

UBISS 2025

13TH INTERNATIONAL UBI SUMMER SCHOOL

JUNE 9-14, 2025

OULU, FINLAND



[HTTPS://UBICOMP.OULU.FI/UBISS2025](https://ubicomp oulu fi/ubiss2025)



PROGRAM AT A GLANCE

Monday June 9	8:30	Registration and UBI Café Open Location: University of Oulu, Linnanmaa campus, Erkki Koiso-kanttilan katu 3, door E
	9:00-12:00	INTERNATIONAL UBICOMP SEMINAR 2025 Location: University of Oulu, Linnanmaa campus, L10
	12:00-13:00	Lunch in Restaurant Lipasto
	13:15-14:15	Campus Tour CC Virtual Labs - Future Computing Lab - Super Fab Lab Oulu - XR Lab
	14:30-15:45	Summer School Kick Off Location: University of Oulu, Linnanmaa campus, L10
	16:00-18:00	Workshops Kick Off Location: University of Oulu, Linnanmaa campus, workshops' forts
	18:15-21:30	Get Together Party Location: University of Oulu, Linnanmaa campus, Tellus At 21:30 bus from Linnanmaa campus to Nallikari and downtown
Tuesday June 10	10:00-18:00	Hard work in the workshops
Wednesday June 11	10:00-18:00	Hard work in the workshops
	19:00-22:00	Dinner Boat Cruise aboard M/S Casandra Location: Toppila Pier, Pitkänmökijantie 20 At 18:15 bus from Linnanmaa campus via Nallikari to Toppila Pier At 18:45 bus from Linnanmaa campus to Toppila Pier At 22:00 bus from Toppila Pier to Nallikari, downtown (Kaarlenväylä) and Linnanmaa campus At 24:00 bus from downtown (Kaarlenväylä) to Nallikari and Linnanmaa campus
Thursday June 12	10:00-18:00	Hard work in the workshops
Friday June 13	10:00-18:00	Hard work in the workshops
Saturday June 14	9:00-12:00	Final Exam Location: University of Oulu, Linnanmaa campus, L10
	12:00-13:00	Lunch at UBI Café
	13:15-18:25	Result Seminar Location: University of Oulu, Linnanmaa campus, L2
	18:30-18:50	Debriefing in Workshops Location: University of Oulu, Linnanmaa campus, workshops' forts At 19:00 bus from Linnanmaa campus to Nallikari
	20:30	School Dinner Location: Johteenpooki, Kansankentäntie 11 Bus to Johteenpooki departs from Linnanmaa campus at 20:00 and from Nallikari at 20:15

INTERNATIONAL UBI COMP SEMINAR 2025

Date	Monday, June 9, 2024
Time	9:00 – 12:00
Location	University of Oulu, Linnanmaa campus, lecture hall L10
Web	http://ubicomp oulu.fi/international-ubicomp-seminar-2025/
Program	
9:00	Opening words
9:10	FROM PIXELS TO PSYCHOLOGY: DECODING BEHAVIOUR THROUGH SMARTPHONE SENSING Professor Vassilis Kostakos, University of Melbourne, Australia
9:30	INTERNET TECHNOLOGY, ECONOMICS AND POLICY Professor Henning Schulzrinne, Columbia University, USA
9:50	RAPID PROTOTYPING FOR XR: CREATING XR APPLICATIONS AT THE SPEED OF THOUGHT Professor Mark Billinghurst, University of South Australia, Australia
10:10	DIGITAL FABRICATION OF PNEUMATIC MORPHING MATTER Assistant Professor Lining Yao, University of California, Berkeley, USA
10:30	Coffee service
10:50	UBICOMP RESEARCH REPORT Professor Timo Ojala, University of Oulu, Center for Ubiquitous Computing (UBICOMP)
11:10	Q&A WITH THE SPEAKERS
11:50	Closing words



Q&A with the speakers ongoing in the International UBI COMP Seminar 2010.

Panelists from left: Anind Dey (Carnegie Mellon University, USA), Marcus Foth (Queensland University of Technology, Australia), Zach Shelby (Sensinode, Finland), Jürgen Scheible (Aalto University, Finland), Vassilis Kostakos (University of Madeira, Portugal), Adam Greenfield (Urbanscale, USA), Mikael Wiberg (Uppsala University, Sweden). Moderator: Timo Ojala (University of Oulu, Finland).

UBISS CONCEPT

The purpose of the annual international UBI Summer Schools (UBISS) is to provide researchers, students, and industry and public sector professionals with an opportunity to gain hands on experience and insight on selected topics under the tutelage of distinguished experts. UBISS typically comprises of 3-6 parallel 6-day “hands on” workshops where the instructor(s) first provide a theoretical framing of the topic of the workshop and then supervise students’ group projects whose outcome is presented in the result seminar in the last day. Thus, the instructor(s) work intimately with their students throughout the week, in contrast to many other summer/winter schools, where a particular instructor is available only for a limited amount of time in form of lectures or a tutorial. To stimulate interaction between attendees, UBISS has a rich social program in form of get together party, dinner boat cruise and school dinner.

Students are selected through an open international call so that all prospective students submit an online application where they identify their preferred workshop(s) and justify why they should be accepted to a particular workshop. The instructor(s) select from the pool of applications students who then confirm their seat through registration. The instructor(s) prep their students with a reading package studied in advance and pre summer school assignments. Students completing their project and passing the written exam given in the last day of the summer school will be awarded 5 ECTS credits towards their studies, subject to the approval by a student’s home institution. The design and implementation of future UBISS is informed by the feedback that students provide in a comprehensive post summer school questionnaire.

The first UBISS was organized in summer 2010, to provide the prospective participants of the 1st International UBI Challenge 2011 with an opportunity to gain hands-on experience on the urban computing infrastructure in Oulu that was utilized in the UBI Challenge. Prof. Albrecht Schmidt (back then in University of Stuttgart, now in LMU Munich) proposed arranging a summer school for this purpose. The first UBISS enrolled 72 participants from 20 countries in six parallel workshops. The excellent feedback from both instructors and students participating in the inaugural and subsequent summer schools has convinced us to host UBISS as an annual tradition, with a highly multidisciplinary collection of workshops over the years. So far, almost 1000 students from all over the world have attended UBISS, many of them multiple times. Dr. Eduardo Velloso became the first former UBISS student to return as a ‘junior’ co-instructor to Prof. Hans Gellersen in UBISS 2016, incarnating the endless cycle of academics passing on their knowledge to future generations. Since then, another seven former UBISS students have returned as ‘junior’ co-instructors: Dr. Denzil Ferreira (2018), Dr. Simo Hosio (2018, 2025), Dr. Paula Alavesa (2023, 2024, 2025), Dr. Matti Pouke (2023, 2024, 2025), Dr. Ashley Colley (2024), Dr. Ekaterina Gilman (2024), and Dr. Sven Mayer (2024).



UBISS 2024 enrolled 81 students from 15 countries in four parallel workshops

WORKSHOPS

A

FROM PIXELS TO PSYCHOLOGY: DECODING BEHAVIOUR THROUGH SMARTPHONE SENSING



Prof. Vassilis Kostakos
University of Melbourne
Australia

Prof. Simo Hosio
University of Oulu
Finland



Dr. Aku Visuri
University of Oulu
Finland



B

INTERNET TECHNOLOGY, ECONOMICS AND POLICY



Prof. Henning Schulzrinne
Columbia University
USA

Assistant Prof. Erkki Harjula
University of Oulu
Finland



C

RAPID PROTOTYPING FOR XR: CREATING XR APPLICATIONS AT THE SPEED OF THOUGHT



Prof. Mark Billinghurst
University of South Australia
Australia

Assistant Prof. Matti Pouke
University of Oulu
Finland



Dr. Paula Alavesä
University of Oulu
Finland



D

DIGITAL FABRICATION OF PNEUMATIC MORPHING MATTER



Assistant Prof. Lining Yao
University of California, Berkeley
USA

Prof. Georgi V. Georgiev
University of Oulu
Finland



WORKSHOP A

FROM PIXELS TO PSYCHOLOGY: DECODING BEHAVIOUR THROUGH SMARTPHONE SENSING

Instructors: Professor Vassilis Kostakos, University of Melbourne, Australia
 Professor Simo Hosio, University of Oulu, Finland
 Dr. Aku Visuri, University of Oulu, Finland

TA: Songyan Teng, University of Melbourne, Australia

Liaison student: Gabriella Trasciatti, Sapienza University of Rome, Italy, gabriella.trasciatti@oulu.fi

