RCIS 2017

IEEE 11th International Conference on Research Challenges in Information Science

Brighton 10 – 12 May 2017

Privacy

Security

Recommendation Systems

Requirements Engineering

Business Process Management

Conceptual Modelling

Semantics and Ontology

Knowledge discovery and Data

System Design

Compliance and Regulation

HCI

Conference Programme

University of Brighton

SenSe
Secure and Dependable
Software Systems
Research Center

IEEE

Welcome to IEEE RCIS 2017

A warm welcome to the IEEE 11th International Conference on Research Challenges in Information Science (RCIS 2017)! The RCIS series has become a leading international forum for scientists, researchers, engineers and developers from a wide range of information science areas to exchange ideas and approaches in this evolving field. At RCIS 2017, among other regular topics a special attention is given to the special topic of "Security and Privacy for Information Science".

We received a total of 116 submissions to all RCIS tracks, coming from 37 countries and all continents, which demonstrates the success and global recognition of the conference. Each submission was reviewed by three program committee members and 43 submissions entered an additional online discussion process moderated by program board members. Among the 100 submissions that were competing in the main track, 29 were finally accepted as long papers, yielding a competitive acceptance rate of 29%. The conference also features 10 work-in-progress papers, 9 posters and 7 doctoral papers. Accepted papers addressed a large variety of issues related to the conference and were organised into thirteen themes including Business Process Management, Compliance and Regulation, Conceptual Modelling, Fraud Detection and Management, Knowledge Discovery and Data, Privacy, Recommendation Systems, Requirements Engineering, Semantics and Ontology, Security, System Design, Human Computer Interaction, and Social Media and Network Analysis.

We are pleased to have three excellent keynote speeches by Prof. Bashar Nuseibeh on *Adaptive Information Security and Privacy*, by Dr. Edgar Weippl on *Research Methods and Examples of Empirical Research in Information Security*, and by Prof. Monique Snoeck on *Conceptual Modelling: how to do it right? Lessons from observing the conceptual modelling process of students*.

We are grateful to all who have contributed to this program, particularly the program board and the program committee for their profound contribution. Last but not least, we are grateful to the local organizers for their assistance in organising a successful conference and all RCIS 2017 participants for joining us in Brighton.

We hope you will enjoy the programme as much as we have enjoyed creating it.

Haris Mouratidis, General Chair,
Brighton, UK

Oscar Pastor, Programme Chair,
Valencia, Spain

Said Assar, Programme Chair,
Evry, France

Brighton 2017

Conference at a Glance

Wednesday 10/5/2017

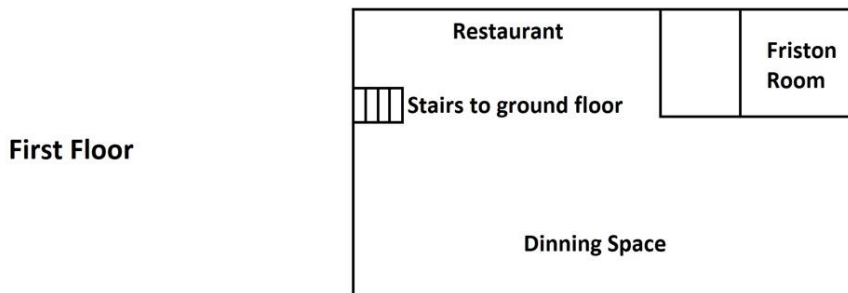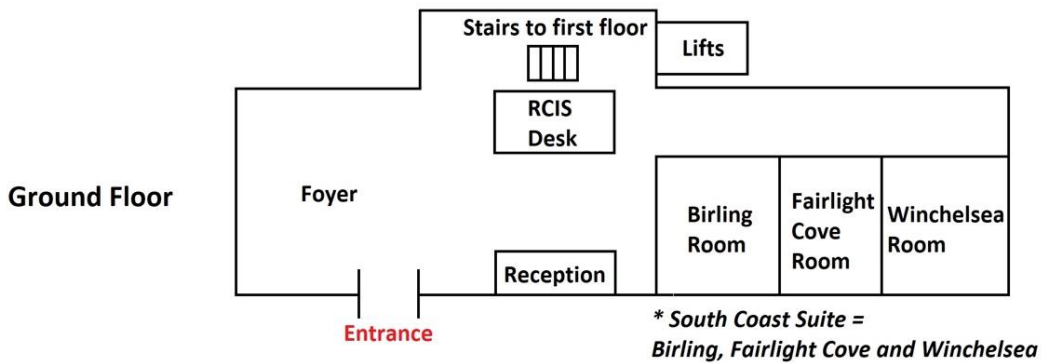| Time	Event (Room)
08:00 - 09:00	Registration (Foyer)
09:00 - 09:30	Conference Opening Ceremony (South Coast Suite)
09:30 - 10:30	Keynote 1 (South Coast Suite)
10:30 - 11:00	Coffee Break (Foyer)
11:00 - 12:30	Session 1 - Business Process Management (Fairlight Cove & Winchelsea Room)
	Session 2 - Compliance and Regulation (Birling Room)
12:30 - 14:00	Lunch (Restaurant - First Floor)
14:00 - 15:30	Session 3 - Conceptual Modelling (Fairlight Cove & Winchelsea Room)
	Session 4 - Fraud Detection and Management (Birling Room)
	Tutorial 1 - Human Machine Interaction (Friston Room)
15:30 - 16:00	Coffee Break (Foyer)
16:00 - 17:30	Session 5 - Knowledge Discovery and Data (Fairlight Cove & Winchelsea Room)
	Tutorial 2 - Intelligence at the Edge: Secure and Privacy Aware consumer Centric IoT Services (Birling Room)
19:30	RCIS Welcome Reception (Brighton Museum)

