

ARES 2017

12th International Conference on Availability, Reliability and Security

August 29 – September 1, 2017 Reggio Calabria, Italy



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Welcome to ARES 2017

It is our great pleasure to welcome you to the Twelfth International Conference on Availability, Reliability and Security (ARES 2017).

The Twelfth International Conference on Availability, Reliability and Security (ARES 2017) brings again together researchers and practitioners in the field of dependability and cybersecurity. ARES 2017 highlights the various aspects of this very important field, following the tradition of previous ARES conferences, again with a special focus on the crucial linkage between availability, reliability, security and privacy. This year we are very happy to welcome well-known keynote speakers: Kevin Jones (Head of Cyber Security Architecture, Innovation and Scouting, Airbus, UK), Andrea Servida (Head of Unit DG CONNECT – H4 "eGovernment and Trust", European Commission, Belgium), Neil D. Lawrence (University of Sheffield and Amazon, UK) and Marta Milo (University of Sheffield, UK).

From the many submissions, we have selected the 23 best ones as full paper. The quality of submissions has steadily improved over the last years and the conference officers sometimes faced a difficult decision when selecting which papers should be accepted. This year's acceptance rate for full papers is only 24, 21%. In addition, several workshops and short papers are included in the program and show intermediate results of ongoing research projects and offer interesting starting points for discussions. Putting together ARES 2017 was a team effort. We first thank the authors for providing the content of the program. We are grateful to the program committee, which worked very hard in reviewing papers and providing feedback for authors. Finally, we thank all workshop chairs for their efforts in organizing interesting workshop sessions.

The symbolic link between the acronym of the conference (ARES) and the Ancient Greeks is strengthened this year. The god of war and double-faced liar, according to what Zeus said to him after the battlefield at Troy, evokes indeed the intrinsic unreliability of computer systems in hostile environments, which is the underlying mainstream of the conference. The venue of the 2017 edition of ARES has a strong relationship with this ancient world. Indeed, Reggio Calabria is one of the oldest Greek colonies, and one of the most important *Polis* of Magna Graecia.

We would like to thank the University Mediterranea of Reggio Calabria for hosting ARES 2017! Special thanks goes to the Sponsors of the conference: Palo Alto Networks and Poste Italiane, our Gold Sponsors, and our Silver Sponsors Lutech, Innovery, Progetti di Impresa and Naos Evolution.

Enjoy ARES 2017 and Reggio Calabria!

Mathias Fischer Universität Hamburg, Germany Francesco Buccafurri

Università degli Studi Mediterranea di Reggio Calabria, Italy

Max Mühlhauser

TU Darmstadt, Germany



Welcome to CD-MAKE 2017

The International Cross Domain Conference for Machine Learning & Knowledge Extraction CD-MAKE is a joint effort of IFIP TC 5, IFIP WG 8.4, IFIP WG 8.9 and IFIP WG 12.9 and is held in conjunction with the International Conference on Availability, Reliability and Security (ARES).

IFIP – the International Federation for Information Processing is the leading multi-national, non-governmental, apolitical organization in Information & Communications Technologies and Computer Sciences, is recognized by the United Nations (UN) and was established in the year 1960 under the auspices of the UNESCO as an outcome of the first World Computer Congress held in Paris in 1959.

IFIP brings together more than 3500 scientists without boundaries form both academia and industry, organized in more than 100 Working Groups (WG) and 13 Technical Committees (TC).

CD stands for Cross-Domain and means the integration and appraisal of different fields and application domains (e.g. Health, Industry 4.0, etc.) to provide an atmosphere to foster different perspectives and opinions. The conference is dedicated to offer an international platform for novel ideas and a fresh look on the methodologies to put crazy ideas into Business for the benefit of the human. Serendipity is a desired effect, and shall cross-fertilize methodologies and transfer of algorithmic developments.

MAKE stands for MAchine Learning & Knowledge Extraction. Machine learning studies algorithms which can learn from data to gain knowledge from experience and to make decisions and predictions. A grand goal is in understanding intelligence for the design and development of algorithms that work autonomously (ideally without a human-in-the-loop) and can improve their learning behavior over time. The challenge is to discover relevant structural and/or temporal patterns ("knowledge") in data, which is often hidden in arbitrarily high dimensional spaces, which is simply not accessible to humans. Machine learning as a branch of Artificial Intelligence currently undergoes kind of Cambrian explosion and is the fastest growing field in computer science today. There are many application domains, e.g., smart health, smart factory (Industry 4.0), etc. with many use cases from our daily life, e.g., recommender systems, speech recognition, autonomous driving, etc. The grand challenges are in sense making, in context understanding, and in decision making under uncertainty. Our real-world is full of uncertainties and probabilistic inference enormously influenced Artificial Intelligence generally and statistical learning specifically. The inverse probability allows to infer unknowns, to learn from data and to make predictions to support decision making. Whether in social networks, recommender systems, health or Industry 4.0 applications, the increasingly complex data sets require efficient, useful and useable solutions for knowledge discovery and knowledge extraction.

To acknowledge here all those who contributed to the efforts and stimulating discussions would be impossible. Many people contributed to the development of this Volume, either directly or indirectly, so it would be sheer impossible to list all of them. We herewith thank all colleagues and friends for all their positive and supportive encouragement. Last but not least we thank the Springer management team and the Springer production team for their smooth support.

Thank you to all! Let's make it!

Andreas Holzinger, Peter Kieseberg, Edgar Weippl, A Min Tjoa CD-MAKE 2017 Chairpersons

Welcome to the ARES EU Projects Symposium 2017

The ARES EU Projects Symposium is held for the third time in conjunction with the ARES Conference. The goal is to disseminate the results of EU research projects, meet potential project partners and exchange ideas within the scientific community.

This year, four workshops will be held within the ARES EU Projects Symposium:

- 2nd Workshop on Security, Privacy, and Identity Management in the Cloud (SECPID 2017)
- 1st International Workshop on Securing Critical Infrastructures (S-CI 2017)
- 1st International Workshop on Supply Chain Security, Resilience and Accountability (SC-SRA 2017)
- 1st International Workshop on Creating Identity Trustworthy Ecosystems (CITE 2017)

We would like to thank the workshop organizers for their great efforts and hard work in proposing the workshop, selecting the papers, the interesting programs and for the arrangements of the workshops during the conference days.

We hope you enjoy the ARES EU Projects Symposium!

This year the following projects will be represented:



























CITE 2017 - The 1st International Workshop on Creating Identity - Trustworthy Ecosystem

Workshop Chairs:

- Elsa Prieto (Atos Research&Innovation, Spain)
- Lorenzo Rosa (Research Engineer Identity & Privacy Laboratory Atos Research & Innovation , Spain)
- Nicolás Notario (Research Engineer Identity & Privacy Laboratory Atos Research & Innovation, Spain)

Abstract: An ever increasing number of transactions are conducted virtually over the Internet. How can you be sure that the person making the transaction is who they say they are?

Traditionally, we often knew our business partners personally, which meant that impersonation and fraud were uncommon. Whether regarding the single European market place or on a Global scale, there is an increasing amount of electronic transactions that are becoming a part of people's everyday lives, where decisions on establishing who is on the other end of the transaction is important. Clearly, there is a need for assistance by authorities to certify electronic identities.

The EC-funded LIGHTest and ARIES projects attempt to solve this problem from two different angles. While LIGHTest is focused on building a global trust infrastructure where any authorities can publish their trust information and make it globally discoverable, ARIES' main goal is to deliver a comprehensive framework for reliable e-identity ecosystems in order to improve identity, trust and security. On top of that it aims at to better supporting law enforcement in addressing the new cybersecurity threats, while achieving positive, far-reaching socio-economic impacts.

The CITE workshop will be focused on the challenges deriving from a digital environment where there is an increasing amount of identity crimes, and at the same time there is the need for a trustworthy ecosystem to verify virtual identities in order to take advantage of the new paradigm in the growing digital market.



ARIES will design and promote a framework that enables the setting up of a reliable electronic identity ecosystem for Europe which combines digital and traditional approaches (i.e. physical and electronic identity documents, virtual identities) in novel ways in order to increase and sustain high technical and procedural levels of quality of security documents and corresponding processes in both virtual and physical worlds.

ARIES will propose new security features and harmonized identity lifecycle processes to allow the linkage of physical, officially accepted identities with possible virtual identities that can be derived from the former in order to cope the need of end users to be able to maintain level of privacy preserving but at the same time based on technologies for quality control and verification of such identities to allow law enforcement and mechanisms to allow efficient control and threats detection.



The objective of LIGHTest is to create a global cross-domain trust infrastructure that renders it transparent and easy for verifiers to evaluate electronic transactions. By querying different trust authorities' world-wide and combining

trust aspects related to identity, business, reputation etc. it will become possible to conduct domain-specific trust decisions. This is achieved by reusing existing governance, organization, infrastructure, standards, software, community, and know-how of the existing Domain Name System, combined with new innovative building blocks. This approach allows an efficient global rollout of a solution that assists decision makers in their trust decisions. By integrating mobile identities into the scheme, LIGHTest also enables domain-specific assessments on Levels of Assurance for these identities.



S-CI 2017 – The 1st International Workshop on Securing Critical Infrastructures

Workshop Chairs:

- Stefan Katzenbeisser (TU Darmstadt, Germany)
- Apostolos Fournaris (University of Patras, Greece)

Abstract: Critical Infrastructures (Communication, Transportation, Banking, e-Commerce, Utilities etc.) increasingly and inextricably depend on IT-technologies to provide for both functionality and efficiency. However, the cost of the IT-reliance is the consequent exposure of the Critical Infrastructure (CI) to IT-based security vulnerabilities. The state of the practice often has different CI's developing customized security solutions to meet their specific needs. While this is judicious, the CI's can benefit from sharing approaches to intrusion detection, threat classification, diagnostics, mitigation schema, security architectures and many others. The workshop aims to bring together viewpoints from diverse CI's to explore the commonalities of security problems and solutions for advancing the collective science and practice of CI security protection.

The workshop encourages both CI research and practitioner contributions covering design, assessment, testing and deployment experiences.



<u>CIPSEC</u> (H2020) Enhancing Critical Infrastructure Protection with innovative SECurity framework (CIPSEC)

In recent years, the majority of the world's Critical Infrastructures CIs evolved to become more flexible, cost efficient and able to offer better services and conditions for business opportunities. Towards this evolution, CIs and companies offering CI services had to adopt many of the recent advances of the Information and Communication Technologies (ICT) field. (...) As part of this framework CIPSEC will offer a complete security ecosystem of additional services that can support the proposed technical solutions to work reliably and at professional quality. These services include vulnerability tests and recommendations, key personnel training courses, public-private partnerships (PPPs) forensics analysis, standardization and protection against cascading effects. All solutions and services will be validated in three pilots performed in three different CI environments (transportation, health, and environment). CIPSEC will also develop a marketing strategy for optimal positioning of its solutions in the CI security market.

Invited Speakers

Aljosa Pasic, Technology Transfer Director of ATOS R&I (ARI) **Title:** Known Unknowns in Cybersecurity research and transfer of results to the market Workshop S-CI, Tuesday, August 29 2017, 13.30 – 15.00, LH D

Christian Schlehuber, Deutsche Bahn (DB) IT-Security expert **Title:** *Challenges in securing critical infrastructures of the railway domain* Workshop S-CI, Tuesday, August 29 2017, 17.15 – 18.15, LH D

SC-SRA 2017 – The 1st International Workshop on Supply Chain Security, Resilience and Accountability

Workshop Chairs:

- Prof. Christos Douligeris (University of Piraeus, UNIPI, Piraeus, Greece)
- Dr. Spyridon Papastergiou (University of Piraeus Research Center, UPRC, Piraeus, Greece)
- Dr. Ralf Fiedler (Fraunhofer Center for Maritime Logistics and Services, Hamburg, Germany)
- Prof. Haris Mouratidis (University of Brighton, UK)
- Dr. Stefan Schauer (AIT Austrian Institute of Technology Vienna, Austria)
- **Dr. Panagiotis Gouvas** (SingularLogic Athens, Hellas)

Abstract: In the modern era, Supply Chains (SCs) are the blood veins of global trade and economy where cross border Critical Infrastructures (CI), (e.g. ports, maritime authorities airports, railways, energy providers, banks, maritime/logistic/transport companies) interconnect in offering critical complex services. However, in order to operate efficiently and effectively, these services increasingly depend on highly valuable interconnected cyber assets and components, thus becoming more vulnerable to the activities of hackers and other perpetrators. Thus, there is an urgent pressing challenge to develop advance security solutions and services that can deal with cascading effects, risks, complex threats and vulnerabilities of the interconnected SCs'physical/cyber systems. The workshop covers all aspects of security, resilience and accountability of national and global Supply Chains and interconnected Smart Critical Infrastructures; it aims to bring together experts from academia, government and industry to present advanced solutions and tools, analyse present research trends and participate in interactive discussions.

