Koli Calling 2019 Program

Note: Long papers are 20+5 minutes, short papers are 15+5

Thursday, November 21

Bus 1 from Joensuu to Koli

- 16:45 Joensuu Science Park (UEF, School of Computing, Länsikatu 15, 80100 Joensuu)
- 17:15 Joensuu Airport (the bus will wait for the participants arriving with the flight AY345 at 17:15)
- 17:50 Joensuu Railway Station (the bus will wait for the participants arriving with the train InterCity 5 at 17:50)
- 19:30 Arrival at Koli, hotel check-in
- 20:00 Welcoming buffet available in the hotel restaurant

Bus 2 from Joensuu to Koli

- 19:30 Joensuu Railway Station (the bus will wait for the participants arriving with the train InterCity 7 arriving at 19:36)
- 21:15 Arrival at Koli, hotel check-in, welcoming buffet available in the hotel restaurant

Friday, November 22

07.00 – 08.50 Breakfast (at the Sokos Hotel Koli Restaurant)

09:00 Opening Session: Petri Ihantola, Nick Falkner

09:10 Session 1: Concepts and Understanding, Chair: Lauri Malmi

1. Assessing students' understanding of object structures: *Andreas Muehling, Carsten Schulte, Lea Budde, Jens Bennedsen and Gregor Große-Bölting*
2. "It's like computers speak a different language": Beginning Students' Conceptions of Computer Science (short paper): *Gregor Große-Bölting, Yannick Schneider and Andreas Mühling*
3. BiGO: A Toolset to Support CS Students to Learn to Analyze Time Complexities of Algorithms (short paper): *Tapani Toivonen and Solomon Sunday Oyelere*

10:15 Short break

10:30 Session 2: Curriculum and Course Design, Chair: Juha Sorva

4. An International Comparison of K-12 Computer Science Education Intended and Enacted Curricula: *Katrina Falkner,Sue Sentance, Rebecca Vivian, Sarah Barksdale, Leonard Busuttil, Elizabeth Cole, Christine Liebe, Francesco Maiorana, Monica M. McGill and Keith Quille*
5. Body of Knowledge Explorer - Long-Term Student Guidance Across the Computer-Science Domain (short paper): *Vangel Ajanovski*
6. Investigating the Affect and Effect of Adaptive Parsons Problems: *Barbara Ericson, Austin McCall and Kathryn Cunningham*
7. Discovering Empirically-Based Best Practices in Computing Education Through Replication, Reproducibility, and Meta-Analysis Studies (short paper): *Monica McGill*

12:00 Lunch (Sokos Hotel Koli restaurant)

13:00 Session 3: K-12, Chair: Barbara Ericson

8. Fifteen Years of Introductory Programming in Schools: A Global Overview of K-12 Initiatives: *Claudia Szabo, Judy Sheard, Andrew Luxton-Reilly, Simon, Brett Becker and Linda Ott*
9. An Examination of Abstraction in K-12 Computer Science Education: *Christine Liebe and Tracy Camp*

10. Machine Learning for High School Students: *Radu Mariescu-Istodor and Ilkka Jormanainen*

14:15 Short break

14:30 Session 4: Metacognition and Computational Thinking, Chair: Calkin Suero Montero

11. A Closer Look at Metacognitive Scaffolding: Solving Test Cases Before Programming: *Paul Denny, James Prather, Brett Becker, Zachary Albrecht, Dastyni Loksa and Raymond Pettit*
12. A Systematic Review of Computational Thinking Approach for Programming Education in Higher Education Institutions: *Friday Agbo, Solomon Oyelere, Jarkko Suhonen and Sunday Adewumi*
13. Prediction as a prerequisite of skilled reading: The cases of source-code and music notation: *Natalia Chitalkina, Roman Bednarik, Marjaana Puurtinen and Hans Gruber*

15:45 Coffee break (Sokos Hotel Koli restaurant restaurant)

16:00 Session 5: Motivation and Skill Development, Chair: Judy Sheard

14. NAO Robot vs. Lego Mindstorms - The Influence on the Intrinsic Motivation of Computer Science Non-Majors: *Anne Gressmann, Dany Meyer, Erica Weilemann and Bianca Bergande*
15. Enhancing research skills in undergraduate students through seminars (short paper): *Richard Gault and Angela Allen*
16. IoT-Poly: An IoT Security Game Practice Tool for Learners Motivation and Skills Acquisition: *Tan Omiya, Doudou Fall and Youki Kadobayashi*

17:10 Lightning Pitches

- Evaluating Cybersecurity-Related Competences through Serious Games: *Sten Mäses*
- Personalized, Adaptive Tutorials for Program Tracing Skills: *Greg Nelson*
- Students' Views of Concurrency and Synchronization: *Filip Strömbäck*
- To Ease the Transition to Employment: Employability in Higher IT Education: *Gunhild Lundberg*