Thursday 11/5/2017

Time	Event (Room)
08:30 - 09:30	Registration (Foyer)
09:30 - 10:30	Keynote 2 (South Coast Suite)
10:30 - 11:00	Coffee Break (Foyer)
11:00 - 12:30	Session 6 - Privacy (Fairlight Cove & Winchelsea Room)
	Session 7 - Recommendation Systems (Birling Room)
	Poster Session 1 (Friston Room)
12:30 - 14:00	Lunch (Restaurant First Floor)
14:00 - 15:30	Session 8 - Requirements Engineering (Birling & Fairlight Cove Room)
	Doctoral Consortium Session 1 (Winchelsea Room)
	Poster Session 2 (Friston Room)
15:30 - 16:00	Coffee Break (Foyer)
16:00 - 17:30	Session 9 - Semantics and Ontology (Birling Room)
	Doctoral Consortium Session 2 (Winchelsea Room)
	Session 10 (Security) (Fairlight Cove)
19:30	Gala Dinner (Alfresco)

Friday 12/5/2017

Time	Event (Rooms)
08:30 - 09:30	Registration (Foyer)
09:30 - 10:30	Keynote 3 (South Coast Suite)
10:30 - 11:00	Coffee Break (Foyer)
11:00 - 12:30	Session 11 - System Design (Fairlight Cove & Winchelsea Room)
	Tutorial 3 - Modelling Method Conceptualisation within OMiLab: The Secure Tropos approach (Birling Room)
12:30 - 13:00	Best Paper Award (Fairlight Cove & Winchelsea Room)
13:00 - 14:00	Lunch (Restaurant - First Floor)
14:00 - 15:30	Session 12 - Human Computer Interaction (Fairlight Cove & Winchelsea)
	Session 13 - Social Media and Network Analysis (Birling Room)
15:30 - 16:00	Closing Ceremony (Fairlight Cove & Winchelsea Room)
16:00 - 17:00	Coffee Available (Foyer)

Venue Layout

The Hub

Ground Floor

Stairs to first floor | Lifts
RCIS Desk
Foyer | Birling Room | Fairlight Cove Room | Winchelsea Room
Reception
Entrance
* South Coast Suite = Birling, Fairlight Cove and Winchelsea

First Floor

Restaurant | Friston Room
Stairs to ground floor
Dinning Space

Detailed Scientific Programme

Wednesday 10/05/2017

Time	Event	Room
08:00 - 09:00	Registration	Foyer
09:00 - 09:30	**Opening Ceremony** Haris Mouratidis (RCIS 2017 General Chair) Oscar Pastor – Said Asser (RCIS 2017 PC Chairs) Tara Dean (University of Brighton, Pro-Vice Chancellor Research and Enterprise)	South Coast Suite
09:30-10:30	**Keynote 1: Bashar Nuseibeh** **Title: Adaptive Information Security and Privacy** **Chair: Haris Mouratidis**	South Coast Suite
10:30 - 11:00	Coffee Break	Foyer
11:00 - 12:30	**Session 1: Business Process Management** **Chair: Colette Rolland**	Fairlight Cove & Winchelsea Room
11:00 -11:30	*CEFOP: A method for the Continual Evolution of Organisational Processes* Ornela Cela, Agnes Front and Dominique Rieu	
11:30 - 12:00	*Modeling Contextualized Flexible Cloud Workflow Services: An MDE based approach* Yosra Lassoued and Selmin Nurcan	
12:00 - 12:30	*A Modeling Framework for Business Process Reengineering Using Big Data Analytics and A Goal-Orientation* Grace Park, Lawrence Chung, Latifur Khan and Sooyong Park	
11:00 - 12:30	**Session 2: Compliance and Regulation** **Chair: Hans Weigand**	Birling Room
11:00 - 11:30	*What can Information Systems do for Regulators? A Review of the State-of-Practice in Canada* Okhaide Akhigbe, Daniel Amyot, Gregory Richards and John Mylopoulos	
11:30 - 12:00	*A Tool-Supported Compliance Process for Software Systems* Priscila Engiel, Julio Leite and John Mylopoulos	
12:00 - 12:30	*A Definition of Information Security Classification in Cybersecurity Context (Work-In-Progress)* Guillaume Collard, Guilaine Talens, Eric Disson and Stéphane Ducroquet	
12:30 - 14:00	Lunch	Restaurant 1st Floor
14:00 - 15:30	**Session 3: Conceptual Modelling** **Chair: Oscar Pastor**	Fairlight Cove & Winchelsea Room
14:00-14:30	*A Metamodel and Code Generation Approach for Symmetric Unary Associations* Cesar Gonzalez-Perez and Patricia Martin-Rodilla	