Fort: TS101

SCHEDULE

DATE	TIME	TOPIC	LOCATION
Monday June 9	9:00-12:00	International UBICOMP Seminar 2025	L10
	12:00-13:00	Lunch	Lipasto
	13:15-14:15	Campus Tour	UBI Café
	14:30-15:45	Summer School Kick Off	L10
	16:00-17:00	Welcome and introductions, Lecture 1: Brief intro to Aware	TS101
	17:00-18:00	Student 1 minute madness, group formation activity	TS101
	18:15-21:30	Get Together Party	Tellus
Tuesday June 10	10:00-11:00	Lecture 2: Tech tutorial, setting up Aware	TS101
	12:00-14:00	Lunch	Lipasto
	14:00-16:00	Group work: Ideation and preliminarily setup	TS127
	16:00-18:00	Group work: Ideation and preliminarily setup	TS101
Wednesday June 11	10:00-11:00	Daily stand-up: Team updates	TS101
	11:00-12:00	Lecture 3: Best practices for handling large datasets. Basic data analysis techniques.	TS101
	12:00-14:00	Lunch	Lipasto
	14:00-18:00	Group work: Implementation	TS101
	19:00-22:00	Dinner Boat Cruise	Toppila Pier
Thursday June 12	10:00-11:00	Daily stand-up: Team updates	TS101
	11:00-12:00	Pit stop: Team mentoring	TS101
	12:00-14:00	Lunch	Lipasto
	14:00-18:00	Group work: Data collection and analysis	TS101
Friday June 13	10:00-11:00	Daily stand-up: Team updates	TS101
	11:00-12:00	Pit stop: Team mentoring	TS101
	12:00-14:00	Lunch	Lipasto
	14:00-18:00	Group work: Wrapping up	TS101
Saturday June 14	9:00-12:00	Final Exam	L10
	12:00-13:00	Lunch	UBI Café
	13:15-18:25	Result Seminar	L2
	18:30-18:50	Debriefing	TS101
	20:30	School Dinner	Johteenpooki

INSTRUCTORS



Vassilis Kostakos is a Professor of Human Computer Interaction at the School of Computing and Information Systems at the University of Melbourne. He directs the Smart Hospital Living Lab, and is deputy director of the Centre for Research Excellence on Digital Health. He holds a PhD in Computer Science from the University of Bath, UK. He is a founding editor of the Proceedings of the ACM in Interactive, Mobile, Wearable, and Ubiquitous Technologies. He has been the general chair of UbiComp 2024, and TPC Chair at CHI 2019. His research interests include Human Computer Interaction, Ubiquitous Computing, and Social Computing. His research aims to develop novel interactive technologies that better understand and better respond to humans. In 2024 he was inducted into the SIGCHI Academy.



Simo Hosio is a Professor of Computer Science and Engineering at the University of Oulu, Finland, where he leads the Crowd Computing Research Group. Hosio has received the Academy of Finland postdoctoral grant, the first to focus on crowdsourcing for solving complex problems, as well as the highly competitive 5-year Academy Fellowship from the Research Council of Finland. Hosio has an extensive track record in large-scale technology deployments, and he has pioneered custom crowdsourcing platforms and structured data formats for modelling crowd wisdom. He has received multiple awards (e.g. best paper, best presentation, honourable mention), and his research has been recognized by the Research Council of Finland Award in 2023 for “exceptional scientific audacity and societal impact”, awarded to only two young researchers in Finland annually.



Aku Visuri is a postdoctoral researcher in the Crowd Computing Research Group at the University of Oulu. During his PhD, he focused on mobile sensing, ubiquitous computing, and the quantified self. He is currently working as the project lead on the SleepVention Academy of Finland project, which focuses on studying novel digital-related methods for improving sleep quality. He has extensive knowledge of Android mobile development from numerous research projects and bespoke research software.

SYNOPSIS

Smartphones are equipped with a rich array of sensors that can capture valuable contextual data about users’ behaviors, activities, and environments. This workshop introduces participants to the Aware framework, a powerful open-source tool for smartphone-based sensing and data collection. By learning to configure and deploy Aware, students will gain hands-on experience in gathering real-world sensor data, such as location, motion, and screen interactions. The workshop will also explore common techniques for analyzing smartphone sensor data, highlighting applications in human-computer interaction, behavioral research, and ubiquitous computing. The goal is to equip students with the technical skills and analytical mindset needed to leverage smartphone sensing for research and real-world applications.

Topics to be covered include:

- Introduction to Smartphone Sensing – Overview of smartphone sensors, their capabilities, and applications in research.
- Getting Started with the Aware Framework – Installation, configuration, and basic setup for data collection.
- Data Collection with Aware – Hands-on session on collecting sensor data (e.g., accelerometer, GPS, screen usage).
- Managing and Storing Sensor Data – Understanding data formats, storage options, and best practices for handling large datasets.
- Basic Data Analysis Techniques – Common approaches for processing and analyzing smartphone sensor data.
- Use Cases and Applications – Exploring real-world applications in human-computer interaction, behavioral research, and ubiquitous computing.
- Ethical and Privacy Considerations – Discussing responsible data collection, user consent, and privacy-preserving methods.

Students will gain hands-on experience with the Aware framework, learning how to configure, deploy, and utilize smartphone sensing for data collection. Throughout the sessions, participants will design and conduct their own small-scale sensing study, collecting and analyzing data from various smartphone sensors. By the end of the workshop, each student or team will produce a concrete result—such as an exploratory data analysis, a visualization, an insight into user behavior, or a methodological critique—which they will present during the final session. This approach ensures that participants not only learn the technical aspects of smartphone sensing but also develop critical thinking and analytical skills to interpret and communicate their findings effectively.

Prospective learning outcomes include:

- Understand smartphone sensing – Gain knowledge of built-in smartphone sensors and their applications in research.
- Use the Aware framework – Install, configure, and deploy Aware for data collection on Android devices.
- Collect and manage sensor data – Design and execute a small-scale data collection study using smartphone sensors.
- Process and analyze sensor data – Apply basic data analysis techniques to extract meaningful insights.
- Interpret and visualize results – Develop skills in data interpretation and visualization for effective communication.
- Address ethical considerations – Understand privacy, consent, and responsible data collection practices.
- Present research findings – Synthesize their work into a concrete result and effectively present their analysis.

The workshop is open to both Computer Science and Social Science students. Computer Science students should be familiar with Android development, data analysis (Python or R), and MySQL. Social science students should have a demonstrable data-driven research profile. All students are expected to have basic data analysis skills, such as experience handling and analyzing structured data. This workshop does not require any additional hardware beyond an Android smartphone (will be provided by the summer school). No prior experience with embedded systems or hardware development is needed.



Vassilis Kostakos' workshop in the inaugural UBISS 2010

STUDENTS

First name	Last name	Organization	Country
Ijaz	Ahmad	University of Oulu	Finland
Aditya Iqbal	Bagaskara	Tampere University	Finland
Miao	Cheng	Tohoku University	Japan
Francesco	Franco	University of Urbino	Italy
Yugo	Fusawa	University of Tokyo	Japan
Tanvir	Hasan	University of Oulu	Finland
Nicholas Ruchira Shehan	Hettiarachchige Don	University of Oulu	Finland
Olga	Iarygina	IT University of Copenhagen	Denmark
Aqib	Ilyas	University Of Oulu	Finland
Lorenzo	Lamazzi	University of Modena and Reggio Emilia	Italy
Mufrad	Mahmud	University of Oulu	Finland
Yamato	Mogi	Kyoto University	Japan
Shunpei	Norihama	University of Tokyo	Japan
Atsushi	Okamoto	Kyoto University	Japan
Ryo	Ooka	Tohoku University	Japan
Alireza	Sameh	University of Oulu	Finland
Victor	Schneider	Tohoku University	Japan
Bharathi	Sekar	University of Oulu	Finland
Sasan	Sharifipour	University of Oulu	Finland
Nigel	Sjölin Grech	Technical University of Denmark	Denmark
Fatemeh	Soufian Khakestar	University of Oulu	Finland
Gabriella	Trasciatti	Sapienza University of Rome	Italy
Yuhui	Wang	Tohoku University	Japan
Tim	Weiß	LMU Munich	Germany
Jiayi	Yang	University of Tokyo	Japan

WORKSHOP B

INTERNET TECHNOLOGY, ECONOMICS AND POLICY

Instructors: Professor Henning Schulzrinne, Columbia University, USA
 Assistant Professor Erkki Harjula, University of Oulu, Finland

Liaison student: Mohammad Mahdi Salmani, University of Oulu, Finland, mahdi.salmani@oulu.fi

