

# 23rd Koli Calling International Conference on Computing Education Research

Tentative program for the online part of the conference (updated October 27, 2023)

All times are in EET (Helsinki, UTC+2)

Monday November 13th

**15:00 Opening and keynote (60 minutes) - Ilkka**

*What about a Ploughman or a Keeper at the Zoo: Survival (Thinking) Tools for the Generation AI*  
Professor Teemu Roos, University of Helsinki

**16:00 Session 1 - Programming (90 minutes) - Otto**

Xinying Hou, Barbara Ericson and Xu Wang	Understanding the Effects of Using Parsons Problems to Scaffold Code Writing for Students with Varying CS Self-Efficacy Levels
Nynne Grauslund Kristiansen, Sebastian Mateos Nicolajsen and Claus Brabrand	Feedback on Student Programming Assignments: Teaching Assistants vs Automated Assessment Tool
Majeed Kazemitabaar, Xinying Hou, Austin Henley, Barbara Ericson, David Weintrop and Tovi Grossman	How Novices Use LLM-based Code Generators to Solve CS1 Coding Tasks in a Self-Paced Learning Environment

17:30 Short break

**17:45 Session 2 - Assessment and Competencies (90 minutes) - Barbara**

Liat Nakar, Mor Friebroon and Michal Armoni	From Modelling to Assessing Algorithmic Abstraction – the Missing Dimension
Miranda Parker, Matt Davidson, Yvonne Kao, Lauren Margulieux, Zachary Tidler and Jan Vahrenhold	Toward CS1 Content Subscales: A Mixed-Methods Analysis of an Introductory Computing Assessment
Kamilla Tenório and Ralf Romeike	AI Competencies for non-computer science students in undergraduate education: Towards a competency framework

19:15 Short break

**19:30 Session 3 - Systems and Tools (90 minutes) - Sadia**

Matthias Linhuber, Jan Philip Bernius and Stephan Krusche	Constructive Alignment in Modern Computing Education: An Open-Source Computer-Based Examination System
Mark Liffiton, Brad Sheese, Jaromir Savelka and Paul Denny	Balancing Assistance and Learning: Large Language Models with Guardrails for Scalable Support in Programming Classes
Sören Sparmann, Sven Hüsing and Carsten Schulte	JuGaze: A Cell-based Eye Tracking and Logging Tool for Jupyter Notebooks

**21:00 Closing Day 1 - Andreas & Ilkka**

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Tuesday November 14th

**15:00 Session 4 - Barriers (90 minutes) - Ebrahim**

Daphne Miedema, Michael Liut, George H. L. Fletcher and Efthimia Aivaloglou	"There is no ambiguity on what to return": Investigating the Prevalence of SQL Misconceptions
Renato Zimmermann, Sonya Allin and Lisa Zhang	Common Errors in Machine Learning Projects: A Second Look
Syed Sajid Hussain, Morteza Moalagh and Babak A. Farshchian	Which Threshold Concepts do Computing Students Encounter while Learning Empirical Research Methods?

16:30 Short break

**16:45 Session 5 - Students (90 minutes) - Andreas**

Angela Zavaleta Bernuy, Runlong Ye, Elexandra Tran, Naaz Sibia, Abhijoy Mandal, Hammad Shaikh, Bogdan Simion, Michael Liut, Andrew Petersen and Joseph Jay Williams	Do Students Read Instructor Emails? A Case Study of Intervention Email Open Rates
Sadia Sharmin, Sicong Huang and Robert Soden	Impact of Undergraduate Research Workshops on Sense of Belonging and Self-Efficacy based on Gender and Race
Ebrahim Rahimi, Harrie Passier and Sylvia Stuurman	Exploring Factors Influencing the Satisfaction of Adult Software Engineering Students with Teamwork in Distance Education

18:15 Short break

**18:30 Session 6 - Computing Education (90 minutes) - Sue**

Kathryn Cunningham, Miranda Parker and Jonathan Zhang	The Landscape of Computer Science Education Courses: A Syllabi Analysis
Lauri Malmi, Judy Sheard, Jane Sinclair, Päivi Kinnunen and Simon	Domain-Specific Theories of Teaching Computing: Do they Inform Practice?
Michael Johnson, Rachel Baker, Christopher Hovey and Betsy DiSalvo	Keeping Mindful of Modality: A Comparison of Computer Science Education Resources for Learning

**20:00 Closing session for the online part (60 minutes) - Andreas & Ilkka**

# 23rd Koli Calling International Conference on Computing Education Research

Tentative program for the in-person part of the conference (updated November 15, 2023)

Thursday November 16th

17:30 Shuttle bus to Koli (train IC5, flight AY345), arrival and check-in at 19:30

19:30 Shuttle bus to Koli (train Pendolino 7), arrival and check-in at 21:30

20:00 Buffet dinner available upon arrival

Friday November 17th

07:00 Breakfast available in the hotel

**09:00 Opening session: Andreas Mühling and Ilkka Jormanainen**

**09:15 Session 1: New Perspectives (90 minutes) - Lauri**

Mark Guzdial and August Evrard	Identifying the Computing Education Needs of Liberal Arts and Sciences Students
Roger McDermott, Mats Daniels and Stephen Frezza	Steps Towards a Philosophy of Computing Education
Felix Winkelkemper and Carsten Schulte	Reconstructing the Digital – An Architectural Perspective for Non-Engineers