List of project partners that will participate in the workshop:

- Fraunhofer Center for Maritime Logistics and Services CML
- University of Piraeus Research Center
- AIT Austrian Institute of Technology GmbH
- The Maggioli Group
- SingularLogic Romania
- The Port Institute for Studies and Cooperation of the Valencian Region
- The University of Brighton (UoB)
- Piraeus Port Authority
- Fondazione Accademia Italiana della Marina Mercantile
- The "Fundación de la Comunidad Valenciana para la Investigación, Promoción y Estudios Comerciales de Valenciaport dbh Logistics IT AG
- Port of Ravenna Authority (PRA)
- Livorno Port Authority
- Hansestadt Bremisches Hafenamt



MITIGATE (H2020) Multidimensional, IntegraTed, rlsk assessment framework and dynamic, collaborative Risk ManaGement tools for critical information infrAstrucTurEs

MITIGATE Critical Infrastructures (CIs) become smarter and are not only heavily dependent on Information and Communication Technologies ICT (e.g. IoT, cloud technologies, telecommunications, ICS), but are also interconnected in order to provide complex supply chain services (e.g. container/cargo management). This is very prominent in the case of transportation, energy and health. For example smart port infrastructures, interconnect with port authorities, ministries, maritime companies, ship industries, customs agencies, maritime/ insurance companies, other transport CIs (e.g. airports), people, processes, services, products, and more. New risk assessment and security management tools as well as advanced security, forensics and investigation services and tools are required in order to ensure the resilience and protection of the current and (even smarter) future interconnected Critical Infrastructures.



Invited Presentations

The workshop will include a series of expert invited presentations as well as a roundtable discussion on topics related to:

- Cyber -Physical Systems Security
- Supply Chain Security
- Supply Chain Resilience and Accountability
- Risk Assessment Methodologies
- Threat modeling
- Security in Cyber-Physical Systems (SCADA)
- Maritime Security Modelling

The invited speakers will submit a three page extended abstract of their presentations which will be made available to all the workshop participants.



SECPID 2017 – The 2nd Workshop on Security, Privacy and Identity Management in the Cloud

Workshop Chairs:

- Stephan Krenn (AIT Austrian Institute of Technology GmbH, Austria)
- Thomas Lorünser (AIT Austrian Institute of Technology GmbH, Austria)
- Erkuden Rios Velasco (Fundación Tecnalia Research & Innovation, Spain)

Abstract: Over the last years, the computing paradigm has experienced a massive shift from local to cloud-based applications. As a result, users and organizations do no longer have full control over their data and services, but they rely on third-party cloud providers.

This development poses various challenges concerning the integrity and confidentiality of data as well as the privacy of users of such systems. Currently, no satisfactory solutions to these challenges exist, which is a roadblock for the large-scale deployment of cloud-based applications handling sensitive data such as electronic health records.

The aim of this symposium is to provide a platform to discuss innovative ideas related to the following questions: How can cloud services be made more trustworthy? How can we build distributed systems without single point of failure or trust? How to design end-to-end secure services in an untrusted environment? Which methodologies and technologies are required to integrate security and privacy by design? Is it possible to give back users full control over which data they want to reveal when and to whom?

This year's invited talk will be given by the H2020 project ReCRED.







The DPSP Cluster brings together more than 20 European research and innovation projects in the area of data protection, security, and privacy in the cloud. It aims at joining forces to maximize efficiency, visibility, and impact of the member projects. SECPID 2017 will in particular be supported by, MUSA,

PaaSword, SERECA, SecureCloud and WITDOM.

Projects

PRISMACLOUD & CREDENTIAL (H2020)

The ambition of PRISMACLOUD is to develop and show-case cryptographic tools that protect the security and privacy of user data during its lifecycle in the cloud. In particular, the project focuses on the development of (information theoretically) secure storage solutions as well as efficient, privacy preserving yet verifiable computing on authenticated data.





Complementary to this, CREDENTIAL aims at developing privacy friendly means for storing and sharing personal data in the cloud, and at realizing an "identity and access management as a service" system supporting publicly certified identity data.



TAKEDOWN 2017 - The 2nd International Workshop towards Security Solutions against Organized Cyber-Crime and Terrorist Networks

Workshop Chair:

• Dr. Andrea Tundis (Technische Universität Darmstadt, Germany)



Abstract: Organized crime (OC) and terrorist networks (TN) are major threats for the European Union and its population. On the one hand, the number and value of assets confiscated from organized crime are more and more

increasing in Europe, which indicates its rise in Europe and its challenge of the legal economy or tax base of many nation states. On the other hand, Europe is facing an increasing number of individuals, who are recruited as foreign fighters or for terrorist attacks within Europe. In addition, the direct implications, an atmosphere of fear is created. Additionally, the economic costs for prevention and fighting OC and TN are increasing. This is particularly relevant in times of austerity measures, when the reduction of integration programs and support of marginalized groups is increasing the boundaries between the milieus. Even in allegedly "egalitarian" societies, the entrenchment within societies is increasing and producing classes of "left-behinds" with no chance for upwards social mobility. And it is often young people with no future perspectives, who are at risk of becoming engaged in criminal organizations or in terrorist networks. It is the combination of these challenges and respective policies, which are ultimately challenging social cohesion in Europe. Towards such field is devoted TAKEDOWN, a European Research project, where 18 European partners (ranging from Academy, Industry and Law Enforcement Agency) aims to analyse and get a deeper knowledge on OC and TN, in order to advance the State-of-the-art and providing more effective digital and non-digital solutions for first line practitioners, law enforcement agencies and policy makers.

Workshop:

PART 1: This part of the workshop aims at promoting the current activities carried out in the context of the TAKEDOWN Research Project highlighting:

- Main Objectives of the TAKEDOWN Project;
- Discussing about Basic Research and State of the Art;
- Presenting results gathered from the Empirical Research.

•

PART 2: This part of the workshop wants to be an open and interactive discussion among the attendees. In particular, it aims at (i) bringing together Experts, Solution Providers and Professionals, in different fields of Security; (ii) promoting/disseminating existing tools in terms of digital and non-digital solutions (ranging from models, methods, methodologies, approaches, technologies and services) and discussing their possible involvement against OC and TN; as well as (iii) discussing and evaluating their societal and ethical impact and related issues.

Each attendee is free to propose a topic and present it.

Benefits for the participants

- Get know about the H2020 European Research Project TAKEDOWN.
- Discussion
- Each participant will be sponsored on the TAKEDOWN website as well as on the TAKEDOWN Solution platform as contributor.
- Possible involvement in the TAKEDOWN project (e.g. buying the software, buying licenses, etc.).



Program Overview ARES 2017 29 August - 01 September, 2017, Reggio Calabria

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	Tuesday, 29.08.2017 Wednesday, 30.08.2017 Time Lecture Hall A Lecture Hall B Lecture Hall C Lecture Hall D Time Lecture Hall A Lecture Hall B Lecture Hall C Lecture Hall D						31.08.2017								
Time	Lecture Hall A			Lecture Hall D		Lecture Hall A			Lecture Hall D		Lecture Hall A		Lecture Hall C	Lecture Hall D	Lecture Hall E
08:00 - 18:15		REGISTR			08:00 - 16:15		REGIST			08:00 - 18:00			REGISTRATION		
	ARES (Opening & Keyn	•	all A)					E Keynote		ARES Keynote				
09:00 - 10:30		Andrea S			09.00 - 10.30	ARES Full V	WSDFI		a Milo	09:30 - 10:30			Kevin Jones		
	ARES EU	Symposium Op	ening (Lecture	Hall A)				(Lecture	e Hall D)				(Lecture Hall A)		
10:30 - 11:00		Coffee E	Break		10.30 - 11.00	.00 Coffee Break		10:30 - 11:00	00 Coffee Break						
11:00 - 12:30	ARES Full I - Best Paper Session	TAKEDOWN	CITE I	S-CH	11.00 - 12:30	ARES Full VI	WSDF II	IWCC I	CD-MAKE I	11:00 - 13:00	Ares Full VIII	CUING I	SSE I	CD-MAKE III	FARES I
12:30 - 13:30		Lunc	ch		12:30 - 13.50		Lur	nch		13:00 - 14:30	1:30 Lunch				
13:30 - 15:00	ARES Full II	SECPID I	CITE II	S-CI II	13:50 - 14:30	CD-MAKE Keynote, Neil D. Lawrence (Lecture Hall D)		14:30 - 16:00	ARES Short I	CUING II	SSE II	CD-MAKE IV	FARES II		
15:00 - 15:30		Coffee E	Break		14:30 - 14:35		Room	Switch		16:00 - 16:30	.6:30 Coffee Break				
					14:35 -	ARES Full VII	DAYCRAA	INVECTI	CD-MAKE II	16:30 18:00	ADEC Chart II	CHINCHI	CCE III	CD MAKE V	FARECIII
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15:30 - 17:00	ARES Full III	SECPID II	SC-SRA	S-CI III	15:35/16:00- 16:15		Coffee	Break							
					16:15 - 19:30		Excursion Scilla	and Chianalea			Frie	day, 01.09.20	017		
17:00 - 17:15	00 - 17:15 Room switch			19:30 - 23:00	30 - 23:00 Conference Dinner		Time	Lecture Hall A	Lecture Hall B	Lecture Hall C	Lecture Hall D				
17:15 - 18:15	ARES Full IV	SECPID III		S-CLIV				08:00 - 12:30		REGIST	RATION				
19:15 - 21:30		Welcome Recep	otion / Dinner							09:00 - 10:30	ARES Short III	FARES IV	WMAI	CD-MAKE VI	
					•					10:30 - 11:00		Coffee	Break		
										11:00 - 12:30	ARES Short IV	SAW	WMAII		
										12:30 - 14:00		Lur	nch		



Detailed Program

Time		Tuesday, 29.08.2017							
08:00 - 18:15		REGISTRATION							
	ARES and ARES EU Symposium Opening & Keynote Session Andrea Servida,								
00:00 10:20									
05.00 - 10.50	19:00 - 10:30 Head of Unit DG CONNECT – H4 "eGovernment and Trust", European Commission, Belgium								
		Lecture Ha	II A						
10:30 - 11:00		Coffee Bre	ak						
	ARES Full I	TAKEDOWN	CITE I	S-CI I					
	Best-Paper			CyberSecurity and Critical					
				Infrastructures					
11:00 - 12:30	Session Chair: Francesco Buccafurri,	Session Chair: Andrea Tundis Technical	Session Chair, Ion Shamah EENAA IIV	Session Chair: Stefan					
11:00 - 12:50	Università degli Studi Mediterranea di	Session Chair: Andrea Tundis, Technical University Darmstadt, Germany	Session Chair. Jon Shantan, ElviA, OK	Katzenbeisser, TU Darmstadt,					
	Reggio Calabria, Italy	Oniversity Darmstaut, Germany		Germany					
	Respire Calabila, Italy			Cermany					
	Lecture Hall A	Lecture Hall B	Lecture Hall C	Lecture Hall D					
	Security Proofs for Participation	The TAKEDOWN Project: Main	Identity and Trustworthy Ecosystem	Rolling DICE – Lightweight					
	Privacy, Receipt-Freeness and Ballot		Jon Shamah (EEMA, UK)	Remote Attestation for COTS IoT					
	Privacy for the Helios Voting Scheme			Hardware					
	Bulletin Board for the Helios Voting	Germany	Introduction to ARIES	Lukas Jäger, Richard Petri,					
	Scheme		Eduardo González (Atos, Spain)	Andreas Fuchs (Fraunhofer					
	David Bernhard (University of Bristol,	Challenges of network steganography		Institute for Secure Information					
	UK), Oksana Kulyk and Melanie	detection	Introduction to LIGHTEST	Technology SIT, Germany)					
	Volkamer (TU Darmstadt, Germany)	Prof. Dr. Wojciech Mazurczyk, Warsaw	Heiko Roßnagel (Frauenhofer IAO,	7011555					
	VAAAttaalii Daahfiisaatiisa	University of Technology, Poland	Germany)	ZONESEC: Built-in Cyber-					
	VMAttack: Deobfuscating Virtualization-Based Packed Binaries	Protection of safety-relevant Critical	The Aries Ecosystem	Security for Wide Area Surveillance System					
		Infrastructures: How cyber-crime can	Jorge Bernal (University of Murcia,	Aljosa Pasic, Jose-Ramon					
	Tilo Müller (Friedrich-Alexander	influence our everyday life and what	Spain)	Martinez-Salio, Susana Gonzalez					
	University Erlangen-Nürmberg,	we (can) do against it	Spairi	Zarzosa (Atos, Spain)					
	Germany	Dr. Chrisitan Schlehuber, Deutsche Bahn	The LIGHTest Reference Architecture	24.2554 (7.055, 5pairi)					
	33	(DB), Germany	Sven Wagner (University of Stuttgart,	Protecting Future Maritime					
	A Non-Parametric Model for Accurate	, , ,	IAT, Germany)	Communication					
	and Provably Private Synthetic Data	Collaborative Security Monitoring	, ,,	Karin Bernsmed, Christian					
	Sets	Prof. Dr. Mathias Fischer, Hamburg		Frøystad, Per Håkon Meland					
	Jordi Soria-Comas and Josep Domingo-	University, Germany		(SINTEF, Norway)					
	Ferrer (Universitat Rovira i Virgili,								
	Spain)								



