

Russian-Finnish joint PhD programmes – opportunities and objective demand

Case Finnish-Russian Cross Border University: CBU-ICT



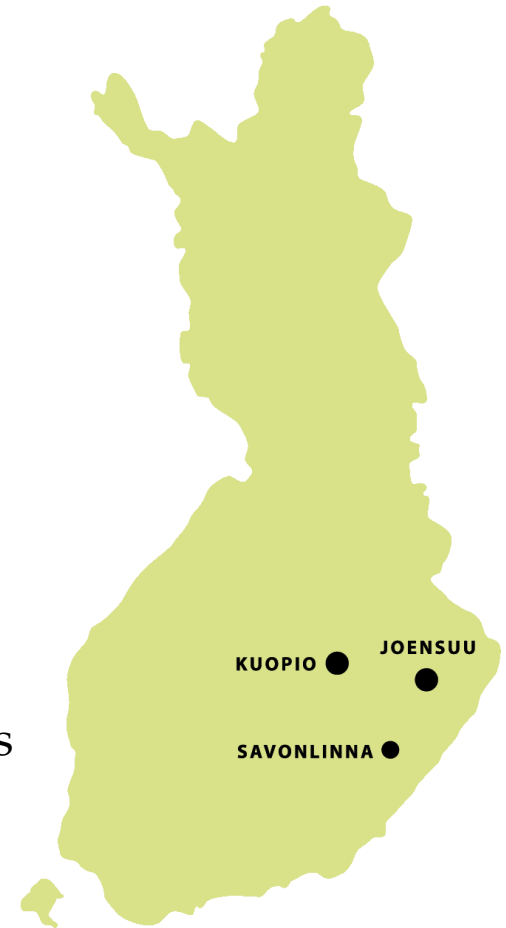
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8th seminar on Cooperation between Russian and Finnish Institution of Higher Education,
St. Petersburg, March 20-22, 2012

University of Eastern Finland

Areas of Expertise:

- Forests and the Environment
- Health and Well-Being
- New Technologies and Materials
 - The university's high standard of basic research in the natural sciences serves as a foundation for developing new technologies and applications in biosciences, **information sciences**, materials sciences and **nano sciences**.



The university operates on three campuses in **Joensuu**, **Kuopio** and Savonlinna.

For CBU ICT PhD, the basis is the CBU ICT MSc Degree programme

- **Coordinating University:** University of Eastern Finland (UEF)
- **Partner Universities:**
 - University of Helsinki (UH)
 - Lappeenranta University of Technology (LUT)
 - St. Petersburg State University (SPSU)
 - St. Petersburg State Polytechnical University (SPSPU)
 - Petrozavodsk State University (PetrSU)

CBU ICT MSc Degree programme students in 2011

- Arrived students: UEF 6, Helsinki 3, PetrSU 1 and SPSU 9
- New students are from 8 different countries
- Graduated students in 2011: UEF 1, Helsinki 2, PetrSU 1
- Plans for 2012: student intake at UEF 10, Helsinki 5, PetrSU 1-2 and SPSU some students
 - Studying grants at least for 5 UEF students
- In 2012, there was 108 applicants to CBU ICT MSc programme at UEF

CBU ICT PhD studies

- The PhD studies are based on existing graduate schools, such as,
 - East Finland Graduate School in Computer Science and Engineering (ECSE)
- Requirements in Finland: 60 ECTS studies + PhD thesis (4 scientific publications), pre-review of the thesis and public dissertation (opponent)
- Requirement for CBU ICT PhD studies is the joint supervision from Finland and Russia

CBU ICT PhD studies

- In 2011 the first student in ECSE (MSc Karol Waga)
 - Topic: Context Aware Recommendation of Location-based Data
 - Unit in Finland: Speech & Image Processing Unit, School of Computing, University of Eastern Finland, Joensuu
 - Unit in Russia: SPSPU
 - Scholarship for PhD studies from the Faculty of Science and Forestry, UEF

Case: CBU ICT PhD study preparation

During autumn 2011, topics for joint dissertation possibilities have been examined.