Fort: TS128

SCHEDULE

DATE	TIME	TOPIC	LOCATION
Monday June 9	9:00-12:00	International UBICOMP Seminar 2025	L10
	12:00-13:00	Lunch	Lipasto
	13:15-14:15	Campus Tour	UBI Café
	14:30-15:45	Summer School Kick Off	L10
	16:00-17:00	Introduction to the topic	TS128
	17:00-18:00	Group formation	TS128
	18:15-21:30	Get Together Party	Tellus
Tuesday June 10	10:00-13:00	Lecture	TS128
	13:00-14:30	Lunch	Lipasto
	14:30-15:30	Lecture	TS128
	16:00-18:00	Group projects	TS128
Wednesday June 11	10:00-13:00	Lecture	TS128
	13:00-14:30	Lunch	Lipasto
	14:30-15:30	Lecture	TS128
	15:30-18:00	Group projects	TS128
	19:00-22:00	Dinner Boat Cruise	Toppila Pier
Thursday June 12	10:00-13:00	Lecture	TS128
	13:00-14:30	Lunch	Lipasto
	14:30-15:30	Lecture	TS128
	15:30-18:00	Group projects	TS128
Friday June 13	10:00-13:00	Lecture	TS128
	13:00-14:00	Lunch	Lipasto
	14:00-15:00	Concluding lecture	TS128
	15:00-18:00	Group presentations	TS128
Saturday June 14	9:00-12:00	Final Exam	L10
	12:00-13:00	Lunch	UBI Café
	13:15-18:25	Result Seminar	L2
	18:30-18:50	Debriefing	TS128
	20:30	School Dinner	Johteenpooki

INSTRUCTORS



Henning Schulzrinne is Levi Professor of Computer Science at Columbia University. He received his Ph.D. from the University of Massachusetts in Amherst. He worked at AT&T Bell Laboratories and GMD-Fokus (Berlin), before joining the Computer Science and Electrical Engineering departments at Columbia University. He served as chair of the Department of Computer Science and as Engineering Fellow, Technology Advisor and Chief Technology Officer at the US Federal Communications Commission (FCC) from 2010 to 2017. In 2019-2020, he worked as a Technology Fellow in the US Senate and from 2022-2024 at NTIA as a Broadband Advisor. He has published more than 250 journal and conference papers, and more than 70 Internet RFCs. Protocols co-developed by him, such as RTP, RTSP and SIP, are used by almost all Internet telephony and multimedia applications. He is a Fellow of the ACM and IEEE, has received the New York City Mayor's Award for Excellence in Science and Technology, the VON Pioneer Award, TCCC service award, IEEE Internet Award, IEEE Region 1 William Terry Award for Lifetime Distinguished Service to IEEE, the UMass Computer Science Outstanding Alumni recognition, is a member of the Internet Hall of Fame, has received an honorary doctorate from the University of Oulu and the ACM SIGCOMM Award.



Erkki Harjula is a tenure-track Assistant Professor at the Centre for Wireless Communications – Networks and Systems (CWC-NS) research unit, Faculty of Information Technology and Electrical Engineering (ITEE), University of Oulu. He received a D.Sc. degree in 2016, and a M.Sc. degree in 2007. He has background in the interface between computer science and wireless communications: mobile and IoT networks, distributed networks, cloud computing and green computing. Currently, he leads a team of six researchers, called Wireless system level architectures for future digital healthcare (WEALTH), focusing on communication architectures for healthcare use cases. The key technologies include Edge-cloud continuum, Edge-AI, Medical IoT, Network Security and Green communications. WEALTH team is a part of WiMeC research group within CWC-NS research unit. Furthermore, he leads the Computing on the edge-to-cloud continuum theme within the 6G Flagship Strategic Area 3: Distributed Intelligence. Harjula is the Principal Investigator in Eware-6G, Tomohead (Co-PI), Tech2Heal and Distech-6G projects, and he is the responsible teacher of Introduction to Internet graduate course. He is also an associate editor in Springer Wireless Networks (WINE) journal. Previously, Harjula has worked as a postdoctoral researcher and project manager at CWC-NS (2016-2020), and a research scientist / project manager for Center for Internet Excellence (CIE) (2013-2015) and MediaTeam (2000-2014) research groups. He was a visiting scientist at Columbia University in 2008-2009.

SYNOPSIS

The internet and its key applications are no longer primarily infrastructure and services dominated by technical concerns, but their evolution is primarily driven by economic and policy concerns.

This workshop will explore the economic foundations of the internet and how it evolves due to both economic and policy pressures. We will look at both the United States and Europe.

The workshop is targeted to doctoral and masters candidates and industry professionals interested in the economic and policy aspects of networking (e.g., privacy and access). No prior networking knowledge is required.

STUDENTS

First name	Last name	Organization	Country
Mohammad	Abaeiani	University of Oulu	Finland
Hasaan	Ahmed	University of Oulu	Finland
Zeeshan	Ajmal	University of Oulu	Finland
Gimhan	Attanayake Mudiyansele	University of Oulu	Finland
Muhammad	Danyal Khattak	University of Oulu	Finland
Israel	Ehile	Luleå University of Technology	Sweden
Safia	El Moutaouakil	Luleå University of Technology	Sweden
Syed Abdullah	Hassan	University of Oulu	Finland
Sami	Ibourk El Idrissi	Erasmus University Rotterdam	Netherlands
Alfreds	Lapkovskis	Stockholm University	Sweden
Annikki	Mikelsaar	University of Oxford	UK
Walid	Nouicer	University of Oulu	Finland
Santosh	Rokaya	University of Oulu	Finland
Gonesh Chandra	Saha	Luleå University of Technology	Sweden
Mohammad Mahdi	Salmani	University of Oulu	Finland
Muhammad Hassan	Sohail	University of Oulu	Finland
Achraf	Taouil	Erasmus University Rotterdam	Netherlands
Mariia	Zhivonitko	Oulu University of Applied Sciences	Finland

WORKSHOP C

RAPID PROTOTYPING FOR XR: CREATING XR APPLICATIONS AT THE SPEED OF THOUGHT

Instructors: Professor Mark Billinghurst, University of South Australia, Australia
 Assistant Professor Matti Pouke, University of Oulu, Finland
 Dr. Paula Alavesä, University of Oulu, Finland

TA: University Teacher Elmeri Uotila, University of Oulu, Finland

Liaison student: Eetu Laukka, University of Oulu, Finland, eetu.laukka@oulu.fi

Fort: TS134 & TS135

SCHEDULE

DATE	TIME	TOPIC	LOCATION
Monday June 9	9:00-12:00	International UBICOMP Seminar 2025	L10
	12:00-13:00	Lunch	Lipasto
	13:15-14:15	Campus Tour	UBI Café
	14:30-15:45	Summer School Kick Off	L10
	16:00-17:00	Welcome and workshop overview	TS134
	17:00-18:00	Introduction to XR prototyping	TS134
	18:15-21:30	Get Together Party	Tellus
Tuesday June 10	10:00-13:00	Lecture #1: Low level prototyping	TS134
	13:00-14:00	Lunch & Group formation	Lipasto
	14:00-16:00	Project: Interface sketching/storyboards	TS134
	16:00-18:00	Project: Rapid paper presentations	TS134
Wednesday June 11	10:00-11:00	Project: Idea presentation/discussion	TS134
	12:00-13:00	Lecture #2: High level prototyping	TS134
	13:00-14:00	Lunch	Lipasto
	14:00-15:00	Lecture #3: High level prototyping	TS134
	15:00-17:00	Project: Prototyping	TS134
	17:00-18:00	Project: Rapid paper presentations	TS134
	19:00-22:00	Dinner Boat Cruise	Toppila Pier
Thursday June 12	10:00-11:00	Project: Progress update/discussion	TS134
	11:00-13:00	Lecture #4: Prototyping tools / Development tools	TS134
	13:00-14:00	Lunch	Lipasto
	14:00-17:00	Project: Application brainstorming	TS134
	17:00-18:00	Project: Rapid paper presentations	TS134
Friday June 13	10:00-12:00	Lecture #5: Research directions	TS134
	12:00-13:00	Lunch	Lipasto
	13:00-17:00	Project: Prototyping	TS134
	17:00-18:00	Project: Rapid paper presentations	TS128
Saturday June 14	9:00-12:00	Final Exam	L10
	12:00-13:00	Lunch	UBI Café
	13:15-18:25	Result Seminar	L2
	18:30-18:50	Debriefing	TS128
	20:30	School Dinner	Johteenpooki

INSTRUCTORS



Mark Billinghurst is Director of the Empathic Computing Laboratory, and Professor at the University of South Australia in Adelaide, Australia, and also at the University of Auckland in Auckland, New Zealand. He is also Director of the Australian Research Centre in Interactive and Virtual Environments (IVE) at the University of South Australia. He earned a PhD in 2002 from the University of Washington and conducts research on how virtual and real worlds can be merged, publishing over 850 papers on Augmented Reality, Virtual Reality, remote collaboration, Empathic Computing, and related topics. According to ScholarGPS he is the top ranked academic in Augmented Reality globally. In 2013 he was elected as a Fellow of the Royal Society of New Zealand, in 2019 was given the ISMAR Career Impact Award in recognition for lifetime contribution to AR research and commercialization, and in 2023 elected as a Fellow of the IEEE.



