

As of January 2017

- Full-time Faculty members :10
- Post-Docs: 5
- Network faculty member: 2
- Graduate students: 48
 - Master : 16
 - Ph.D: 32
- Undergraduate students: 87

Ranked between 251-300 in QS World
Electrical Engineering in 2015.
Accredited by MUDEK (Turkish ABET)
since May 2016.



<http://ee.sabanciuniv.edu>

EE Faculty Members



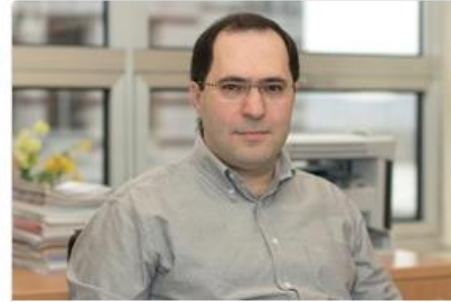
Ayhan Bozkurt »

Faculty Member



İbrahim Tekin »

Faculty Member



İlker Hamzaoğlu »

Faculty Member



Mehmet Keskinöz »

Faculty Member



Meriç Özcan »

Faculty Member



Müjdat Çetin »

Faculty Member



Murat Kaya Yapıcı »

Faculty Member



Özgür Erçetin »

Faculty Member



Özgür Gürbüz »

Faculty Member



Yaşar Gürbüz »

Faculty Member

- Digital Systems
 - Very Large- Scale Integrated Circuits (VLSI)
 - System-on-Chip Design and Test
- Electronics and Circuits
 - Micro/nano devices and systems
 - MEMS Based Ultrasonic Imaging and Therapy
 - RF/millimeter-wave Antenna and Circuits Design
- Optics and Photonics
- Signal Processing
 - Computational Medical Imaging/Medical Image Computing
 - Multimedia Security and Information Hiding
 - Statistical Signal and Image Processing
- Telecommunications
 - Computer and Communications Networks
 - Wireless Communications, 5G Networks
 - Channel Coding & Receiver Design
- Control systems, Information science, Biomedical applications,...

