



**UNIVERSITY
OF OULU**

Faculty of Information Technology and Electrical Engineering ITEE

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Education Dean Jari Linatti
June 2020



ITEE FACULTY

STRONG ACTOR IN ICT FIELD

CRITICAL MASS IN OUR RESEARCH FOCUS AREAS

Ability to execute on very demanding problems
Multi-disciplinary expertise resulting new innovations

STRONG PORTFOLIO OF RESEARCH PROJECTS

Well-balanced between fundamental and applied research
Long R&D tradition with local and international companies

COMPETENCE CUMULATION

Experienced senior researchers
Each professor has a seasoned team

HIGH-QUALITY EDUCATION

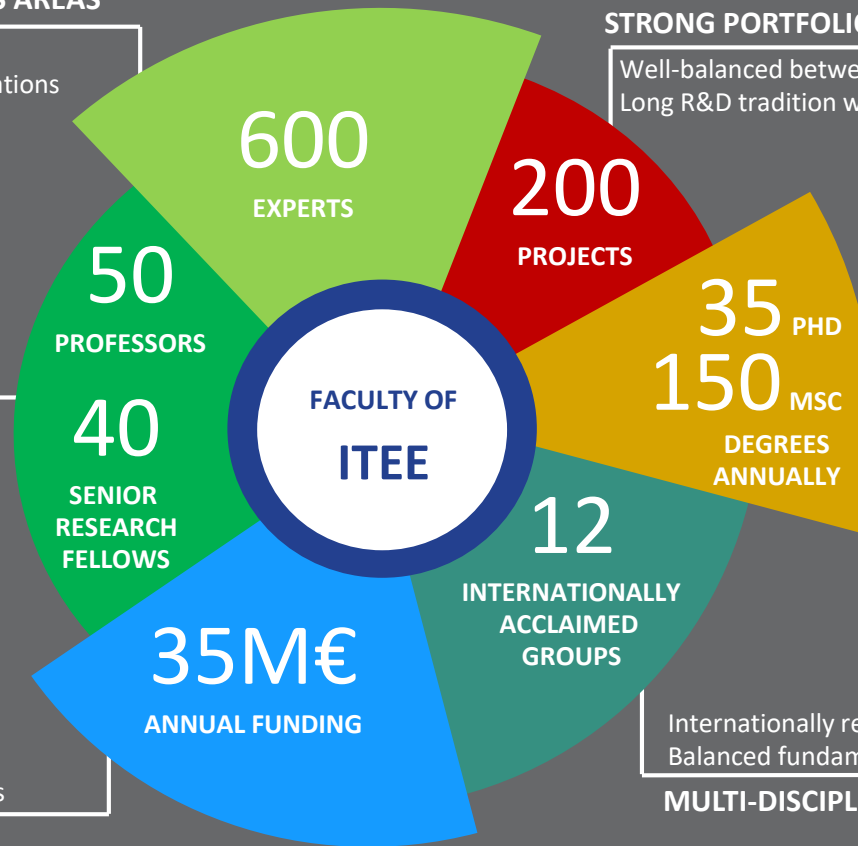
Competent workforce for companies,
research institutions and public sector