Matti Pouke is an Assistant Professor in the Perception Engineering research group at the Center for Ubiquitous Computing, University of Oulu, Finland. In his doctoral research he studied the transformation and visualization of real human activity in virtual environments. Since then, he has been involved in various research and development projects involving the use of virtual environments in public urban contexts, including smart buildings, architectural visualizations, and libraries. His current research utilizes a combination of neural, biometric, and behavioral metrics focusing on human perception in multi-scale virtual reality experiences as well as presence and plausibility. He is a member of ACM and IEEE.



Paula Alavesä is a University Lecturer in the Perception Engineering research group at the Center for Ubiquitous Computing, University of Oulu, Finland. Her doctoral thesis (2018) focused on playful appropriations of hybrid spaces where virtual and physical environments were combined into urban pervasive games. She has several years of experience in applied constructive research with location-based, augmented, and virtual reality technologies. Her current research continues the overarching theme of combining digital and physical realms using XR technologies and games or gamification approach as the mediator. She is a member of IEEE, ACM, SIGCHI and Digital Games Research Association (DiGRA).

SYNOPSIS

This workshop introduces participants to rapid prototyping tools for Augmented (AR) and Virtual Reality (VR). Participants will learn about physical prototyping with paper and Play-Doh and digital prototyping via visual authoring tools. After an overview of the AR/VR prototyping process and tools, participants will complete hands-on sessions. A combination of paper-based AR/VR design templates and easy-to-use authoring tools will be used to create working digital prototypes that can be run on AR/VR devices. The participants will learn about both low fidelity and high fidelity tools and a variety of free and low cost applications. The workshop is targeted at non-technical audiences including HCI practitioners, user experience researchers, and interaction design professionals and students interested in AR/VR design.

Augmented Reality (AR) and Virtual Reality (VR) technologies have been developed and studied in research for over 60 years, but it is only recently that they are becoming more readily available. Fully self-contained, head-mounted displays like the Oculus Quest for VR and hundreds of millions of AR capable smartphones using platforms like ARKit and ARCore allow people nowadays to have a mobile AR/VR experience.

However, until recently, creating AR and VR applications required strong programming skills. This is often an obstacle to people wanting to create novel and intuitive AR/VR user experiences. Reviewing the landscape of tools for creating AR/VR experiences, there are two key challenges: (1) creating content remains difficult, and (2) specifying interactive behavior requires significant programming.

In this workshop, participants will learn how to use a wide array of non-programming tools for rapid prototyping of AR/VR experiences. These will range from physical prototyping tools including paper templates for sketching out AR/VR experiences in 360 degrees around the user, to web-based drag-and-drop applications with rapid previews on AR/VR devices, to immersive authoring tools which can be used for creating 3D interface mockups from within AR or VR, and others. Prototyping methods for a variety of different AR/VR display devices will also be covered, including hand-held devices, head-mounted displays, and projection-based systems.

The main motivation for this workshop is that prototypes of XR systems should be able to be created almost as fast as they can be thought about. This will enable rapid development of ideas and interaction of design until the best user XR experience is created. Participants will leave this workshop knowing about a rich set of tools that can be used to make them better XR application designers.

The workshop will cover the following topics:

- Introduction to Rapid Prototyping: The Interaction Design Cycle for XR and the role of rapid prototyping in XR interface design.
- Low Level Prototyping Tools: Sketching, body storming, storyboarding, wireframes and a wide variety of tools for creating non-interactive prototypes.
- High Level Prototyping: Tools for creating interactive prototypes, such as Snap Lens Studio, ShapesXR, FigminXR, and more.
- Development Tools: Integrating prototyping with low level development. How to using Unity and other game engines to support prototyping.
- Evaluation Techniques: How to rapidly evaluate XR prototypes once they are developed.
- Research Directions in XR Rapid Prototyping: Where are the research opportunities in prototyping tools, what are the unsolved problems.
- Resources: Tools, websites, books, papers, and other resources that could help with rapid prototyping.

Students will work together in small groups to create an XR prototype in an application space of their choice. By the end of the week they should have created concept sketches, a storyboard, wireframes and mockups of the XR application. In addition they should have an interactive high fidelity prototype running on a VR or AR display that can be demonstrated at the end of the week.

Students will learn the following:

- The Interaction Design Cycle and the role of prototyping in Interaction Design,
- The prototyping process from concept to interactive demonstration,
- How to use a range of different low level XR prototyping tools,
- How to use a range of different high level XR prototyping tools,
- How to rapidly evaluate XR prototypes and incorporate user feedback in the design,
- Research directions in XR prototyping,
- Where to find more resources for XR prototyping.

The intended audience are people who are interested in AR/VR and in creating AR/VR experiences, but don't necessarily have a strong programming or engineering background. This includes not only AR/VR researchers and designers, but also HCI practitioners, and user experience and interaction design professionals in industry, as well as students who have an interest in rapid prototyping for XR. The workshop is suitable for people with no particular programming or design experience. There is no assumed background, although attendees should bring their own laptops to the workshop, and any AR/VR devices that they have. There will be links provided ahead of time to tools that can be downloaded to be used during the workshop.

STUDENTS

First name	Last name	Organization	Country
Manato	Abe	Tohoku University	Japan
Uswah	Batool	University of Oulu	Finland
Kenan	Bektas	University of St. Gallen	Switzerland
Sebastien	Charroud	webAI	USA
Max	Garcia Hinojosa	University of Oulu	Finland
Iresh	Jayasundara Mudiyansele	University of Oulu	Finland
Nirasha	Kaluarachchi	University of Oulu	Finland
Christopher	Katins	HU Berlin	Germany
Mikko	Korkiakoski	University of Oulu	Finland
Jarkko	Kotaniemi	VTT	Finland
Eetu	Laukka	University of Oulu	Finland
Jere	Leukkunen	University of Oulu	Finland
Hiroki	Nakano	University of Tokyo	Japan
Vy	Nguyen	University of Oulu	Finland
Muhammad	Ramish	University of Oulu	Finland
Muhammad Hassan	Sultan	University of Oulu	Finland
Cleo	Xiao	University of Copenhagen	Denmark
Hongyue	Xu	Tohoku University	Japan
Chubo	Zeko	University of Oulu	Finland



Mark Billingham's workshop in UBISS 2013 - fellow instructor Jonna Häkkinen trying out Google Glass

WORKSHOP D

DIGITAL FABRICATION OF PNEUMATIC MORPHING MATTER

Instructors: Assistant Professor Lining Yao, University of California, Berkeley, USA
 Professor Georgi V. Georgiev, University of Oulu, Finland

TA: Tianyu Yu, University of California, Berkeley, USA

Liaison student: Mengru Wang, University of Oulu, Finland, mengru.wang@oulu.fi

Forts: TS127 & Super Fab Lab Oulu

SCHEDULE

DATE	TIME	TOPIC	LOCATION
Monday June 9	9:00-12:00	International UBICOMP Seminar 2025	L10
	12:00-13:00	Lunch	Lipasto
	13:15-14:15	Campus Tour	UBI Café
	14:30-15:45	Summer School Kick Off	L10
	16:00-17:00	Lecture: Fab Lab safety orientation	Fab Lab
	17:00-18:00	Lecture: Design of pneumatic actuator and morphing materials	TS127
	18:15-21:30	Get Together Party	Tellus
Tuesday June 10	10:00-11:00	Group project: Ice-breaking and team building	TS127
	11:00-13:00	Lunch	Lipasto
	13:00-14:00	Lecture: Lecture: Fabrication of pneumatic pouch actuators	TS127
	14:00-16:00	Fab Lab session: Hands on fabrication training	Fab Lab
	16:00-18:00	Fab Lab session: Hands on fabrication training and group work	Fab Lab
Wednesday June 11	10:00-11:00	Lecture: Materiality, creativity, and fast prototyping	TS127
	11:00-13:00	Lunch	Lipasto
	13:00-14:00	Lecture: Electronics hardware for pneumatic interfaces	TS127
	14:00-18:00	Group project: Brainstorming and ideation	Fab Lab
	19:00-22:00	Dinner Boat Cruise	Toppila Pier
Thursday June 12	10:00-11:00	Group project: Design and prototype	Fab Lab
	11:00-13:00	Lunch	Lipasto
	13:00-16:30	Group project: Design and prototype	Fab Lab
	16:30-18:00	Group project: Team middle pickup	Fab Lab
Friday June 13	10:00-18:00	Group project: Design and prototype	Fab Lab
Saturday June 14	9:00-12:00	Final Exam	L10
	12:00-13:00	Lunch	UBI Café
	13:15-18:25	Result Seminar	L2
	18:30-18:50	Debriefing	TS134 & TS135
	20:30	School Dinner	Johteenpooki