14:30-15:00	*From User Goals to Process-based Service Compositions: a Flexible Semantic-based Approach* Isabelle Mirbel	
15:00-15:30	*Re-framing "The AMN": A case study eliciting and modelling a System of Systems using the Afghan Mission Network (Work-In-Progress)* Duncan Ki-Aries, Shamal Faily, Huseyin Dogan and Christopher Williams	
14:00 - 15:30	**Session 4: Fraud Detection and Management** **Chair: Marko Bajec**	Birling Room
14:00-14:30	*dbMark: A Benchmarking System for Relational Databases Watermarking Methods* Stavros Kyriakopoulos, Theodoros Tzouramanis and Yannis Manolopoulos	
14:30-15:00	*TRAWL: Protection against rogue sites for the masses* Antonia Nisioti, Mohammad Heydari, Alexios Mylonas, Vasilios Katos and Vahid Heydari Fami Tafreshi	
15:00-15:30	*Representing, Reasoning and Predicting Fraud using Fraud Plans (Work-In-Progress)* John Kingston	
14:00 - 15:30	**Tutorial 1: Human Machine Interaction**	Friston Room
15:30-16:00	Coffee Break	Foyer
16:00 - 17:30	**Session 5: Knowledge Discovery and Data** **Chair: Said Assar**	Fairlight Cove & Winchelsea Room
16:00-16:30	*Wikipedia-Based Extraction of Key Information from Resumes* Mohammad Ghufran, Nacéra Bennacer and Gianluca Quercini	
16:30-17:00	*Context-Based Web Service Discovery Framework with QoS Considerations* Sara Samir, Alsayed Algergawy and Amany Sarhan	
17:00 - 17:30	*An Ontology-Based Framework for Enhancing Personalized Content and Retrieval Information* Aroua Essayeh and Mourad Abed	
16:00 - 17:30	**Tutorial 2: Intelligence at the Edge: Secure and Privacy Aware Consumer Centric IoT Services**	Birling Room
19:30	RCIS Reception	Brighton Museum

Thursday 11/05/2017

Time	Event	Room
08:30 - 09:30	Registration	Foyer
09:30 - 10:30	**Keynote 2: Edgar Weippl** **Title: Research Methods and Examples of Empirical Research in Information Security** **Chair: Haris Mouratidis**	South Coast Suite
10:30 - 11:00	Coffee Break	Foyer
11:00 - 12:30	**Session 6: Privacy** **Chair: Michalis Pavlidis**	Fairlight Cove & Winchelsea Room
11:00 - 11:30	*Securing Digital Identities in the Cloud by Selecting an Apposite Federated Identity Management from SAML, OAuth and OpenID Connect* Nitin Naik and Paul Jenkins	
11:30 - 12:00	*Privacy Proof in the Cloud* Veerle Jessen and Hans Weigand	
12:00 - 12:30	*Supporting the Design of Privacy-Aware Business Processes via Privacy Process Patterns* Vasiliki Diamantopoulou, Nikolaos Argyropoulos, Christos Kalloniatis and Stefanos Gritzalis	
11:00 - 12:30	**Session 7: Recommendation Systems** **Chair: Yannis Manolopoulos**	Birling Room
11:00 - 11:30	*A Research Paper Recommender System Using a Dynamic Normalized Tree of Concepts Model for User Modelling* Modhi Al Alshaikh, Gulden Uchyigit and Roger Evans	
11:30 - 12:00	*Towards an Ethical Recommendation Framework* Dimitris Paraschakis	
12:00 - 12:30	*Expert suggestion for conference program committees* Hong Diep Tran, Guillaume Cabanac and Gilles Hubert	
11:00 - 12:30	**Poster and Demo Session**	Friston Room
	Modelling Security Threats of Outsourced IT Projects Moneef Almutairi and Stephen Riddle	
	GeIS based on Conceptual Models for the Risk Assessment of Neuroblastoma Veronica Burriel Coll, José Fabián Reyes Román, Ana Heredia Casanoves, Carlos Iñiguez Jarrín and Ana León Palacio	
	Generating data sets as inputs of reference for Cyber security issues and industrial control systems (ICS) Yvon Kermarrec and Xavier Boudvin	
	Demonstrating Named Data Networking Integration into DataTweet IoT Architecture Soumya Kanti Datta and Christian Bonnet	

