



Infotech Oulu Graduate School

Mission

- to develop post graduate education on information technology in the university
- to systematize curricula and intensify doctoral studies
- to organize lecture series, courses and summer/winter schools
- to be an active member of the national graduate school system





Main Areas of the School

The school operates in three areas (major research fields of Infotech Oulu)

- Electronics
- Communications Engineering
- Computer Science and Information Engineering





Graduate School Board

Each of the main areas and VTT has a representative in the board

- Professor Risto Myllylä (Director, Chairman)
- Professor Timo Rahkonen (Electronics)
- Professor Markku Juntti
(Communications engineering)
- Professor Tapio Seppänen
(Computer science and information engineering)
- Professor Juha Kortelainen
(Computer science and information engineering)
- Professor Pentti Karioja (VTT)





Funding

- The Ministry of Education
(annually EUR 727 100)
 - 10 doctoral student fellowships (2006–2009)
 - 15 doctoral student fellowships (2007–2009)
and a coordinator position
- The Academy of Finland
 - EUR 78 500 for arranging courses and
traveling expenses of graduate students (2007)
- Additional support from Infotech Oulu
 - administration
 - funding for courses and workshops





Resources

- almost 100 supervisors (professors, docents, doctors)
- about 230 graduate students (25 of which financed by Infotech Oulu GS)
- external research funding of the groups involved about EUR 18 million





Research Groups 2006–2009

Full member groups

- Algebraic and Computational Methods in Information Science (*Prof. Keijo Ruotsalainen*)
- Circuits and Systems Group (*Prof. Juha Kostamovaara*)
- Electronics Materials, Packaging and Reliability Techniques (*Prof. Heli Jantunen*)
- Intelligent Systems Group (*Prof. Juha Röning*)
- Machine Vision Group (*Prof. Matti Pietikäinen*)
- Optoelectronics and Measurement Unit (*Prof. Risto Myllylä*)

Associate members

- Human Interaction with Advanced Mobile Services and Intelligent Environments (*Prof. Kari Kuutti*)
- MediaTeam Oulu (*Dr. Jaakko Sauvola*)
- Wireless Communication Systems (*Prof. Matti Latva-aho*)





Intensive Courses and Workshops 2006

How to get a Ph.D.: Methods and practical hints

Electronics

- Professor Sergei Gurevich, A.F. Ioffe Physico-Technical Institute, St. Petersburg, Russia - Semiconductor light emitting devices
- Professor László Nanai, University of Szeged, Hungary - Laser based nanostructures
- Dr. Zewen Liu, Tsinghua University, China - Micro/nano system technologies and applications
- PhD Norm Filiol, Carleton University, Ottawa, Canada - Delta-sigma modulation techniques in digital-to-analogue conversion and frequency synthesis
- Professor Ki Hyun Yoon, Yonsei University, Korea - Functional ceramics I
- Professor Hongyi Chen, Tsinghua University, Beijing, Progress on microelectronics
- Ph.D. Jiri Homola, Academy of Sciences of Czech Republic, Praha - Surface Plasmon Resonance





Intensive Courses and Workshops 2006

Electronics

- Professor Kai Peiponen and Professor Yuri Svirko, University of Joensuu - Principles and applications of linear and nonlinear optical spectroscopies
- Professor L. Golonka, Wroclav University, Poland - Thick film and LTCC sensors, actuators and microsystems
- Fourth International Conference on Microwave Materials and their Applications (MMA2006)
- Seminar: Characterization of materials properties at high frequencies and components' design related, lecturers Professor J. Petzelt, Acad. Sci. Czech Rep.; Professor A Kozyrev, St. Petersburg Electrotechnical University; Professor I. Vendik, St. Petersburg Electrotechnical Univ., Russia; Dr. A. Deleniv, Chalmers University of Technology and Ericsson AB; Dr. C. Free, University of Surrey, UK
- Deputy Director, Dr. M. T. Sebastian (Nokia Visiting Fellow), Regional Research Laboratory, Trivandrum, India - Dielectric ceramics for microwave applications
- Infotech Oulu Optoelectronics workshop 2006: "Printed electronics and photonics", lecturers: Professor Ghassan Jabbour, Arizona State University, USA, Dr. Arto Maaninen , VTT