INSTRUCTORS



Lining Yao is an Assistant Professor at the Mechanical Engineering department, the University of California, Berkeley, where she directs the Morphing Matter Lab (morphingmatter.org). Dr. Yao also has courtesy appointments in CMU's Human-Computer Interaction Institute. Her research explores the positive impact of active and morphing materials on sustainable design across different scales and contexts. Her work focuses on discovering and studying morphing material mechanisms, as well as algorithms for computational design and fabrication pipelines. Dr. Yao has published in both computer science and physical science venues and has received nine Best Paper or Best Talk Awards and nominations from premier conferences in Human-Computer Interaction. Her journal papers have been featured as cover stories in *Nature*, *Science Advances*, and *Advanced Materials Technologies*. Her work has been widely featured

in popular media outlets, including *The New York Times*, *Wired*, *Scientific American*, *Fast Company*, *National Geographic*, and *BBC*, among others. Dr. Yao received her Ph.D. from the MIT Media Lab in 2017, and spent her time as a tenure-tracked faculty member at the Human-Computer Interaction Institute, School of Computer Science, Carnegie Mellon University before joining UC Berkeley. She is the co-founder of the MorphingMatter4Girls Initiative, a *Wired* UK fellow, and an appointed instructor in eco-design by the United Nations Industrial Development Organization



Georgi V. Georgiev is a Professor leading the Design Creativity group at the Center for Ubiquitous Computing (UBICOMP), University of Oulu, Finland. His experience is from Finland, Japan, and Bulgaria institutions, with a PhD in Knowledge Science from the Japan Advanced Institute of Science and Technology. His recent research focused on digital experiences enabling rehabilitation, empowerment through digital materialization, digital technology-empowered design creativity, AI in creative ideation, and neurocognition of design creativity. His expertise is in fostering creative thinking through semantic networks, VR-based tools and the potential of digital fabrication. Georgi's work bridges the gap between technology and human-centered design. He has led transformative projects such as the EU-funded PRIME-VR2, leveraging additive manufacturing and virtual reality for rehabilitation, and has been

instrumental in integrating Fab Lab platforms into education. His teaching includes digital fabrication and creative prototyping courses, emphasizing sustainable and innovative design practices through technology. His works include awards for contributions to empathic design and creativity research.

SYNOPSIS

Morphing matter is a responsive and adaptive material that has been applied to soft robotics, wearables, interactive devices, novel actuator engineering, and shape-changing interfaces for human-robot and human-computer interaction. It integrates interdisciplinary knowledge from materials science, advanced fabrication, computational design, design thinking, and communication.

Among various types of morphing matter, soft pneumatic actuators stand out due to their functional advantages, including high force output, easy controllability, dexterity, and safety, thanks to their compliance.

This workshop teaches the design, fabrication, and application of pneumatic morphing matter—the creation of new materials that can change shape through air inflation and deflation. The workshop consists of both design and technical lectures, lightweight hands-on lab sessions, and one interdisciplinary team project. In class, we will discuss use cases from soft robotics, AR gear, self-assembling food, and smart fabrics.

Beyond the hands-on labs that focus on different methods for making pneumatic morphing matter, the lectures will also cover a range of other morphing material systems, including pneumatic actuation, shape-memory thermoplastics, hydrogels, and tendon-driven morphing materials.

The workshop will be using the state-of-the-art Super Fab Lab Oulu.

Learning outcomes include:

- Mastering the use of laser cutters and 3D printers for fabrication of pneumatic actuators.
- Becoming proficient with a basic electronics kit for controlling pneumatic devices.

UBISS 2025 - 13TH INTERNATIONAL UBI SUMMER SCHOOL

- Gaining a fresh perspective on ideation for novel actuators and interactions.
- Gaining background knowledge in different morphing materials and actuator techniques and related design space.

We welcome applications from any related background and all students with an interest in digital fabrication and novel actuators/materials. Students are not anticipated to possess complete mastery of all skill sets utilized in the course; rather, they are expected to work together in groups. On the other hand, we are looking for students with some expertise in the following fields: laser cutting, 3D printing, molding and casting, 2D design tools like Inkscape and Adobe Illustrator, microcontrollers like Arduinos and Raspberry Pi, that are all part of the 3D modeling and fabrication process.

STUDENTS

First name	Last name	Organization	Country
Bhaskar	Dutt	University of Copenhagen	Denmark
Md Mobusshar	Islam	University of Oulu	Finland
Priya	Khyati	Indian Institute of Technology Bombay	India
Ann	Kruger	University of Trento	Italy
Akira	Murakami	Tohoku University	Japan
Md Abdullah Al	Noman	University of Oulu	Finland
Petra	Nurmela	University of Lapland	Finland
Amanda	Randombage	University of Oulu	Finland
Samuli	Soutukorva	VTT	Finland
Chamudi	Vidanagama	University of Oulu	Finland
Peetu	Virkkala	University of Oulu	Finland
Mengru	Wang	University of oulu	Finland



Fab Lab workshop led by Eric Paulos, Jill Miller and Georgi Georgiev in UBISS 2019

SOCIAL PROGRAM

GET TOGETHER PARTY

Monday June 9 at 18:15-21:30

Location: Tellus.

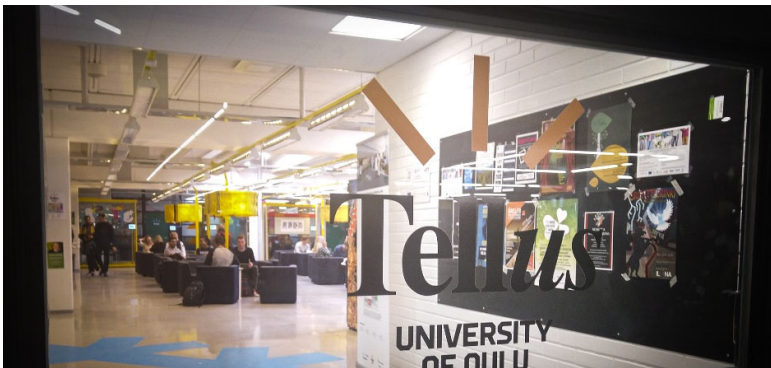
Transportation: Short walk from summer school site to Tellus. After the party bus to Nallikari and downtown.

Program: Welcoming words, food and drinks, 30 Second Madness for students.

30 Second Madness: Students present themselves with 1 slide in 30 seconds. Memorable Madness Awards will be nominated by a distinguished jury and presented at the School Dinner.

Menu: Pizza, sushi, drinks.

Dress code: Casual.



Tellus



Class 2014 lined up for madness presentations



Boot throwing in the Finnish Summer Olympics



Class 2013 throwing Finnish darts



Class 2015 students chilling and grilling



Class 2019 balancing in mölkkä

DINNER BOAT CRUISE

Wednesday June 11 at 19-22

Synopsis: 3-hour cruise aboard M/S Casandra in front of Oulu River estuary.

Departure location: Toppila Pier (Pitkänmöljätie 20).

Transportation:

- First bus from summer school site to the pier departs at 18:15. **OBS!** This bus stops at Nallikari Holiday Village for **15 MINUTES** so that you can drop off your stuff – please make sure to be back on the bus in time!
- Second bus from summer school site directly to the pier departs at 18:45.
- After the cruise ~2200 bus from the pier to Nallikari Holiday Village, downtown and Linnanmaa campus.
- At midnight bus from downtown (Kaarlenväylä) to Nallikari Holiday Village and Linnanmaa campus.

Menu: Salad, grilled salmon / grilled chicken / feta cheese salad, chocolate cake, red and white wine, soda, cash bar.

Dress code: Casual.