	A Requirements Driven Approach to Data Warehouse Consolidation Deepika Prakash and Naveen Prakash *Two-step RDF Query Processing for Linked Data* Yongju Lee and Changsu Kim	
	Multi-level Clustering for Extracting Process-Related Information from Email Logs Diana Al Jlailaty, Daniela Grigori and Khalid Belhajjame *Visual Privacy Management in User Centric Open Environments* Vasiliki Diamantopoulou and Michalis Pavlidis *Software CROWD-Sourcing* Nitin Naik	
12:30 - 14:00	Lunch	Restaurant 1st Floor
14:00 - 15:30	**Session 8: Requirements Engineering** **Chair: Andreas Opdahl**	Birling & Fairlight Cove Room
14:00 - 14:30	*Formal Semantics and Analysis Tasks for ME-MAP Models* Azzam Maraee and Arnon Sturm	
14:30 - 15:00	*A Participative Method for Knowledge Elicitation in collaborative innovation projects* Fatemeh Movahedian, Agnès Front, Dominique Rieu, Armelle Farastier, Christelle Grandvallet, Franck Pourroy and Guy Prudhomme	
15:00 - 15:30	*Gamification Solutions for Software Acceptance: A Comparative Study of Requirements Engineering and Organizational Behaviors Techniques* Luca Piras, Elda Paja, Roberta Cuel, Diego Ponte, Paolo Giorgini and John Mylopoulos	
14:00 - 15:30	**Doctoral Consortium Session 1** **Chair: Christos Kalloniatis**	Winchelsea Room
14:00 - 14:30	*Cyber-Physical Secure Recovery Management for Health-based Critical Infrastructures* Myrsini Athinaiou	
14:30 - 15:00	*Online visual behaviour, performance and satisfaction: a comparative study of English, Arabic and Chinese users* Mohammad Alsaffar	
15:00 - 15:30	*Supporting the Consistency in Multi-Perspective Business Process Modeling: A Mapping Approach* Afef Awadid	
14:00 - 15:30	**Poster and Demo Session (cont.)**	Friston Room
15:30 - 16:00	Coffee Break	Foyer
16:00 - 17:30	**Session 9: Semantics and Ontology** **Chair: Cesar Gonzalez-Perez**	Birling Room
16:00 - 16:30	*LogMap+: Relational data enrichment and linked data resources matching* Slavko Žitnik, Marko Bajec and Dejan Lavbič	

16:30 - 17:00	*Semantic Task Specification in Business Process Context (Work-In-Progress)* Hermann Kaindl, Ralph Hoch and Roman Popp	
17:00 - 17:30	*Traffic Flow Measurement of a Public Transport System through automated Web Observations (Work-In-Progress)* Alexander Gröflin, Mario Weber, Martin Guggisberg and Helmar Burkhart	
16:00 - 17:35	**Doctoral Consortium Session 2** **Chair: Christos Kalloniatis**	Winchelsea Room
16:00 - 16:25	*A DSPL Approach for the Development of Context-Adaptable User Interfaces* Thouraya Sboui	
16:25 - 16:50	*A Framework Managing Conflicts between Security and Privacy Requirements* Duaa Alkubaisy	
16:50 - 17:15	*Enhancing Cross-domain Collaborative Filtering by Integrating Social Tags with Semantic Concepts into a Matrix Factorization Technique* Oluseyi Olarewaju	
17:15 - 17:35	*Helping Modelers with Model Characteristics and Patterns* Fabrice Boissier	
16:00 - 17:30	**Session 10: Security**	Fairlight Cove
16:00 - 16:30	*Evaluation of MUSER, a Holistic Security Requirements Analysis Framework* Elias Seid, Kazi Robin, Tong Li and John Mylopoulos	
16:30 - 17:00	*Cultural Exploration of Attack Vector Preferences for Self-identified Attackers* Char Sample, Jennifer Cowley and Steve Hutchinson	
17:00 - 17:30	*Data Fidelity: Security's Soft Underbelly (Work-In-Progress)* Char Sample, Steve Hutchinson, Tim Watson, Bil Hallaq, Carsten Maple and Jennifer Cowley	
19:30	Gala Dinner	Alfresco

Friday 12/05/2017

Time	Event	Room
08:30 - 09:30	Registration	Foyer
09:30 - 10:30	**Keynote 3: Monique Snoeck** **Title: Conceptual Modelling: how to do it right?** **Chair: Oscar Pastor**	South Coast Suite
10:30-11:00	Coffee Break	Foyer
11:00-12:30	**Session 11: System Design** **Chair: Said Assar**	Fairlight Cove & Winchelsea Room
11:00 - 11:30	*System Design Considerations for Risk Perception (Work-In-Progress)* Andrew M'Manga, Shamal Faily and John McAlaney	
11:30 - 12:00	*Are you Ready? Towards the Engineering of Forensic-Ready Systems (Work-In-Progress)* George Grispos, Jesús García Galán, Liliana Pasquale and Bashar Nuseibeh	
12:00 – 12:30	*Guidelines for Designing a Smart and Ubiquitous Learning Environment With Respect to Cultural Heritage (Work-In-Progress)* Alaa S. A. Alkhafaji, Sanaz Fallahkhair, Mihaela Cocea and Jonathan Crellin.	
11:00 - 12:30	**Tutorial 3: Modelling Conceptualisation with OMiLab: The Secure Tropos Approach**	Birling Room
12:30 - 13:00	**Best Paper Award Presentation** **Best Poster Award Presentation** **Chair: Said Assar**	Fairlight Cove & Winchelsea Room
13:00 - 14:00	Lunch	Restaurant 1st Floor
14:00-15:30	**Session 12: Human Computer Interaction** **Chair: Lyn Pemberton**	Fairlight Cove & Winchelsea
14:00 - 14:30	*Extending and validating gestUI using Technical Action Research* Otto Parra-González, Sergio España and Jose Ignacio Panach Navarrete	
14:30 - 15:00	*Design Space Exploration of Adaptive User Interfaces* Sara Bouzit, Gaëlle Calvary, Joëlle Coutaz, Denis Chêne, Eric Petit and Jean Vanderdonckt	
15:00 - 15:30	*Visual Behaviour in Searching Information: An Eye Tracking Preliminary Study (Work-In-Progress)* Mohammad Alsaffar, Lyn Pemberton, Karina Rodriguez Echavarria and Mithileysh Sathiyanarayanan	

