CAïSE'19

31st International Conference on Advanced Information Systems Engineering

3-7 JUNE 2019
Rome, Italy
http://www.caise19.it

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MILANO 1863

SAPIENZA
Università di Roma

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ABOUT THE CONFERENCE CAISE 2019

The 31st edition of the CAiSE conference series is hosted by Dipartimento di Ingegneria Informatica, Automatica e Gestionale Antonio Ruberti (DIAG) at Sapienza Università di Roma, Rome, Italy, from 3 to 7 June, 2019.

The conference continues its tradition as the premiere venue for innovative and rigorous research across the whole spectrum of Information Systems Engineering with a special emphasis on the theme Responsible Information Systems.

This year's theme acknowledges that trends like IoT, big data analytics, artificial intelligence, machine learning, as well as blockchain technology are expected to push digital transformation even further. While many of these technologies bear huge potential for information systems that are flexible enough for digital transformation and support high velocity decision-making, they also pose new challenges for designing information systems that are responsible by considering privacy, security, and ethical concerns and providing trustworthiness.

The organization of CAiSE 2019 is managed by Sapienza Università di Roma, Rome, Italy, and Politecnico di Milano, Milan, Italy.

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VENUE OF THE WORKSHOPS AND CO-LOCATED EVENTS

DIAG - Sapienza Università di Roma

The workshops, working conferences (BPDMS'19 and EMMSAD'19), are held at **DIAG – Dipartimento di Ingegneria Informatica, Automatica e Gestionale Antonio Ruberti**, Via Ariosto 25, 00185, Rome, Italy.

AULA MAGNA

Aula Magna is a large conference hall with a capacity of 100 seats and hosts the BPMDS sessions, June 3 - 4.

ROOM B2 "MARCO CADOLI"

B2 (Marco Cadoli) is a large room with a capacity of 80 seats and hosts the EMMSAD sessions, June 3 - 4.

ROOMS A3 - A6

The rooms A3 - A6 are standard classrooms with a capacity of 35 seats and host various workshop sessions.

JUNE 3

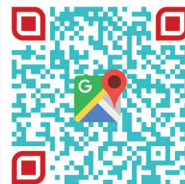**A3** - *ODOCH*

A4 - *EOMAS*

A5 - *FAiSE & BIOC joint workshop*

JUNE 4

A3 - *PIE*

A4 - *EOMAS*

A5 - *COGNISE*

A6 - *KET4DF*

VENUE OF THE WORKSHOPS AND CO-LOCATED EVENTS

Courtyard

B2

B203

Same position on second floor

Aula Magna (1st floor)

Entrance

Registration Desk

A1

A2

A3

A4

A5

A6

A7
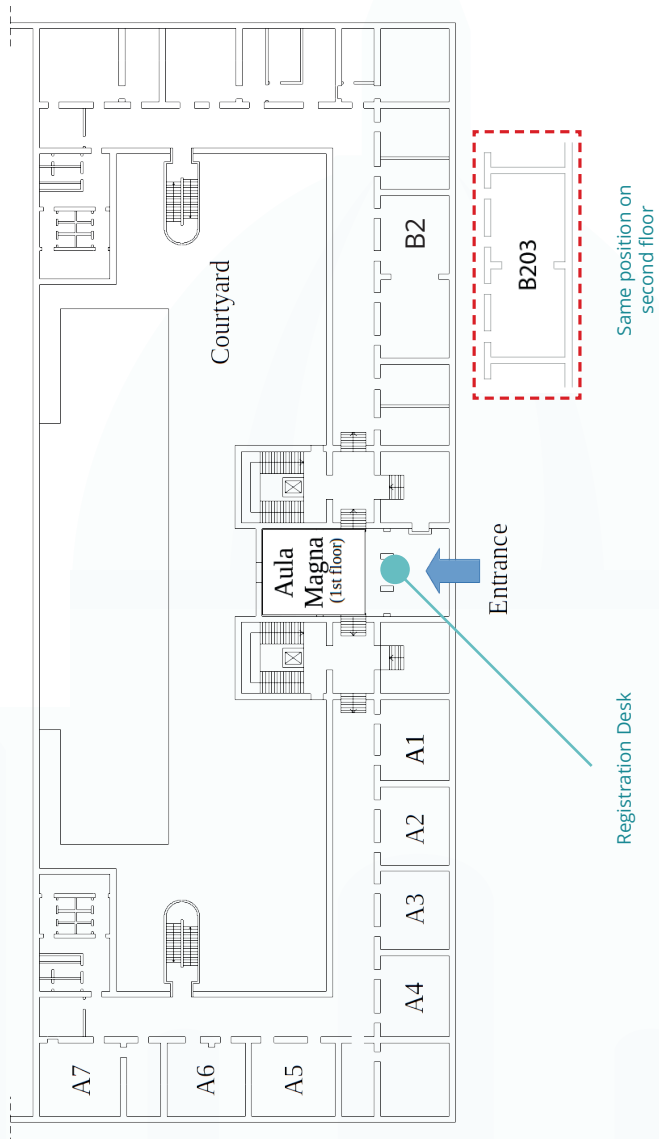
MAIN CONFERENCE VENUE

The main conference and the tutorials are hosted by **Auditorium Antonianum**, Viale Manzoni 1, 00185 Rome, Italy.

Auditorium Antonianum is a multifunctional structure in the heart of the city centre, where a variety of spaces of different shapes and seating capacities are available for company meetings, courses, conferences, product launches, exhibitions, displays, lectures, receptions, gala evenings, theatre performances and other events.

The main conference takes places in:

The **Auditorium** is where the conference keynotes and regular sessions take place. This room has a capacity of 280 seats.

Room A hosts the tutorials and regular sessions. This room has a capacity for 60 seats.
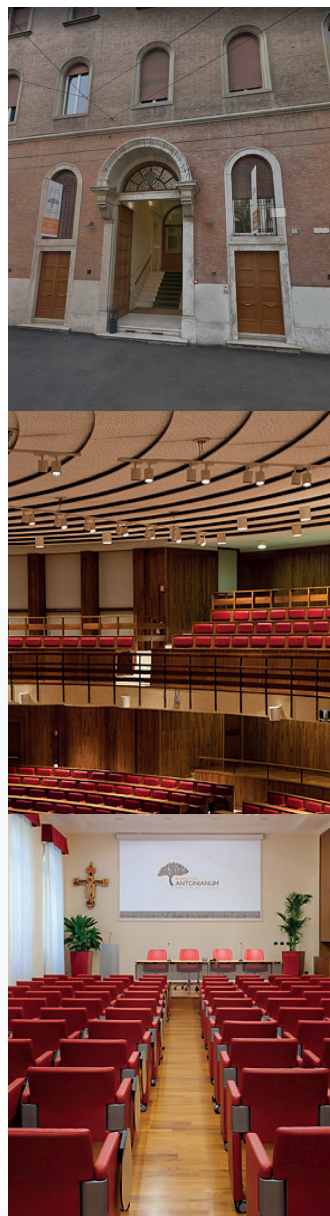
Room 7 hosts the Doctoral Consortium. This room has a capacity for 60 seats.

Room Jacopone Da Todi hosts the regular sessions. This room has a capacity for 60 seats.

The **Foyer** hosts the forum and demo sessions (there is no seating in this area).

The **Press Room** hosts the steering committee meeting.

The **Coffee Breaks** and **Lunch** are located in **San Francesco** and **San Bernardino** rooms and the **Garden** (subject to the weather).

MAIN CONFERENCE VENUE

San Francesco

San Bernadino
Da Siena

Auditorium

Press Room

Ground Floor

Viale Manzoni

Main Entrance

Registration Desk

Bar

Jacopone
Da Todi

Foyer

Garden

Room 7
(First Floor)

Room A
(First Floor)
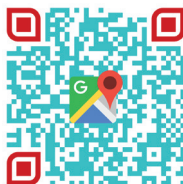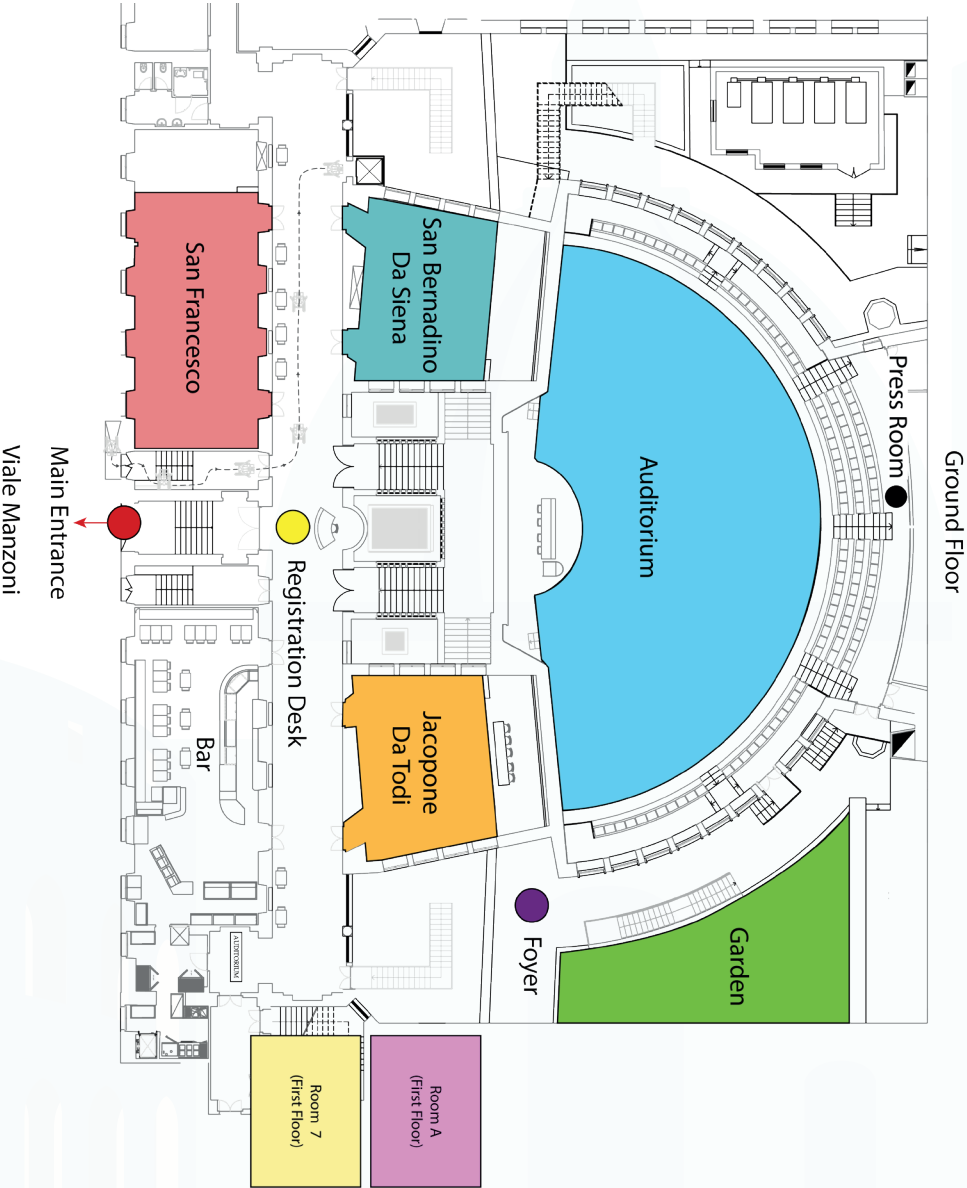
AUDITORIUM