M/S Casandra



Class 2011 safely back ashore



Class 2012 instructors Keith Cheverst and Aaron Quigley are fishing, while future instructor Jonna Häkkinen is cheering them on



Class 2014 instructors enjoying dessert
No worries – the boat is not sinking 😊



Class 2016 enjoying sunset



Class 2017 instructor Alex Aurigi reeled in the pike that hit the lucky lure selected by Vice Rector Helka-Liisa Hentilä

SCHOOL DINNER

Saturday June 14 at 20:30-

Location: Johteenpooki, Kansankentäntie 11 (<https://goo.gl/maps/GwSWpm9u5BnmBQy56>).

Transportation: Bus to dinner departs from summer school site at 20:00 and from Nallikari Holiday Village at 20:15.

Program: Welcoming words, dinner buffet, speeches, presentation of awards, music, sauna with swimming in the sea and outdoor hot tub (towels are provided), late night sausages, Timppa's outdoor fire pancakes.

Menu: Rucola and green salad, salad dressing of the house, smoked salmon, remoulade sauce, salad with Finnish squeaky cheese and melon, salad with quinoa & chicken with mint dressing, slow-cooked beef in red wine sauce, bell peppers with quinoa-vegetable filling, potatoes au gratin, oven-roasted root vegetables, flatbread, rye bread and table spread, red and white wine, soda, coffee, tea, water.

Dress code: Casual.



Johteenpooki



Class 2011 Memorable Madness Award recipients



Class 2012 instructors skinny dipping at Nallikari Beach



Class 2013 instructors



Class 2015 project team "Lost Connection" posing with their Distinguished Project Award along instructor Mark Shepard



Class 2017 Distinguished Project Award recipients

SUMMER SCHOOL SITE

UNIVERSITY OF OULU, LINNANMAA CAMPUS, TIETOTALO BUILDING, DOOR E

Address: Erkki Koiso-Kanttilan katu 3 (<https://goo.gl/maps/BEem2bZHAy5Jzsdx8>)



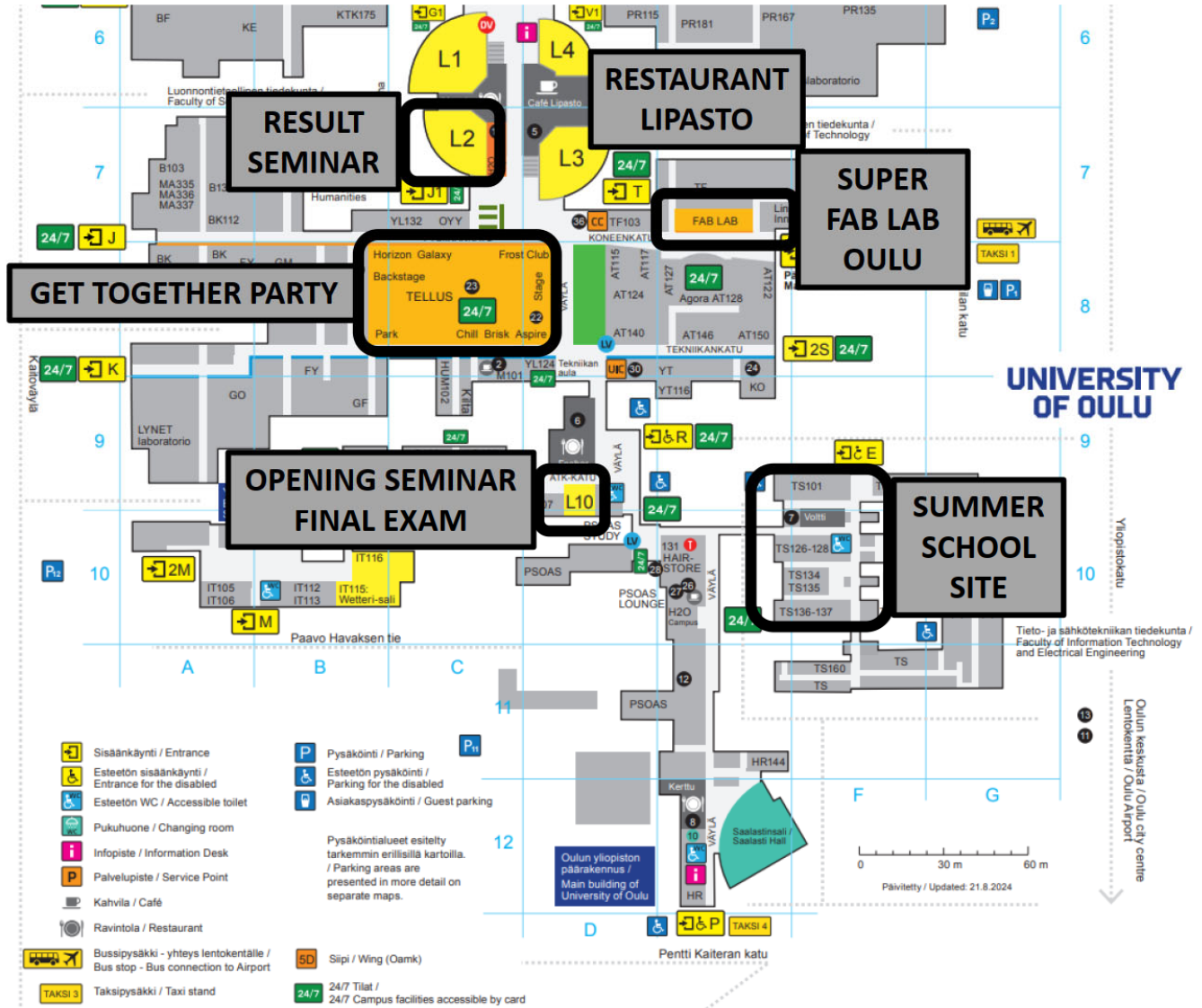
Linnanmaa Campus is the largest indoor campus in Europe



KEY LOCATIONS ON CAMPUS



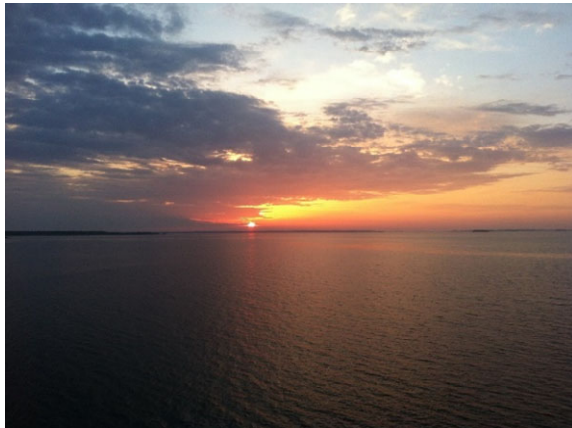
Maze Map application available in Android and iOS app stores



ACCOMMODATION IN NALLIKARI HOLIDAY VILLAGE

Out-of-town students can purchase low-cost accommodation in a luxurious villa in Nallikari Holiday Village located in a scenic setting next to Nallikari Beach.

Attendees staying in Nallikari Holiday Village are offered a chance to sign up for prebooked taxis for arrival/departure transportation between Oulu airport and train station and Nallikari Holiday Village.



Sunset in Nallikari



Poiju villa



Nallikari Holiday Village and Nallikari Beach

TRANSPORTATION

UBISS CHARTER BUSES

At summer school site the charter bus stops at bus stop “Yliopisto E” on Erkki Koiso-Kanttilan katu.

At Nallikari Holiday Village the charter bus stops in front of the reception (Leiritie 10).

DATE	TIME	DEPARTURE LOCATION	DESTINATION
Mon June 10	8:15	Nallikari Holiday Village	Summer School Site
Mon June 10	21:30	Summer School Site	Nallikari Holiday Village – Downtown
Tue June 11	9:15	Nallikari Holiday Village	Summer School Site
Tue June 11	18:30	Summer School Site	Nallikari Holiday Village
Wed June 12	9:15	Nallikari Holiday Village	Summer School Site
Wed June 12	18:15	Summer School Site	Toppila Pier (Dinner Boat Cruise) (via Nallikari Holiday Village)
Wed June 12	18:45	Summer School Site	Toppila Pier (Dinner Boat Cruise)
Wed June 12	22:00	Toppila Pier	Nallikari Holiday Village – Downtown (Kaarlenväylä) - Linnanmaa Campus
Wed June 12	24:00	Downtown (Kaarlenväylä)	Nallikari Holiday Village - Linnanmaa Campus
Thu June 13	9:15	Nallikari Holiday Village	Summer School Site
Thu June 13	18:30	Summer School Site	Nallikari Holiday Village
Fri June 14	9:15	Nallikari Holiday Village	Summer School Site
Fri June 14	18:30	Summer School Site	Nallikari Holiday Village
Sat June 15	8:15	Nallikari Holiday Village	Summer School Site
Sat June 15	11:45	Nallikari Holiday Village	Summer School Site
Sat June 15	19:00	Summer School Site	Nallikari Holiday Village
Sat June 15	20:00	Summer School Site	Johteenpooki (School Dinner)
Sat June 15	20:25	Nallikari Holiday Village	Johteenpooki (School Dinner)

LOCAL BUSES

Buses 1, 2, 3 and 8 operate frequently between the summer school site (bus stop “Yliopisto E” for buses going towards downtown) and downtown (several bus stops for buses going to summer school site, for example “Kaupungintalo P”).

