Professur Technische Informatik
Prof. Dr. Wolfram Hardt

Perception of EU Math Education by Russian students

Prof. Dr. Wolfram Hardt

Chair
Computer Engineering

Dean
Faculty for Computer Science

Director
University Computing Center (and E-Learning)

Agenda

Goal

Concept

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Expectations pre mobility

Experiences post mobility

Conclusion

Goal

- Introduce best EU practices of engineering math education in Russia
- Evaluate the effectiveness with Russian students
  - modify the Russian courses by applying some of the EU methods and approaches and then conduct a large-scale quantitative evaluation study of these courses
  - send a group of Russian students to EU and conduct a qualitative interview-based evaluation with them

Concept

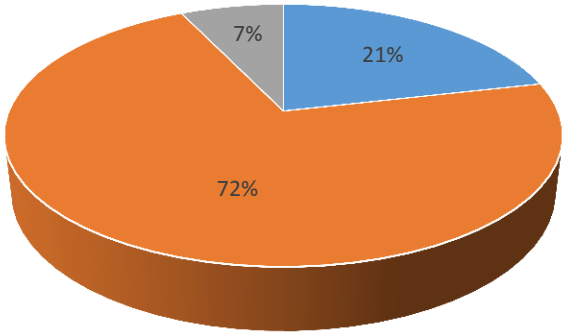
- Each individual student is interviewed before and after the visit
- an individual program of courses at the host universities is constructed
- courses are chosen based on 2 criteria:
  - matching the program requirement of this student studies at the home university
  - high level of mathematical component in the course
- all credits are counted toward the program of study in the home universities

Student selection criteria

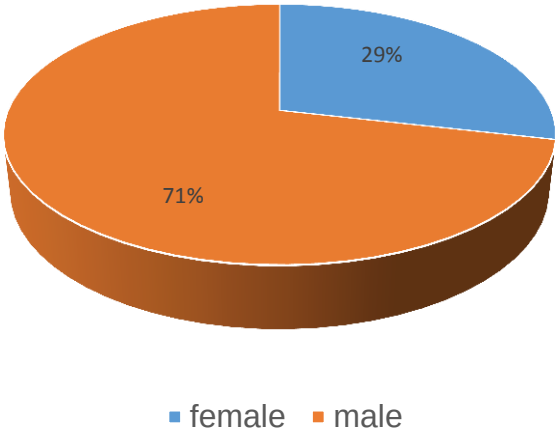
- good academic performance
- good independent work skills
- foreign language proficiency
- gender balance
- mostly MSc-level, as the only programs available in the selected EU universities in English are MSc-level programs