S-CI II Keynote Session
Session Chair: Apostolos P. Fournaris, University of Patras, Greece
Lecture Hall D
nown Unknowns in Cybersecurity
esearch and Transfer of Results to
ne Market
ljosa Pasic, Technology Transfer irector of ATOS R&I department
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15:00 - 15:30		Coffe	e Break	
	ARES Full III Trust	SECPID II	SC-SRA	S-CI III Critical Infrastructure Systems CyberSecurity Tools
15:30 - 17:00	Session Chair: Max Mühlhäuser, TU Darmstadt, Germany	Session Chair: Kai Samelin, IBM Research - Zurich and TU Darmstadt, Switzerland/Germany	Session Chair: Ralf Fiedler, Fraunhofer Center for Maritime Logistics and Services, Hamburg, Germany	Session Chair: Stefan Katzenbeisser, TU Darmstadt, Germany
	Lecture Hall A	Lecture Hall B	Lecture Hall C	Lecture Hall D
	Establishing Mutually Trusted Channels for Remote Sensing Devices Using Trusted Execution Environments Carlton Shepherd, Raja Naeem Akram and Konstantinos Markantonakis (Royal Holloway, University of London, UK)	Towards the Adoption of Secure Cloud Identity Services Alexandros Kostopoulos, Evangelos Ioannis Chochliouros (Hellenic Telecommunications Organization R&D, Greece), John-Sören Pettersson (Karlstad University, Sweden), Stephan Krenn (Austrian Institute of Technology, Austria), Welderufael Tesfay (Goethe University Frankfurt, Germany), Andrea Migliavacca (Lombardia Informatica S.p.A., Italy) and Felix Hörandner (Graz University of Technology, Austria) Towards a Model of User-centered	MITIGATE at a Glance Spyros Papastergiou (Alpha Bank, UPRC, Greece) Cyber Attack Path Discovery in Maritime Supply Chains Michalis Pavlidis (University of Brighton, UK) Risk Mitigation Approach - Optimal Mitigation Strategy Stefan Schauer (Austrian Institute of Technology, Austria) R&D on Security Issues for Maritime Critical Infrastructures: SAURON Project Rafa Company (Israel) Preserving Your Privacy and Managing Your Personal Data with OPERANDO Achilleas Papageorgiou (University of Piraeus, Greece) MITIGATE System for Assessing Cyber Risks in Ports' Supply Chains Armend Duzha (Maggioli, Italy) and Panagiotis Gouvas (SingularLogic, Greece)	Using Ciphers for Failure Recovery in ITS Systems Mustafa Ayoob, Wael Adi, Vassilis Prevelakis (TU-BS, Germany) Towards DDoS Attack Resilient Wide Area Monitoring Systems Kubilay Demir, Neeraj Suri (TU Darmstadt, Germany) Anomaly Detection for Simulated IEC-60870-5-104 Traffic Ersi Hodo, Stepan Grebeniuk, Henri Ruotsalainen, Paul Tavolato (Fachhochschule St. Pölten,



17:00 - 17:15	Room switch								
17:15 - 18:15	ARES Full IV Cryptography Session Chair: Roger Hallman, Space & Naval Warfare Systems Center Pacific, USA	Cryptography Chair: Roger Hallman, Space Il Warfare Systems Center Session Chair: Stephan Krenn, AIT Austrian Institute of Technology GmbH,		S-CI IV Keynote Session Session Chair: Apostolos P. Fournaris, University of Patras, Greece					
	Lecture Hall A	Lecture Hall B		Lecture Hall D					
	Using Short PINs Michael Rossberg and Markus Theil (Technische Universitaet Ilmenau, Germany)	Self-Healing Multi-Cloud Application Modelling Erkuden Rios, Maria Carmen Palacios and Eider Iturbe (Tecnalia Research & Innovation, Spain) Application of the Holistic Data Privacy and Security Framework PaaSword Sebastian Thomas Schork, Antonia Schwichtenberg, Spiros Alexakis (CAS Software AG, Germany) and George Moldovan (Siemens, Romania)		Challenges in Securing Critical Infrastructures of the Railway Domain Christian Schlehuber, Deutsche Bahn (DB)					
19:15 - 21:30	Welcome Reception / Dinner Our Welcome Reception will take place in the historical building Palazzo Foti, located in the heart of Reggio Calabria. You will get the possibility to try traditional Calabrian Food. Palazzo Foti is an important building of Reggio Calabria, home of the provincial administration. The palace is also a "jewel-case" full of treasures. This year, we welcome our special guest Enza Bruno Bossio, Deputy of the Italian Republic. Meeting point: 18.30 in front of the university. To get to Palazzo Foti we need to take the public bus to the city center. We will then walk together to the bus station. Were we will divide the people between bus number 27 that leaves at 18.50 direction "Aeroporto" and get out at the stop "Corso Matteotti" and bus number 5 & 10 that leaves at 18.45 direction "Riparo Vecchio" and get out at the stop "Corso Matteotti". The bus ride takes about 10 minutes, then we will walk together to Palazzo Foti. You can also meet us directly at Palazzo Foti at 19.15.								



Time	Wednesday, 30.08.2017						
08:00 - 16:15		REGIST	RATION				
09.00 - 10.30	ARES Full V Security Models and Data Accountability Session Chair: Michael Rossberg, Technische Universitaet Ilmenau, Germany	WSDF I Session Chair: Virginia N. L. Franqueira, University of Derby, UK	Keynote CD-MAKE Marta Milo, University of Sheffield, UK "Bring Mathematics into Biology: Past, Present and Future Impact on Heath"				
	Lecture Hall A	Lecture Hall B	Lecture Hall D				
	Evaluation through Simulation and Bayesian Networks Andrea Tundis (TU Darmstadt, Germany), Alfredo Garro, Teresa Gallo, Domenico Sacca (University of Calabria, Italy), Simona Citrigno, Sabrina Graziano (Centro di Competenza ICT-SUD, Italy) and	London, UK The Sky: A Neglected Source of Error in Digital Forensic Investigations	Abstract: Last decade has seen a massive increase of data production in science. Particularly in the biomedical field, data has grown exponentially thanks to the development of technologies like next generation sequencing and high-throughput quantitative assays. The information that this data contains is only partially uncovered to this date, but the impact that it has on human progression and well-being is already very clear. Despite the ability to process large amount of data and to quantify fine details of biological processes, the costs, the time to perform such experiments and mainly the complexity of the systems remain in some cases still very prohibitive. For this reasons the use of mathematics to study complex systems in its entirety, looking at how they interacts, is having a great impact in current biology and healthcare. A variety of statistical, probabilistic and optimization techniques methods, like machine learning techniques, that allows to "learn" from the available data, to detect hidden patterns from large, noisy and complex datasets, is particularly suitable for application in medicine. In this talk I will present examples of using machine learning techniques for a variety datasets from medical and biological problems and what are the advantages and disadvantages of this approach. I will also give examples when these techniques enabled to discover informative knowledge from a large complex system in the presence of small number of samples. Finally I will discuss how we use Machine Learning today for analysis of single-cell sequencing data and how we can use it for future more complex datasets generated integrating data from different sources.				
10.30 - 11.00		Coffee	e Break				



	ARES Full VI Privacy I	WSDF II	IWCC I	CD-MAKE I MAKE Topology
11.00 - 12:30	Session Chair: Mohamed Shehab, University of North Carolina Charlotte, USA	Session Chair: Richard Overill, King's College London, UK	Session Chair: Prof. Wojciech Mazurczyk, Warsaw University of Technology, Poland	Session Chair: Massimo Ferri, University of Bologna, Italy
	Lecture Hall A	Lecture Hall B	Lecture Hall C	Lecture Hall D
	Measuring Privacy in High Dimensional Microdata Collections Spyros Boukoros and Stefan Katzenbeisser (TU Darmstadt, Germany) Constrained PET Composition for Measuring Enforced Privacy Sebastian Funke, Alexander Wiesmaier (AGT International, Germany) and Jörg Daubert (TU Darmstadt, Germany) A Holistic Approach for Privacy Protection in E-Government Konstantinos Angelopoulos, Vasiliki Diamantopoulou, Haralambos Mouratidis, Michalis Pavlidis (University of Brighton, UK), Mattia Salnitri, Paolo Giorgini (University of Trento, Italy) and José R. Ruiz (Atos, Spain)	On the Usefulness of Compression-Models for Authorship Verification Oren Halvani, Christian Winter and Lukas Graner (Fraunhofer Institute for Secure Information Technology SIT, Germany) Application-Specific Digital Forensics Investigative Model in Internet of Things (IoT) Tanveer Zia (Charles Sturt University, Australia), Peng Liu (Pennsylvania State University, USA) and Weili Han (Fudan University, China) Forensic State Acquisition from Internet of Things (FSIoT): A General Framework and Practical Approach for IoT Forensics through IoT Device State Acquisition Christopher, Devon Clark, Ibrahim Baggili and Frank Breitinger (University of New Haven, USA)	Dynamics Merylin Monaro, Riccardo Spolaor, Qianqian Li, Mauro Conti (Luciano Gamberini and Giuseppe Sartori (University of Padua, Italy) Resource Hints in HTML5: A New Pandora's Box of Security Nightmares Natalija Vlajic (York University,	University of Applied Sciences, Finland) and Amaury Lendasse (Aalto University, Finland) Some Remarks on the Algebraic Properties of Group Invariant Operators in Persistent Homology Patrizio Frosini and Nicola Quercioli (University of Bologna, Italy) Decentralized Computation of Homology in Wireless Sensor Networks Using Spanning Trees Domen Soberl (Faculty of Computer and Information Science, Slovenia), Primož Škraba (Jozef Stefan Institute, Slovenia)and Neža Mramor Kosta (Faculty of Computer and Information Science, Slovenia) Detecting and Ranking API Usage Pattern in Large Source Code Repository: A LFM based Approach Jitong Zhao and Yan Liu (Tongji
12-20 12-50		•	a ala	University, China)
12:30 - 13.50		Lui	nch	



13:50 - 14:30	Keynote CD-MAKE Neil D. Lawrence, University of Sheffield and Amazon, UK "Cloaking Functions: Differential Privacy with Gaussian Processes"
	Lecture Hall D
	Abstract: Processing of personally sensitive information should respect an individual's privacy. One promising framework is Differential Privacy (DP). In this talk I'll present work led by Michael Smith at the University of Sheffield on the use of cloaking functions to make Gaussian process (GP) predictions differentially private. Gaussian process models are flexible models with particular advantages in handling missing and noisy data. Our hope is that advances in DP for GPs will make it easier to 'learn without looking', i.e. gain the advantages of prediction from patient data without impinging on their privacy.
	Neil Lawrence is a Professor of Machine Learning and Computational Biology at the University of Sheffield. He holds a PhD in Computer science from Cambridge University and had a postdoctoral stay with Microsoft Research Cambridge. He has served as the Chair of the NIPS Conference, the premier Machine Learning conference in the world, and was the founding editor of the Journal of Machine Learning (JMLR) Research Workshop and Conference Proceedings. He is a fellow of the Royal Society in the working group for machine learning.
14:30 – 14:35	Room Switch



	ARES Full VII	IWSMA	IWCC II	CD-MAKE II
	Privacy II			MAKE Smart Factory
	Session Chair: Edgar Weippl,	Session Chair: Peter	Session Chair: Prof. Wojciech	Session Chair: Carsten Röcker, Fraunhofer IOSB-INA and
14:30 - 15:35/16:00	SBA Research, Austria	Kieseberg, SBA Research,	Mazurczyk, Warsaw University	Ostwestfalen-Lippe University of Applied Sciences,
		Austria	of Technology, Poland	Germany
	Lecture Hall A	Lecture Hall B	Lecture Hall C	Lecture Hall D
	Memory Carving Can Finally	The Demon is in the	Group Key Agreement	Towards a Framework for Assistance Systems to Support
		Configuration: Revisiting		Work Processes in Smart Factories
	Personal Data	Hybrid Mobile Apps		Michael Fellmann (University of Rostock, Institute for
	Thomas Gougeon, Morgan	Configuration Model	Performance Analysis	Computer Science, Germany), Sebastian Robert
	Barbier, Patrick Lacharme	Abeer Aljarrah (University of	Orhan Ermis, Serif Bahtiyar,	(Fraunhofer-Institute of Optronics, System Technologies
	(ENSICAEN – GREYC, France),	North Carolina at Charlotte,	Emin Anarım, and Mehmet	and Image Exploitation, Application Center Industrial
	Gildas Avoine (INSA Rennes France, UCL Belgium) and	USA) and Mohamed Shehab (University of North Carolina at	Ufuk Caglayan (Bogazici University, Turkey)	Automation (IOSB-INA), Germany), Sebastian Büttner Henrik Mucha and Carsten Röcker (Ostwestfalen-Lippe
	Christophe Rosenberger	Charlotte, USA)	Offiversity, rurkey)	University of Applied Sciences, Germany)
	(ENSICAEN – GREYC, France)	chanotte, osaj	Secure and Efficient Data	offiversity of Applied Sciences, Germany)
	(ENSIGNER GRETC, France)	Quantitative Dynamic Taint	Sharing with Attribute-Based	Managing Complexity: Towards Intelligent Error-
	PPAndroid-Benchmarker:	Analysis of Privacy Leakage in	Proxy Re-Encryption Scheme	Handling Assistance Trough Interactive Alarm Flood
		Android Arabic Apps	Masoomeh Sepheri (Università	Reduction
		Ayman Youssef and Ahmed F.	degli Studi di Milano, Italy),	Sebastian Büttner, Paul Wunderlich, Oliver Niggemann
	Android Devices	Shosha (Nile University, Egypt)	Alberto Trombetta (Insubria	and Carsten Röcker (Ostwestfalen-Lippe University of
	Saeed Ibrahim Saeed		University, Italy) and	Applied Sciences, Germany)
	Alqahtani and Shujun Li	Learning Android Malware		
	(University of Surrey, UK)	Khanh-Huu-The Dam		Online Self-disclosure: From Users' Regrets to
		(University Paris Diderot &		Instructional Awareness
		LIPN, France) and Tayssir Touili		Nicolás Emilio Díaz Ferreyra, Rene Meis and Maritta
		(LIPN, CNRS & University Paris 13, France)		Heisel (University of Duisburg-Essen, Germany)
		13, 11411(6)		Predicting Chronic Heart Failure using Diagnoses Graphs
				Saurabh Nagrecha, Keith Feldman, Pamela Bilo Thomas
				and Nitesh V. Chawla (University of Notre Dame, USA)
				, , , , , , , , , , , , , , , , , , , ,
15:35/16:00-16:15			Coffee Break	
16:15 10:20		<u> </u>	cursion Scilla and Chianalea	
16:15 - 19:30	M	eeting point: 16.20 in front of th	e University, buses leave 16.30 (s	shortly after the last session)
19:30 - 23:00			Conference Dinner	