Intensive Courses and Workshops 2006

Communications Engineering

- Professor Marouane Debbah, Institut Eurecom, France – Game theory for wireless communications
- Professor Keijo Nikoskinen, Dr. Seppo Järvenpää and Pasi Ylä-Oijala, Helsinki University of Technology – Simulation methods of electromagnetic fields
- Dr. Jouko Vankka – Direct digital synthesizers and transmitters for software radio
- Dr. Sastri Kota, Harris Corporation, USA – Network Protocol Optimization for Satellite and Wireless Applications
- Professor H. Vincent Poor, Princeton University, USA – Signal processing for wireless networks





Intensive Courses and Workshops 2006

Computer Science and Information Engineering

- Professor Juhani Karhumäki, University of Turku – Topics on combinatorics of words
- Professor Wadim Zudilin, Moscow State University, Russia – Lectures on Diophantine approximations
- Docent Jyrki Lahtonen, University of Turku, Ph.D. Marko Moisio, University of Vaasa and Ph.D. Kalle Ranto, University of Turku – Lectures in coding theory: Exponential and Kloosterman sums, number of irreducible polynomials, ST-codes - more number theory to mobile phones
- Professor Antti Puhakka, Tampere University of Technology – Process-algebraic verification of concurrent systems: theory and tools
- Professor Yuri Nesterenko, Moscow State University, Russia – Continued fractions, Padé and diophantine approximations
- Dr. Bogdan Filipic, Department of Intelligent Systems, Jožef Stefan Institute, Ljubljana, Slovenia – Introduction to evolutionary computation
- The Second Crisis Management Workshop - CRM2006





Intensive Courses and Workshops 2006

Computer Science and Information Engineering

- Professor Tomas Kepka, Charles University, Prague, Czech Republic – Some useful facilities in commutative rings theory
- Professor Larry S. Davis, University of Maryland, USA – Advances in visual surveillance
- Professor Shuvra S. Bhattacharyya, University of Maryland, USA – Design and implementation of signal processing software
- Ph.D. Brian J. Fogg, Stanford University – Persuasive technology
- Professor Antti Valmari, Tampere University of Technology – Petri nets
- Professor Stan Z. Li, Chinese Academy of Sciences, China – Face biometrics and intelligent video surveillance: advanced methods and systems
- IPICS2006 7th Winter School – European Intensive Programme on Information Security Management and Technology
- KISS 2006 Infotech Workshop – Kilpisjärvi Information Systems Seminar





Infotech Oulu Lecture Series

Lecturers 2006 1/2

- Professor Riku Jäntti, University of Vaasa
- Dr. Ekaterina Sergeeva, Institute of Applied Physics, Nizhniy Novgorod, Russia
- Professor Paul G. Flikkema, Helsinki University of Technology
- Professor Stan Z. Li, Chinese Academy of Sciences, China
- Professor Ahmad Safari, Rutgers University, New Jersey, USA
- Dr. Olli Salmela, Nokia Research Center
- Professor Lorenzo Mucchi, University of Florence, Italy
- Professor Richard J. Boland Jr., Case Western Reserve University, Cleveland, Ohio, USA
- Professor Jan Flusser and Dr. Filip Sroubek, Academy of Sciences of the Czech Republic, Prague





Infotech Oulu Lecture Series

Lecturers 2006 2/2

- Professor Zhang Fengsheng, Qingdao University, China
- Professor László Nánai, University of Szeged, Hungary
- Dr. Francisco J. Perales, UIB (Universitat de les Illes Balears), Spain
- Professor Hongyi Chen, Tsinghua University, Beijing, China
- Professor Naoki Ueno and Professor Rieko Sawyer, Musashi Institute of Technology, Japan
- Professor Larry S. Davis, University of Maryland, USA
- Professor Michal Valenta, Czech Technical University, Prague
- Professor Stepan Holub, Charles University, Prague, Czech Republic
- Dr. Kaori Fujinami, Waseda University, Japan