GENERAL INFORMATION

Registration Desk

Our helpful staff are always available at the registration desk on the **ground floor** of **DIAG** between the **3rd - 4th of June**, and in the entrance of the **Auditorium Antonianum** between the **5th - 7th of June**. During the whole conference, please do not hesitate to ask us if you require assistance.

Conference Badge

A conference badge is handed over to you as soon as you have registered at the registration desk (see information above). Please keep the badge visible at all times during the conference, workshops, and social events.

Internet Connection

DIAG
Information about the internet connection at DIAG are provided at registration.
The EDUROAM network is available.

Auditorium Antonianum (Ground Floor)
Network: auditorium antonianum
Password: caise2019

Auditorium Antonianum (Room A & Room7)
Network: Auditorium 2nd Floor
Password: caise2019

Twitter

You are encouraged to send tweets using the hashtag **#caise2019** via **@CAiSEConf** where practical information, and updates are shared, and questions from the public are answered.

PROGRAM AT A GLANCE

	Monday 3 June	Tuesday 4 June	Wednesday 5 June
08:15 - 09:00	Registration	Registration	Registration
	09:00 - 11:00 Workshops & BPMDS/EMMSAD	**09:00 - 11:00** Workshops & BPMDS/EMMSAD	**08:45 - 09:15** ● Opening
			09:15 - 10:15 ● Keynote #1 - Annie I. Antón
			10:15 - 11:15 ● Session: Big Data Applications in IS
11:00 - 11:30	Coffee Break	Coffee Break	Coffee Break 11:15 - 11:30
	11:30 - 13:00 Workshops & BPMDS/EMMSAD	**11:30 - 13:00** Workshops & BPMDS/EMMSAD	**11:30 - 13:00** ● Session: Requirements Engineering ● Session: Business Process modeling and engineering (1) ● Tutorial 1: Building Data Warehouses in the Era of Big Data: An Approach for Scalable and Flexible Big Data Warehouses
13:00 - 14:30	Lunch	Lunch	Lunch
	14:30 - 16:00 Workshops & BPMDS/EMMSAD	**14:30 - 16:00** Workshops & BPMDS/EMMSAD	**14:30 - 15:00** ● Forum Introduction
			15:00 - 16:00 ● Forum Part #1
			15:00 - 16:00 ● Steering Committe meeting
16:00 - 16:30	Coffee Break	Coffee Break	Coffee Break
	16:30 - 18:00 Workshops & BPMDS/EMMSAD	**16:30 - 18:00** Workshops & BPMDS/EMMSAD	**16:30 - 17:30** ● Forum Part #2
			16:30 - 17:30 ● Steering Committe meeting
	20:00 - 23:00 Workshops and Co-located Events Dinner		**18:15 - 23:00** Walkthrough Antiques & Social Dinner

	Thursday 6 June	Friday 7 June

08:15 - 09:00

Registration

09:00 - 10:00
- 🔵 Keynote #2 - Ethan Hadar

09:00 - 10:00
- 🔵 Keynote #3 - Maurizio Lenzerini

10:00 - 11:00
- 🔵 Session: Blockchains
- 🟠 Session: Social Computing

10:00 - 11:00
- 🔵 Session: Integrating Processes and Data

11:00 - 11:30

Coffee Break

Coffee Break

11:30 - 13:00
- 🟠 Session: Conceptual Modeling for IS engineering
- 🔵 Session: Quality of IS models for analysis and design
- 🟣 Tutorial 2: Semantic Modeling of Performance Indicators for Collaborative Information Systems

11:30 - 13:00
- 🟠 Session: Information System Security
- 🔵 Session: Process monitoring and adaptation
- 🟣 Tutorial 4: Conformance Checking: Relating Processes and Models
- 🟡 Doctoral Consortium #3

13:00 - 14:30

Lunch

Lunch

14:30 - 16:00
- 🟠 Session: Conceptual Modeling
- 🔵 Session: Process Mining
- 🟣 Tutorial 3: Ontological Patterns and Anti-Patterns for the Modeling of Complex Enterprise Relations
- 🟡 Doctoral Consortium #1

14:30 - 16:00
- 🔵 Session: Information Systems Engineering (2)
- 🟡 Doctoral Consortium #4

16:00 - 16:30

Coffee Break

16:00 - 16:30
- 🔵 Closing Ceremony

16:30 - 18:00
- 🟠 Session: Information Systems Engineering (1)
- 🔵 Session: Business Process modeling and engineering (2)
- 🟡 Doctoral Consortium #2

Key
- 🔵 Auditorium
- 🟣 Room A
- 🟠 Jacopone Da Todi
- 🟣 Foyer
- 🟡 Room 7
- ⚫ Press Room

20:00 - 0:00
Conference Party

KEYNOTES

Dr. Annie I. Antón
Professor in the School of Interactive Computing at the Georgia Institute of Technology in Atlanta

Date: Wednesday, June 5
Time: 09:15 - 10:15
Location: Auditorium

How to Help Systems Engineers Deal with Privacy Law

Abstract

The emergence of global privacy regulations have placed challenging constraints on the design of software. This keynote will address how GDPR, the California Consumer Privacy Act, and over 100 other nations' privacy laws are changing the requirements facing systems engineers. It will put forth strategies for systems engineers to address this growing complexity as they seek to achieve compliance and uphold individuals' fundamental rights to privacy.

Bio

Dr. Annie I. Antón is a Professor in (and former chair of) the School of Interactive Computing at the Georgia Institute of Technology in Atlanta. She has served the national defense and intelligence communities in a number of roles since being selected for the IDA/DARPA Defense Science Study Group in 2005-2006. Her current research focuses on the specification of complete, correct behavior of software systems that must comply with federal privacy and security regulations. In 2016, she was appointed by President Barack Obama to the 12-person bi-partisan Commission on Enhancing Cybersecurity for the Nation. Antón currently serves on various boards, including: the NIST Information Security & Privacy Advisory Board, and the Future of Privacy Forum Advisory Board. She is a former member of the U.S. DHS Data Privacy and Integrity Advisory Committee, the CRA Board of Directors, the NSF Computer & Information Science & Engineering Directorate Advisory Council, the IEEE Computer Society Research Board, an Intel Corporation Advisory Board, the DARPA ISAT Study Group, the USACM Public Policy Council, the Advisory Board for the Electronic Privacy Information Center in Washington, DC, the Georgia Tech Alumni Association Board of Trustees, the Microsoft Research University Relations Faculty Advisory Board, the CRA-W, and the Georgia Tech Advisory Board (GTAB).

Prior to joining the faculty at Georgia Tech, she was a Professor of Computer Science in the College of Engineering at the North Carolina State University. Antón is a three-time graduate of the College of Computing at the Georgia Institute of Technology, receiving a Ph.D. in 1997 with a minor in Management & Public Policy, an M.S. in 1992, and a B.S. in 1990 with a minor in Technical and Business Communication.

Antón served as the Olympic Envoy to Equatorial Guinea during the 1996 Summer Olympic Games. In 2006, she was honored with an award for "Most Influential Paper of ICRE 1996" at RE'06 for her 1996 paper entitled "Goal-Based Requirements Analysis". Her 1994 IEEE Software paper with co-authors Colin Potts and Kenji Takahashi was ranked the #10 most highly cited IEEE Software paper in its 25th Anniversary issue. In 2015 she was recognized nationally by Alpha Delta Pi Sorority with the Outstanding Alumnae Achievement Award for Contribution to Profession. She is a former associate editor of IEEE Transactions on Software Engineering, former cognitive issues area editor for the Requirements Engineering Journal, and a former member of the International Board of Referees for Computers & Security. From 2008-2012 she served as co-Vice Chair of the ACM U.S. Public Policy Executive Committee. She is a member of the International Association of Privacy Professionals, a member of Omicron Delta Kappa (ODK) National Leadership Honor Society, a senior member of the IEEE, and an ACM Distinguished Scientist.

Dr. Ethan Hadar
Managing Director, Chief Scientist Europe and Middle East, Accenture Labs

Date: Thursday, June 6
Time: 09:00 - 10:00
Location: Auditorium

The post-digital era – technology trends and needed research

Abstract

The digital era is here. Digitization enables companies today to understand their customers with a new depth of granularity. There are more digital ecosystems and potential partners to help companies create holistic experiences. Companies are facing entirely new set of expectations from customers, employees and business partners, combining innovative services and hyper-personalization to change the way the market itself works. Now we are entering the post- digital era, in which companies are asking what's next?

Companies must first earn a level of trust that meets their customers, employees and business partners' goals, and they must use that trust responsibly. Such changes include addressing privacy, safety, ethics, and governance questions. This keynote presents Accenture Technology Vision 2019 which outlines five technology trends and challenges for research organizations and universities. The first trend outlines the new generation of technologies of Distributed Ledger, Artificial Intelligence, Extended Reality, and Quantum Computing, and applying these technologies in combination. The second through fifth trends describe what this post digital world will look like from the lens of consumers, employees, security and overall market dynamics. The keynote contains insights from executive leaders of Accenture discussing the vision and trends definition including examples.