Laboratories



L020

VPALAB - Computer Vision and Pattern Analysis



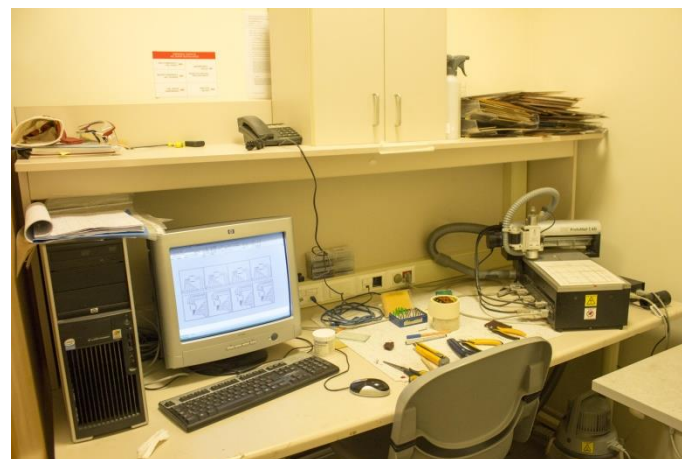
1021

RF/ Microwave Circuits Lab



1033

Electronics and Computing Undergraduate Lab



1050

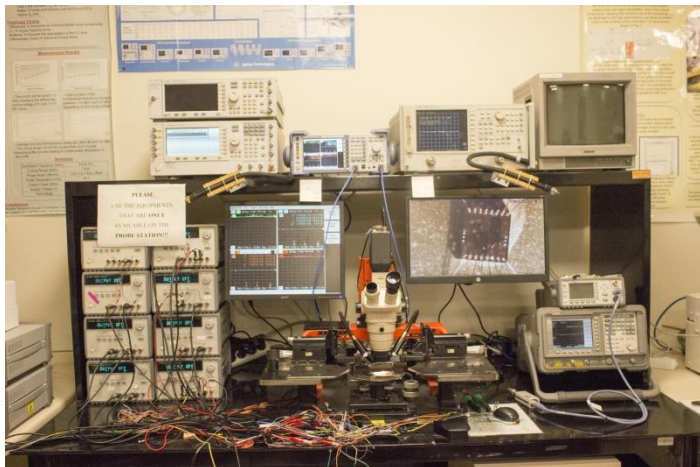
Electronics Workshop



1054
Electronics Research Lab



1061
Clean Room



1062
IC Design & Test Lab



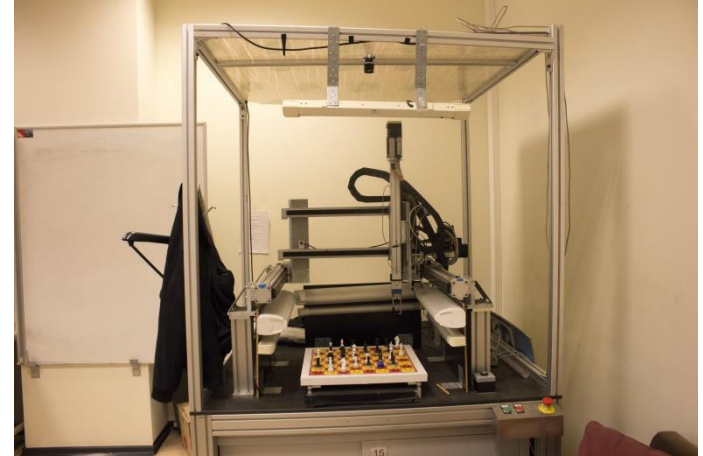
1067
Optics-Photonics Research Lab

Laboratories



2015

RF/Wireless Communication Lab



2016

VPALAB - SPIS



2017

Telecommunication & Networking Lab



2020

Computer Vision and Pattern Analysis Lab

SUNUM Labs inline with EE research areas

Micro/Nano Fabrication
(Clean Room) Laboratory

Electron Microscopy &
Spectroscopy Laboratory

Nanoelectronic &
Nanomagnetics Laboratory

Materials Characterization
Laboratory

Energy & Surface Chemistry
Laboratory

Microsystems
Testing Laboratory

Anechoic Chamber



(Clean Room)

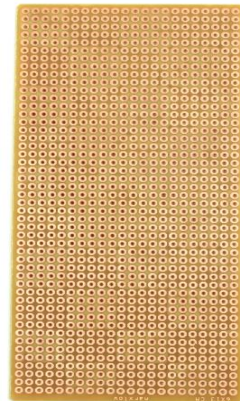


Anechoic Chamber

EE lab at home



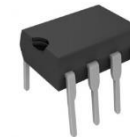
USB Digital Oscilloscope +
Spectrum Analyzer + Data
Recorder + DDS signal generator
+Sweep 20M 48MS/s



LM358 Op-Amp



LM555 Timer



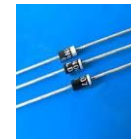
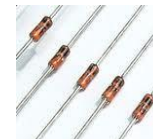
Direnç