Time	Thursday, 31.08.2017
08:00 - 18:00	REGISTRATION
	Keynote ARES
	Dr Kevin Jones
09:30 - 10:30	Head of Cyber Security Architecture, Innovation and Scouting, Airbus (DTO), UK
09.30 - 10.30	"Cyber security in manufacturing industrial control systems and preparing for the Factory of the Future"
	Lecture Hall A
	Abstract: Protecting a complex manufacturing Industrial Control System from cyber-attack and preventing adversaries from having a functional effect on operations poses a
	number of challenges, and this challenge is escalated further as we move to; interconnected, data-driven, and IIoT based future factories. The key activities and innovations currently underway to address cyber security in operational industrial control systems that mitigate the evolving and emerging threats will be proposed. In addition, an understanding of the requirements for security in future Industry 4_0 industrial environments will be presented utilising the Airbus vision for the factory of the future and ongoing activities for security by design and throughout the operational lifecycle.
	Dr Kevin Jones is Head of Cyber Security Architecture, Innovation and Scouting at Airbus, leading a global network of; teams, projects and collaborations including; research & innovation, state of the art solutions development, and technology scouting for cyber security across; IT, ICS and product security domains. He holds a BSc in Computer Science and MSc in Distributed Systems Integration from De Montfort University, Leicester where he also obtained his PhD: A Trust Based Approach to Mobile Multi-Agent System Security in 2010.
10:30 - 11:00	Coffee Break



	Ares Full VIII	CUING I	SSE I	CD-MAKE III	FARES I
	Network Security and Intrusion	Keynote Session	DevSecOps and Cloud	MAKE Privacy	Critical Infrastructures and Cyber2Physical
	Detection	,	Computing	,	
11:00 - 13:00	Session Chair: Mathias Fischer	Session Chair: Wojciech	Session Chair: Lotfi ben	Session Chair: Peter Kieseberg, SBA	Session Chair: Domenico Sacca, University
11.00 - 13.00	Universität Hamburg, Germany	Mazurczyk, Warsaw University	Othmane, Iowa State	Research, Austria	of Calabria, Italy
		of Technology, Poland	University, USA		
	Lecture Hall A	Lecture Hall B	Lecture Hall C	Lecture Hall D	Lecture Hall E
	Lightweight Address Hopping for	Keynote I: Prof. Wojciech	Invited Speaker:	Decision Tree Rule Induction for	Keynote: Andrea Bondavalli,
	Defending the IPv6 IoT	Mazurczyk, Warsaw	Shannon Lietz,	Detecting Covert Timing Channels in	University of Florence, Italy Title:
	Aljosha Judmayer, Johanna	University of Technology	DevSecOps Lead, Intuit	TCP/IP Traffic	Anomaly Detection for Complex
	Ullrich, Georg Merzdovnik,	Criminal Use of Information	Title:	Felix Iglesias, Valentin Bernhardt,	Dynamic System
	Artemios Voyiatzis and Edgar	Hiding (CUIng) Initiative:	Illuminating Cloud	Robert Annessi and Tanja Zseby (TU	
	Weippl (SBA Research, Austria)	Past, Present and Future	Security with DevSecOps	Wien, Austria)	Integrating Reactive Cloud
					Applications in SERECA
	Quantifying the Spectrum of	Keynote II: Dr. Shujun Li,	Identification of	Practical Estimation of Mutual	Luigi Romano, Giovanni Mazzeo
	Denial-of-Service Attacks through	University of Surrey, UK	Dependency-Based	Information on Non-Euclidean Spaces	(Uniparthenope, Italy) and Martijn
	Internet Backscatter	A New Paradigm of	Attacks on Node.js	Yoan Miche (Nokia solutiona and	Verburg (jClarity, Italy)
	Norbert Blenn, Vincent Ghiette	Information Hiding? Hiding	Brian Pfretzschner (TU	Network, Finland), Ian Oliver, Silke	stainer
	and Christian Doerr (TU Delft,	in Activities of the Cyber-	Darmstadt, Germany)	Holtmanns, Wei Ren (Nokia Bell Labs,	
	Netherlands)	Physical-Social World	and Lotfi Ben Othmane	Finland), Anton Akusok (Arcada	
			(Iowa State University,	University of Applied Sciences, Finland)	•
	On the Sequential Pattern and		USA)	and Amaury Lendasse (Aalto University,	, ,
	Rule Mining in the Analysis of			Finland)	Tavolato (Fachhochschule St. Pölten,
	Cyber Security Alerts		DevOps for Better		Austria)
	Martin Husák, Jaroslav Kašpar		Software Security in the	•	
	(Masaryk University Czech		Cloud	Building Intelligent Anti-Malware on	
	Republic), Elias Bou-Harb (Florida		Martin Gilje Jaatun,	Android Devices	
	Atlantic University, USA) and		Daniela Soares Cruzes	Mansour Ahmadi, Angelo Sotgiu	
	Pavel Čeleda (Masaryk University,		(SINTEF Digital, Norway),	(University of Cagliari, Italy) and Giorgio	
	Czech Republic)		Jesus Luna (TU	Giacinto (DIEE, Italy)	
			Darmstadt, Germany)	DO NOT DISTURD 3 61 15 D. 1	
	SONAR: Automatic Detection of		Landan antina	DO NOT DISTURB ? Classifier Behavior	
	Cyber Security Events over the		Implementing Secure	on Perturbed Datasets	
	Twitter Stream		DevOps Assessment for		
	Quentin Le Sceller, Elmouatez		Highly Regulated Environments.	Austria) , Peter Kieseberg (SBA	
	Billah Karbab, Mourad Debbabi			Research, Austria) and Andreas	
	(Concordia University, Canada) and Farkhund Igbalb (Zayed		Hasan Yasar (CMU, USA)	Holzinger (HCI-KDD / TU Graz, Austria)	
	University, United Arab Emirates)			A Short-term Forecast Approach of	
	oniversity, officed Arab Littliates)			Public Buildings' Power Demands upon	
				Multi-source Data	
				Shubing Shan and Buyang Cao (Tongji	
				University, China)	
				Oniversity, Chillaj	



13:00 - 14:30	Lunch				
	ARES Short I Cryptography	CUING II	SSE II Agile Secure Software Development	CD-MAKE IV MAKE VIS	FARES II Identity Management and Access Control
Ка	ion Chair: Stefan tzenbeisser, TU nstadt, Germany	Session Chair: Peter Kieseberg, SBA Research, Austria	Session Chair: Juha Röning, University of Oulu, Finland	Session Chair: Cagatay Turkay, City University London, UK	Session Chair: Stefan Katzenbeisser, Technische Universität Darmstadt, Germany
	Lecture Hall A	Lecture Hall B	Lecture Hall C	Lecture Hall D	Lecture Hall E
Nils Lö Univer One-M Entity Schem Alfredo Manue Barbar (Unive Italy) Overco Blocko Applici France Gianlu Nicolaz Nocera Medite Calabri C'MON Compl Service Proper Soha A Winter Heng Z	ccess Control ken (Paderborn sity, Germany) lessage Unilateral Authentication es De Santis, la Flores and a Masucci rsity of Salerno, loming Limits of hain for IoT ations sco Buccafurri, ca Lax, Serena lezo and Antonino la (Universita' erranea di Reggio la, Italy) I : Monitoring the lance of Cloud less to Contracted ties lbaghdady, Stefan lbaghdady, Stefan lbang and Neeraj l Darmstadt,	Statistical Anomalies? Félix Iglesias Vázquez and Tanja Zseby (TU Wien, Austria) FROST — Anti-Forensics Digital- Dead-DROp Information Hiding RobuST to Detection & Data Loss with Fault-tolerance Avinash Srinivasan, Hunter Dong (Temple University, USA) and Angelos Stavrou (George Mason University, USA). A New Data-Hiding Approach for IP Telephony Applications with Silence Suppression Sabine Schmidt (FernUniversitaet in Hagen, Germany), Wojciech Mazurczyk (Warsaw University of Technology, Poland), Joerg Keller (FernUniversitaet in Hagen, Germany) and Luca Caviglione (National Research Council of Italy, Italy)	Pal-Stefan Murvay, Bogdan Groza (Politehnica University of Timisoara, Romania)	On the Challenges and Opportunities in Visualization for Machine Learning & Knowledge Extraction: A Mini-Research Agenda Cagatay Turkay (City, University of London, UK), Robert Laramee (University of Swansea, UK) and Andreas Holzinger (Medical University Graz, Austria) Quantitative Externalization of Visual Data Analysis Results using Local Regression Models Kresimir Matkovic (VRVis Research Center, Austria), Hrvoje Abraham, Mario Jelovic (AVL AST d.o.o, Zagreb, Croatia) and Helwig Hauser (University of Bergen, Norway) Analysis of Online User Behaviour for Art and Culture Events Tahereh Arabghalizi , Marco Brambilla and Behnam Rahdari (Politecnico di Milano, Italy) On Joint Representational Learning of Network Structure and Document Content Jörg Schlötterer, Christin Seifert and Michael Granitzer (University of Passau, Germany)	against Password Reuse Attack by Availability Control Tetsuji Takada (The University of Electro-Communications, Japan) Insider Misuse Attribution using Biometrics Abdulrahman Alruban, Nathan Clarke, Fudong Li, Steven Furnell



16:00 - 16:30	Coffee Break				
	ARES Short II IoT and Security Engineering	CUING III	SSE III Experiences with Secure DevOps	CD-MAKE V MAKE AAL	FARES III Code Security and Privacy
16:30 - 18:00	Session Chair: Sudhakar Ganti, University of Victoria, Canada	Session Chair: Wojciech Mazurczyk, Warsaw University of Technology, Poland	Session Chair: Juha Röning, University of Oulu, Finland	Session Chair: Andreas Stainer- Hochgatterer, AIT Austrian Institute of Technology, Austria	Session Chair: Corrado Aaron Visaggio, University of Sannio, Italy
	Lecture Hall A	Lecture Hall B	Lecture Hall C	Lecture Hall D	Lecture Hall E
	Internet of Things Zeeshan Ali Khan (IIK, NTNU, Norway), Johanna Ullrich, Artemios Voyiatzis (SBA Research, Austria) and Peter Herrmann (IIK, NTNU, Norway) M2M-REP: Reputation of Machines in the Internet of Things Muhammad Azad, Samiran Bag and Feng Hao (Newcastle University, UK) Which Security Requirements Engineering Methodology Should I Choose? Towards a Requirements Engineering-Based Evaluation Approach Sravani Teja Bulusu, Romain Laborde, Ahmad Samer Wazan, Francois Barrere and Abdelmalek Benzekri (IRIT/SIERA, France)	REMI: A Reliable and Secure Multicast Routing Protocol for IoT Networks Mauro Conti (University of Padova, Italy), Pallavi Kaliyar (University of Padova, Italy) and Chhagan Lal (University of Padova, Italy) Machine Learning Approach for Detection of nonTor Traffic Elike Hodo (University of Strathclyde, UK), Xavier Bellekens (University of Abertay, Dundee, UK, Ephraim Iorkyase, Andrew Hamilton, Christos Tachtatzis and Robert Atkinson (University of Strathclyde, UK) Investigating the Darknet: Legal Limitations in Slovenian Legal System Anze Mihelic, Blaž Markelj, Igor Bernik (University of Maribor, Slovenia) and Sabina Zgaga (Constitutional Court of the Republic of Slovenia, Slovenia)	Panel: Barriers and Enablers On Developing a Secure Application throughout DevOps Lifecycle Moderator: Hasan Yasar (CMU, USA)	Ambient Assisted Living Technologies from the Perspectives of Older People and Professionals Deepika Singh, Sten Hanke, Johannes Kropf (AIT Austrian Institute of Technology, Austria) and Andreas Holzinger (Medical University Graz, Austria) Human Activity Recognition using Recurrent Neural Networks Deepika Singh, Erinc Merdivan (AIT Austrian Institute of Technology, Austria), Ismini Psychoula (De Montfort University, Leicester, UK), Sten Hanke, Johannes Kropf (AIT Austrian Institute of Technology, Austria), Matthieu Geist (CentraleSupelec, France) and Andreas Holzinger (Medical University Graz, Austria) Modeling Golf Player Skill using Machine Learning Rikard König, Ulf Johansson (University of Borås, Sweden), Maria Riveiro (University of Skövde, Sweden) and Peter Brattberg (University of Borås, Sweden)	bin2llvm: Analysis of Binary Programs Using LLVM Intermediate Representation Kevin Kirchner, Stefan Rosenthaler (University of Applied Sciences, Austria) Security Analysis of Cordova Applications in Google Play Michiel Willocx, Jan Vossaert, Vincent Naessens (KU Leuven, TCG, Belgium) Security and Privacy Implications of NFC-Enabled Contactless Payment Systems Nicholas Akinyokun, Vanessa Teague (The University of Melbourne, Australia) Microblogging in a Privacy-Preserving Way Nikolaos Karvelas, Marius Senftleben, Stefan Katzenbeisser (TU Darmstadt, Germany)