Bio

Dr. Ethan Hadar is the Managing Director and Chief Scientist of Europe, Middle East and Africa for Accenture Labs. Accenture Labs' seedbed and innovation hub are driving innovation in Cyber Security, Autonomous Objects, AI, Connected World and Industrial IoT, Smart Industrial Engineering, and Software Engineering. As an example, Accenture Labs and Cyber Fusion Center in Tel Aviv mission is to develop game-changing technologies that assist companies to best understand, prioritize, and remediate not only the threats they face, but also those challenging their ecosystem, while recognizing the business impacts those vulnerabilities pose to partners. Reframing risk to proactively make security a part of business discussions helps companies to begin and view their own business the way attackers do, leading to better preparation overall. Hence, Accenture's Agile Security, invented by Dr. Hadar, improves business deci-sion-making by helping businesses and security owners to prioritize security actions that are most critical to their business.
Prior to joining Accenture, Dr. Hadar worked in the US, Europe, Asia, Middle East and Israel with IBM Research, CA Technologies, AGT, and HP. He served as Senior Vice President for research, CTO, and Chief Architect. Dr. Hadar is a distinguished engineer with 57 patents and 63 peer reviewed published articles and over 50 invited talks at customers and scientific global conferences. He is a faculty member of Zefat Academic College, Department of Information Systems, and holds a PhD in Operations Research and Systems Analysis and M.Sc. in Mechatronics from Technion, Israeli Institute of Technology.

Prof. Maurizio Lenzerini, PhD

Professor of Data and Knowledge Management at the Department of Computer, Control, and Management Engineering of Sapienza University of Rome

Date: Friday, June 7
Time: 09:00 - 10:00
Location: Auditorium

Direct and reverse rewriting in data interoperability

Abstract

Data interoperability refers to the issue of accessing and processing data from multiple sources in order to create more holistic and contextual information for improving data analysis and decision-making. A fundamental component of all data interoperability frameworks is the mapping. Indeed, put in an abstract way, any interoperability scenario is characterized by an architecture constituted of various autonomous nodes which hold information, and which are linked to other nodes by means of mappings. A mapping is a statement specifying that some relationship exists between pieces of information held by one node and pieces of information held by another node. It turns out that there are two fundamental ways, called direct and reverse query rewriting, respectively, to make use of mappings when performing query-oriented data interoperability tasks. The goal of this talk is to provide an account of both direct and reverse rewritings, focusing in particular on Ontology-based Data Management, which is a data interoperability scenario aiming at exploiting Knowledge Representation and Reasoning techniques for Data Management.

Bio

Maurizio Lenzerini is a Professor of Data and Knowledge Management at the Department of Computer, Control, and Management Engineering of Sapienza University of Rome. He is conducting research on Database Theory, Data Management, Knowledge Representation, Automated Reasoning, Knowledge Graphs, and Ontology-based Data Access and Integration. He is the author of more than 300 publications on the above topics, and has delivered around 40 invited talks. According to Google Scholar he has an h-index of 78, and a total of 25200 citations (January 2019). He is the recipient of two IBM Faculty Awards, a Fellow of EurAI (European Association for Artificial Intelligence), a Fellow of the ACM (Association for Computing Machinery), a Fellow of AAAI (Association for the Advance of Artificial Intelligence), an ER Fellow, and a member of the Academia Europaea – The European Academy. He is a logic, basketball, and Bob Dylan enthusiast.

TUTORIALS

Tutorial #1: Building Data Warehouses in the Era of Big Data: An Approach for Scalable and Flexible Big Data Warehouses

Date: Wednesday, June 5
Time: 11:30 - 13:00
Location: Room A

Abstract

This tutorial addresses the design and implementation of Big Data Warehouses, presenting a general approach that researchers and practitioners can follow in their Big Data Warehousing projects, exploring several demonstration cases focusing on system design and data modelling examples in areas like smart cities, retail, finance, manufacturing, among others.

Speakers

Carlos Costa

Carlos Costa (PhD) is an Invited Lecturer in the field of Information Systems, at the University of Minho (http://www.uminho.pt). Previous experiences include senior Big Data engineer, researcher, software developer and database administrator. He is the (co)-author of several scientific and technical publications in the area of Big Data, Data Warehousing and Data Science, and he is constantly looking for new ways of contributing to the community of researchers and practitioners related to these topics.

Maribel Yasmina Santos

Maribel Yasmina Santos (PhD) is an Associate Professor at the Department of Information Systems, University of Minho (http://www.uminho.pt), Senior Researcher of the ALGORITMI Research Centre (http://algoritmi.uminho.pt), and leader of SEMAG, the Software-based Information Systems Engineering and Management Group, at ALGORITMI. Her research interests include Business Intelligence and Analytics, Big Data Analytics, (Big) Data Warehousing and Online Analytical Processing.

Tutorial #2: Semantic Modeling of Performance Indicators and Metrics

Date: Thursday, June 6
Time: 11:30 - 13:00
Location: Room A

Abstract

Performance Indicators (PIs) and metrics are essential management tools. They provide synthetic objective measures to monitor the progress of a process, set objectives and assess deviations, enabling effective decision making. They can also be used for communication purposes, facilitating the sharing of objectives and results, or improving the awareness on certain phenomena, thus motivating more responsible and sustainable behaviors. Given their strategic role, it is of tantamount importance, as well as challenging, to guarantee that the intended meaning of an indicator is fully shared among stakeholders, and that its implementation is aligned with the definition provided by decision makers, as this is a pre-condition for data quality and trustworthiness of the information system. The tutorial will survey recent semantic approaches to specify conceptual definitions of indicators and metrics, illustrating also the advantages of these formal approaches in relevant use cases and application domains. Special emphasis will be given to distributed collaborative information systems, where semantic specifications promise to offer the best impact when dealing with discrepancies among different definitions of an indicator, data integration, and sharing.

Speakers

Claudia Diamantini

Claudia Diamantini, Ph.D., is Associate Professor at Università Politecnica delle Marche. She is Vice Dean of the Faculty of Engineering and coordinates the PhD curriculum in Computer and Automation Engineering. Her main research interests are in semantic models for data interoperability, data analytics and data mining. She has been working on these topics within national and international research projects and collaborations.

Domenico Potena

Domenico Potena received the MSc degree in Electronic Engineering from the University of Ancona, Italy, in 2001, and the Ph.D. in Information Systems Engineering from the Università Politecnica delle Marche, Italy, in 2004. At present, he is an assistant professor at Università Politecnica delle Marche. His research interests include knowledge discovery in databases, big data analytics, data warehousing and process mining.

Emanuele Storti

Emanuele Storti is a postdoctoral researcher in Computer Science at the Department of Information Engineering of Università Politecnica delle Marche and EOSC Officer at Eurodoc (European Council of Doctoral Candidates and Junior Researchers). His research interests include semantic technologies and knowledge management to support interoperability in distributed and collaborative eco-systems of organizations, open data, business intelligence.

Tutorial #3: Ontological Patterns and Anti-Patterns for the Modeling of Complex Enterprise Relations

Date: Thursday, June 6
Time: 14:30 - 16:00
Location: Room A

Abstract

Enterprise modeling requires of course to pay attention to different kinds of business relationships. In many cases, we need to talk about such relationships, for instance, when the contractual conditions that regulate them evolve in time, or when such conditions are violated. In terms of conceptual modeling, this means that relationships need to be reified, i.e., they need to be put in the domain of discourse.
In this tutorial we shall first introduce the ontological basis of relationships reification, according to which relationships are construed as truthmakers of relational statements. We shall then illustrate different kinds of ontological patterns and anti-patterns based on the different nature of such truthmakers, by discussing concrete case studies related to enterprise modeling.
The material presented is based on a novel theory of relationships and reification that has been successfully applied to model economic transactions, legal relations, service contracts and service life-cycles, preference relations in economics, and strategic enterprise relationships.

Speakers

Nicola Guarino

Nicola Guarino works at the Laboratory for Applied Ontology (LOA) of the CNR Institute of Cognitive Sciences and Technologies (ISTC-CNR) in Trento. He has been playing a leading role in the ontology field, developing a strong interdisciplinary approach that combines together computer science, philosophy, and linguistics. Current research interests are focusing on the ontological foundations of knowledge representation and conceptual modeling, enterprise modeling, service science, socio-technical systems, and the ontology of economics.

Giancarlo Guizzardi

Giancarlo Guizzardi is a Professor of Computer Science at the Free University of Bolzano-Bozen, Italy, where he leads the Conceptual and Cognitive Modeling Research Group (CORE). He has been working for more than two decades in the interplay between
Applied Ontology and Information Systems Engineering.

Daniele Porello

Daniele Porello is a researcher at the Laboratory for Applied Ontology, Institute for Cognitive Sciences and Technologies, Italian National Research Council (CNR). He is working in areas such as foundational ontology, computational logics, non-classical logics, computational social choice and cognitive semantics.

Tutorial #4: Conformance Checking: Relating Processes and Models

Date: Friday, June 7
Time: 11:30 - 13:00
Location: Room A

Abstract

Conformance checking defines models and methods to analyze the relation between the behavior of a process as captured by a process model and the behavior of it as captured by event data that is recorded by an information system during process execution. The goal of the tutorial is to introduce the essential ideas of how to relate modelled and recorded behavior on an intuitive level, and outline the space of applications that may benefit from conformance checking.

Speakers

Josep Carmona

Josep Carmona is an associate professor at the Computer Science Department of the Universitat Politècnica de Catalunya, Spain. He has taught process mining to students and practitioners for a decade in several countries. He is also an active researcher in process mining, business process mangament, formal methods and data science. He is involved in several open-source projects related to these fields.

Boudewijn van Dongen

Boudewijn van Dongen is chair of the process analytics research group at the Department of Mathematics and Computer Science of the Eindhoven University of Technology. He has been an active researcher in the field of process mining since the first papers on the topic appeared in the late nineties and today he focusses on both fundamental questions in the area of conformance checking as well as the engineering aspects thereof. His research group maintains the process mining framework ProM, which allows students, researchers and practitioners worldwide to contribute to state-of-the-art developments in process mining.

