, December 1959



Master's program in Nanotechnology

Courses provided by 3 out of 5 KTH Schools

→ Interdisciplinary program

- Classroom education mainly at the KTH main campus
- Laborations mainly at the **Electrum Laboratory (ELAB)** in Kista
→ World-class Research/Development center

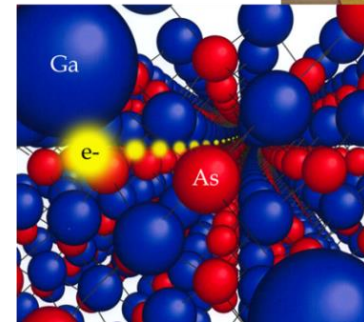
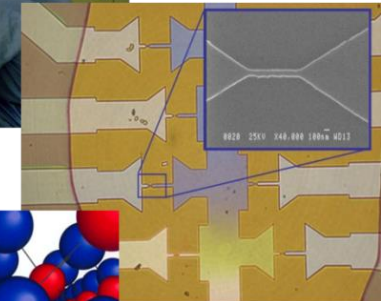
Contact

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Program coordinator: Nina Werner, niw@kth.se

Web

<https://www.kth.se/en/studies/master/nanotechnology>

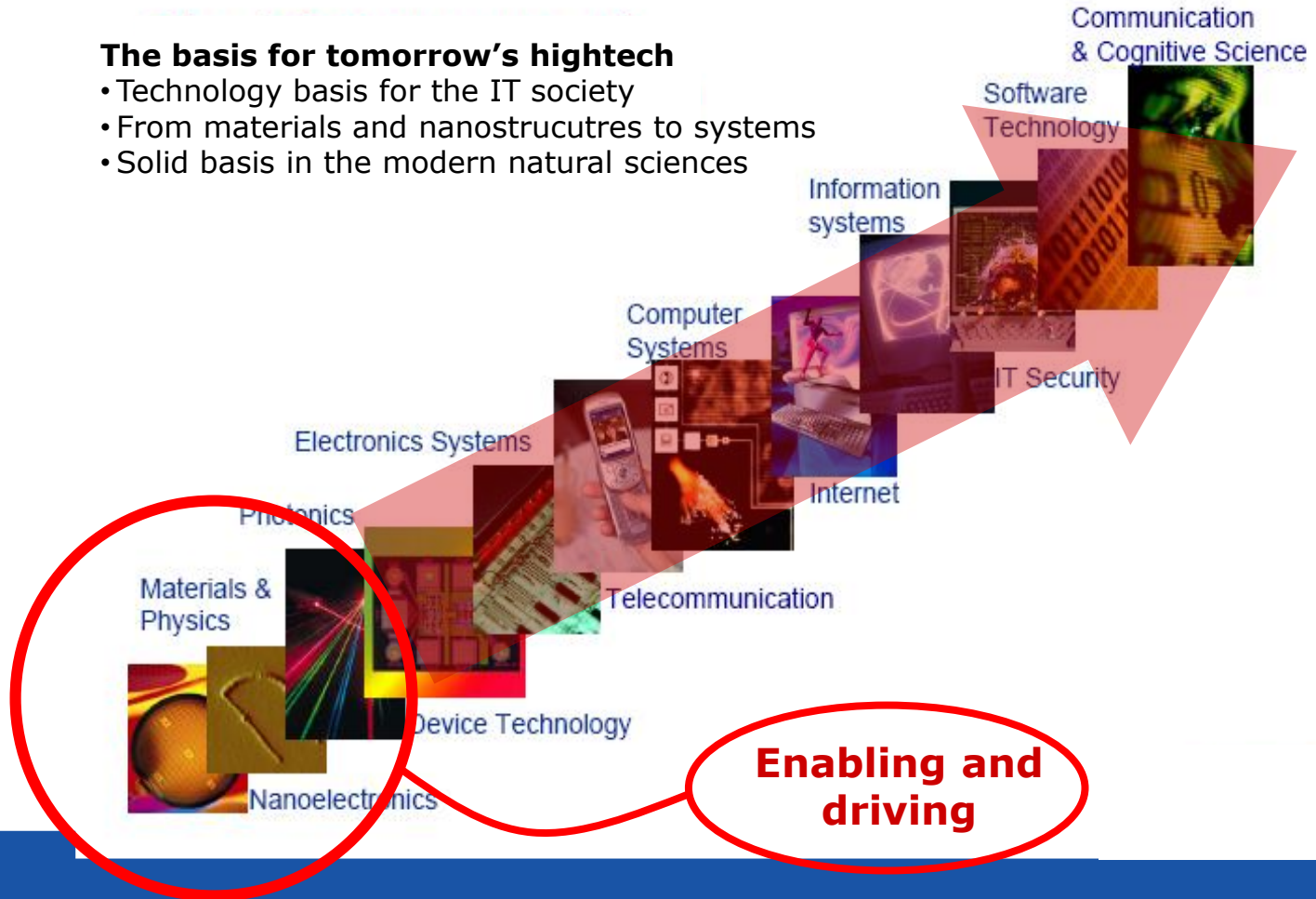


Nanotechnology

Materials and component technology on the nanometer scale

The basis for tomorrow's hightech

- Technology basis for the IT society
- From materials and nanostructures to systems
- Solid basis in the modern natural sciences





Employment market

- Nanotechnology is an emerging application area with expected growth in business the coming years, but few companies would presently label themselves as "Nanotech" – Nanotechnology is an enabling technology
- However, it does penetrate existing application areas: microelectronics, photonics, radio, bio technology, chemistry, medicin, etc
- Also, a solid bakground in advanced materials technology is mcuh requested within a broad industry sector
- Hot research topic: god entrance for research stuides within a range of different diciplines, such as physics, materials and processing technology, bio technology, etc



Swedish Nanotechnology umbrella organization

← → ↻ swednanotech.se ☆

n SWED NANO TECH

vi samlar Sveriges nanoteknikaktörer

Hem Vad är nanoteknik? Nyheter Kalender Om SwedNanoTech Vårt nätverk Kontakt In English Sök på sidan...

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Vad är nanoteknik? Nanoteknik och säkerhet Om SwedNanoTech

Ingå i nätverket

- Som företag eller organisation »
- Som individ eller student »
- Som samarbetspartner eller sponsor »

Krönika 22/8 2013

”SwedNanoTech is Sweden’s first umbrella organization for the Swedish nanotechnology actors. The association was formed in 2010 to profile Sweden as a prominent nanotechnology country in research and products, but also as a land of investment opportunities.”


www.SwedNanotech.com

Nanotechnology Alumni

Augustinas and Kristijonas Vizbaras, class of 2007


www.brolis-semicon.com/company/history-mission

om du vill återvända, håll nere om du vill se historik.