Time	Friday, 01.09.2017				
08:00 - 12:30	REGISTRATION				
	ARES Short III Security Monitoring and Analysis	FARES IV Security Models and Methods	WMA I Malware Detection	CD-MAKE VI MAKE Semantics	
09:00 - 10:30	Session Chair: Edgar Weippl, SBA Research, Austria	Session Chair: Gianluca Lax, University of Reggio Calabria, Italy	Session Chair: Corrado Aaron Visaggio, University of Sannio, Italy	Session Chair: Andreas Holzinger, Med. University and TU Graz, Austria	
	Lecture Hall A	Lecture Hall B	Lecture Hall C	Lecture Hall D	
	Incremental Clustering for Semi- Supervised Anomaly Detection applied on Log Data Markus Wurzenberger, Florian Skopik, Roman Fiedler, Max Landauer, Philipp Greitbauer (AIT Austrian Institute of Technology, Austria) and Wolfgang Kastner (TU Vienna, Austria) Attack Potential in Impact and Complexity Luca Allodi (Eindhoven University of Technology, Netherlands) and Fabio Massacci (University of Trento, Italy) Timestamp Hiccups: Detecting Manipulated Filesystem Timestamps on NTFS Sebastian Neuner, Artemios Voyiatzis, Martin Schmiedecker and Edgar Weippl (SBA Research, Austria) SensorBuster: On Identifying Sensor Nodes in P2P Botnets Shankar Karuppayah (Universiti Sains Malaysia, Malaysia), Leon Böck, Tim Grube (TU Darmstadt, Germany), Selvakumar Manickam (Universiti Sains Malaysia, Malaysia), Max Mühlhäuser (TU Darmstadt, Germany) and Mathias Fischer (Universität Hamburg, Germany)	Provisioning Software with Hardware-Software Binding Robert Lee, Konstantinos Markantonakis, Raja Naeem Akram (Royal Holloway, University of London, UK) Victim Communication Stack: A flexible model to select the Human Attack Vector Enrico Frumento (Cefriel, Italy), Angelo Consoli (SUPSI, Italy), Federica Freschi (Cefriel, Italy), Davide Andreoletti (SUPSI, Italy) Fully Threshold Broadcast Encryption Sigurd Eskeland (Norwegian Computing Center, Norway) Adaptive Resource Management Enabling Deception (ARMED) Partha Pal, Nate Soule, Nate Lageman, Shane Clark (Raytheon BBN Technologies, USA), Marco Carvalho, Adrian Granados, Anthony Alves (Harris Institute for Assured Information, Florida Institute of Technology, USA)	Malware Detection Using Nonparametric Bayesian Methods Joseph Divita(US Department of Defence, SPAWAR Systems Center Pacific, USA) and Roger Hallman (US Department of Defense, SPAWAR Systems Center Pacific, Cybersecurity S&T Branch, USA) Malware and Formal Methods Fabio Martinelli, Francesco Mercaldo (Institute for Infromatics and Telematics,	Roberto Boselli, Mirko Cesarini, Fabio Mercorio and Mario Mezzanzanica (University of Milano Bicocca, Italy) A Declarative Semantics for P2P Systems Luciano Caroprese and Ester Zumpano (University of Calabria, Italy) Improving Language-Dependent Named Entity Detection Gerald Petz, Werner Wetzlinger and Dietmar Nedbal (University of Applied Sciences, Austria) Towards the Nutritional Incompatibility Detection Based on Recipe Titles Nadia Clairet and Mathieu Lafourcade (LIRMM, France)	



10:30 - 11:00	Coffee Break				
	ARES Short IV Applications	SAW	WMA II Defensive Technologies		
11:00 - 12:30	Session Chair: Jörg Daubert, Technische Universität Darmstadt, Germany	Session Chair: Jungwoo Ryoo, Pennsylvania State University, USA	Session Chair: Corrado Aaron Visaggio, University of Sannio, Italy		
	Lecture Hall A	Lecture Hall B Towards Semi-Automated Detection of Trigger-	Lecture Hall C		
	Müller (Friedrich-Alexander-Universität, Germany)	based Behavior for Software Security Assurance Dorottya Papp, Levente Buttyán (CrySyS Lab, Dept. of Networked Systems and Services, BME, Hungary) and Zhendong Ma (Center of Digital Safety and Security, Austrian Institute of Technology, Austria) Protection of Personal Data in Security Alert Sharing Platform Václav Stupka, Martin Horák and Martin Husák (Masaryk University, Czech Republic) SAFE and Secure: Deeply Integrating Security in a New Hazard Analysis Sam Procter (Software Engineering Institute, Carnegie Mellon University, USA), Eugene Vasserman and John Hatcliff (Kansas State University, USA) On Using TLS to Secure In-Vehicle Networks Daniel Zelle, Christoph Krauß (Fraunhofer SIT, Germany), Hubert Strauß (Audi Electronics Venture GmbH, Germany) and Karsten Schmidt (Audi AG, Germany)	Additive Manufacturing: In-Situ Infrared Thermography from the Security Perspective Andrew Slaughter, Mark Yampolskiy (University of South Alabama, USA), Manyalibo Matthews, Wayne E. King (Lawrence Livermore National Laboratory, USA), Gabe Guss (Lawrence Livermore National Laboratory, USA) and Yuval Elovici (Ben-Gurion University, Israel) Popularity-based Detection of Domain Generation Algorithms Jasper Abbink and Christian Doerr (TU Delft, Netherlands) JSDES — An Automated De-Obfuscation System for Malicious JavaScript Moataz Abdel Khalek and Ahmed Shosha (University Nile, Egypt)		
12:30 - 14:00		Lunch			



Keynotes

ARES Keynote Speaker

Dr Kevin JonesHead of Cyber Security Architecture, Innovation and Scouting, Airbus (DTO), UK

Keynote: Cyber security in manufacturing industrial control systems and preparing for the Factory of the Future

Thursday, August 31 2017, 09.30-10.30, LH A

Abstract: Protecting a complex manufacturing Industrial Control System from cyber-attack and preventing adversaries from having a functional effect on operations poses a number of challenges, and this challenge is escalated further as we move to; interconnected, data-driven, and IIoT based future factories. The key activities and innovations currently underway to address cyber security in operational industrial control systems that mitigate the evolving and emerging threats will be proposed. In addition, an understanding of the requirements for security in future Industry 4_0 industrial environments will be presented utilising the Airbus vision for the factory of the future and ongoing activities for security by design and throughout the operational lifecycle.

Dr Kevin Jones is Head of Cyber Security Architecture, Innovation and Scouting at Airbus, leading a global network of; teams, projects and collaborations including; research & innovation, state of the art solutions development, and technology scouting for cyber security across; IT, ICS and product security domains. He holds a BSc in Computer Science and MSc in Distributed Systems Integration from De Montfort University, Leicester where he also obtained his PhD: A Trust Based Approach to Mobile Multi-Agent System Security in 2010.

He is active in the cyber security research community, has published numerous papers and holds a number of patents within the domain. He is well known as an innovator, thought leader, and is responsible for multiple cyber security demonstrator platforms and laboratories. Kevin has many years of experience in consultancy to aid organisations in achieving accreditation to ISO27001 standard on Information Security Management. Kevin is a recognised expert in Critical National Infrastructure security, SCADA security, and the protection of critical systems. He currently acts as an executive consultant to Airbus on matters of cyber security across multiple domains and platforms and works closely with Government agencies on cyber security topics in addition to European programmes such as the "European Control System Security Incident Analysis Network" and the EU Cyber Security Public Private Partnership.

He is a frequent public speaker on cyber security and the protection of critical national infrastructure, in addition to an advisor to numerous cyber security research programmes and events. Kevin is an advocate and champion for cyber security in academia, development of cyber skills and for multi-disciplinary research.

He is a Member of the BCS, IEEE, ISACA, and ISC2 and is accredited as a Certified Information Systems Security Professional (CISSP), Certified Information Security Manager (CISM), and ISO27001 Lead Auditor.



ARES EU Symposium Keynote Speaker



Andrea Servida

Head of Unit DG CONNECT - H4 "eGovernment and Trust", European Commission, Belgium

Keynote

The keynote will be held in the ARES EU Symposium 2017 on Tuesday, August, 29 2017, 09.00-10.30, LH A

Andrea Servida is the Head of the Unit "eGovernment and Trust" in Directorate General 'Communication networks, content and technology' (DG CONNECT) of the European Commission whose mission is to advance the quality and innovation of public administrations and accelerating the large-scale public sector and private sector use of trusted identification

and trust services in the digital single market by leadership in the eGovernment agenda and in eIDAS. From 2012 to June 2016, he led the eIDAS Task Force in charge of the adoption and implementation of the eIDAS Regulation (EU) N°910/2014. The purpose of the regulation is to deliver a predictable regulatory environment for electronic identification and trust services for electronic transactions in the internal market to boost user convenience, trust and confidence in the digital world. From 2006 to 2012, he was Deputy Head of the Unit "Internet; Network and Information Security" in DG INFSO where he co-managed the Unit and was in charge of defining and implementing the strategies and policies on network and information security, critical information infrastructure protection, electronic signature and identification. From 1993 to 2005, he worked in the European Commission ICT research programmes (ESPRIT, IT, IST and ICT) dealing with safety critical systems, software engineering, database technology, privacy enhancing technologies, biometrics, dependability and cyber security. Before joining the European Commission in 1993, he worked in industry for nearly eight years as a project manager of international R&D projects on decision support systems for environmental, civil and industrial emergency and risk management. He graduated with Laude in Nuclear Engineering at Politecnico di Milano and carried out PhD studies on fuzzy sets and artificial intelligence at Queen Mary and Westfield College, University of London.

CD-MAKE Keynotes:



Neil D. Lawrence

University of Sheffield and Amazon, UK

Keynote: Cloaking Functions: Differential Privacy with Gaussian Processes

Wednesday, August 30 2017, 14.00-15.00 LH D

Abstract: Processing of personally sensitive information should respect an individual's privacy. One promising framework is Differential Privacy (DP). In this

talk I'll present work led by Michael Smith at the University of Sheffield on the use of cloaking functions to make Gaussian process (GP) predictions differentially private. Gaussian process models are flexible models with particular advantages in handling missing and noisy data. Our hope is that advances in DP for GPs will make it easier to 'learn without looking', i.e. gain the advantages of prediction from patient data without impinging on their privacy.

Neil Lawrence is a Professor of Machine Learning and Computational Biology at the University of Sheffield. He holds a PhD in Computer science from Cambridge University and had a postdoctoral stay with Microsoft Research Cambridge. He has served as the Chair of the NIPS Conference, the premier Machine Learning conference in the world, and was the founding editor of the Journal of Machine Learning (JMLR) Research Workshop and Conference Proceedings. He is a fellow of the Royal Society in the working group for machine learning.





Marta Milo University of Sheffield, UK

Keynote: Bring Mathematics into Biology: Past, Present and Future Impact on Health

Wednesday, August 30 2017, 09.00-09.30, LH D

Abstract: Last decade has seen a massive increase of data production in science. Particularly in the biomedical field, data has grown exponentially thanks to the development of technologies like next generation sequencing and high-throughput quantitative assays.

The information that this data contains is only partially uncovered to this date, but the impact that it has on human progression and well-being is already very clear.

Despite the ability to process large amount of data and to quantify fine details of biological processes, the costs, the time to perform such experiments and mainly the complexity of the systems remain in some cases still very prohibitive. For this reasons the use of mathematics to study complex systems in its entirety, looking at how they interacts, is having a great impact in current biology and healthcare. A variety of statistical, probabilistic and optimization techniques methods, like machine learning techniques, that allows to "learn" from the available data, to detect hidden patterns from large, noisy and complex datasets, is particularly suitable for application in medicine.