10:45 Short break

**11:00 Session 2: Discussing systems and tools, part 1 (60 minutes) - Samuel**

Florian Wörister and Maria Knobelsdorf	A Block-Based Programming Environment for Teaching Low-Level Computing
Lassi Haaranen, Lukas Ahrenberg and Arto Hellas	Decades of Striving for Pedagogical and Technological Alignment

12:00 Lunch

**13:00 Session 3: Discussing systems and tools, part 2 (60 minutes) - Fenia**

Yoshi Malaise and Beat Signer	Explorotron: An IDE Extension for Guided and Independent Code Exploration and Learning
Karolina Miková, Zuzana Kubincová and Barbora Stenova	Appropriateness of a New Programmable Robotics Kit – Preliminary Results

14:00 Short break

**14:15 Session 4: Introductory programming (60 minutes) - Mark**

Mohammed Foughali	Some thoughts on teaching introductory programming and the first language dilemma
Erkki Kaila, Antti Laaksonen, Kjell Lemström and Matti Luukkainen	On Changing the Curriculum Programming Language from Java to Python

15:15 Short break (coffee available)

**15:30 Session 5: Doctoral consortium (posters and coffee), 60 min - Nick**

Laurie Gale	Towards an Aid for Teaching Effective Debugging to Lower Secondary Students
Hamzah Arishi	A Framework for Enhancing the Student Experience Through Automated Analysis
Katrin Kunz	Developing, Validating, and Implementing a Mental Model Test for Primary School Students
Jakub Krcho	Assessment of pupils in educational robotics
Jesse Hoobergs	Removing the Notional Machine Discrepancy
Vivian van der Werf	Fostering a natural language approach in programming education
Viktoriya Olari	Data Literacy as a Fundamental Component of Artificial Intelligence Education in Schools
Sebastian Mateos Nicolajsen	A Pragmatic Perspective on Programming in Danish Tertiary Education
Ashish Aggarwal	Exploring the Agentic Underpinnings of Formative Practice and Engagement in Mastery Learning-based Introductory Programming Courses
Kamilla Tenório	Teaching Artificial Intelligence for Non-computer Science Students in Undergraduate Education: A Competency Framework and an AI Course
Dimitri Eckert	Misconceptions about Control and Data Structures in Introductory Programming Courses and their Remedy (Doctoral Consortium)
Florian Wörister	A Block-Based Programming Environment for Teaching Low-Level Computing

16:30 Program ends

16:45 Social program: Koli Relax Spa and Dr. Nick's Wine Tasting (parallel activities)

19:00 Dinner

**Saturday November 18th**

07:30 Breakfast available

**09:00 Keynote and discussion (75 minutes) - Andreas**

10:15 Short break

**10:30 Session 6: Beyond programming (90 minutes) - Lassi**

Johan Jeuring, Roel Groot and Hieke Keuning	What Skills Do You Need When Developing Software Using ChatGPT?
Jane Waite, Eirini Kolaiti, Meurig Thomas and Karl Maton	Constructing feedback for MCQ wrong answers using semantic profiling
Fiona Fairlie	Encouraging the Development of Computational Thinking Skills through Structured Dance Activities

12:00 Lunch

13:00 Social program: Koli Calling Nature walk / free time for discussions

**15:00 Session 7: Posters (including afternoon coffee), 60 minutes - Otto**

Juho Kahila, Eetu Arkko and Anssi Lin	How we taught AI concepts, workflows, and ethics to 200 schoolchildren
Nea Pirttinen and Juho Leinonen	Could ChatGPT Be Used for Reviewing Learnersourced Exercises?
Carol Zander, Lynda Thomas, Jan Erik Moström, Robert McCartney and Anna Eckerdal	Pseudocode: scaffolding student object-oriented software design
Lauri Malmi, Arto Hellas and Kate Sanders	Understanding Pathways to Computing Education Research (CER)
Fitsum Gizachew, Ismaila Sanusi and Amos Sunday	Enhancing Computer Programming Education using ChatGPT- A Mini Review
Johan Snider, Olle Bälter and Daniel Bosk	Edit, Run, Error, Repeat: A Longitudinal Analysis of Time-on-Task and Error Quotient
Hilma Aludhilu and Erkki Sutinen	Developing a software Testing Training approach for Namibian Startups
Viktoriya Olari, Till Zoppke, Martin Reger, Evgenia Samoilova, Martin Kandlhofer, Valentina Dagiene and Ralf Romeike	Introduction of Artificial Intelligence Literacy and Data Literacy in Computer Science Teacher Education
Maria Ntinda and Erkki Sutinen	Deep Talk: Ascertain Soft Skills in Graduates to Improve Computing Education
Anton Limbo, Maria Ntinda, Lannie Uwu-Khaeb, Anastasia Shipepe, David Ruwodo and Erkki Sutinen	Integration Dimensions of Programming Education in Namibia
Michael Guerzhoy	``Medium-n studies'' in computing education conferences
Tomi Suovuo, Erkki Sutinen and Lannie Uwu-Khaeb	Sustainability Engineering in Computing

**16:00 Panel: Koli Calling, where are you heading to? - Andreas & Ilkka**

16:45 Program ends

- 17:00 Program committee meeting
- 19:00 Dinner and awards
- 21:00 Sauna available until 23:00 (split 1 hr for women, 1 hr for men)

### Sunday November 19th

- 07:30 Breakfast available
- 09:30 Complete check-out and boarding to the bus
- 10:00 Bus depart from Koli
- 11:30 Arrival to the Joensuu Railway Station
- 12:11 InterCity 8 departs from Joensuu