14:00-15:30	**Session 13: Social Media and Network Analysis** **Chair: Selmin Nurcan**	Birling Room
14:00 - 14:30	*Community Detection in Dynamic Graphs with Missing Edges* Christine Largeron, Oualid Benyahia and Baptiste Jeudy	
14:30 - 15:00	*IMEXT: a method and system to extract geolocated images from Tweets Analysis of a case study* Chiara Francalanci and Barbara Pernici	
15:00 - 15:30	*Integration of a multidimensional schema from different social media to analyze customer's opinions* Imen Moalla, Ahlem Nabli and Mohamed Hammami	
15:30 - 16:00	**Conference Closing**	Fairlight Cove & Winchelsea Room
16:00 - 17:00	Coffee Available	Foyer

Keynotes

Adaptive Information Security and Privacy

Prof. Bashar Nuseibeh, Open University, UK and Lero, Ireland

Although security and privacy by design underpin effective engineering of software intensive systems, the dynamic reality of modern information systems means that such systems are the subject of changes of many different forms that can affect their operational environment, their behaviour, and the behaviour of their users, both legitimate and malicious. Systems must therefore be adaptive by design, in order to adapt effectively at runtime. In particular, these systems must be able to adapt their security and privacy controls, both proactively and in response to a variety of changes in their environment, in the threats they face, and in the assets they are required to protect. This talks presents both empirical and engineering challenges to achieving adaptive security and privacy in information systems. Acknowledging that information systems are increasingly both socio-technical and cyber-physical, the talk explores the impact of cyber-physical-social boundaries and their effective management when engineering secure, privacy-aware, and forensics-ready systems.

Short Bio

Bashar Nuseibeh is a Professor of Computing at The Open University (Director of Research 2001-2008) and a Professor of Software Engineering at Lero - The Irish Software Research Centre (Chief Scientist 2009-2012). He is also a Visiting Professor and University College London (UCL) and the National Institute of Informatics (NII), Tokyo, Japan. Previously, he was a Reader in Computing at Imperial College London, Head of its Software Engineering Laboratory, and a Visiting Professor (2005-2015). His current research interests lie at the intersection of requirements engineering, adaptive systems, and security and privacy. He served as Editor-in-Chief of IEEE Transactions on Software Engineering and of the Automated Software Engineering Journal, and currently serves as an Associate Editor of ACM Transactions on Software Engineering and Methodology and Software Engineering Editor of ACM Books. He chaired the Steering Committee of the International Conference on Software Engineering (ICSE) and IFIP Working Group 2.9 on Requirements Engineering.

Bashar received an ICSE Most Influential Paper Award, a Philip Leverhulme Prize, an Automated Software Engineering Fellowship, and a Senior Research Fellowship of the Royal Academy of Engineering. He was the recipient of the ACM SIGSOFT Distinguished Service Award (2015) and an IFIP Outstanding Service Award (2009). His research work crosses a number of discipline boundaries in computing, and has received research awards in Software Engineering (e.g.,ICSE/RE), Logic Programming (e.g., ICLP), Human-Computer Interaction (e.g., CHI), natural language processing (e.g., MedNLP), and security and privacy (e.g., TrustCom). He currently holds a Royal Society-Wolfson Merit Award and two European Research Council (ERC) awards, including an ERC Advanced Grant on 'Adaptive Security and Privacy'. More information at http://nuseibeh.com.

Research Methods and Examples of Empirical Research in Information Security

Prof. Edgar Weippl, SBA Research (Austria)

Over the last years, there is an increasing number of descriptive works observing and describing complex phenomena, e.g., the efficiency of different spam campaigns, the distribution of bots, or the likelihood of users to accept false identities as friends in social networks. These studies are characterized by large sets of samples.

Future research will focus on networks and cloud systems; the research methodology will be empirical systems security: (1) passively observing large systems and (2) active probing that stimulates revealing behavior of the systems. The research contribution lies in observing, describing and inferring the behavior of complex systems that cannot be directly observed and have a large impact on users. In this presentation we will look at how we can measure whether ISPs implement peering, if they adhere to net neutrality and we will also look at aspects of privacy.

Short Bio

Edgar R. Weippl (CISSP, CISA, CISM, CRISC, CSSLP, CMC) is Research Director of SBA Research and associate professor (Privatdozent) at the Vienna University of Technology and teaches at several universities of applied sciences (Fachhochschulen). His research focuses on applied concepts of IT-security; he is on the editorial board of Elsevier's Computers & Security journal (COSE), general chair of ACM CCS 2016 and PC Chair of SACMAT 2017.