In this talk I will present examples of using machine learning techniques for a variety datasets from medical and biological problems and what are the advantages and disadvantages of this approach. I will also give examples when these techniques enabled to discover informative knowledge from a large complex system in the presence of small number of samples. Finally I will discuss how we use Machine Learning today for analysis of single-cell sequencing data and how we can use it for future more complex datasets generated integrating data from different sources.

Marta Milo is Lecturer in Computational Biology at the Department of Biomedical Science and is group leader at the Centre for Stem Cell Biology at the University of Sheffield. She was a Bioinformatics research fellow at the Sheffield Teaching Hospitals NHS Trust. She holds a PhD in Applied Mathematics and Computer Science from the University of Naples. The main focus of her professional career has been to develop truly interdisciplinary skills, complementing and refining her bioinformatics skills with a deep understanding of the biological nature of the data collected. This is to better identify limitations in the experimental designs and better quantify variations in the data collection and validation. Her work has been concentrating on the analysis and interpretation of high-throughput biological data, with the aim to produce feasible and robust hypotheses for a deeper understanding of the biological systems under study. In quantitative sciences numerical knowledge is not enough to understand and predict systems behaviours that are only partially observed. Since the beginning of 20th century it was clear that predictions of data required an additional "knowledge" to become meaningful. This knowledge needed to be quantified in a way that reflects our prior knowledge of the systems and what we were able to measure. It signed the start of introducing the concept of quantified uncertainty. Marta's research interests focus on developing computational tools, pipelines, appropriate experimental designs and protocols to assist in improving accuracy and sensitivity in the analysis of biological data.



Workshop Keynotes:



Shannon Lietz
DevSecOps Lead, Intuit

Keynote: Illuminating Cloud Security with DevSecOps
Workshop SSE 2017, Thursday, August 31, 2017, 11.00-13.00, LH C

Abstract: Cloud Security is not yet well-defined and the path can be treacherous with adversaries that have become accustomed to it using their auto-pawn infrastructure to quickly capture targets. Developing a good set of controls and defenses can be difficult

with larger workloads and sensitive data. Using continuous security methods, such as those integral to DevSecOps, has proven to be the best method for staying ahead of the bad guys. This talk will provide abuse cases and cover the symbiotic relationship of Cloud Security and DevSecOps.

Shannon is an award winning innovator with over two decades of experience pursuing advanced security defenses and next generation security solutions. Ms. Lietz is currently the DevSecOps Leader for Intuit where she is responsible for setting and driving the company's cloud security strategy, roadmap and implementation in support of corporate innovation. She operates a 24x7 DevSecOps team that includes Red and Blue Team operations. Previous to joining Intuit, Ms. Lietz worked for ServiceNow where she was responsible for the cloud security engineering efforts. Prior to this, Ms. Lietz worked for Sony where she drove the implementation of a new secure data center and led crisis management for a large-scale security breach. She has founded a metrics company, led major initiatives for hosting organizations as a Master Security Architect, developed security software and consulted for many Fortune 500 organizations.





Andrea Bondavalli

Full Professor of Computer Science, University of Firenze

Keynote: Anomaly Detection for Complex Dynamic System *Workshop FARES 2017, Thursday, August 31, 2017, 11.00-13.00, LH D*

Abstract: Anomaly detection is a promising technique in complex software-intensive systems, as it allows to dynamically controlling the system behavior and permits to sustain resilience. Anomaly detection can infer the presence of errors without needing direct

observation of the target service which most of the times and not accessible but acting on the observable parts of the system on which the service resides. Unfortunately, in such systems anomaly detection is often made ineffective due systems' dynamicity, which implies changes in the services or in the workload. We present an approach to enhance the efficacy of anomaly detection in complex, dynamic software-intensive systems. After discussing the main challenges, we present MADneSs, an anomaly detection framework tailored for such systems. The framework includes an adaptive monitoring module that allows collecting data from the target system through a multi-layer monitoring approach. Monitored data are then processed by the anomaly detector, which adapts its parameters depending on the current behavior of the system, providing an anomaly alert. MADneSs evaluated through an experimental campaign on service oriented architectures based on software fault injection. We finally discuss our results with respect to state-of-the-art solutions, highlighting the key contributions of MADneSs both in quantitative and qualitative terms.

Andrea Bondavalli is a Full Professor of Computer Science at the University of Firenze. Previously he has been a researcher and a senior researcher of the Italian National Research Council, working at the CNUCE Institute in Pisa. His research activity is focused on Dependability and Resilience of critical systems and infrastructures, turning to Cyber-Physical Systems and IoT. In particular he has been working on designing resiliency, safety, security, and on evaluating attributes such as reliability, availability and performability. His scientific activities have originated more than 220 papers appeared in international Journals and Conferences. Andrea Bondavalli supports as an expert the European Commission in the selection and evaluation of project proposals and regularly consults companies in the application field. He led various national and European projects such as the Italian MIUR PRIN "DOTS-LCCI" and "TENACE" and several European projects from framework 2. He has coordinate the FP7-ICT-2013-10-610535 "AMADEOS" and the FP7-PEOPLE-2012-IAPP-324334 "CECRIS". Now he is involved in the PIRSES-GA-2013-612569 "DEVASSES" and Regione Toscana projects SiSTER and TOSCA-FI. Andrea Bondavalli participates to (and has been chairing) the program committee in several International Conferences such as IEEE FTCS, IEEE SRDS, EDCC, IEEE HASE, IEEE ISORC, IEEE ISADS, IEEE DSN, SAFECOMP, He is the chair of the Steering Committees of IEEE SRDS and a member the Steering committee of LADC and of the editorial board of the International Journal of Critical Computer-Based Systems. Andrea Bondavalli is a member of the IEEE, the IFIP W.G. 10.4 Working Group on "Dependable Computing and Fault-Tolerance".



Martin Gilje Jaatun

Senior Scientist at SINTEF Digital

Keynote: Cyber Security in Critical Infrastructure Domains
Workshop IWCC 2017, Wednesday, August 30, 2017, 11:00-12:30, LH C

Abstract: Cybercrime hits hardest when it affects critical infrastructures such as communications, electricity and water. This presentation will provide a brief overview with examples of cyberattacks in different critical infrastructure domains, and argue why it is

important to build security into all software and hardware that we rely on in our daily lives.

Dr. Martin Gilje Jaatun is a Senior Scientist at SINTEF Digital. He graduated from the Norwegian Institute of Technology (NTH) in 1992, and received the Dr.Philos degree from the University of Stavanger in 2015. Previous positions include scientist at the Norwegian Defence Research Establishment (FFI), and Senior Lecturer in information security at the Bodø Graduate School of Business. His research interests include software security, security in cloud computing, and security of critical information infrastructures. He is vice chairman of the Cloud Computing Association (cloudcom.org), vice chair of IEEE TCCLD, and a Senior Member of the IEEE. He is also an IEEE Cybersecurity ambassador, and Editor-in-Chief of the International Journal of Secure Software Engineering.





Aljosa Pasic
Technology Transfer Director of ATOS R&I (ARI)

Keynote: Known Unknowns in Cybersecurity Research and Transfer of Results to the Market

Abstract: Known unknowns refers to risks and challenges we are mainly aware of, or

Workshop S-Cl 2017, Tuesday, August 29. 2017, 11:00-12:30, LH D

follow predictable patterns. Although cybersecurity hype is rather new, the most of market trends and research challenges have been either reported before or follow patterns that have existed in information or IT security before. Based on the observation of past strategic research agendas or roadmaps in security and privacy, the keynote will address dynamics of changes and challenges including possible scenarios and trade-offs: core versus edge, abstraction versus focused, open versus closed etc. The associated trends and challenges will be

privacy, the keynote will address dynamics of changes and challenges including possible scenarios and trade-offs: core versus edge, abstraction versus focused, open versus closed etc. The associated trends and challenges will be presented, with focus on the emerging concept of trust as service. Cybersecurity is also a topic on which a broad plethora of research activities are being carried out at national and international level and some of them will be presented during the session. These activities are also linked to market opportunities, but transferring the project results to the market has not been satisfactory in many cases. Related to this issue, Aljosa will talk about R&D cybersecurity technology transfer strategy, tactics and operations, with presentation of several examples.

ALJOSA PASIC's current position is Technology Transfer Director in Atos Research & Innovation (ARI), based in Madrid, Spain. He graduated Information Technology at Electro technical Faculty of Technical University Eindhoven, The Netherlands, and has been working for Cap Gemini (Utrecht, The Netherlands) until the end of 1998. In 1999 he moved to Sema Group (now part of Atos) where he occupied different managerial positions. During this period he was participating in more than 50 international research, innovation or consulting projects, mainly related to the areas of information security or e-government. He is member of EOS (European Organisation for Security) Board of Directors, and collaborates regularly with organisations such as ENISA, IFIP, IARIA, FI-PPP and others.



Christian Schlehuber Deutsche Bahn (DB) IT-Security expert

Keynote: Challenges in Securing Critical Infrastructures of the Railway Domain

Workshop S-CI 2017, Tuesday, August 29 2017, 17.15-18.15, LH D

Abstract: The railway domain is a complex critical infrastructure (CI) linking communication and control elements, and susceptible to multiple security threats similar

to those encountered by industrial control systems. However, protecting modern railway signalling systems is a challenging task given the rigorous human safety standards that must be adhered to while augmenting the systems with security mechanisms. As railway CIs are subject to strong regulation and also cannot be adequately protected by physical security given that they are distributed over large areas, the strong interplay of security and safety requirements results in both unique problems and solutions. In this presentation the current state of railway signalling, the obstacles to consider when protecting signalling using state of the art information security will be shown, and also contemporary approaches to address such obstacles will be shown. For this a shell concept as an approach to decouple safety and security and an integrated approach will be discussed. The railway domain is a complex critical infrastructure (CI) linking communication and control elements, and susceptible to multiple security threats similar to those encountered by industrial control systems. However, protecting modern railway signalling systems is a challenging task given the rigorous human safety standards that must be adhered to while augmenting the systems with security mechanisms. As railway CIs are subject to strong regulation and also cannot be adequately protected by physical security given that they are distributed over large areas, the strong interplay of security and safety requirements results in both unique problems and solutions. In this presentation the current state of railway signalling, the obstacles to consider when protecting signalling using state of the art information security will be shown, and also contemporary approaches to address such obstacles will be shown. For this a shell concept as an approach to decouple safety and security and an integrated approach will be discussed.

Christian Schlehuber studied informatics and IT-Security at the TU Darmstadt with a specialization in critical infrastructures. After receiving his master degree he started to research at the Security Engineering Group of TU Darmstadt on the topic Critical Infrastructure Protection in 2013. In 2015 he got the opportunity to apply his researches in the interlocking technologies of DB Netz AG and switched to DB Netz AG. He currently is responsible for the IT-Security of the operational technologies of DB Netz AG. Besides this he is active in the European research projects Shift2Rail and CIPSEC, which aim at improving the IT-Security of Critical Infrastructures. He is also member of the CENELEC SG 24 and currently working on a European standard on IT-Security for Railways.





Dr Shujun Li *University of Surrey, UK*

Keynote: A New Paradigm of Information Hiding? Hiding in Activities of the Cyber-Physical-Social World

Workshop CUING 2017, Thursday, August 31, 2017, 11:00-13:00, LH B

Abstract: In this talk, the speaker will discuss how information hiding has evolved from traditional approaches based on digital objects to network based approaches and more

recently to even more general approaches based on diverse activities in the cyber-physical-social world including observable behaviors of human users and activities of automated programs (e.g., bots) and devices (e.g., smart sensors). He will introduce some recent work he and his collaborators have been working on, which started several years ago from a small feasibility research project called "Mobile Magic Mirror (M3): Steganography and Cryptography on the move" and has led to a pending EU patent recently filed in June 2017 (originally filed as a UK patent application in November 2014, published by WIPO in May 2015 under Publication No. WO/2016/075459). He will explain how the new information technology is linked with other previous and ongoing work of the information hiding and steganography community. He will also express his view on how the new approaches to information hiding will create (or have created) new challenges for law enforcement agencies to investigate criminal activities in the cyber space and what we can do to meet such challenges.