Matthias Weidlich

Matthias Weidlich heads a research group at Humboldt-Universität zu Berlin, Germany. His research interests include process-oriented and event-driven information systems. Specifically, his group develops formal methods for the specification and verification of such systems, their analysis based on event data, and techniques that optimise their run-time behaviour.

DETAILED PROGRAM

Monday, June 03, 2019

08:15 - 09:00 **REGISTRATION**   *MAIN ENTRANCE*

09:00 - 10:30 **EMMSAD & BPMDS JOINT KEYNOTE**   *AULA MAGNA*

> **Keynote: Modeling and AI: friends or foes?** - *Jordi Cabot, Open University of Catalonia*

10:30 - 11:00 **EMMSAD SESSION 1: OPENING**   *ROOM B2*

10:30 - 11:00 **BPMDS SESSION 1: OPENING**   *AULA MAGNA*

09:00 - 11:00 **BIOC SESSION 1: OPENING, KEYNOTE & PAPER PRESENTATION**   *ROOM A5*

> **09:00 - 09:10** **Opening of BIOC Workshop**
>
> **09:10 - 10:30** **Keynote: Collaborative Business Process Execution on Blockchain** - *Marlon Dumas*
>
> **10:30 - 11:00** **Blockchain Usage for Government-issued Electronic IDs: a Survey** - *Michael Kuperberg, Sebastian Kemper, and Cemil Durak*

09:00 - 11:00 **EOMAS SESSION 1: OPENING, KEYNOTE & PAPER PRESENTATION**   *ROOM A4*

> **09:00 - 09:15** **EOMAS Opening**
>
> **09:15 - 10:30** **Keynote: Perspectives on applying Normalized Systems Theory to Conceptual Modeling** - *Jan Verelst*
>
> **10:30 - 11:00** **Semantic Integration of Various Conceptual Models** - *Marek Suchánek*

09:00 - 10:30 **ODOCH SESSION 1: KEYNOTE & REGULAR PAPERS**   *ROOM A3*

> **09:00 - 10:00** **Keynote: Cultural Heritage objects, linking their context by ontologies and the FAIR3 data principles -** *Christian-Emil Ore*
>
> **10:00 - 10:30** **OpenArchaeo for Usable Semantic Interoperability** – *Olivier Marlet, Thomas Francart, Béatrice Markhoff and Xavier Rodier*
>
> **10:30 - 11:00** **LOD Publication in the Archival Domain: Methods and Practices** *–Fabiana Guernaccini, Silvia Mazzini and Giovanni Bruno*

11:00 - 11:30 **COFFEE BREAK**   *COURTYARD*

11:30 - 13:00 **BPMDS SESSION 2: TRANSFORMATIVE BUSINESS**   *AULA MAGNA*
PROCESS MODELING, DEVELOPMENT & SUPPORT

11:30 - 12:00 **Augmented Reality-based Process Modelling for the Internet of Things with HoloFlows -** *Ronny Seiger, Maria Gohlke and Uwe Assmann*

12:00 - 12:30 **The Rise of Enforceable Business Processes from the Hashes of Blockchain-based Smart Contracts -** *Sara Migliorini, Mauro Gambini, Carlo Combi and Marcello La Rosa*

12:30 - 13:00 **Towards a knowledge base of business process redesign: Forming the structure -** *Neta Kettler, Pnina Soffer and Irit Hadar*

11:30 - 13:00 **EMMSAD SESSION 2: EVALUATION OF MODELING**   *ROOM B2*
APPROACHES

11:30 - 12:00 **The Usage of Constraint Specification Languages: A Controlled Experiment -** *Azzam Maraee and Arnon Sturm*

12:00 - 12:30 **Dealing with Structural Differences in Serialized BPMN Models -** *Drazen Brdjanin and Stefan Ilic*

12:30 - 13:00 **Evaluating Usefulness of a Fractal Enterprise Model: Experience Report -** *Ilia Bider and Arian Chalak*

11:30 - 13:00 **BIOC SESSION 2: PAPER PRESENTATIONS**   *ROOM A5*

11:30 - 12:00 **Smart Contracts and Void Declarations of Intent -** *Thomas Hoffmann*

12:00 - 12:30 **Blockchain-based Application Security Risks: A Systematic Literature Review -** *Mubashar Iqbal and Raimundas Matulevicius*

12:30 - 13:00 **Data Management: Relational vs. Blockchain Databases -** *Phani Chitti, Jordan Murkin, and Ruzanna Chitchyan*

11:30 - 13:00 **EOMAS SESSION 2: STANDARD & SHORT**   *ROOM A4*
PAPER PRESENTATIONS

11:30 - 12:00 **Mapping UFO-B to BPMN, BORM, and UML Activity Diagram -** *Marek Suchánek, Robert Pergl*

12:00 - 12:30 **Measures of quality in Business Process Modeling -** *Josef Pavlicek and Petra Pavlickova*

12:30 - 13:00 **Challenges in Enterprise and Information Systems Modeling in the Contexts of Socio Cyber Physical Systems -** *Marite Kirikova*

11:30 - 13:00 **ODOCH SESSION 2: REGULAR PAPERS** *ROOM A3*

11:30 - 12:00 **Joint digitization of heterogeneous university collections using semantic web technologies** - *Sarah Wagner, Günther Görz, Mark Fichtner and Udo Andraschke*

12:00 - 12:30 **Heterotoki: Non-Structured and Heterogeneous Terminology Alignment for Digital Humanities Data Producers** - *Marion Lamé, Perrine Pittet, Federico Ponchio, Béatrice Markhoff and Emilio Sanfilippo*

12:30 - 13:00 **An Ontology and a Collaborative Knowledge Base for History of Computing** - *Stefano Ferilli and Domenico Redavid*

13:00 - 14:30 **LUNCH** *COURTYARD*

14:30 - 16:00 **BPMDS SESSION 3: SPECIAL ANNIVERSARY SESSION – 20 YEARS OF BPMDS** *AULA MAGNA*

A memory of 20 years BPMDS with invited talks by best-cited authors of BPMDS publications - *Manfred Reichert, Hajo A. Reijers*

14:30 - 16:00 **EMMSAD SESSION 3: INFORMATION SYSTEMS & REQUIREMENTS MODELING** *ROOM B2*

14:30 - 15:00 **Review-Based User Profiling: A Systematic Mapping Study** - *Xin Dong, Tong Li, and Zhiming Ding*

15:00 - 15:30 **Matching Technology with Enterprise Architecture and Enterprise Architecture Management Tasks Using Task Technology Fit** - *Sunet Eybers, Aurona Gerber, Dominik Bork and Dimitris Karagiannis*

15:30 - 16:00 **A Method for Database Selection** - *Noa Roy-Hubara, Peretz Shoval, and Arnon Sturm*

14:30 - 16:00 **FAiSE SESSION 3: OPENING & KEYNOTE** *ROOM A5*

14:30 - 14:40 **Opening of FAISE Workshop**

14:40 - 16:00 **Keynote: Data-driven AI for Self-adaptive Information Systems** - *Andreas Metzger*

14:30 - 16:00 **EOMAS SESSION 3: EXTENDED PAPER PRESENTATIONS** *ROOM A4*

14:30 - 15:15 **Conceptual Normalisation in Software Engineering** - *Martin Molhanec*

15:15 - 16:00 **Object-oriented class normalisation from a conceptual modelling perspective** - *Vojtech Merunka, Himesha Wijekoon and Boris Shegolev*

14:30 - 16:00 **ODOCH SESSION 3: KEYNOTE & DISCUSSION PAPERS** *ROOM A3*

14:30 - 15:30 **Keynote: It's (Ontological) Patterns all the Way Down** - *Giancarlo Guizzardi*

15:30 - 15:45 **Towards an Ontology for Investigating on Archaeological Sicilian Landscapes -** *Roldolfo Brancato, Marianna Nicolosi-Asmundo, Grazia Pagano, Daniele Francesco Santamaria and Salvatore Ucchino*

15:45 - 16:00 **AMMO Ontology of Finnish Historical Occupations -** *Mikko Koho, Lia Gasbarra, Jouni Tuominen, Heikki Rantala, Ilkka Jokipii and Eero Hyvönen*

16:00 - 16:30 **COFFEE BREAK** *COURTYARD*

16:30 - 18:00 **EMMSAD SESSION 4 (JOINT WITH BPMDS): ENTERPRISE, BUSINESS PROCESS & CAPABILITY MODELING** *AULA MAGNA*

16:30 - 17:00 **Dynamic adaptation of capabilities: Exploring meta-model diversity -** *Georgios Koutsopoulos, Martin Henkel and Janis Stirna*

17:00 - 17:30 **A Process for Tailoring Domain-Specific Enterprise Architecture Maturity Models -** *Mart van Zwienen, Marcela Ruiz, Marlies van Steenbergen and Veronica Burriel*

17:30 - 18:00 **Ontology-driven Enterprise Modeling: A Plugin for the Protégé Platform** - *Benedikt Reitemeyer and Hans-Georg Fill*

16:30 - 17:40 **FAiSE SESSION 4: PAPER PRESENTATIONS** *ROOM A5*

16:30 - 17:00 **A Generic Framework for Flexible and Data-Aware Business Process Engines -** *Steven Mertens, Frederik Gailly, Geert Poels*

17:00 - 17:30 **Building information systems by means of collaborative-filtering recommendation techniques? -** *Phuong T. Nguyen, Juri Di Rocco, Davide Di Ruscio*

17:30 - 17:40 **Closing Remards**

16:30 - 18:00 **EOMAS SESSION 4: STANDARD PAPER PRESENTATIONS** *ROOM A4*

16:30 - 17:00 **Detection of Declarative Process Constraints in LTL Formulas -** *Nicolai Schützenmeier, Martin Käppel, Sebastian Petter, Stefan Schönig and Stefan Jablonski*

17:00 - 17:30 **Exploration of Creativity Techniques in Software Engineering in Training-Application-Feedback Cycle -** *Anna E. Bobkowska*