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COMPANY LASER DIODES EPITAXY QUALITY NEWS/EVENTS CONT



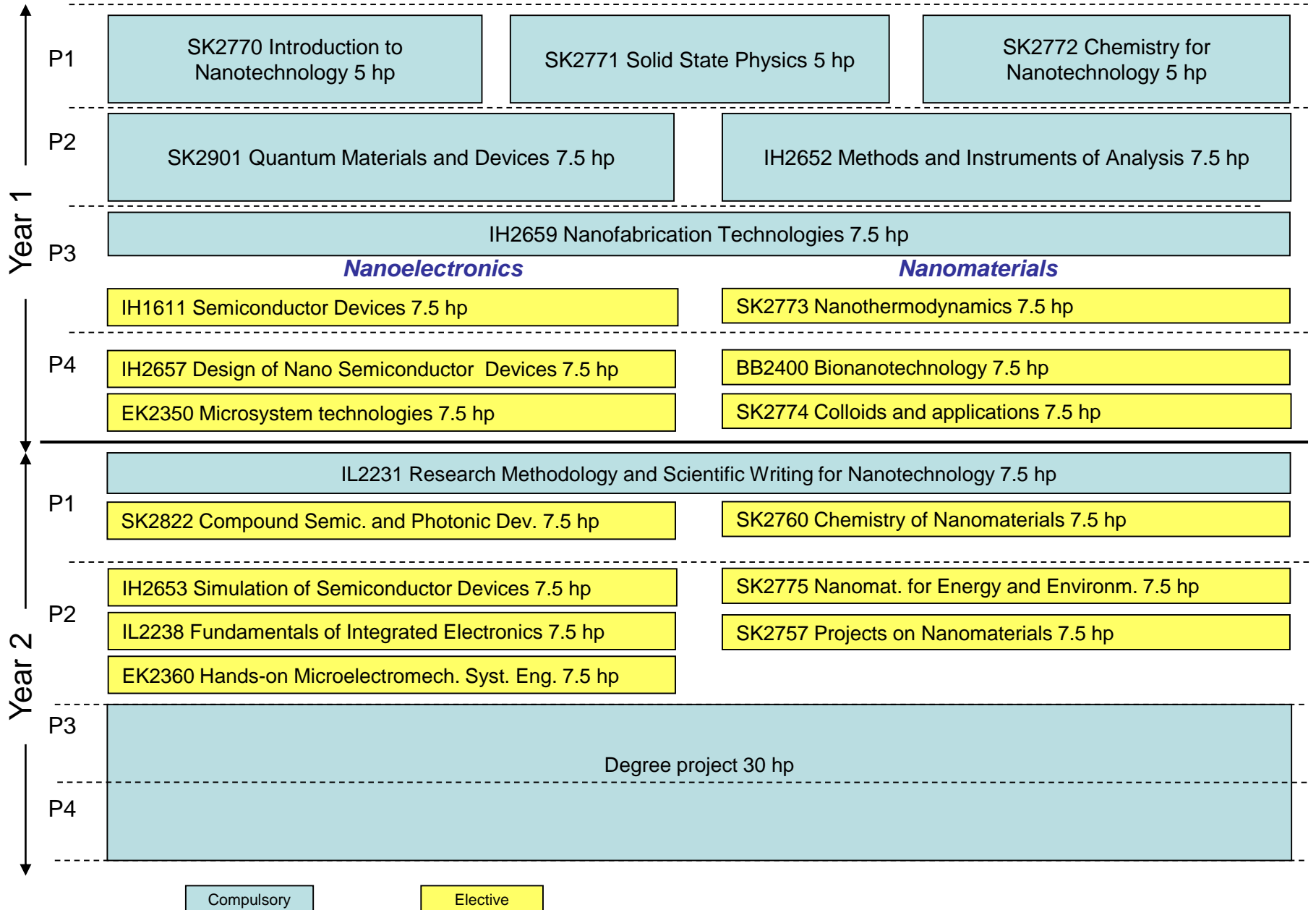
History & Mission

- » [History & Mission](#)
- » [Management](#)
- » [Cooperations](#)

History

Brolis Semiconductors Ltd. is a high-tech company, headquartered in Vilnius, Lithuania. The company was established in 2011, by three Vizbaras brothers: Augustinas, Kristijonas and Dominykas who

Nanotechnology program plan 2020





Upcoming compulsory courses year 1

kth.se link:

[KTH / STUDENT AT KTH / COURSE AND PROGRAMME DIRECTORY / MASTER'S PROGRAMME, NANOTECHNOLOGY, 120 CREDITS](#)

Mandatory	Appl.code	cr.	Study period			
			1	2	3	4
SK2770 Introduction to Nanotechnology	50298	5.0	5.0			
SK2771 Solid State Physics	50299	5.0	5.0			
SK2772 Chemistry for Nanotechnology	50300	5.0	5.0			
IH2652 Methods and Instruments of Analysis	50582	7.5		7.5		
SK2901 Quantum Materials and Devices	50303	7.5		7.5		
IH2659 Nanofabrication Technologies	60958	7.5			7.5	

Nanotech at KTH

The Electrum laboratory

- Academic/industrial research center
- Operated by KTH and RISE (Research Institutes of Sweden)
- From basic research to production
- 1300 m² cleanroom area
- Extensive facilities for experimental nanotechnology research
- Excellent track record in terms of industry collaborations and start-ups