After graduating with a Ph.D. from the Vienna University of Technology, Edgar worked for two years in a research startup. He spent one year teaching as an assistant professor at Beloit College, WI. From 2002 to 2004, while with the software vendor ISIS Papyrus, he worked as a consultant for an HMO in New York, NY and Albany, NY, and for the financial industry in Frankfurt, Germany. In 2004 he joined the Vienna University of Technology and founded together with A Min Tjoa and Markus Klemen the research center SBA Research.

Conceptual Modelling: how to do it right? Lessons from observing the conceptual modelling process of students

Prof. Monique Snoeck, KU Leuven, Belgium

Providing individual and immediate feedback in educational situations is a critical factor for improving knowledge and skills acquisition. This is especially important for complex ill-structured learning tasks, i.e. tasks that are characterized by having multiple good solutions (ill-structured), allowing individual learners to follow different routes for achieving the final learning objectives, and having non-evident interactions between the different concepts in the problem domain. Conceptual modelling is an example of such complex learning task as it requires rigorous analytical skills and experience to externalize requirements into high-quality formal representations - conceptual models. These skills are very difficult to teach to novice modellers mainly due to the lack of tools that can continuously guide them in the learning process. In this talk, I will report about the use of automated feedback and simulation to guide the student's learning process for conceptual modelling. Furthermore, lessons from student modelling behaviour as observed from logging the modelling process of students will be presented. The findings include a set of typical modeling and validation patterns that can be used to improve teaching guidance for domain modeling courses. From a scientific viewpoint, the outcomes of the work can be inspirational outside of the area of domain modeling as learning event data is becoming readily available through virtual learning environments and other information systems.

Short Bio

Monique Snoeck holds a PhD in computer science from the KU Leuven. She is full professor in the Department of Decision Sciences and Information Management of the Faculty of Economics and Business of the KU Leuven and visiting professor at the University of Namur (UNamur). She has a strong research track in conceptual modeling, requirements engineering, software architecture, model-driven engineering and business process management. Main guiding research themes are domain modelling, business process modelling, model quality, model-driven engineering, and e-learning. Previous research has resulted in the Enterprise Information Systems Engineering approach MERODE, and its companion e-learning and prototyping tool JMermaid. She is author of 2 books, (co)-author of over 40 peer-reviewed journal papers and 60 peer-reviewed conference papers.

Tutorials

Human-Machine Interaction
Hermann Kaindl, TU Wien, Austria

Usually, courses are given on human-computer interaction these days, while in recent years there was a major shift towards (mobile) devices and machines , with new human interfaces. Of course, they include embedded computers and software, but their interaction with users poses many new challenges and offers new solutions.

This tutorial shows manifold usability problems as observed by the proposer in daily life, beyond those usually known from graphical user interfaces (GUIs) of traditional PCs (including laptop computers). It explains them by human factors usually unknown to embedded engineers and motivates user experience. User -centered and Usage -centered Design are compared with the result that they typically overlap but have a different focus each on Interaction Design. Usability Test and Usability Study are explained and contrasted as well. In addition, this tutorial explains key properties of Multimodal Interfaces and UIs of Mobile Devices. Finally, it culminates in a sketch of specific challenges of Human-Robot Interaction.

Short Bio

Hermann Kaindl joined the Institute of Computer Technology at TU Wien in Vienna, Austria, in early 2003 as a full professor. Prior to moving to academia, he was a senior consultant with the division of program and systems engineering at Siemens Austria. There he has gained more than 24 years of industrial experience in software development and human-computer interaction. He has published five books and more than 220 papers in refereed journals, books and conference proceedings. He is a Senior Member of the IEEE and a Distinguished Scientist Member of the ACM, and he is on the executive board of the Austrian Society for Artificial Intelligence. He has previously run more than 50 tutorials.

Intelligence at the Edge: Secure and Privacy Aware Consumer Centric IoT Services

Soumya Kanti Datta, EURECOM, France

This tutorial will initially highlight the challenges of cloud based IoT platforms stemming from supporting ultra-low latency and high mobility IoT services. To mitigate these challenges, the IoT industry is exploring Edge Computing (EC). Proximity to consumers, dense geographical distribution and support for mobility are enabling the industry to utilize EC for many IoT services. These include on-demand video distribution, localized analytics, augmented reality and connected vehicles. Security, privacy and trust are big challenges for consumer IoT service providers. The mentioned services will generate data about user environment, interaction pattern with IoT devices and utilize critical services like financial transactions. This presentation will describe many mechanisms needed to create a global security framework for consumer privacy. A connected vehicle scenario will be utilized to further illustrate the architecture and building blocks of EC as well as security, privacy of vehicular data, computing and dissemination to consumers.

Short Bio

Soumya Kanti Datta is a Research Engineer and joined EURECOM in 2012. His research focuses on innovation, standardization, development of next-generation technologies in Internet of Things, Connected Cars and Smart Cities. He has contributed to three FUI Pole SCS projects (Smart 4G Tablet, WLBox 4G, Platform Telecom), an ANR project (DataTweet) and is currently working on H2020 HIGHTS project. He is an active member of IEEE Consumer Electronics Society and its Future Directions Committee on IoT. He has published more than 50 research papers and articles in top IEEE Conferences, Magazines and Journals. Soumya has served in top IEEE conferences in many capacities. Currently he is involved in oneM2M, IEEE ComSoc IoT Research Group and W3C Auto & Web of Things Standards Group and contributing to their standard development activities.