17:30 - 18:00 **Proposing an Architecture of an Intelligent Evolvable Document Generation System based on the Normalized Systems Theory -** *Vojtěch Knaisl*

16:30 - 17:45 **ODOCH SESSION 4: POSTER & REGULAR PAPERS** *ROOM A3*

16:30 - 16:45 **POSTER: ArCo Ontology Network and LOD on Italian Cultural Heritage -** *Valentina Anita Carriero, Aldo Gangemi, Maria Letizia Mancinelli, Ludovica Marinucci, Andrea Giovanni Nuzzolese, Valentina Presutti and Chiara Veninata*

16:45 - 17:15 **Building Ontology-Based Dictionaries for Greek material culture terms -** *Maria Papadopoulou and Christophe Roche*

17:15 - 17:45 **Modelling Changes in Diaries and Correspondence about Reading Experiences: the READ-IT approach -** *Alessio Antonini, Francesca Benatti, Edmund King, François Vignale and Guillaume Gravier*

20:00 - 23:00 **WORKSHOP DINNER** *PORTO FLUVIALE*

Tuesday, June 04, 2019

08:15 - 09:00 **REGISTRATION**   *MAIN ENTRANCE*

09:00 - 10:00 **BPMDS SESSION 5: LARGE & COMPLEX BUSINESS**   *AULA MAGNA*
PROCESS MODELING AND DEVELOPMENT

    09:00 - 09:30 **Coordinating Large Distributed Process Structures -** *Sebastian Steinau, Kevin Andrews and Manfred Reichert*

    09:30 - 10:00 **Early validation framework for critical and complex process-centric systems** - *Fahad Rafique Golra, Joël Champeau and Ciprian Teodorov*

10:00 - 11:00 **BPMDS SESSION 6: NOVEL APPROACHES IN**   *AULA MAGNA*
ENTERPRISE MODELING

    10:00 - 10:30 **A Landscape for Case Models -** *Fernanda Gonzalez-Lopez and Luise Pufahl*

    10:30 - 11:00 **Testing the Fractal Enterprise Model in Practice** - *Toomas Saarsen, Ilia Bider and Erik Perjons*

09:30 - 11:00 **EMMSAD SESSION 5: DOMAIN-SPECIFIC & ONTOLOGY**   *ROOM B2*
MODELING

    09:30 - 10:00 **Towards Ontological Support for Journalistic Angles -** *Andreas L Opdahl and Bjørnar Tessem*

    10:00 - 10:30 **A system for semi-automatic construction of image processing pipeline for complex problems -** *Asha Rajbhoj, Shailesh Deshpande, Jayavardhana Gubbi, Vinay Kulkarni and Balamuralidhar P*

    10:30 - 11:00 **Specification and Management of Methods - A Case for Multi-Level Modelling -** *Ulrich Frank.*

09:30 - 11:00 **PIE SESSION 1: KEYNOTE**   *ROOM A3*

    TransFAT: Translating Fairness, Accountably and Transparency into Data Science Practice - *Julia Stoyanovich*

09:30 - 11:00 **KET4DF SESSION 1: OPENING & KEYNOTE**   *ROOM A6*

    09:30 - 10:00 **Workshop Introduction**

    10:00 - 11:00 **Keynote: AI for Manufacturing, the 5th Industrial Revolution?** - *Sergio Gusmeroli*

09:30 - 11:00 **COGNISE SESSION 1: WELCOME & KEYNOTE** *ROOM A5*

Keynote: How Does Organizational Climate Affect Cognitive Processes of IS Engineers? The Cases of Informational Privacy and Security Climates - *Gil Luria*

09:00 - 11:00 **EOMAS SESSION 5: INVITED TALK & STANDARD PAPERS** *ROOM A4*

09:00 - 09:30 **Business process models (BPMN and DEMO notation) - Usability Study (invited talk) -** *Petra Pavlíčková and Josef Pavlíček*

09:30 - 10:00 **Performance impact to the applying design patternization techniques to object-relational databases -** *Boris Schegolev, Himesha Wijekoon, Jakub Štěpán Novák and Vojtěch Merunka*

10:00 - 10:30 **SHACL Shapes Generation from Textual Documents -** *David Šenkýř*

10:30 - 11:00 **Evolvable and Machine-Actionable Modular Reports for Service-Oriented Architecture -** *Marek Suchánek and Jan Slifka*

11:00 - 11:30 **COFFEE BREAK** *COURTYARD*

11:30 - 13:00 **EMMSAD PANEL: RESPONSIBLE INFORMATION SYSTEMS - THE ROLE OF MODELING METHODS (JOINT PANEL WITH COGNISE, BPMDS, & PIE)** *AULA MAGNA*

Chair: *Paul Grefen*

Panelists: *Irit Hadar, Klaus Pohl, Hajo Reijers, Eric Yu*

11:30 - 13:00 **KET4DF SESSION 2: APPROACHES FOR DIGITAL FACTORIES** *ROOM A6*

11:30 - 12:00 **Different Perspectives of a Factory of the Future: an Overview -** *Giulio Salierno, Giacomo Cabri and Letizia Leonardi*

12:00 - 12:30 **A New Method for Manufacturing Process Autonomous Planning in Intelligent Manufacturing System -** *Shuangyu Wei, Yuewei Bai, Xiaogang Wang, Liu Kai, Lai Xu, Paul de Vrieze and John Paul Kasse*

12:30 - 13:00 **Design of Meshing Assembly Algorithms for Industrial Gears Based on Image Recognition -** *Jiang Jinhua, Qin Qin, Bai Yuewei, Chen Zhenyu*

11:30 - 13:00 **EOMAS SESSION 6: "SHOW US YOUR PROJECT"** *ROOM A4*

Invitation open

13:00 - 14:30 **LUNCH** *COURTYARD*

14:30 - 16:00 **BPMDS SESSION 8: EXECUTION AND**   *AULA MAGNA*
UNDERSTANDABILITY OF DECLARATIVE PROCESS MODELS

14:30 - 15:00 **Logic based Look-ahead for the Execution of Multi-Perspective Declarative Processes -** *Martin Käppel, Nicolai Schützenmeier, Stefan Schönig, Lars Ackermann and Stefan Jablonski*

15:00 - 15:30 **Exploring the Understandability of a Hybrid Process Design Artifact Based on DCR Graphs -** *Amine Abbad Andaloussi, Andrea Burattin, Tijs Slaats, Anette C.M. Petersen, Thomas Hildebrandt and Barbara Weber*

15:30 - 16:00 **Discussion and Good-bye**

14:30 - 16:00 **EMMSAD SESSION 7: FOUNDATIONS OF MODELING**   *ROOM B2*
& METHOD ENGINEERING

14:30 - 15:00 **A Continuous Delivery Pipeline for EA Model Evolution** - *Simon Hacks, Andreas Steffens, Peter Hansen and Nikhitha Rajashekar*

15:00 - 15:30 **A Situational Approach to Data-Driven Service Innovation** - *Marlies Van Steenbergen, Jeroen van Grondelle and Lars Rieser*

15:30 - 16:00 **On the Need for Intellectual Property Protection in Model-Driven Co-Engineering Processes** - *Salvador Martínez, Sébastien Gerard and Jordi Cabot*

14:30 - 16:00 **PIE SESSION 3: PAPER PRESENTATIONS**   *ROOM A3*

14:30 - 15:00 **Law Data Science and Ethics: the CRIKE Approach -** *Silvana Castano, Mattia Falduti, Alfio Ferrara and Stefano Montanelli*

15:00 - 15:30 **The Blockchain Role in Ethical Data Acquisition and Provisioning -** *Sara Migliorini, Mauro Gambini, Alberto Belussi and Carlo Combi*

15:30 - 16:00 **Sparse dictionaries for the explanation of classification systems -** *Andrea Apicella, Francesco Isgro, Roberto Prevete, Guglielmo Tamburrini and Alessio Vietri*

14:30 - 16:00 **KET4DF SESSION 3: DATA ANALYTICS FOR DIGITAL**   *ROOM A6*
FACTORIES

14:30 - 15:00 **Information Extraction for Additive Manufacturing using NLP and Text Mining** - *Neha Sehgal and Andrew Crampton*

15:00 - 15:30 **Data Analytics towards Predictive Maintenance for Industrial Ovens - A case study based on data analysis of various sensors data** - *Vaia Rousopoulou, Alexandros Nizamis, Luigi Giugliano, Peter Haigh, Luis Martins, Dimosthenis Ioannidis and Dimitrios Tzovaras*

15:30 - 16:00   **Predictive Maintenance in a Digital Factory Shop-floor: Data Mining on Historical and Operational Data coming from Manufacturers' Information Systems -** *Minas Pertselakis, Fenareti Lampathaki and Pierluigi Petrali*

14:30 - 16:00   **COGNISE SESSION 3: PAPER PRESENTATIONS**   *ROOM A5*

PROCESS MODELING

14:30 - 14:55   **The Impact of Confusion on Syntax Errors in Simple Sequence Flow Models in BPMN -** *Jan Claes and Gilles Vandecaveye*

14:55 - 15:20   **A Case Study of Executive Functions in Real Process Modeling Sessions -** *Ilona Wilmont, Erik Barendsen and Stijn Hoppenbrouwers*

SOFTWARE ENGINEERING

15:20 - 15:45   **The Subjective Cost of Writing Reusable Code: The Case of Functions -** *Itamar Lachman, Irit Hadar and Uri Hertz*

15:45 - 16:00   **Climb Your Way to the Model: Teaching UML to Software Engineering Students -** *Naomi Unkelos-Shpigel, Julia Sheidin and Moran Kupfer*

14:30 - 16:00   **EOMAS SESSION 7: DOCTORAL & MASTER CONSORTIUM**   *ROOM A4*

14:30 - 15:00   **Monetization model for gaming industry -** *Vladislav Vasilyev*

15:00 - 15:30   **Value modeling for digital platform -** *Dinara Sadykova and Ekaterina Pylaeva*

15:30 - 16:00   **Providing models of DSL evolution using model-to-model transformations and invariants mechanisms -** *Boris Ulitin and Eduard Babkin*