Schedules are available on <https://www.ouluunliikenne.fi/> or in Google Maps (search for the desired bus stop).

Tickets and fares: <https://www.osl.fi/en/tickets-and-fares/>.

Bus service app: <https://www.osl.fi/en/osl-app/>

LOCAL TAXI

Taxi stop at the summer school site: University of Oulu, Taksi 1

OTAXI call center: +358 600 300 81

OTAXI mobile app: <https://www.otaxi.fi/en/otaxi-services/otaxi-app/>

COMMUNICATION AND SOCIAL MEDIA

EMAIL LISTS

Everybody:	ubiss-all@lists.oulu.fi	Workshop A:	ubiss-a@lists.oulu.fi
Instructors:	ubiss-instructors@lists.oulu.fi	Workshop B:	ubiss-b@lists.oulu.fi
Staff:	ubiss-staff@lists.oulu.fi	Workshop C:	ubiss-c@lists.oulu.fi
		Workshop D:	ubiss-d@lists.oulu.fi

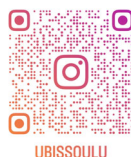
SOCIAL MEDIA



<https://discord.gg/Ebr7TUC47V>

vimeo

<https://vimeo.com/groups/315324>



#UBISS2025, @ubissoulu

flickr

<https://www.flickr.com/groups/2706010@N22/pool/page5>

PHONE NUMBERS

Summer school staff		
Chair	Timo Ojala	+358 40 567 6646
Co-chair of the organizing committee	Anabela Berenguer	+358 45 602 6793
Co-chair of the organizing committee	Kalle Timperi	+358 46 810 8646
Tech support	Hannu Rautio	+358 40 508 9952
Workshop A liaison student	Gabriella Trasciatti	+39 339 798 2596
Workshop B liaison student	Mohammad Mahdi Salmani	+358 50 462 8553
Workshop C liaison student	Eetu Laukka	+358 40 583 1274
Workshop D liaison student	Mengru Wang	+358 44 918 1860
General services		
Taxi	(24 hours)	+358 600 300 81
City of Oulu tourist office	(office hours)	+358 8 558 41330
Directory services	(24 hours)	0100100, 020202
Emergency	(24 hours)	112

ASSORTED PRACTICAL MATTERS

REGISTRATION FEE: 300 EUR

Registration fee includes participation in one workshop, social program, local transportation, daily lunches and UBI Café.

CREDITS AND CERTIFICATES

Credits: 5.0 ECTS (subject to approval by a participant's home university).

All participants should verify beforehand the passing criteria of (postgraduate) studies enforced by their home university. At some universities participation is sufficient for credits while some universities such as the University of Oulu require passing a final exam.

The passing criteria for the students at the University of Oulu are as follows:

1. Full participation in the selected workshop, including the opening seminar (International UBICOMP Seminar 2023).
2. Successful contribution to a project completed during the workshop. The project contributes 50% of the final grade on scale: Fail, 1 (lowest passing grade) - 5 (highest passing grade).
3. Passing the final exam based on a reading package selected by the instructor and the material presented during the workshop. The final exam contributes 50% of the final grade on scale: Fail, 1 (lowest passing grade) - 5 (highest passing grade).

A certificate of participation will be awarded to all students who complete requirements 1 and 2, and pay the registration fee. This certificate of participation does not include the final grade.

A separate certificate of passing the summer school with a particular final grade will be awarded to all students who complete requirements 1, 2 and 3, and pay the registration fee.

DAILY LUNCHES

Registration includes vouchers for having lunch in Restaurant Lipasto on campus on Mon-Fri. Sat lunch will be served in UBI Café.

UBI CAFÉ

Our own UBI Café serves FREE coffee, tea, cold drinks, cookies, fruits and DIY sandwiches at the summer school site.

Opening hours: Mon 8:30-18:15, Tue 9:30-18:15, Wed-Fri 9:30-18:30, Sat 8:30-19:00.

PERSONAL LAPTOPS

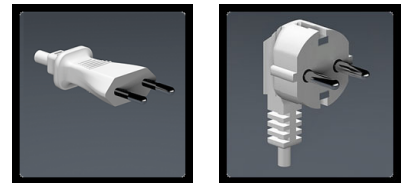
Required for all students.

Students not being able to bring their own laptop should contact their liaison student.

Finland uses 220 V / 50 Hz electricity with plug types C and F shown right.

Extension cords will be available in lecture halls.

Adapters can be borrowed from the helpdesk.



WIRELESS INTERNET ACCESS

panOULU WLAN (SSID *panoulu*) providing open (no authentication) and free (no payment) wireless Internet access is available in lecture halls and throughout the City of Oulu in a hotspot manner.

At the University of Oulu campus WLAN access points also offer SSID *eduroam* that can be used with home organization's user account if the home organization is a member of the Eduroam roaming agreement. *eduroam* provides a secure connection and has higher capacity gateway to the Internet.



PRINTING

Documents to be printed should be emailed in PDF format to ubiss.helpdesk@gmail.com with printing instructions (number of copies, size in A3 or A4, black-and-white vs color, 1-sided vs 2-sided). Ready prints are collected from the helpdesk.