Seasoned in winning funding
Excellent local and international networks

OFFERING STABLE ENVIRONMENT

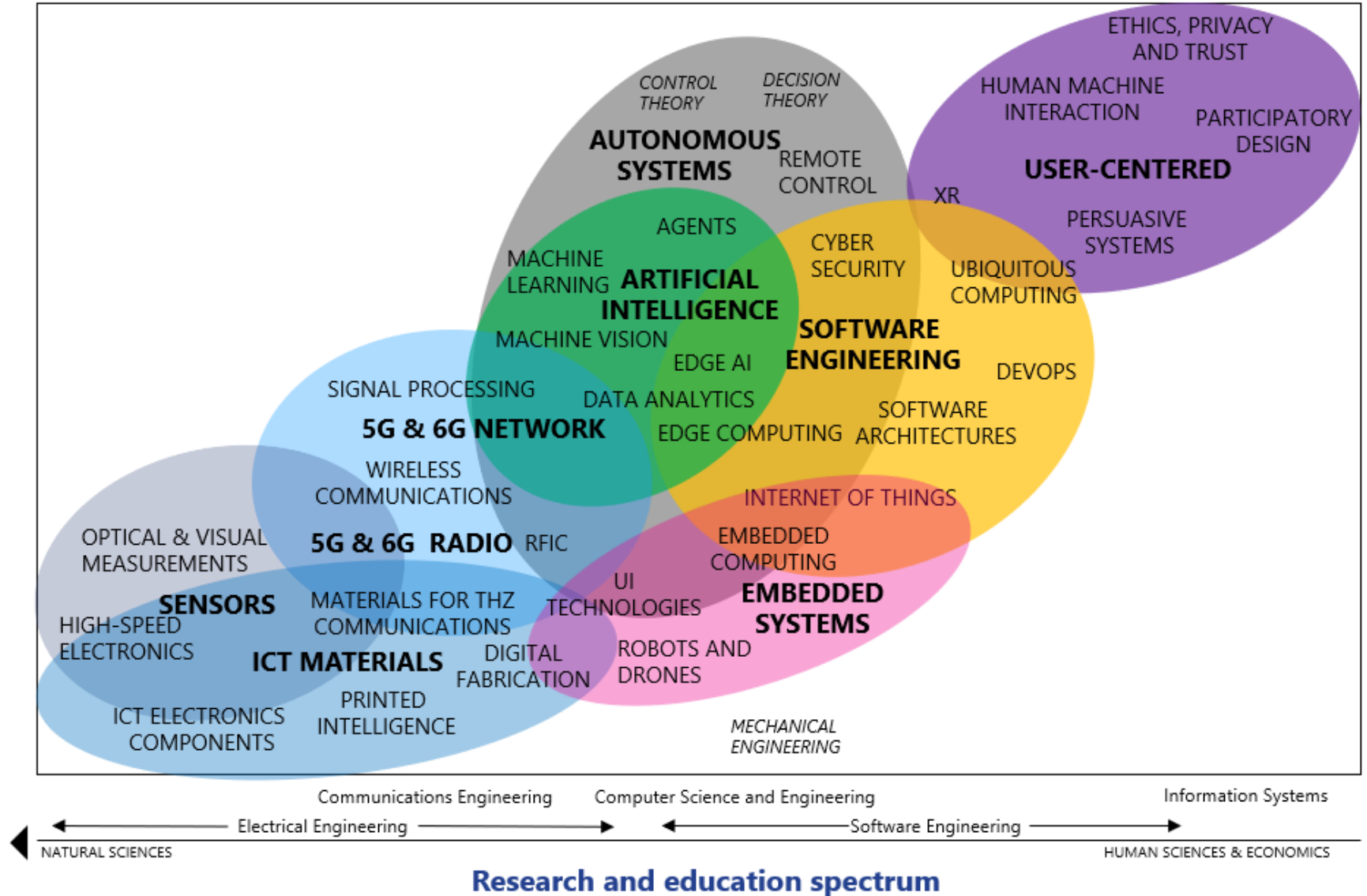
Internationally reviewed and credited research units
Balanced fundamental and applied research

MULTI-DISCIPLINARY ICT RESEARCH





ITEE RESEARCH FORMS A SOLUTION CREATION VALUE CHAIN



6G Enabled Wireless Smart Society & Ecosystem

- National Flagship for **2018-2026**
- Volume **251M€**
- Operated by **University of Oulu**
- Collaboration with **Nokia, VTT, Aalto University, BusinessOulu, OUAS.**

1.



Wireless Connectivity

Ultra-reliable low-latency communications

Enabling **Unmanned Processes**

2.



Devices & Circuits

THz communications materials & circuits

Enabling **Unlimited Connectivity**

3.



Distributed Computing

Mobile edge intelligence

Enabling **Time Critical & Trusted Apps**

4.



Services & Applications

Multidisciplinary research across verticals

Enabling **Disruptive Value Networks**



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6G Flagship was selected as Finland's high-tech Flagship, by Finnish Government through Academy of Finland



ITEE RESEARCH UNITS

CAS

CIRCUITS AND SYSTEMS
PROF. TIMO RAHKONEN

MIC

MICROELECTRONICS
PROF. HELI JANTUNEN

OPEM

**OPTO-ELECTRONICS AND
MEASUREMENT TECHNIQUES**
PROF. TAPIO FABRITIUS

CWC-RT

CWC- RADIO TECHNOLOGIES
PROF. MARKKU JUNTTI

CWC-NS

CWC - NETWORKS AND SYSTEMS
PROF. JARI IINATTI

CMVS

**CENTER FOR MACHINE VISION
AND SIGNAL ANALYSIS**
PROF. OLLI SILVEN

BISG

BIOMIMETICS AND INTELLIGENT SYSTEMS
PROF. JUHA RÖNING

UBICOMP

UBIQUITOUS COMPUTING
PROF. TIMO OJALA

M3S

**EMPIRICAL SOFTWARE ENGINEERING IN
SOFTWARE, SYSTEMS AND SERVICES**
PROF. MARKKU OIVO

OASIS

**OULU ADVANCED RESEARCH ON SERVICE
AND INFORMATION SYSTEMS**
PROF. HARRI OINAS-KUKKONEN

INTERACT

**HUMAN COMPUTER INTERACTION AND
HUMAN-CENTERED DEVELOPMENT**
PROF. NETTA IIVARI

ACM

**APPLIED AND COMPUTATIONAL
MATHEMATICS**
PROF. KEIJO RUOTSALAINEN



ITEE Study Programmes

Main Disciplines

Electronics and Communications Engineering
 Study programme (5 years)
 Master programme (2 years)
 International master programmes (2 years)

Computer Science and Engineering:
 Study programme (5 years)
 Master programme (2 years)
 International master programme (2 years)

Information Processing Science
 Study programme (5 years)
 Master programme (2 years)
 International master programme (2 years)

These degree programmes will take care of you now on!