Meeting on November with SPSU in Joensuu:

Strengths of SPSU Department of Applied Mathematics and Control Processes

-Strong mathematical background, Computer vision systems, Dynamical filtering, Control theory, Dynamical system designing

Possible co-operation areas with UEF color group:

-Dynamical image processing, Spectral image compression, Dynamical digital filtering

Possible themes for joint PhD dissertations:

1. Signal processing with dynamic spectral filtering
 1. Development of real-time tunable spectral filtering and signal processing in dynamic processes
 2. New mathematical methods for signal processing
 3. Spectral imaging is included
 4. Applications for example in industry and medicine
2. Modern imaging technologies in dynamic systems
3. Design of enhanced computer vision systems and their applications

CBU Summer and Winter Schools for MSc and PhD students

- CBU Summer School on Data Security and Structured Documents, Kuopio, Finland, 13-22 August, 2007
- CBU Intensive Program on Computer Vision, August 18-29, 2008, Joensuu, Finland
- CBU Winter School has been held in St. Petersburg in 2008
- CBU ICT summer school 2009: Mobile and Ubiquitous Computing, Helsinki, Finland, August 17 - 28, 2009
- CBU Winter School has been held in St. Petersburg in 2009

CBU Summer and Winter Schools for MSc and PhD students

- CBU Winter School participants in Petrozavodsk, February 2010
- CBU ICT Summer School 2010, Telecommunications, mobile gaming, novel computing, Lappeenranta, Finland, August 9 - 20, 2010
- CBU Winter School in Information Technology
"Introduction to digital systems of control and signal processing"
Saint Petersburg, 27 January - 5 February 2011
 - Organised with FIRST IP funding, applied by the UEF
- CBU Winter School 2012 will take place in Petrozavodsk (in May)
 - Organised with FIRST IP funding, applied by Univ. of Helsinki



CBU and Barents CBU co-operation



FIRST JOINT SUMMER SCHOOL
Organized by Finnish Russian Cross Border Universities

Multidisciplinary Dialogue

- Wellbeing, Technology
and Environment

CBU ICT PhD Scholarships

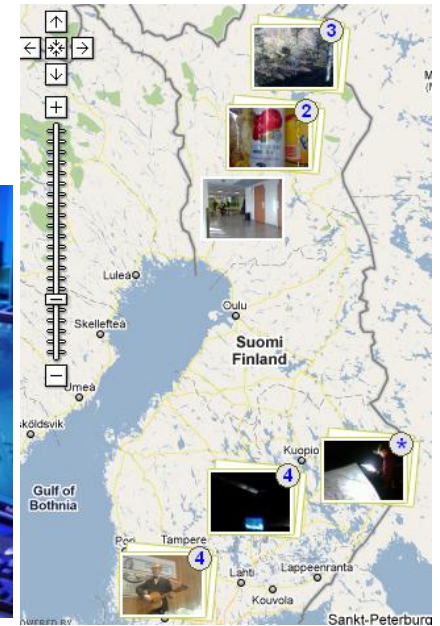
- Faculty of Science and Forestry at UEF has offered 3 year scholarships (1500 euros/month) for 3 CBU PhD students starting studies in 2011, 2012 and 2013
- Positions are publicly open, additional merit is given to CBU MSc-program graduates

Double Degree programs in MSc and PhD level

- Under preparation at the moment together with Russian partners
- At the moment, the CBU ICT MSc will get degree from one university and CBU Certificate is issued

Opportunities of CBU ICT PhD studies

- In CBU ICT:
 - strong theoretical expertise in ICT, signal processing and mathematics in Russia is combined to application oriented research in Finland, for example in software engineering, educational technology, speech recognition, spectral color research and computer vision
 - This opens new research cooperation
 - Possibility for new strong research consortiums
 - New projects between Finland and Russia



Case: Russian – Finnish cooperation in ICT

- Alexey Andriyashin from St. Petersburg State University
 - Started in International MSc-program (IMPIT) at Joensuu in 2002
 - MSc-degree in 2004
 - PhD studies started in 2004
 - Moved to work in Nokia Corporation in 2008, where he still works
 - PhD-degree in 2011

- Similar student exists more and more

Objective demand of CBU ICT PhD studies

- The demand exists, there is more and more activities in this issue.
- Now also open position with scholarship:
 - **Call for the Finnish-Russian Cross-Border University (CBU) 3-year-PhD scholarship, School of Computing, University of Eastern Finland, deadline March 21, 2012**

Thank you for your attention

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