17:20 Program ends for the day

17:30 Optional Spa visit and parallel social program

20:00 Dinner buffet (Sokos Hotel Koli restaurant)

Saturday, November 23

07.00 – 08.50 Breakfast (at the Sokos Hotel Koli Restaurant)

9:00 Keynote: Grand Challenges for Computing Education in the 21st Century: *Amy J. Ko*

10:10 Short break

10:25 Session 6: Feedback and Assessment, Chair: Mark Guzdial

17. Comparative Student Experiences on Electronic Examining in a Programming Course - Case C: *Anni Rytkönen and Venla Virtakoivu*
18. A method for adding cyberethical behaviour measurements to computer science homework assignments (short paper): *Sten Mäses, Heleri Aitsam and Liina Randmann*
19. Addressing Bias to Improve Reliability in Peer Review of Programming Coursework: *Steven Bradley*
20. Towards a validated formative assessment for language-specific program tracing skills: *Greg L. Nelson, Benjamin Xie, Andrew Hu and Amy Ko*

12:05 Lunch

12:50 Koli Nature Walk (short, medium, long – Free time for exploring the Koli National Park)

14:15 Coffee break (Sokos Hotel Koli restaurant)

14:40 Session 7: Posters, Chairs: Nick Falkner and Petri Ihantola

1. Aligning Competence Hierarchies with Bloom's Taxonomies Changing the focus for computing education: *David Bowers and Marian Petre*
2. Splashing the surface of research: A study of Koli abstracts: *Juha Sorva*
3. Imikode: A VR Game to Introduce OOP Concepts: *Nacir Bouali, Eeva Nygren, Solomon Sunday Oyelere, Jarkko Suhonen and Violetta Cavalli-Sforza*
4. Constructive Alignment of Web Programming Assignments and Automated Assessment with Unit Testing: *Antti Knutas, Dmitrii Savchenko, Timo Hynninen and Niku Grönberg*
5. Educating Future Scientists, Engineers, Makers and Inventors - Influence of Students' Participation in Educational Robotics Competitions on their Career Choices in STEM: *Nicolai Pöhner*
6. Data analytics on performance of computing students: *Oluwafemi Samson Balogun, Solomon Sunday Oyelere and Donald Douglas Atsa'Am*
7. Fostering Creativity Self-perception in Formal Learning through Digital Fabrication and Making: *Calkin Suero Montero*
8. A set of exercises and tests for teaching tracing skills using a mastery approach: *Martijn Stegeman*
9. Let's Look a Layer Deeper: Design and First Results of a New Test System in the Context of Program Tracing: *Morten Bastian and Andreas Mühling*
10. CSINC: An Inclusive K-12 Outreach Model: *Karen Nolan, Roisin Faherty, Keith Quille, Brett Becker and Susan Bergin*
11. RoboCards. A Tool to Support the Organization of Robotics Camps for Beginners: *Ilenia Fronza and Claus Pahl*
12. On the Learning Activities and Outcomes of an Information Security Course: *Timo Hynninen*
13. The Effect of Civic Knowledge and Attitudes on CS Student Work Preferences: *Antti Knutas and Andrew Petersen*
14. Classroom Presentation of Code: an alternative peer review process: *Abhimanyu Ghosh and Daniel Sinkovits*
15. An inquiry-based approach for an insight on recursion and algorithm comprehension: *Francesco Maiorana, Andrew Csizmadia, Gretchen Richards, Russell Feldhausen and Nathan Bean*

16:00 Session 8: Teaching Programming, Chair: Nick Falkner

21. Task-Specific Programming Languages for Promoting Computing Integration (short paper): A Precalculus Example: *Mark Guzdial and Bahare Naimipour*
22. How is programming taught in code clubs? Exploring the experiences and gender perceptions of code club teachers: *Efthimia Aivaloglou and Felienne Hermans*
23. Scratch and Google Blockly: How Girls' Programming Skills and Attitudes are Influenced: *Mazyar Seraj, Eva-Sophie Katterfeldt, Kerstin Bub, Serge Autexier and Rolf Drechsler*
24. Impact of Bilingual CS Education on Student Learning and Engagement in a Data Structures Course: *Adalbert Gerald Soosai Raj, Hanqi Zhang, Viren Abhyankar, Saswati Mukherjee, Eda Zhang, Jim Williams, Richard Halverson and Jignesh Patel*

17:35 Program ends

18:00 PC meeting (until 19:00)

19:30 Dinner (Sokos Hotel Koli restaurant)

Sauna available 21.00-23.00

Sunday, November 24

07.00 Breakfast (at the Sokos Hotel Koli Restaurant)

07:00 Check-out – finished by 8:30, please!

09:30 Departure from Koli

- 11:00 Joensuu Airport (flight AY 344 departing at 12:15)
- 11:30 Joensuu Railway station (train InterCity 8 departing at 12:13)