International Degree Programme in Digitalization, Computing and Electronics (3 y)

ITEE Units

CAS	CIRCUITS AND SYSTEMS	BISG	BIOMIMETICS AND INTELLIGENT SYSTEMS
MIC	MICROELECTRONICS	CMVS	CENTER FOR MACHINE VISION AND SIGNAL ANALYSIS
OPEM	OPTO-ELECTRONICS AND MEASUREMENT TECHNIQUES	UBICOMP	UBIQUITOUS COMPUTING
CWC-NS	CWC - NETWORKS AND SYSTEMS	INTERACT	HUMAN COMPUTER INTERACTION AND HUMAN-CENTERED DEVELOPMENT
CWC-RT	CWC - RADIO TECHNOLOGIES	M3S	EMPIRICAL SOFTWARE ENGINEERING IN SOFTWARE, SYSTEMS AND SERVICES
ACM	APPLIED AND COMPUTATIONAL MATHEMATICS	OASIS	OULU ADVANCED RESEARCH ON SERVICE AND INFORMATION SYSTEMS

Business Analytics International Master Programme (2 years)

Biomedical Engineering
 Master programme (2 y)
 International Master Programme (2 y)

With Faculty of Medicine

EDUCATION EXPORT: Bachelor programme in Software Engineering with NJIT (3 y)

With Nanjing Institute of Technology

With Business School



ITEE Study Programmes with intakes 2021 onwards

FIVE-YEAR PROGRAMS IN FINNISH BACHELOR + MASTER DEGREE

Computer Science and Engineering (100), now 85

- Applied Computing
- Artificial Intelligence
- Computer Engineering

Plus:

- Open path: 20
- MAOL: 10

Electronics and Communications Engineering (85)

- Electronics Design
- Electronics, Materials and Components
- Communications Engineering
- Photonics and Measuring Technology
- RF Engineering

Plus:

- Open path: 20
- MAOL: 10

Information Processing Science (150), now 130

- Information Systems
- Software Engineering

Includes:

- Open path: 35

Master programmes (Finnish call)

- BME (20+3 via open path, with Faculty of Medicine)
- CSE (20)
- ECE (20)
- IPS (40, of which 10 via open path)

INTERNATIONAL MASTER'S PROGRAMS

- BA¹⁾** Business Analytics (15+15) (+ 20 in Business School)
- BME²⁾** Biomedical Engineering: Signal and Image Processing (30 with Faculty of Medicine)
- CSE²⁾** Computer Science and Engineering (50)
- ELE²⁾** Electronics (30)
- GS3D²⁾** Software, Systems and Services in the Global Environment + DD-EMSE (45+15)
- WCE²⁾** Wireless Communications Engineering + 2 DD-programmes (30+10)

INTERNATIONAL BACHELOR PROGRAM

- DICE** International Degree Programme in Digitalization, Computing and Electronics (DICE)²⁾ (48)

EDUCATION EXPORT

Software Engineering with NJIT (100 => 100)

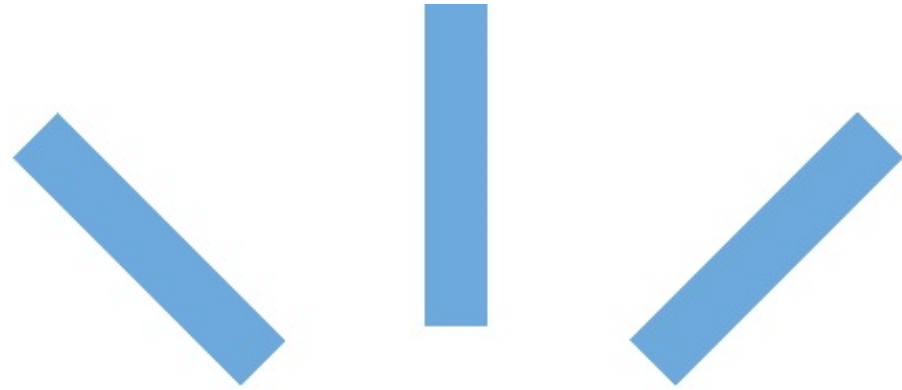
¹⁾Tuition fee: 13 k€, Scholarships: 0% (1st year), 100% 2nd year)

²⁾Tuition fee: 10 k€, Scholarships: 75%



Remember to

- **Follow the guidelines by study programmes, tutors, etc.**
- **Work hard all the time (during days)**
- **Ask if problems: teachers are helpful despite their hurries**
- **Think critically**
- **Enjoy**



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