Dr Shujun Li will join the University of Kent later in 2017 as a Professor of Cyber Security and Director of its Interdisciplinary Research Centre in Cyber Security. He is currently a Reader (Associate Professor) at the Department of Computer Science, University of Surrey, and has been a Deputy Director of the Surrey Centre for Cyber Security (SCCS) since July 2014. SCCS has been a UK government recognized Academic Centres of Excellence in Cyber Security Research (ACE-CSR) since 2015 and its status has been recently re-recognized until 2022. Dr Li's research interests are mostly around interdisciplinary topics covering cyber security, digital forensics and cybercrime, human factors and human-centric computing, multimedia computing and information visualization, and applications of artificial intelligence and discrete optimization. Due to the interdisciplinary nature of his research, Dr Li is actively working with researchers from other disciplines especially Electronic Engineering, Psychology, Business and Sociology. He has been leading a number interdisciplinary research projects including one on better approaches to understanding and influencing human behaviors for reducing human-related risks (ACCEPT), one on applications of cognitive modelling in cyber security (COMMANDO-HUMANS), and one on human-assisted machine learning for data loss prevention (H-DLP). Several projects he has been involved are about crime investigation and prevention (e.g. POLARBEAR), digital forensics (e.g. one on digital forensics standards), and information hiding (e.g. M3 and another research project on digital watermarking). He has been working very closely with industry and public bodies especially law enforcement agencies (LEAs) including a number of UK LEAs and Europol. Dr Li has published around 100 publications at international conferences and journals, and his work has attracted over 5500 citations with an h-index of 38 (Google Scholar). He is the co-editor of the Handbook of Digital Forensics of Multimedia Data and Devices, co-published by Wiley and IEEE Press in 2015. He is currently on the editorial boards of 5 international journals and has been on the organizing and technical program committees of many international conferences and workshops. He has one pending EU patent application on a new information hiding technology and another UK patent application on a new user authentication framework. Although not a mathematician or a theoretical computer scientist, his interdisciplinary work with at least two groups of researchers gives him a current Erdös Number of 3. Dr Li is a Senior Member of IEEE, a Professional Member of ACM, and a Global Member of the Internet Society. From 2009-2011 he was a member of MPEG (ISO/IEC JCT 1/SC 29/WG 11), and in 2012 was awarded an ISO/IEC Certificate of Appreciation for being the lead editor of ISO/IEC 23001-4:2011, the 2nd edition of the MPEG RVC standard. More about Dr Li's research can be found at http://www.hooklee.com/.





Wojciech Mazurczyk

Warsaw University of Technology, Poland

Keynote: Criminal Use of Information Hiding (CUIng) Initiative: Past, Present and Future

Workshop CUING 2017, Thursday, August 31, 2017, 11:00-13:00, LH B

Abstract: In this keynote the main facts and activities related to the newly formed Criminal Use of Information Hiding (CUIng) initiative launched in cooperation with Europol EC3 will

be presented. Moreover, the rising trend of information hiding-based malware will be characterized and the challenges for digital forensics experts related to this new phenomenon will be discussed.

Wojciech Mazurczyk is an Associate Professor at Cybersecurity Division, Institute of Telecommunications (IT), Faculty of Electronics and Information Technology, Warsaw University of Technology (WUT), Poland. Co-founder of Cybersecurity Division and the head of the Bio-inspired Security Research Group (BSRG) at WUT. Mazurczyk also works as a researcher at the Parallelism and VLSI Group at Faculty of Mathematics and Computer Science at FernUniversitaet in Germany. He is an author or co-author of 2 books, over 120 papers, 2 patent applications and over 35 invited talks. He has been involved in many international (H2020, FP7, FP6, etc.) as well as domestic research projects as a principal investigator or as a senior researcher. A guest editor of many special issues devoted to network security. He serves also as Editor-in-Chief for the open access Journal of Cyber Security and Mobility. From 2016 he is a member of the Academic Advisory Network for Europol EC3 (European Cybercrime Center). A founder and a coordinator of the Criminal Use of Information Hiding (CUIng) Initiative launched in cooperation with Europol EC3. A founding member of EURASIP "Biometrics, Data Forensics and Security" (B.For.Sec) Special Area Team. Wojciech Mazurczyk is an IEEE Senior Member (2013-) and EURASIP member (2015-). For over 10 years has been serving as the independent consultant in the fields of network security and telecommunications. His research was covered by worldwide media numerous times including in "IEEE Spectrum", "New Scientist", "MIT Technology Review", "The Economist", "Der Spiegel", etc.

Dr Richard Overill

Senior Lecturer (Associate Professor) in Computer Science Department of Informatics, King's College London

Keynote: The Sky: A Neglected Source of Error in Digital Forensic Investigations?"

Workshop WSDF 2017, Wednesday, August 30, 2017, 09:00-10:30, LH B

Abstract: When evidence is recovered from a suspected crime scene prior to mounting a criminal prosecution the defence team will either try to discredit the recovered evidence or try to come up with an alternative non-criminal explanation for the evidence. This is as true in digital forensics as in any other branch of forensics science. Sometimes an alternative explanation appears sufficiently plausible that the court is not convinced by the prosecution's case "beyond all reasonable doubt". Examples of this include the "Trojan Horse Defence" and the "Inadvertent Download Defence". One of the strands of my digital meta-forensics research is to devise and evaluate the plausibility of such alternative explanations proactively, in anticipation of their use at trial by the defence team. In this Keynote, I'll describe a putative defence strategy for the existence of certain forensically recovered meta-data from a seized digital device which relies on an extra-terrestrial explanation! I'll estimate its plausibility under a number of different conditions, and show how this has led to a new sub-discipline of "digital cosmo-forensics".

Eur Ing Dr **Richard E Overill**, BSc, PhD, FBCS, FIMA, FHEA, CEng, CSci, CMath, CITP is a Senior Lecturer in Computer Science in the Department of Informatics at King's College London, where he lectures on digital crime and digital forensics to MSci and MSc students. He has published about 120 research papers in international conference proceedings, international journals, and invited book chapters, of which 55 are on cyber security and digital forensics. He is an editorial board member of the Journal of Digital Forensics, Science & Law, and of the journal Digital Investigation.



Social Events

This year we have planned a truly diverse social program for ARES and CD-MAKE 2017. We hope to see you all there!

If you want to come directly to a social event (and you are not using the organized transport) please contact us at the registration desk to find an appropriate meeting point.

Tuesday, August 29, 2017 - Welcome Reception

Our Welcome Reception will take place in the historical building Palazzo Foti, located in the heart of Reggio Calabria. You will get the possibility to try traditional Calabrian Food. Palazzo Foti is an important building of Reggio Calabria, home of the provincial administration. The palace is also a "jewelcase" full of treasures.

This year, we welcome our <u>special guest</u> Enza Bruno Bossio, Deputy of the Italian Republic.



©turismo.reggiocal.it

Meeting point: 18.30 in front of the university.

To get to Palazzo Foti we need to take the public bus to the city center. We will then walk together to the bus station. Were we will divide the people between bus number 27 that leaves at 18.50 direction "Aeroporto" and get out at the stop "Corso Matteotti" and bus number 5-10 that leaves at 18.45 direction "Riparo Vecchio" and get out at the stop "Corso Matteotti". The bus ride takes about 10 minutes, then we will walk together to Palazzo Foti.

You can also meet us directly at Palazzo Foti at 19.15 (name in Google: Palazzo Corrado Alvaro)

Wednesday, August 30, 2017 - Ice Cream Session

On August 30, 2017, during the morning coffee-break, a degustation of traditional ice cream will be offered, to taste the ice cream of "Gelateria CESARE", which was the winner of the 2016 "Gastronauta" Italian competition for the best artisan ice cream in Italy.

Wednesday, August 30, 2017 - Conference Dinner and Excursion

Our Conference Dinner – a highlight at ARES 2017 – will take place in front of the Strait of Messina (*Altafiumara Castle*). Before the gala dinner we will have an excursion to *Chianalea* and *Scilla*. Scilla is a stunningly-located fishing village in the Calabria region, in the south of Italy, on the toe of Italy's boot. A rocky spur topped with an ancient fortress separates two narrow strips of seashore hemmed in by steep hillsides. Scilla is squeezed into this restricted and picturesque landscape and it is an unforgettable sight. Chianalea, nestled into a narrow strip of land to the headland, is an ancient fishermen's settlement with an atmosphere all of its own.



Fishing quarter of Scilla with Castello Ruffo, Calabria, Italy (©Shutterstock)

Live music will brighten the night with a concert by *SERTANGO Quartet*. The quartet (accordion/bandeonon, guitar, piano, voice) proposes a repertoire ranging from classic to pop music, tango and jazz, with special focus on tango.

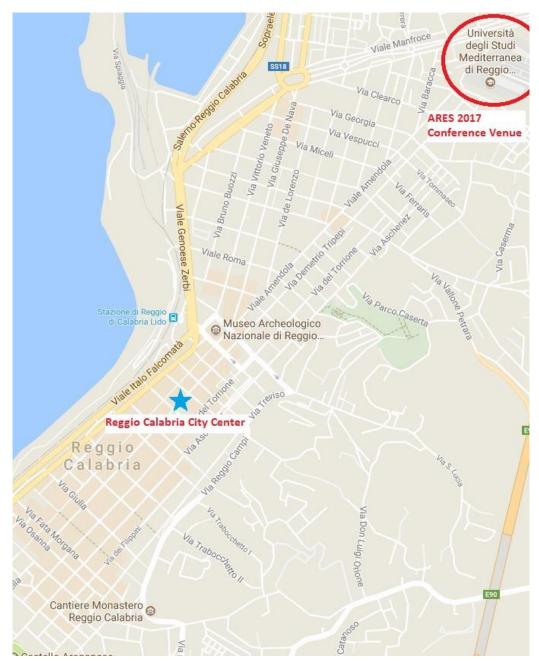
Meeting point: 16.20 in front of the University, buses leave 16.30 (shortly after the last session)



SERTANGO Quartet



Venue Overview



Venue Overview

Coordinates: https://www.google.it/maps/place/38.121499+15.660916



Conference Venue

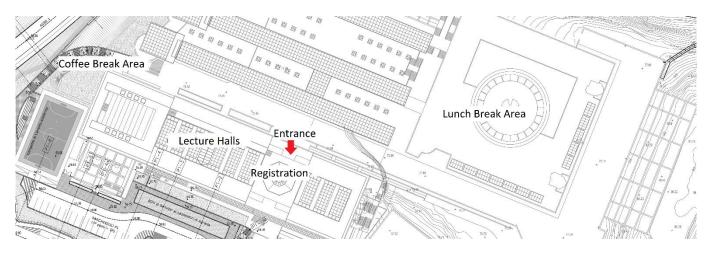
Address of the ARES 2017 Conference Venue

Aula Magna Quistelli (near to "complesso Torri") Università degli Studi Mediterranea di Reggio Calabria Via Salita Melissari, Reggio Calabria, 89124

The Conference Venue is located in about 5 minutes walking distance away from the Bus stop "S. Brunello". Signs along the way from the stop to the venue will be provided. For more information see "Directions"



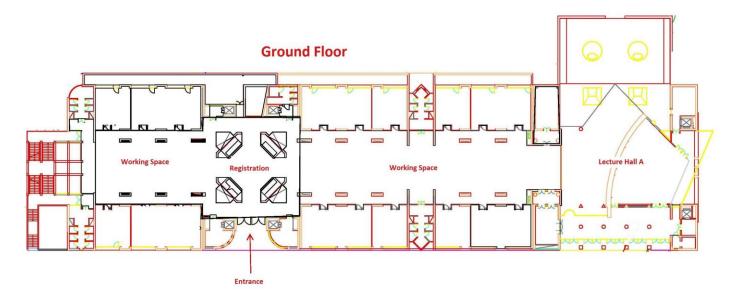
Università degli Studi Mediterranea di Reggio Calabria

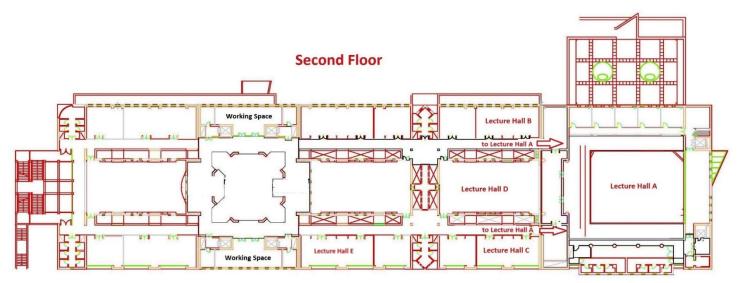


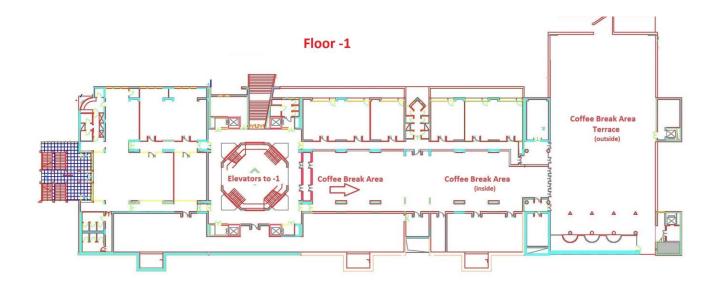
Overview



Room Plans









Lunch Information & Menu

We will provide you with a catered lunch directly at the conference venue. There will be a lunch and coffee break area on site.

There will be an olive oil degustation corner in the lunch area, where you can taste top-quality Calabrian Bon Appétit extra virgin olive oils.