Modelling Method Conceptualization within OMiLAB: The Secure Tropos Case

Dominik Bork, University of Vienna, Austria
Michalis Pavlidis, University of Brighton, UK

Development of domain specific modelling languages can be observed by a growing number of groups emphasizing the implementation of individual modelling languages, methods and approaches for a variety of application domains. Domain orientation allows to express focused models in a context of a specific application domain. To raise benefits of domain-specific modelling and in particular the use of developed models, tool support must not be limited to model editors realizing a certain language, but instead must provide full-fledged functionality for domain-specific modelling methods. This tutorial will introduce the Open Models Laboratory (OMiLAB, www.omilab.org), an open environment for method engineering and tool development. The tutorial will report on the Secure Tropos method engineering case in OMiLAB. Secure Tropos is a security-aware software systems development methodology, which combines requirements engineering concepts together with security engineering concepts under a unified process to support the analysis and development of secure and trustworthy software systems.

Short Bio

Dominik Bork is working as a post-doctoral researcher at the Research Group Knowledge Engineering in the Faculty of Computer Science at the University of Vienna. He received his PhD in information science from the University of Bamberg with the topic of consistent enterprise modelling with multiple views. His research interests cover conceptual modelling, meta modelling, multi-view modelling, and the methodical support of modelling tool development. He is member of the executive committee of the Berlin-Brandenburg chapter of the German Informatics Society. Dr. Bork has developed several modelling tools based on the ADOxx meta modelling platform and is author of scientific papers that have been presented at international conferences like AMCIS, KSEM, HICSS, or published in international journals like Enterprise Modeling and Information Systems Architectures, Interaction Design & Architectures.

Michalis Pavlidis is a Senior Lecturer in Information Systems Security at the School of Computing, Engineering and Mathematics at the University of Brighton UK, since 2014. He is also a member of the Secure and Dependable Software Systems (SenSe) research cluster. He holds a PhD in software engineering and was awarded a PhD scholarship from the Engineering and Physical Sciences Research Council (EPSRC) and British Telecom (BT). His main research focuses on the engineering of trustworthy information systems. His research interests are in the area of requirements engineering and more particularly in trust, security, and privacy engineering and cloud computing. Michalis is member of the IEEE, ACM, and of the British Computer Society (BCS). Michalis is also a reviewer for the i* workshop (iStar), the European Conference on Information Systems Management (ECISM), and the Workshop on Information Systems Security Engineering (WISSE). He is currently participating in the H2020 VisiOn and MITIGATE projects investigating privacy challenges in public administration services and security challenges in maritime supply chains. He contributed to the development of the Secure Tropos modelling tool and keeps updating the tool to reflect recent developments in the modelling method (http://austria.omilab.org/psm/content/sectro/).

Social Events

RCIS Reception

The conference reception will take place on the 10th of May (Wednesday) at the Brighton Museum & Art Gallery, which is located in the Royal Pavilion garden, at the heart of the city's cultural quarter. Its diverse collections bring together the arts and history to tell stories about the city and the world we live in. Brighton Museum & Art Gallery began life in 1861 in a few rooms at the Royal Pavilion. This early museum soon outgrew the palace and Brighton made ambitious plans to create a larger and more impressive museum, in 1873 it moved to its present site. Although it occupies land that was formerly used as part of George IV's stable complex, the building was built especially for the museum. Indeed it was one of the first purpose built museums in England. Delegates will have the opportunity to admire a number of galleries including the 20th Century Art & Design, World Stories: Young Voices, Willett's Popular Pottery, Local History and Ancient Egypt. Nibbles and drinks will be available to compliment the evening.
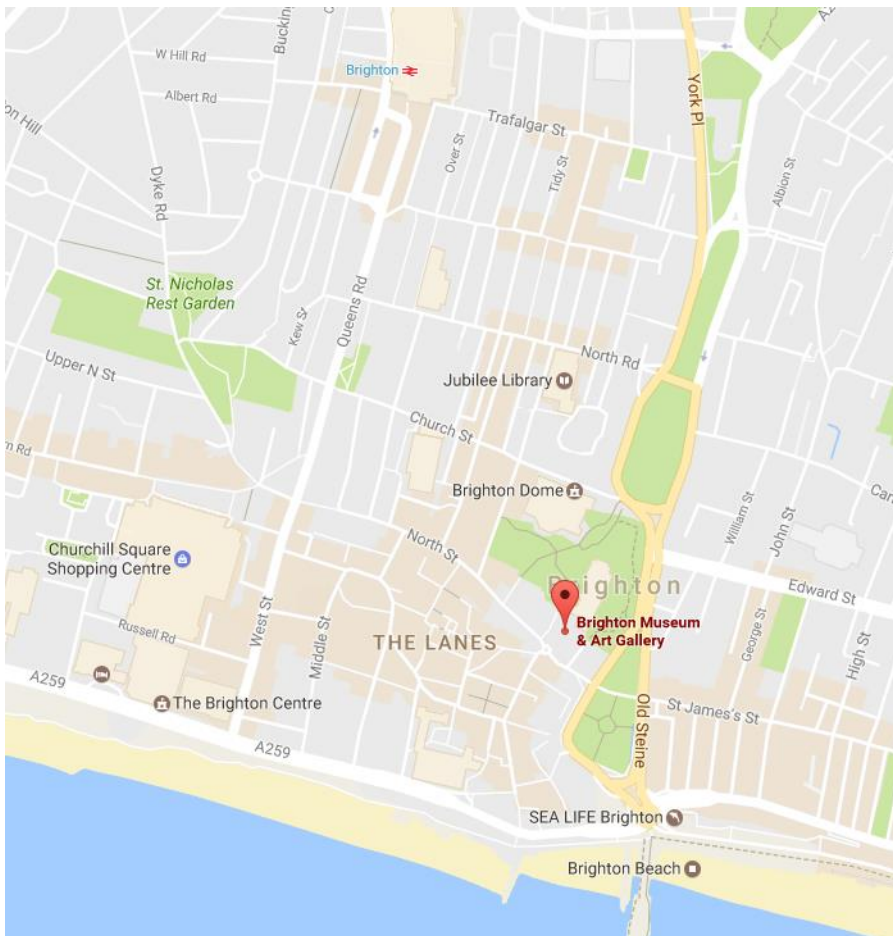