Kapasitör



Diyot



Transistör

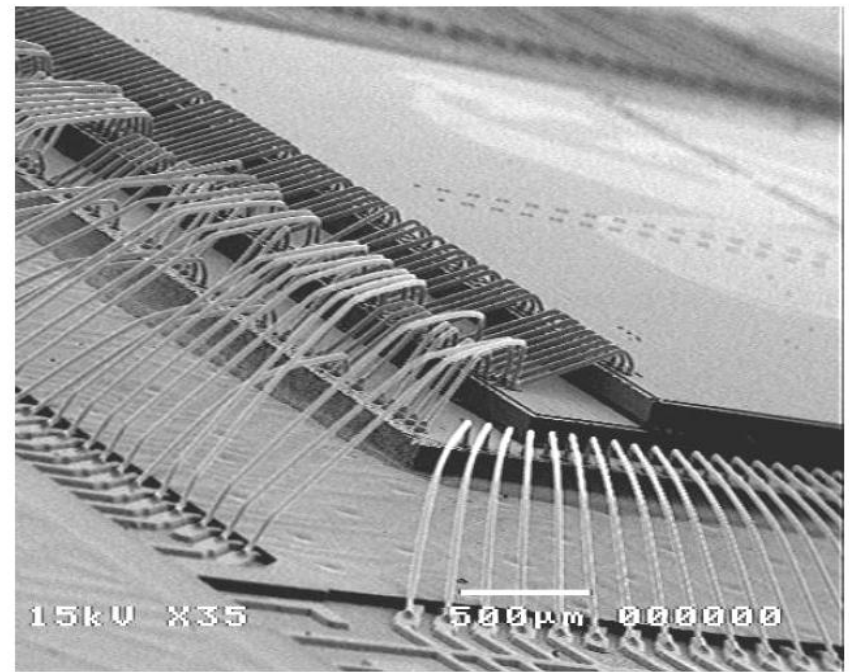
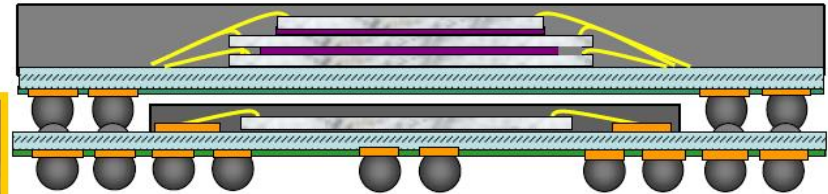
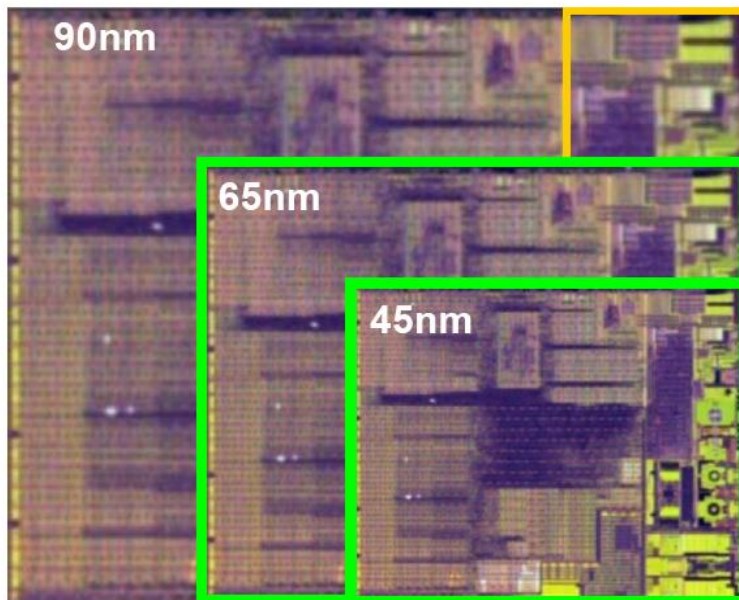