16:00 - 16:30   **COFFEE BREAK**   *COURTYARD*

16:30 - 17:30   **EMMSAD SESSION 8: FUTURE AND CLOSING**   *ROOM B2*

16:30 - 16:50   **Digitisation of Role Play Community - Case of Ontology Driven Conceptual Modeling and Model Driven Information System. (presentation only)** *- Tomas Jonsson and Håkan Enquist*

16:50 - 17:10   **Integration of Data Analytics into Evolving Enterprises Business Processes: Overcoming Enterprise Modeling Challenges. (presentation only)** *- Zia Babar and Eric Yu*

17:10 - 17:30   **Closing and best paper announcement** *- Iris Reinhartz-Berger and Jelena Zdravkovic*

16:30 - 17:00 **PIE SESSION 4: PAPER PRESENTATIONS**   *ROOM A3*

16:30 - 16:45 **What is the role of Context in Fair Group Recommendations? -** *Sara Migliorini, Elisa Quintarelli, Damiano Carra and Alberto Belussi*

16:45 - 17:00 **From the edge of the skin to technological universalism: studies on artificial intelligence** - *Edmondo Grassi*

16:30 - 18:10 **KET4DF SESSION 4: PREDICTIVE MAINTENANCE IN DIGITAL FACTORIES**   *ROOM A6*

16:30 - 17:00 **A fog computing approach for predictive maintenance** - *Tania Cerquitelli, David Bowden, Angelo Marguglio, Lucrezia Morabito, Chiara Napione, Simone Panicucci, Nikolaos Nikolakis, Sotiris Makris, Guido Coppo , Salvatore Andolina , Alberto Macii, Enrico Macii, Niamh O'Mahony, Paul Becker, Sven Jung,*

17:00 - 17:30 **Detecting Anomalous Behavior Towards Predictive Maintenance** - *Athanasios Naskos, Anastasios Gounaris, Ifigeneia Metaxa and Daniel Köchling*

17:30 - 18:00 **A RAMI 4.0 View of Predictive Maintenance: Software Architecture, Platform and Case Studyin Steel Industry** - *Alexandros Bousdekis, Katerina Lepenioti, Dimitrios Ntalaperas, Danai Vergeti, Dimitris Apostolou and Vasilis Boursinos*

18:00 - 18:10 **KET4DF Workshop Conclusion**

16:30 - 18:00 **EOMAS SESSION 8: DOCTORAL & MASTER CONSORTIUM & FREE DISCUSSIONS AND NETWORKING**   *ROOM A4*

16:30 - 17:00 **Enterprise transformation as a consequence of the transition to a digital economy -** *Anastasia Zyuzina and Pavel Malyzhenkov*

17:00 - 17:15 **Formal closing of EOMAS**

17:15 - 18:00 **Free discussions and networking**

Wednesday, June 05, 2019

08:15 - 08:45 **REGISTRATION** *MAIN ENTRANCE*

08:45 - 09:15 **OPENING** *AUDITORIUM*

09:15 - 10:15 **KEYNOTE** *AUDITORIUM*

Chair: *Paolo Giorgini*

How to Help Systems Engineers Deal with Privacy Law - *Annie I. Antón*

10:15 - 11:15 **SESSION: BIG DATA APPLICATION IN IS** *AUDITORIUM*

Chair: *Yannis Vassiliou*

10:15 - 10:45 **A Lightweight Framework for Multi-Device Integration and Multi-Sensor Fusion to Explore Driver Distraction** - *Gernot Lechner, Michael Fellmann, Andreas Festl, Christian Kaiser, Tahir Emre Kalayci, Michael Spitzer and Alexander Stocker*

10:45 - 11:15 **D2IA: Stream Analytics on User-Defined Event Intervals** - *Ahmed Awad, Riccardo Tommasini, Mahmoud Shoush, Emanuele Della Valle and Sherif Sakr*

11:15 - 11:30 **COFFEE BREAK** *SAN FRANCESCO & SAN BERNARDINO DA SIENA*

11:30 - 13:00 **SESSION: REQUIREMENTS ENGINEERING** *JACOPONE DA TODI*

Chair: *Jolita Ralyte*

11:30 - 12:00 **Towards an Ontology-based Approach for Eliciting Possible Solutions to Non-Functional Requirements** - *Rodrigo Veleda and Luiz Marcio Cysneiros*

12:00 - 12:30 **Requirements Engineering for Cyber Physical Production Systems: The CORE Approach and its Application on an Industrial Case -** *Pericles Loucopoulos and Evangelia Kavakli*

12:30 - 13:00 **Improving Traceability Links Recovery in Process Models through an Ontological Expansion of Requirements** - *Raúl Lapeña, Francisca Pérez, Carlos Cetina and Oscar Pastor Lopez*

11:30 - 13:00 **SESSION: BUSINESS PROCESS MODELING AND ENGINEERING (1)** *AUDITORIUM*

Chair: *Manfred Reichert*

11:30 - 12:00 **From Process Models to Chatbots -** *Anselmo López-Cuenca, Josep Carmona, Lluís Padró and Josep Sànchez-Ferreres*

12:00 - 12:30 **A Method to Improve the Early Stages of the Robotic Process Automation Lifecycle -** *Andrés Jiménez Ramírez, Hajo Reijers, Irene Barba and Carmelo Del Valle*

12:30 - 13:00 **3D virtual world BPM training systems: process gateway experimental results** *- Michael Leyer, Ross Brown, Banu Aysolmaz, Irene Vanderfeesten and Oktay Turetken*

11:30 - 13:00 **TUTORIAL #1**   *ROOM A*

Building Data Warehouses in the Era of Big Data: An Approach for Scalable and Flexible Big Data Warehouses - *Carlos Costa and Maribel Yasmina Santos*

13:00 - 14:30 **LUNCH**   *SAN FRANCESCO, SAN BERNARDINO DA SIENA & GARDEN*

14:30 - 15:00 **FORUM INTRODUCTION**   *AUDITORIUM*

Towards an Effective and Efficient Management of Genome Data: an Information Systems Engineering perspective *- Alberto García, José Fabián Reyes Román, Juan Carlos Casamayor and Óscar Pastor López.*

How Complex Does Compliance Get? *- Andrea Zasada*

Finding Non-compliances with Declarative Process Constraints through Semantic Technologies *- Claudio Di Ciccio, Fajar J. Ekaputra, Alessio Cecconi, Andreas Ekelhart and Elmar Kiesling*

Towards risk-driven security requirements management in agile software development *- Dan Ionita, Coco van der Velden, Henk-Jan Ikking, Eelco Neven, Maya Daneva and Michael Kuipers*

Detecting and Identifying Data Drifts in Process Event Streams based on Process Histories *- Florian Stertz and Stefanie Rinderle-Ma*

Discovering Customer Journeys from Evidence: a Genetic Approach Inspired by Process Mining *- Gaël Bernard and Periklis Andritsos*

Detection and Resolution of Data-Flow Differences in Business Process Models *- Ivan Jovanovikj, Enes Yigitbas, Christian Gerth, Stefan Sauer and Gregor Engels*

User-Centered and Privacy-Driven Process Mining System Design for IoT *- Judith Michael, Agnes Koschmider, Felix Mannhardt, Nathalie Baracaldo and Bernhard Rumpe*

The SenSoMod-Modeler – A Model-Driven-Development Approach for Mobile Context-Aware Business Applications - *Julian Dörndorfer, Christian Seel and Florian Hopfensperger*

Analyzing User Behavior in Search Process Models - *Marian Lux and Stefanie Rinderle-Ma*

Enhancing Big Data Warehousing for Efficient, Integrated and Advanced Analytics - *Maribel Yasmina Santos, Carlos Costa, João Galvão, Carina Andrade, Óscar Pastor Lopez and Ana Cristina Marcén*

Modeling reverse logistics networks: a case study for E-waste management policy - *Paola Lara, Mario Sánchez, Andrea Herrera, Karol Valdivieso and Jorge Villalobos*

Co-Location Specification for IoT-Aware Collaborative Business Processes - *Paul Grefen, Nadja Brouns, Heiko Ludwig and Estefanía Serral*

Keeping Data Inter-Related in a Blockchain - *Phani Chitti and Ruzanna Chitchyan*

Blurring Boundaries: Towards The Collective Team Grokking of Product Requirements - *Rob Fuller*

Using Conceptual Modeling to Support Machine Learning - *Roman Lukyanenko, Jeffrey Parsons, Arturo Castellanos, Veda Storey and Monica Chiarini Tremblay*

Achieving GDPR Compliance of BPMN Process Models - *Simone Agostinelli, Fabrizio Maria Maggi, Andrea Marrella and Francesco Sapio*

How Could Systems Analysis Use the Idea of "Responsible Information System"? - *Steven Alter*

Business Process Compliance despite Change: Towards Proposals for a Business Process Adaption - *Tobias Seyffarth, Stephan Kuehnel and Stefan Sackmann*

UBBA: Unity Based BPMN Animator - *Basit Mubeen Abdul, Barbara Re, Lorenzo Rossi, Francesco Tiezzi and Flavio Corradini*

A Data Streams Processing Platform for Matching Information Demand and Data Supply - *Jānis Grabis, Jānis Kampars, Krišjānis Pinka and Jānis Pekša*

ProcessCity - *Shinobu Saito*

15:00 - 17:30	**STEERING COMMITTEE MEETING**	*PRESS ROOM*
15:00 - 16:00	**FORUM PART I**	*FOYER*
16:00 - 16:30	**COFFEE BREAK**	*SAN FRANCESCO & SAN BERNARDINO DA SIENA*
16:30 - 17:30	**FORUM PART II**	*FOYER*
18:15 - 23:00	**WALKTHROUGH ANTIQUES & SOCIAL DINNER**	*DOMUS CIRCO MASSIMO*

Thursday, June 06, 2019

08:15 - 09:00 **REGISTRATION** *AUDITORIUM*

09:00 - 10:00 **KEYNOTE** *AUDITORIUM*

Chair: *Barbara Weber*

The post-digital era – technology trends and needed research - *Ethan Hadar*

10:00 - 11:00 **SESSION: BLOCKCHAINS** *AUDITORIUM*

Chair: *Tijs Slaats*

10:00 - 10:30 **Dynamic Role Binding in Blockchain-Based Collaborative Business Processes** - *Orlenys López-Pintado, Marlon Dumas, Luciano García-Bañuelos and Ingo Weber*