UBISS LEGACY

<p>UBISS 2024 (12th International UBI Summer School), June 10-15, 2024, 81 students from 15 countries in 4 workshops</p> <p>A: UBIQUITOUS ARTIFICIAL INTELLIGENCE: MACHINE LEARNING ON IOT DEVICES (Prof. Albrecht Schmidt & Assistant Prof. Sven Mayer, LMU Munich, Germany)</p> <p>B: CARE-FULL! MORE-THAN-HUMAN URBAN FUTURES (Prof. Marcus Foth, Queensland University of Technology, Australia; Associate Prof. Jaz Choi, Amsterdam University of Applied Sciences, Netherlands; Dr. Ekaterina Gilman, University of Oulu, Finland)</p> <p>C: DESIGNING TANGIBLE AI INTERACTIONS (Prof. Kaisa Väänänen, Tampere University, Finland; Prof. Jonna Häkkinen & Dr. Ashley Colley, University of Lapland, Finland)</p> <p>D: VIRTUALLY REAL? THE ART AND SCIENCE OF DESIGNING IMPACTFUL (OR EVEN TRANSFORMATIVE?) VIRTUAL EXPERIENCES (Prof. Bernhard Riecke, Simon Fraser University, Canada; Dr. Matti Pouke & Dr. Paula Alavesa, University of Oulu, Finland)</p>
<p>UBISS 2023 (11th International UBI Summer School), June 12-17, 2023, 63 students from 10 countries in 3 workshops</p> <p>A: CREATING VIRTUAL REALITY EXPERIENCES FOR SOCIAL GOOD (Professor Victoria Interrante, University of Minnesota, USA; Dr. Matti Pouke & Dr. Paula Alavesa, University of Oulu, Finland)</p> <p>B: SMART INTERNET OF THINGS (IOT) WIRELESS CONNECTIVITY IN 5G AND BEYOND (Prof. Petar Popovski, Assistant Professor Israel Leyva-Mayorga & Dr. Shashi Raj Pandey, Aalborg University, Denmark)</p> <p>C: THE MIND ELECTRIFIED: EEG/ERP IN THE LAB AND IN THE WILD (Prof. Kara D. Federmeier, UIUC, USA; Dr. Evan G. Center, University of Oulu, Finland; Dr. Ryan J. Hubbard & Dr. Melissa Troyer, UIUC, USA)</p>
<p>UBISS 2019 (10th International UBI Summer School), June 10-15, 2020, 83 students from 10 countries in 4 workshops</p> <p>A: FROM REALITY TO VIRTUALITY: THE SCIENCE AND ART OF CREATING VR EXPERIENCES (Prof. Frank Steinicke & Eike Langbehn, University of Hamburg, Germany)</p> <p>B: THE IOT – WIRELESS TECHNOLOGIES AND APPLICATIONS: A JOURNEY FROM ZIGBEE TO 5G (Prof. Roberto Verdone & Assist. Prof. Chiara Buratti, University of Bologna, Italy)</p> <p>C: CRITICAL MAKING: DESIGNING FOR ACTIVISM (Assoc. Prof. Eric Paulos & Assist. Prof. Jill Miller, University of California, Berkeley, USA; Assoc. Prof. Georgi V. Georgiev, University of Oulu, Finland)</p> <p>D: UBIQUITOUS COMPUTING: ENABLING TECHNOLOGICALLY ADVANCED LIVING (Prof. Anind K. Dey, University of Washington, USA; Assist. Prof. Edison Thomaz, University of Texas at Austin, USA; Adj. Prof. Denzil Ferreira, University of Oulu, Finland)</p>
<p>UBISS 2018 (9th International UBI Summer School), June 4-9, 2018, 82 students from 15 countries in 4 workshops</p> <p>A: HUMANISTIC HCI (Prof. Jeffrey Bardzell & Prof. Shaowen Bardzell, Indiana University, USA)</p> <p>B: WEARABLE AND MOBILE HEALTH AND BEHAVIOR TRACKING (Prof. Jakob E. Bardram, Technical University of Denmark, Denmark & Adj. Prof. Denzil Ferreira, University of Oulu, Finland)</p> <p>C: DESIGNING FOR THE MARGINS (EXTRA-URBAN INTERACTIONS) (Prof. Alan Dix, Swansea University, UK & Adj. Prof. Simo Hosio, University of Oulu, Finland)</p> <p>D: MAKE. WEAR. MATTER: EXPLORATIONS IN DESIGN, MAKING & CREATIVITY (Prof. Mark D. Gross & Prof. Ellen Yi-Luen Do, University of Colorado Boulder, USA; Adj. Prof. Georgi V. Georgiev, University of Oulu, Finland)</p>
<p>UBISS 2017 (8th International UBI Summer School), June 12-17, 2017, 53 students from 9 countries in 4 workshops</p> <p>A: DESIGNING CITY FUTURES THROUGH AUGMENTED PLACE (Prof. Alessandro Aurigi & Dr. Katharine Willis, Plymouth University, UK)</p> <p>B: VIRTUAL CITY MODELS (Prof. Norbert Haala & Patrick Tutzauer, University of Stuttgart, Germany)</p> <p>C: DIGITAL PRODUCT REALIZATION: MAKING THINGS THAT MATTER (Dan Somen, Stanford University, USA & Dr. Georgi V. Georgiev, University of Oulu, Finland)</p> <p>D: AUGMENTED URBAN EXPERIENCE AND MEDIATED SPATIAL NARRATIVES (Reader Ava Fatah gen Schieck & Dr. Simon Julier & Petros Koutsolampros, University College London, UK; Dr. Ana Javornik, Newcastle University, UK)</p>
<p>UBISS 2016 (7th International UBI Summer School), June 13-18, 2016, 68 students from 12 countries in 4 workshops</p> <p>A: UBICOMP IN THE WILD: DEVELOPING AND DEPLOYING PERVASIVE DISPLAYS (Prof. Nigel Davies & Dr. Sarah Clinch, Lancaster University, UK)</p> <p>B: EYEWORX: DESIGNING INTERACTIONS WITH EYE MOVEMENTS (Prof. Hans Gellersen, Lancaster University, UK & Dr. Eduardo Velloso, University of Melbourne, Australia)</p> <p>C: COLLABORATION AND PERSONAL DEVICES AROUND INTERACTIVE DISPLAYS (Prof. Giulio Jacucci, University of Helsinki, Finland & Petri Savolainen, HIIT, Finland)</p> <p>D: NEXT GENERATION VIRTUAL REALITY: PERCEPTION MEETS ENGINEERING (Prof. Steve LaValle & Dr. Anna Yershova, UIUC, USA)</p>
<p>UBISS 2015 (6th International UBI Summer School), June 8-13, 2015, 56 students from 14 countries in 4 workshops</p> <p>A: SENSOR-BASED INTELLIGENT MOBILE INTERFACES (Dr. Per Ola Kristensson, University of Cambridge, UK)</p> <p>B: DESIGN FICTIONS FOR DATA GEOGRAPHIES (Associate Prof. Mark Shepard, The State University of New York, USA)</p> <p>C: DESIGNING GAMES FOR THE BODY (Associate Prof. Florian 'Floyd' Mueller, RMIT University, Australia)</p> <p>D: 3D WEB AND OPEN DATA FOR SMART CITIES HACKATHON (Prof. Timo 'Timppa' Ojala, University of Oulu, Finland)</p>
<p>UBISS 2014 (5th International UBI Summer School), June 9-14, 2014, 59 students from 16 countries in 4 workshops</p> <p>A: DESIGNING URBAN INTERACTIONS FOR PARTICIPATORY PUBLICS (Prof. Martin Brynkvog, Aarhus University, Denmark)</p> <p>B: URBAN AUGMENTED REALITY (Prof. Steven Feiner, Columbia University, USA)</p> <p>C: LEARNING FROM PEOPLE TO DESIGN FUTURE "ENJOYING MACHINES" (Prof. Oskar Juhlin, Stockholm University, Sweden)</p> <p>D: DESIGNING BODILY PLAY (Dr. Florian 'Floyd' Mueller, RMIT University, Australia)</p>
<p>UBISS 2013 (4th International UBI Summer School), June 10-15, 2013, 76 students from 18 countries in 4 workshops</p> <p>A: EXPERIENCE-DRIVEN DESIGN OF UBIQUITOUS INTERACTIONS IN URBAN SPACES (Prof. Kaisa Väänänen-Vainio-Mattila, Tampere University of Technology, Finland & Dr. Jonna Häkkinen, University of Oulu, Finland)</p> <p>B: DESIGNING MOBILE AUGMENTED REALITY INTERFACES (Prof. Mark Billinghurst, University of Canterbury, New Zealand)</p> <p>C: DEVELOPING UBIQUITOUS COMPUTING DEVICES (Prof. Albrecht Schmidt, University of Stuttgart, Germany)</p> <p>D: URBAN RESOURCE NETWORKS (Prof. Malcolm McCullough, University of Michigan, USA)</p>
<p>UBISS 2012 (3rd International UBI Summer School), May 28 - June 2, 2012, 51 students from 10 countries in 3 workshops</p> <p>A: INFORMATION VISUALISATION FOR UBICOMP DATA (Prof. Aaron Quigley, University of St. Andrews, Scotland)</p> <p>B: SUPPORTING COMMUNITY THROUGH INTERACTIVE PUBLIC DISPLAYS (Dr. Keith Cheverst, Lancaster University, UK)</p> <p>D: URBAN SENSORIA: HUMAN-CENTERED COMPUTING IN PRACTICE (Dr. Alejandro 'Alex' Jaimes, Yahoo! Research)</p>
<p>UBISS 2011 (2nd International UBI Summer School), May 23-28, 2011, 36 students from 6 countries in 3 workshops</p> <p>A: OPEN PERVASIVE DISPLAY NETWORKS (Dr. Adrian Friday, Lancaster University, UK)</p> <p>D: EMBEDDED WEB SERVICES (Chief Nerd Zach Shelby, Sensinode Ltd., Finland)</p> <p>E: SOCIAL AND CULTURAL ASPECTS OF NEW MEDIA (Prof. Leopoldina Fortunati, University of Udine, Italy)</p>
<p>UBISS 2010 (1st International UBI Summer School), May 31 - June 4, 2010, 72 students from 20 countries in 6 workshops</p> <p>A: REAL WORLD CONTEXT-AWARE SYSTEMS (Prof. Anind Dey, CMU, USA)</p> <p>B: URBAN INFORMATICS AND SUSTAINABLE CITIES (Prof. Marcus Foth & Dr. Jaz Choi, QUT, Australia; Patrick Hofmann, Google)</p> <p>C: URBAN SOCIAL NETWORKS ANALYSIS (Prof. Vassilis Kostakos, University of Madeira, Portugal)</p> <p>D: CREATING AND SHARING ARTISTIC EXPERIENCES WITH UBIQUITOUS TECHNOLOGY (Dr. Jürgen Scheible, Aalto University, Finland)</p> <p>E: IP-BASED WIRELESS SENSOR NETWORKS (Head of Research Zach Shelby, Sensinode, Finland)</p> <p>F: INTERACTIVE TEXTURES – RETHINKING MATERIALITY (Prof. Mikael Wiberg, Umeå University, Sweden)</p>

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