Professional Organizations



- Institute of Electrical and Electronics Engineers
- More than 400,000 members

SOC and SIP Integration Technology



EE area examples: Computer Hardware

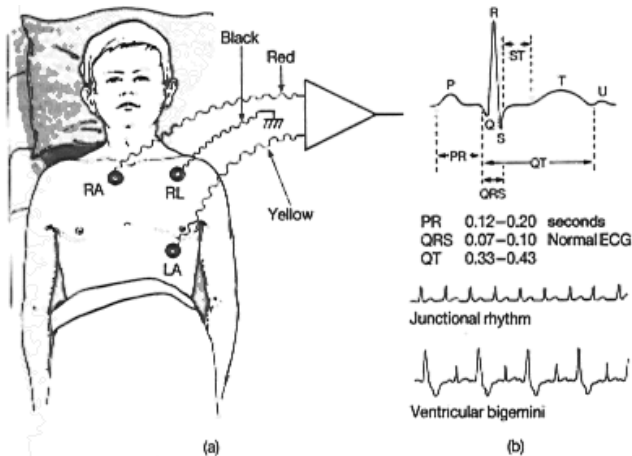


Desktop PC



Embedded System

EE area examples: Biomedical Applications

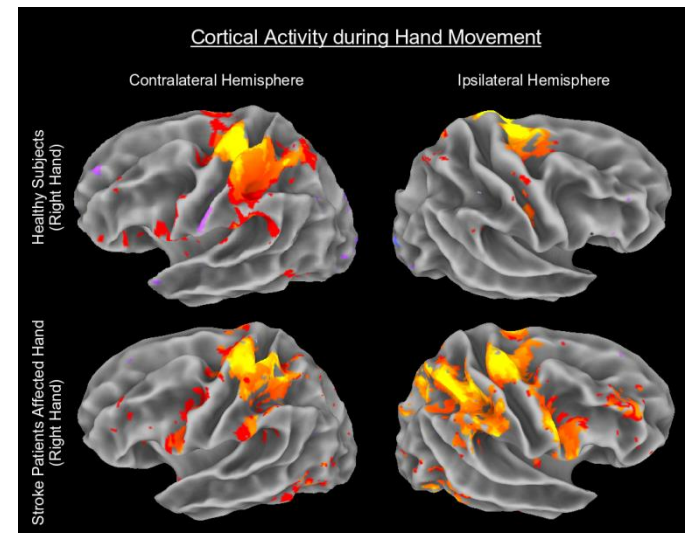


ECG

Ultrasound



MRI

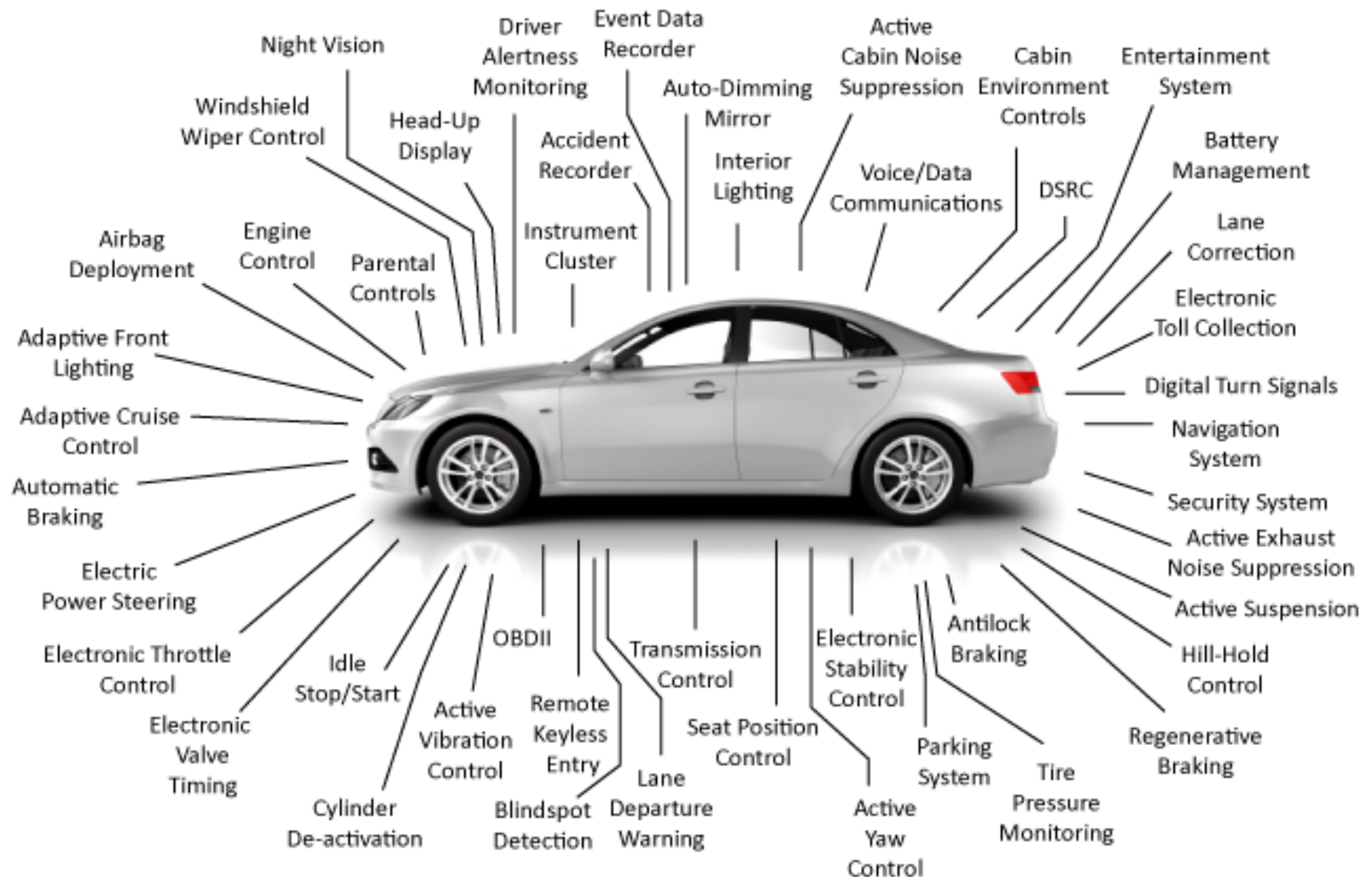


1G	2G	3G	4G	5G
1981	1992	2001	2010	2020(?)
2 Kbps	64 Kbps	2 Mbps	100 Mbps	10 Gbps
Basic voice service using analog protocols	Designed primarily for voice using the digital standards (GSM/CDMA)	First mobile broadband utilizing IP protocols (WCDMA / CDMA2000)	True mobile broadband on a unified standard (LTE)	'Tactile Internet' with service-aware devices and fiber-like speeds
				