Facts and Figures

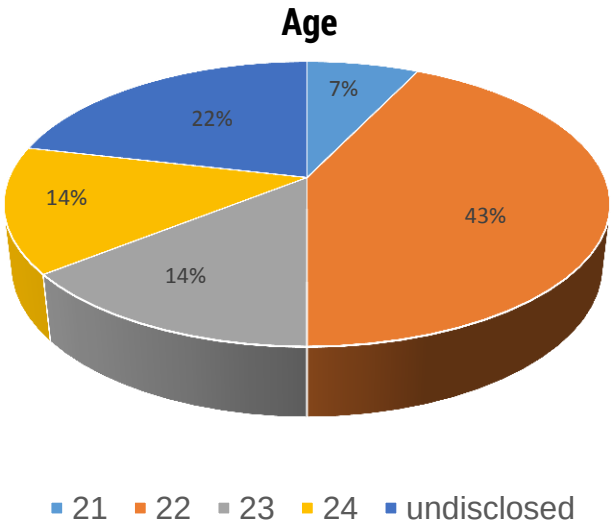
When



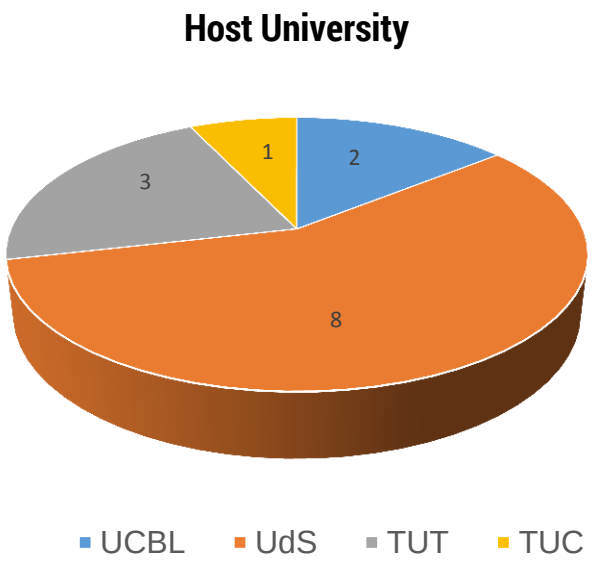
Gender

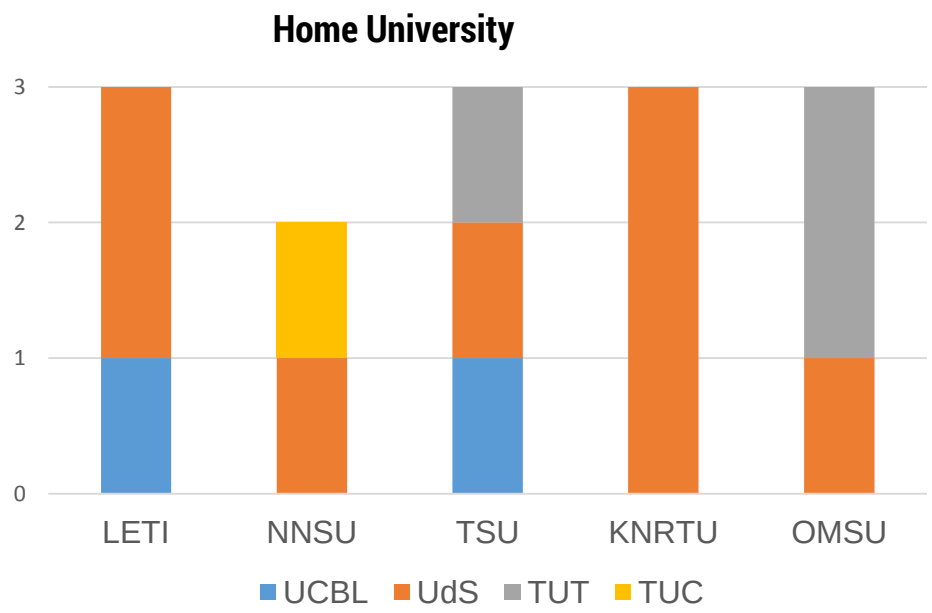


Age



Facts and Figures





Background of Students

- half of students have experience abroad
- all have good to excellent knowledge of language of study (f.e. TOEFL certificate)
- Very good to excellent in general in school and university
  - One-third participated in Olympiads: 3. math 1. Computer Science

Expectations pre mobility

Expectations, Motivation and Courses

- Practically-oriented and applied courses in math
- Gain modern and new knowledge in IT from famous IT-developing countries
- Challenges with language and culture
- Boost for future carrer
- Get experience with study process in other country
- Improve english
- Computer Science based: Artificial Intelligence Parallel Programming, Optimization, Efficient Algorithms

Experiences post mobility

Math based courses

- Integration of software math packages (f.e.Matlab)
  - More practical examples using this
  - More applied
- mix of theory and practice in math based courses
- Support of math learning process by e-Learning
  - Exam preparation by tasks and questions
  - Materials for lecture
  - Homework
  - Interactive communication with teacher

Experiences post mobility

Differences, Advantages and Challenges

- Freedom of course selection
- Online portals for e.g. e-Learning, study documentation
- Assignment and assessment system
- New education system experience
- Meeting people with different cultures
- Improving self-dependency in studying
- Document preparation, administrative effort for visa
- Adapting to the new education system
- Language barrier (especially at the beginning)

Lessons Learned

Comparison Pre mobility expectations and Post mobility Experiences

• Practically-oriented and applied math courses	✓Experienced
• Gaining new and modern knowledge in information technologies (IT) from famous IT-developing countries	✓Experienced
• Challenges with language and culture	✓Achieved
• Boost for future career	×Not measurable yet
• Getting experience with study processes in other countries	✓Achieved
• Improve foreign language (English)	✓Achieved
• Support of learning process by e-Learning	Not expected before

Conclusion

- Student Suggestions
  - Extension of program's period length (currently one semester)
  - Introduction of expected challenges
- Students experience that math in Europe is
  - More practical and application-related
  - More modern than in home universities because of use of e-Learning

Thank you for your attention!