10:30 - 11:00 **A Block-Free Distributed Ledger for P2P Energy Trading: Case with IOTA?** - *Joon Park, Ruzanna Chitchyan, Anastasia Angelopoulou and Joran Murkin*

10:00 - 11:00 **SESSION: SOCIAL COMPUTING** *JACOPONE DA TODI*

Chair: *Ernest Teniente*

10:00 - 10:30 **Profile Reconciliation through Dynamic Activities across Social Networks** - *Suela Isaj, Nacéra Bennacer Seghouani and Gianluca Quercini*

10:30 - 11:00 **Expert2Vec: Experts Representation in Community Question Answering for Question Routing** - *Sara Mumtaz, Boualem Benatallah and Carlos Rodriguez*

11:00 - 11:30 **COFFEE BREAK** *SAN FRANCESCO & SAN BERNARDINO DA SIENA*

11:30 - 13:00 **SESSION: CONCEPTUAL MODELING FOR IS ENGINEERING** *JACOPONE DA TODI*

Chair: *Giancarlo Guizzardi*

11:30 - 12:00 **Solution Patterns for Machine Learning** - *Soroosh Nalchigar, Eric Yu, Yazan Obeidi, Sebastian Carbajales, John Green and Allen Chan*

12:00 - 12:30 **Managing and Simplifying Cognitive Business Operations using Process Architecture Models** - *Zia Babar, Eric Yu, Sebastian Carbajales and Allen Chan*

12:30 - 13:00 **Paving Ontological Foundation for Social Engineering Analysis** - *Tong Li and Yeming Ni*

11:30 - 13:00 **SESSION: QUALITY OF IS MODELS FOR ANALYSIS AND DESIGN** *AUDITORIUM*

Chair: *Janis Stirna*

11:30 - 12:00 **Using Machine Learning Techniques for Evaluating the Similarity of Enterprise Architecture Models** - *Vasil Borozanov, Simon Hacks and Nuno Silva*

12:00 - 12:30 **Exhaustive Simulation and Test Generation Using fUML Activity Diagrams** - *Junaid Iqbal, Adnan Ashraf, Dragos Truscan and Ivan Porres*

12:30 - 13:00 **A Fourth Normal Form for Uncertain Data** - *Ziheng Wei and Sebastian Link*

11:30 - 13:00 **TUTORIAL #2** *ROOM A*

Semantic Modeling of Performance Indicators for Collaborative Information System - *Claudia Diamantini, Domenico Potena, Emanuele Storti*

13:00 - 14:30 **LUNCH** *SAN FRANCESCO, SAN BERNARDINO DA SIENA, & GARDEN*

14:30 - 16:00 **SESSION: CONCEPTUAL MODELING** *JACOPONE DA TODI*

Chair: *Iris Reinhartz-Berger*

14:30 - 15:00 **Using a Modelling Language to Describe the Quality of Life Goals of People Living with Dementia** - *James Lockerbie and Neil Maiden*

15:00 - 15:30 **A Pattern Language for Value Modeling in ArchiMate** - *Tiago Prince Sales, Ben Roelens, Geert Poels, Giancarlo Guizzardi, Nicola Guarino and John Mylopoulos*

15:30 - 16:00 **Revealing the Conceptual Schemas of RDF Datasets** - *Subhi Issa, Pierre-Henri Paris, Fayçal Hamdi and Samira Si-Said Cherfi*

14:30 - 16:00 **SESSION: PROCESS MINING** *AUDITORIUM*

Chair: *Marlon Dumas*

14:30 - 15:00 **Fifty Shades of Green: How Informative is a Compliant Process Trace?** - *Andrea Burattin, Giancarlo Guizzardi, Fabrizio Maria Maggi and Marco Montali*

15:00 - 15:30 **Discovering Responsibilities with Dynamic Condition Response Graphs** - *Viktorija Nekrasaite, Andrew Tristan Parli, Christoffer Olling Back and Tijs Slaats*

15:30 - 16:00 **Efficient Discovery of Compact Maximal Behavioral Patterns from Event Logs** - *Mehdi Acheli, Daniela Grigori and Matthias Weidlich*

14:30 - 16:00 **TUTORIAL #3**   *ROOM A*

Ontological Patterns and Anti-Patterns for the Modeling of Complex Enterprise Relations - *Nicola Guarino, Giancarlo Guizzardi, Daniele Porello*

14:30 - 16:00 **DOCTORAL CONSORTIUM: SESSION 1**   *ROOM 7*

14:30 - 14:40 **Opening**

14:40 - 15:20 **Providing Privacy Guarantees in Process Mining -** *Stephan Fahrenkrog-Petersen*

15:20-16:00 **Cross-domain Research Data Management with Linked Data technologies -** *André Langer*

16:00 - 16:30 **COFFEE BREAK**   *SAN FRANCESCO & SAN BERNARDINO DA SIENA*

16:30 - 18:00 **SESSION: INFORMATION SYSTEMS ENGINEERING (1)**   *JACOPONE DA TODI*

Chair: *Oscar Pastor*

16:30 - 17:00 **Multi-Platform Chatbot Modeling and Deployment with the Jarvis Framework** - *Gwendal Daniel, Jordi Cabot, Laurent Deruelle and Mustapha Derras*

17:00 - 17:30 **Bing-CF-IDF+: A Semantics-Driven News Recommender System** - *Emma Brocken, Aron Hartveld, Emma de Koning, Thomas van Noort, Frederik Hogenboom, Flavius Frasincar and Tarmo Robal*

17:30 - 18:00 **Behavior-Derived Variability Analysis: Mining Views for Comparison and Evaluation** - *Iris Reinhartz-Berger, Ilan Shimshoni and Aviva Abdal*

16:30 - 18:00 **SESSION: BUSINESS PROCESS MODELING AND ENGINEERING (2)**   *AUDITORIUM*

Chair: *Boudewijn van Dongen*

16:30 - 17:00 **Extracting Declarative Process Models from Natural Language** - *Han van der Aa, Claudio Di Ciccio, Henrik Leopold and Hajo A. Reijers*

17:00 - 17:30 **Deriving and Combining Mixed Graphs from Regulatory Documents Based on Constraint Relations** - *Karolin Winter and Stefanie Rinderle-Ma*

17:30 - 18:00   **Generation and Transformation of Compliant Process Collaboration Models to BPMN** - *Frederik Bischoff, Walid Fdhila and Stefanie Rinderle-Ma*

16:30 - 18:30   **DOCTORAL CONSORTIUM: SESSION 2**   *ROOM 7*

16:30 - 17:10   **Big Data Perspective on Cyber-Physical Systems for Industry 4.0: Modernizing and Scaling Complex Event Processing** - *Carina Andrade*

17:00 - 17:50   **A Conceptual Modeling Framework for Software-Enabled Enterprise Transformation** - *Zia Babar*

17:50 - 18:30   **A Methodology for Integrating User Experience Methods and Techniques into Agile Software Development** - *Andreas Hinderks*

20:00 - 0:00   **CONFERENCE PARTY**   *CLUSTER&GARAGE*

Friday, June 07, 2019

9:00 - 10:00 **KEYNOTE** *AUDITORIUM*

Chair: *Barbara Pernici*

Direct and reverse rewriting in data interoperability - *Maurizio Lenzerini*

10:00 - 11:00 **SESSION: INTEGRATING PROCESSES AND DATA** *AUDITORIUM*

Chair: *Pnina Soffer*

10:00 - 10:30 **Modeling and In-Database Management of Relational, Data-Aware Processes** - *Diego Calvanese, Marco Montali, Fabio Patrizi and Andrey Rivkin*

10:30 - 11:00 **Information Systems Modeling: Language, Verification, and Tool Support** - *Artem Polyvyanyy, Jan Martijn Van Der Werf, Sietse Overbeek and Rick Brouwers*

11:00 - 11:30 **COFFEE BREAK** *SAN FRANCESCO & SAN BERNARDINO DA SIENA*

11:30 - 13:00 **SESSION: INFORMATION SYSTEM SECURITY** *JACOPONE DA TODI*

Chair: *Raimundas Matulevicius*

11:30 - 12:00 **Security Vulnerability Information Service with Natural Language Query Support** - *Carlos Rodriguez, Shayan Zamanirad, Reza Nouri, Kirtana Darabal, Boualem Benatallah and Mortada Al-Banna*

12:00 - 12:30 **Automated Interpretation and Integration of Security Tools Using Semantic Knowledge** - *Chadni Islam, Muhammad Ali Babar and Surya Nepal*

12:30 - 13:00 **An Assessment Model for Continuous Security Compliance in Large Scale Agile Environments** - *Sebastian Dännart, Kristian Beckers and Fabiola Moyón Constante*

11:30 - 13:00 **SESSION: PROCESS MONITORING AND ADAPTATION** *AUDITORIUM*

Chair: *Andrea Burattin*

11:30 - 12:00 **GameOfFlows: Process Instance Adaptation in Complex, Dynamic and Potentially Adversarial Domains** - *Yingzhi Gou, Aditya Ghose and Hoa Khanh Dam*

12:00 - 12:30 **Proactive Process Adaptation using Deep Learning Ensembles** - *Andreas Metzger, Adrian Neubauer, Philipp Bohn and Klaus Pohl*

12:30 - 13:00 **A Constraint Mining Approach to Support Monitoring Cyber-Physical Systems** - *Thomas Krismayer, Rick Rabiser and Paul Grünbacher*

11:30 - 13:00 **TUTORIAL #4**   *ROOM A*

Conformance Checking: Relating Processes and Models - *Josep Carmona, Boudewijn van Dongen, and Matthias Weidlich*

11:30 - 13:00 **DOCTORAL CONSORTIUM: SESSION 3**   *ROOM 7*

11:30 - 12:20 **Keynote Talk: Design science research methodology** - *Roel Wieringa*