What 5G is about



EE area examples: Automotive Industry



EE area examples: Military Technology

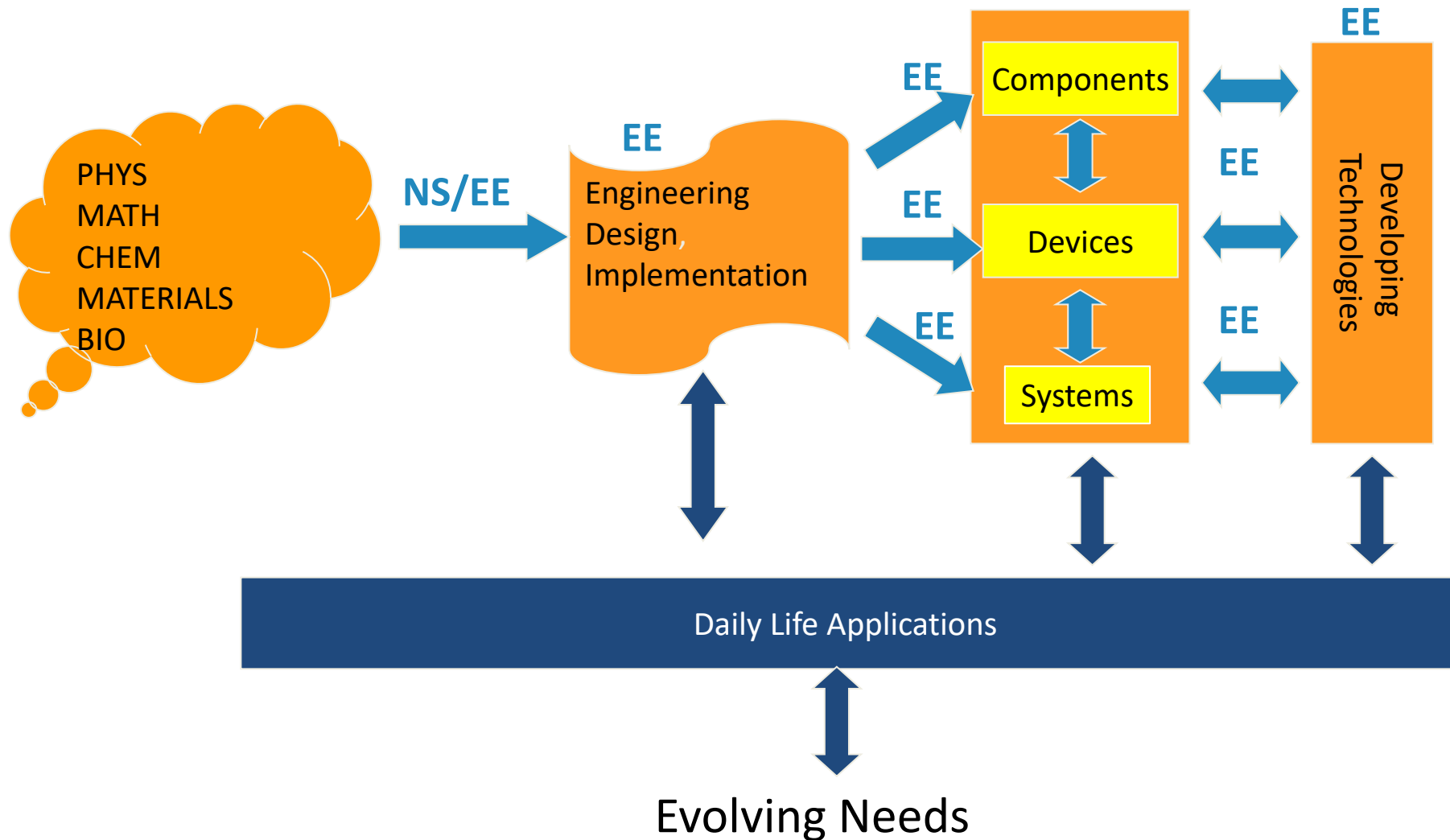


Night Vision

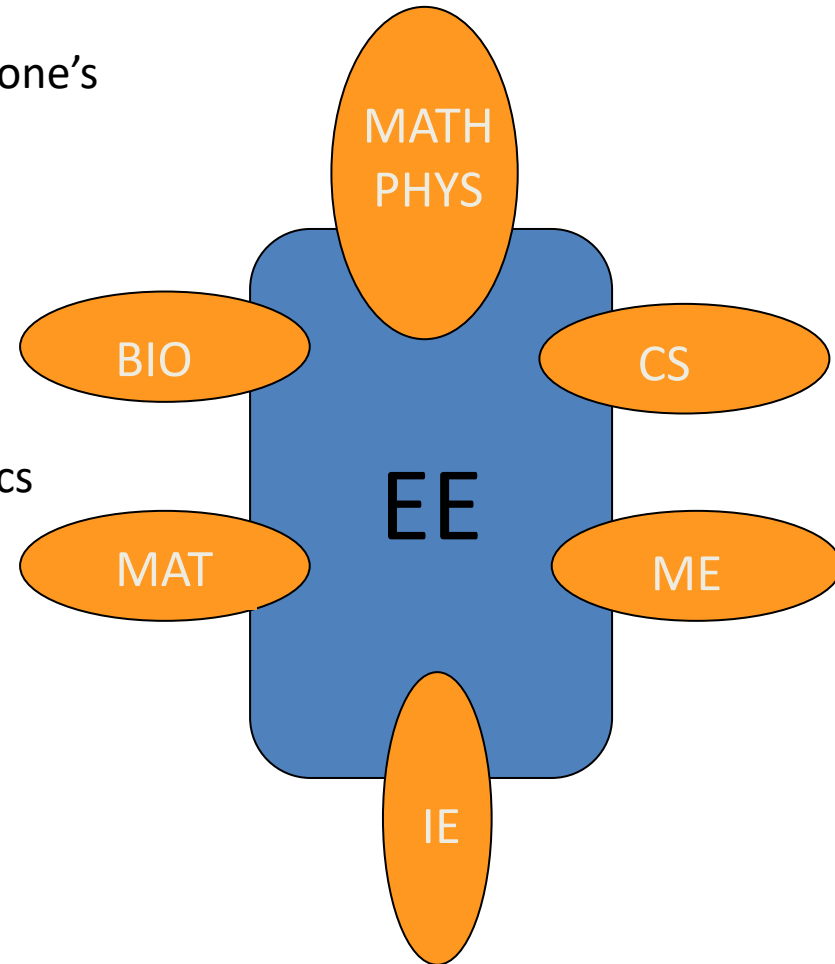


RADAR

Electronics Engineering



- Interdisciplinary education, flexible programs at SU
- EE: close neighbors with other science and engineering disciplines
- Flexibility within EE – easy to find a “home” for one’s particular interests
- Ease of transition to other fields
- EE’s overlapping topics with other programs
 - MAT: Optics, electronic materials
 - BIO: Biosensors, instrumentation, Biomedical signal processing, Bioinformatics
 - CS: Networking, Machine Learning, Computer Vision
 - ME: Robotics, Control
 - IE: Optimization
- MATH: *Minor Honor Program*
- PHYS: *Minor Honor Program*
- *Double major opportunities*



- Degree requirements (Core + Area + Free electives similar to other FENS programs)
- Mainly two tracks (EE Track 1 and 2) specializing in following EE fields :
 - Digital Systems
 - Electronics and Circuits
 - Optics and Photonics
 - Signal Processing
 - Telecommunications
- Basic 2nd year courses: Signals, Circuits, Probability, Electromagnetics, Linear Algebra
- More specialized courses in 3rd & 4th year
- EE education at SU covers all specialty areas, with *earlier* and *further* specialization as compared to other institutions.
- Paths towards academia, industry, entrepreneurship

What do EEs become ?

- Researcher: Develop future emerging technologies at universities, laboratories, private institutions, corporations
- R&D Engineer: Apply results of research to practical problems and products; engineering design and implementation