Brighton Museum is situated in the heart of Brighton's city centre cultural quarter, close to the Lanes and North Laine shopping areas and only five minutes' walk from the sea. The entrance is in the Royal Pavilion Gardens.

Address:

Brighton Museum,
Royal Pavilion Gardens,
Brighton BN1 1EE

Conference Gala

On Thursday (11th of May), you will enjoy a superb dining experience at Alfresco's, a contemporary glass restaurant in the former Milkmaid Pavilion. Basking in the shadows of the West Pier, Alfresco's spectacular setting means it offers unparalleled views along the Sussex coast as well as a variety of stunning photographic backdrops unrivalled by any other beachside venue in Brighton.
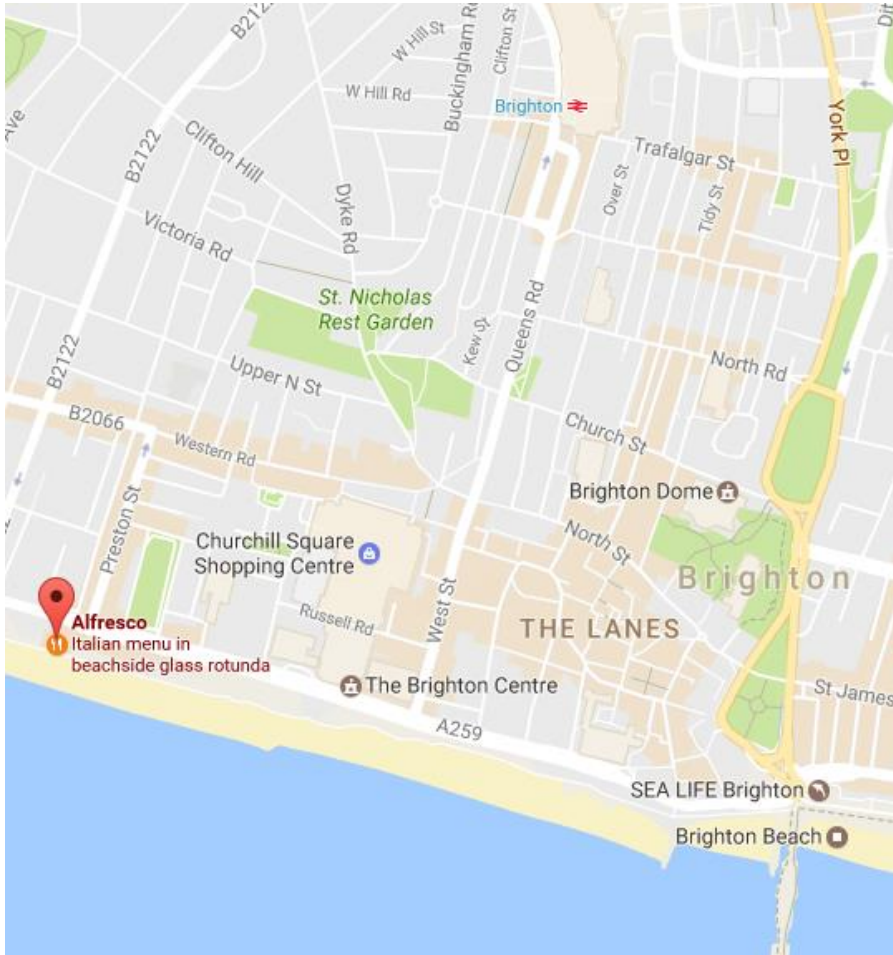
Address:

Alfresco Restaurant

*The Milkmaid Pavilion
26 Kings Road Arches,
Brighton BN1 2LN*