12:20 - 13:00 **Traceability Links Recovery in BPM Models** - *Raúl Lapeña*

13:00 - 14:30 **LUNCH**   *SAN FRANCESCO, SAN BERNARDINO DA SIENA & GARDEN*

14:30 - 16:00 **SESSION: INFORMATION SYSTEMS ENGINEERING (2)**   *AUDITORIUM*

Chair: *Eric Yu*

14:30 - 15:00 **Efficient Engineering Data Exchange in Multi-Disciplinary Systems Engineering Enterprises -** *Stefan Biffl, Arndt Lüder, Felix Rinker and Laura Waltersdorfer*

15:00 - 15:30 **Methodological Framework to Guide the Development of Continual Evolution Methods** - *Ornela Cela, Mario Cortes-Cornax, Agnès Front and Dominique Rieu*

15:30 - 16:00 **Inter-organizational integration in the AEC/FM industry: Exploring the "addressed" and "unaddressed" information exchange needs between stakeholders** - *José Carlos Camposano and Kari Smolander*

14:30 - 16:00 **DOCTORAL CONSORTIUM: SESSION 4**   *ROOM 7*

14:30 - 14:40 **Talk by the winner of the CAISE PhD Award 2019**

14:40 - 15:20 **The Quest for Database Selection and Design Method -** *Noa Roy-Hubara*

15:20 - 16:00 **A Data-driven Framework to Facilitate Automated Requirements Engineering** - *Sachiko Lim*

16:00 - 16:30 **CLOSING CEREMONY**   *AUDITORIUM*

SOCIAL EVENTS

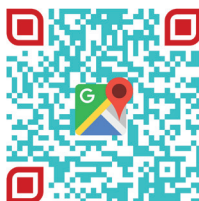## Workshops and Co-located Events dinner

Porto Fluviale

Date: June 3
When: 20:00 - 23:00
Where: Via del Porto Fluviale, 22 – 00154 – Roma

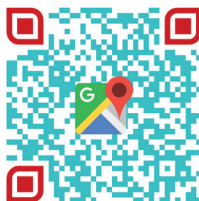www.portofluviale.com/en/mo.com

Walkthrough Antiques & Social Dinner

Domus Circo Massimo

Date: June 5
When: 18:15 in front of Auditorium for the walkthrough
20:00 - 23:00 dinner
Where: Via dei Cerchi 87/89 – 00186 Roma
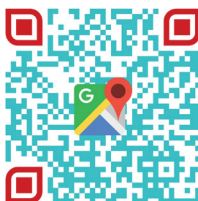
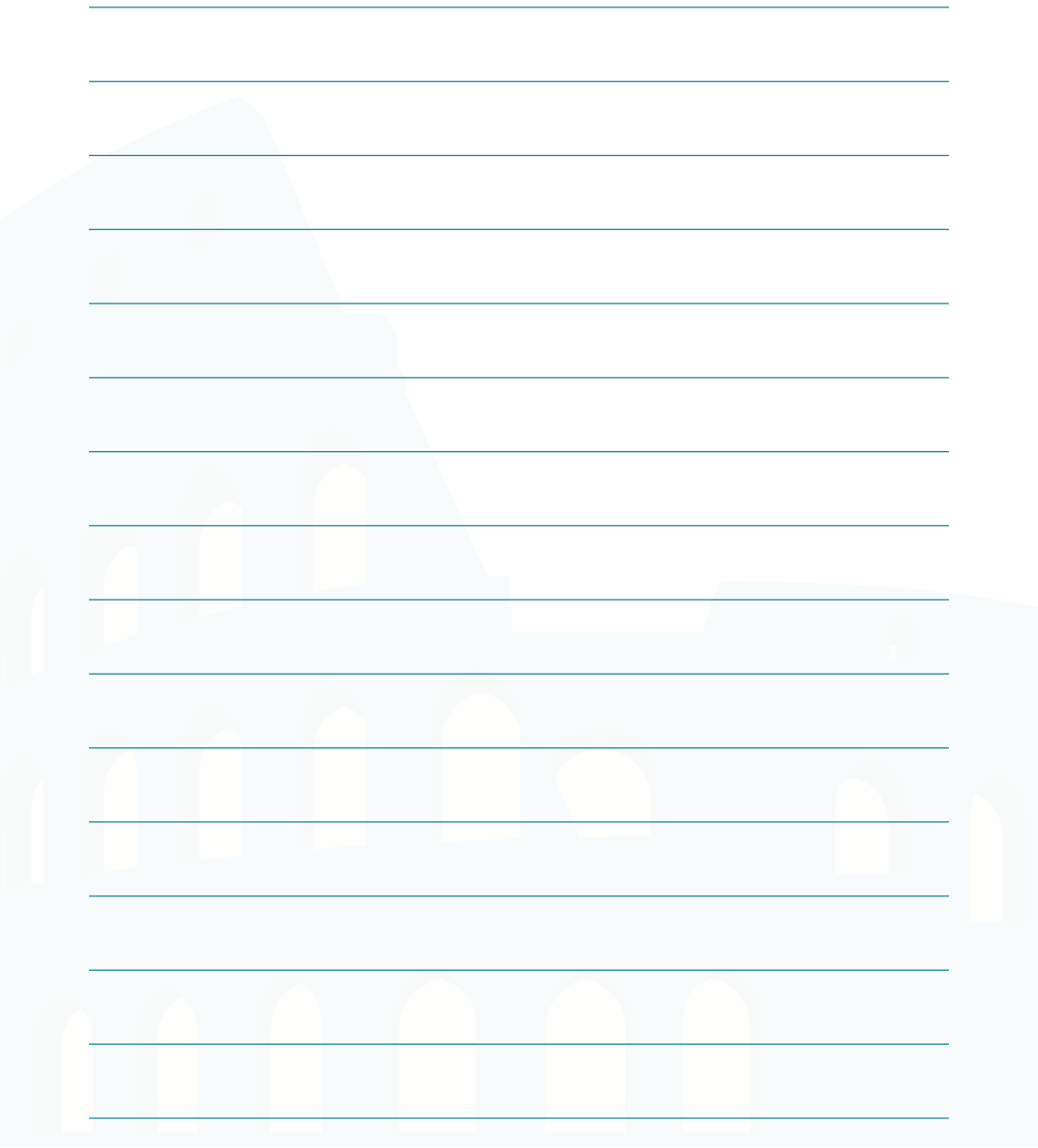www.domuscircomassimo.com

Conference Party
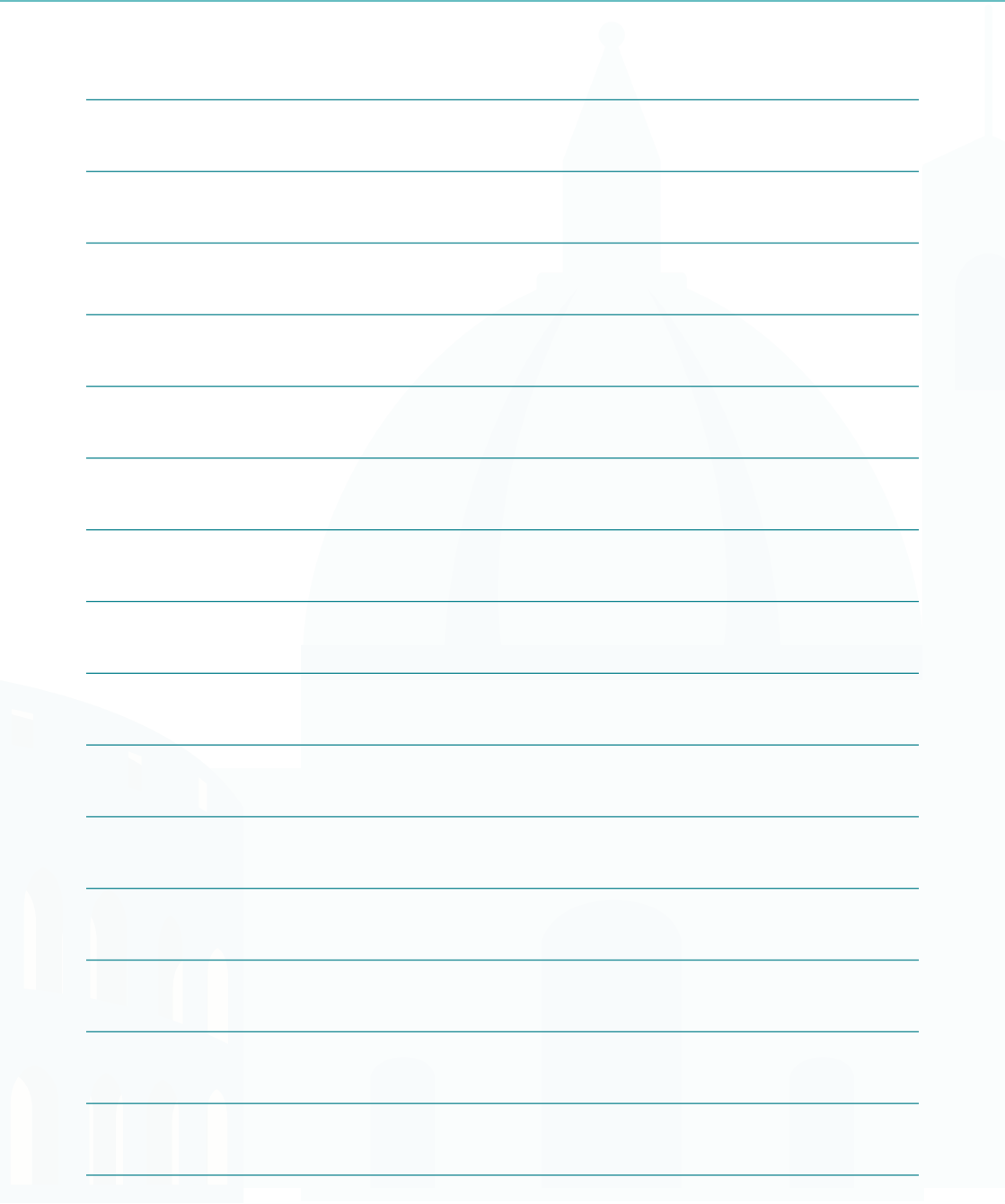
CLUSTER&GARAGE

Date: June 6
When: 20:00 - 0:00
Where: Via Giuseppe Libetta, 9, 00154 Roma

www.clustergarage.it

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