 - Firmware/Software Developer
 - Hardware Designer
- Systems/IT Engineer: Application specific system/network design
- Manager: Technical leadership, planning, coordination, supervision
- Entrepreneurs: Start their own companies
- and more...

Brown University
Caltech-California Institute of Technology
Carnegie Mellon University
Columbia University
EPFL Ecole Polytechnique Federale de Lozan
Freiburg University
Northwestern University
Rensselaer Polytechnic Institute
Rochester University
San Diego State University
Stanford University
Technical University of Hamburg
Texas University A&M
TU Dresten Technical University
University of California (San Diego, LA, Irvine, Riverside, Santa Barbara)
University of Michigan, Ann Arbour
University of Rochester
Worcester Polytechnic Institute

Bilkent Üniversitesi
Boğaziçi Üniversitesi
ITU
Koç Üniversitesi
ODTÜ
Sabancı Üniversitesi

STMicroelectronics Istanbul Design Center

Atos Origin

Cypress TTD

CTech

Grid Telekomünikasyon

Huawei

Intel, Denmark

Apple Inc.

Kyoto

TÜBİTAK UEKAE

Vestek Ar-Ge A.Ş.

Vestel

Arçelik

Argela Teknoloji İTÜ Teknokent

Aselsan

Danone Tikveşli

Kista KTH Forum

Momentum DMT

Netaş Nortel

Nexus Bilişim A.Ş.

Oksijen Teknoloji

Teleniki Bilişim Teknolojileri

AirTies Wireless Networks ...

Advices for Major Selection

- Do NOT decide on your profession based on how easy the undergraduate program is!
- Make it based on your best prediction of which profession will make you **happiest**
IN THE LONG RUN!
- Collect lots of data, know yourself, seek help, decide, be happy!

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