Here you can find the menu:

Tuesday, August 29, 2017

Starters – Fish meatballs, Grilled eggplants, potatoes and peppers

First Course - Pasta with zucchini flowers and zucchini, Venus rice with corn, cherry tomatoes and mint

Second Course - Anchovy cutlets, Swordfish parmigiana

Side Dishes - Mixed salad (lettuce, chicory, tomatoes, nuts), Tomato salad

Dessert - Typical mignon pastry, mignon ice cream cones

Wednesday, August 30, 2017

Starters - Cubes of Calabrian omelette (with red onions, ricotta cheese, etc.), Stuffed Peppers

First Course - Pasta with pumpkin cream, bacon and basil, Pasta "alla norma" (tomato, fried eggplants and salted Ricotta cheese)

Second Course - Fish rolls or Fish pie (depending on the fish), Vegetable pie

Side Dishes - Caponata (typical Sicilian eggplant dish), Sweet and sour Arugula salad

Dessert - Typical mignon pastry, mignon ice cream cones

Thursday, August 31, 2017

Starters - Stuffed cherry tomatoes, Mozzarella (cherry mozzarella and "stracciatella"), crushed olives

First Course - Pasta with fresh homemade pesto and cherry tomatoes, Rice salad

Second Course - Zucchini "parmigiana" (typical zucchini pie), Octopus salad

Side Dishes - Eggplant and pepper rolls, mixed salad

Dessert - Typical mignon pastry, mignon ice cream cones

Friday, September 01, 2017

Starters - Cold cuts and cheese, Eggplant meatballs

First Course - Pasta with anchovies and cherry tomatoes, Integral red rice with vegetables

Second Course - Chicken nuggets sweet and sour, Enriched "caprese" (tomatoes, mozzarella, potatoes, eggplants, basil, and parmesan).

Side Dishes - Chickpeas Salad, Tomato salad

Dessert - Typical mignon pastry, mignon ice cream cones

WIFI Information

There is WIFI available at the venue of ARES 2017:

WIFI name: ARES

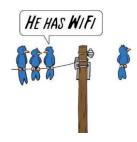
Password: conference2017

Eduroam is also available.

Reggio City WIFI

The Lungomare (promenade) "Falcomata", the most representative place in the city, center of cultural life and an intense summer tourist season, is covered by "Reggio Calabria Wireless" hot spots, and in other areas of the city center, as shown in the "Maps" section of the website.

More information can be found here: http://www.reggiowireless.com/index en.htm





Directions

Address of the Conference Venue:

Aula Magna Quistelli (near to "complesso Torri") Università degli Studi Mediterranea di Reggio Calabria Via Salita Melissari, Reggio Calabria, 89124

How to get from the Airport to the City Centre

1. Bus

Public buses go at regular intervals between the airport and the city centre.

- The bus line no 27 goes daily every hour from 7.00 to 19.00 between the airport and the city centre. Journey time approx. 20 min.
- The bus line no 28 goes daily every hour from 7.30 to 19.30 between the airport and the city centre. Journey time approx. 20 min.

Costs: single ticket € 1.50

Tickets are available at the newsstand in the airport terminal.

2. Taxi

A taxi stand can be found in front of the airport terminal. Transfer time from the airport to the city centre is approx. 15 minutes.

According to the Giunta Comunale resolution nr. 83 of 19 June 2015, taxi costs should be:

Fixed Costs (without supplements)	
Airport – Train Central Station	Euro 12,00
Airport – Museo Nazionale	Euro 16,00
Airport – Port Reggio Calabria	Euro 18,00

How to get from the airport to the Conference Venue

Take the bus line no 27 direction "Facoltà Agraria" and get out at the stop "S. Brunello" (then walk to the conference venue). See "From the stop "S. Brunello" to the conference venue (on foot)".



How to get from the City Centre to the Conference Venue

There are three possible ways to get to the conference venue from the city center:

1. Take the bus line no 27 direction "Facoltà Agraria" and get out at the stop "S. Brunello" (then walk to the conference venue). See "From the stop "S. Brunello" to the conference venue (on foot)".

Bus stops of Line 27: Aeroporto - Via Ravagnese Inferiore - Ponte S. Agata - Via Gebbione - Viale Calabria - Argine Calopinace - Piazza Garibaldi - Via S. Francesco da Paola - Via del Torrione - Via Romeo - Museo - Viale Amendola - Via Mons. De Lorenzo - Via XXV Luglio - Viale Zerbi (Porto) - Viale Boccioni - Terminal Ponte Libertà - S. Brunello - Facoltà Ingegneria - Facoltà Agraria

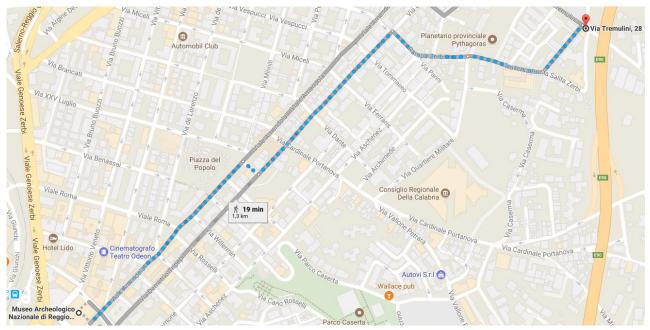
Timetable of Line 27: see Timetables Public Transport

2. Take the bus line no 5 or 10 direction "Vito Superiore" and get out at the stop "S. Brunello" (then walk to the conference venue). See "From the stop "S. Brunello" to the conference venue (on foot)".

Bus stops of Line 5 or 10: Riparo Vecchio - S. Sperato - Modena - Via del Seminario - Viale Europa - Via Pio XI - Via Sbarre C.li - Ponte S. Pietro - Argine Dx Calopinace - Piazza Garibaldi (Stazione FS) - Via S. Francesco da Paola - Via del Torrione - via Domenico Romeo (INPS) - Museo - Viale Amendola - Via Ibico - Argine Annunziata - **S. Brunello** - Vito Superiore - Vito Superiore

Timetable of Line 5 or 10: see Timetables Public Transport

3. You can reach the conference venue from the city center also by foot. In this case, the destination is Via Tremulini, 28, 89124 Reggio Calabria. For example, from the Museo bus stop it takes about 20 minutes (about 1,3 Kilometres)



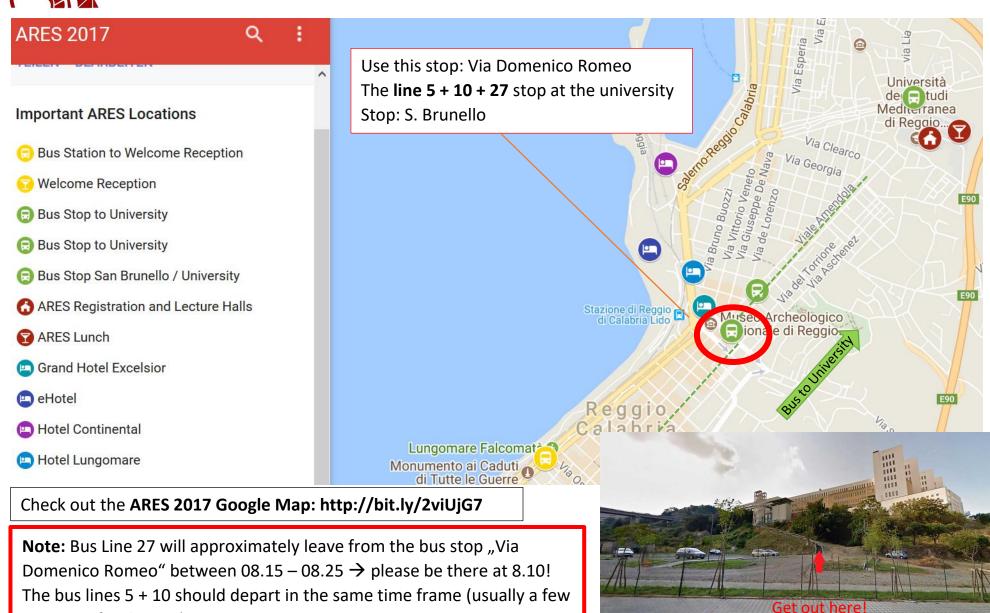
Walking distance from the city center to the conference venue



minutes after line 27).

ARES 2017 HOW TO GET TO THE CONFERENCE VENUE

Università degli Studi Mediterranea di Reggio Calabria





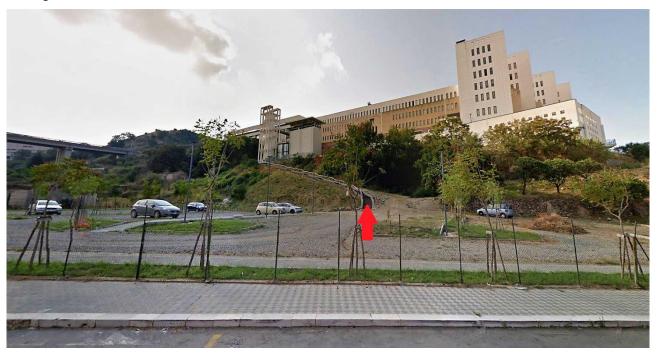
From the stop "S. Brunello" to the Conference Venue (on foot)

Here you can see an overview how to get from the bus stop "S. Brunello" to the conference venue.



Bus Stop "S. Brunello"

On the right of the bus stop "**S. Brunello**", you can see the parking lot of the University and the four towers of the University. Walk through the parking lot, walk upstairs and take the elevator. Then follow the signs "ARES 2017".



Stairs to the ARES venue

40



How to get from the Conference Venue to the City Center

There are three possible ways to get from the venue to the city center:

1. Take the bus line no 27 from the bus stop "S. Brunello". This stop is a few meters away from the bus stop where you get-off when you arrive at S.Brunello; it is on the right side of the downhill road, a few meters ahead of the cars parked in the picture above. The bus stops of the city center are from "Via De Nava" to "Stazione FS C.le".

Bus stops of Line 27: Facoltà Agraria - Facoltà Ingegneria - S. Brunello - Viale Libertà - Ponte Libertà - Via De Nava - Via XXV Luglio - Viale Zerbi (Porto) - Via Roma - Via De Nava - Museo - Largo Colombo - Corso Matteotti - Stazione FS C.le - Argine Calopinace - Viale Calabria - Via Gebbione - Ponte S. Agata - Via Ravagnese Inferiore - Aeroporto

Timetable of Line 27: see Timetables Public Transport

2. Take the bus line no 5 or 10 from the bus stop "**S. Brunello**". This stop is a few meters away from the bus stop where you get-off when you arrive at S.Brunello; it is on the right side of the downhill road, a few meters ahead of the cars parked in the picture above. The bus stops of the city center are from "Via De Nava" to "Stazione FS C.le".

Bus stops of Line 5 or 10: Vito Superiore - Vito Superiore - S. Brunello - Argine Annunziata - Via Pensilvania - Viale Amendola - Via XXV Luglio - Via De Nava - Museo - Corso Matteotti - Stazione FS C.le - Argine Sx Calopinace - Ponte S. Pietro - Argine Calopinace - Viale Europa - Via del Seminario - Modena - S. Sperato - Riparo Vecchio

Timetable of Line 5 or 10: see Timetables Public Transport

3. You can reach the city center from the conference venue also on foot: for example, reaching the Museo takes about 15 minutes (~1,3 Kilometres).



Timetable of Line 27: (Stop at University: S. Brunello)

Linee 27 Aeroporto-Università																
Aeroporto (Parcheggio)	07:00	08:00	08:15	09:00	09:45	10:00	11:00	12:00	12:15	13:00	14:00	15:00	16:00	17:00	18:00	19:00
Viale Calabria	07:10	08:10	08:25	09:10	09:55	10:10	11:10	12:10	12:25	13:10	14:10	15:10	16:10	17:10	18:10	19:10
Piazza Garibaldi	07:17	08:17	08:32	09:17	10:02	10:17	11:17	12:17	12:32	13:17	14:17	15:17	16:17	17:17	18:17	19:17
Viale Zerbi (incrocio Boccioni)	07:27	08:27	08:42	09:27	5	10:27	11:27	12:27	12:42	13:27	14:27	15:27	16:27	17:27	18:27	19:27
Terminal Ponte Libertà	07:29	08:29	08:44	09:29	-	10:29	11:29	12:29	12:44	13:29	14:29	15:29	16:29	17:29	18:29	19:29
S. Brunello	07:32	08:32	08:47	09:32	77	10:32	11:32	12:32	12:47	13:32	14:32	15:32	16:32	17:32	18:32	19:32
Facoltà Ingegneria	07:34	08:34	08:49	09:34	29	10:34	11:34	12:34	12:49	13:34	14:34	15:34	16:34	17:34	18:34	19:34
Facoltà Agraria	07:41	08:41	08:56	09:41		10:41	11:41	12:41	12:56	13:41	14:41	15:41	16:41	17:41	18:41	19:41
21																
Facoltà Agraria	07:45	08:45	09:00	09:45	10:45	11:45	12:45	13:00	13:45	14:45	15:45	16:45	17:45	18:45	19:45	23
S. Brunello	07:50	08:50	09:05	09:50	10:50	11:50	12:50	13:05	13:50	14:50	15:50	16:50	17:50	18:50	19:50	
Ponte Libertà	07:52	08:52	09:07	09:52	10:52	11:52	12:52	13:10	13:52	14:52	15:52	16:52	17:52	18:52	19:52	0
Viale Zerbi (incrocio XXV Luglio)	07:54	08:54	09:09	09:54	10:54	11:54	12:54	3000	13:54	14:54	15:54	16:54	17:54	18:54	19:54	
Museo	07:57	08:57	09:12	09:57	10:57	11:57	12:57	1928	13:57	14:57	15:57	16:57	17:57	18:57	19:57	
Stazione FS C.le	08:02	09:02	09:17	10:02	11:02	12:02	13:02	1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1	14:02	15:02	16:02	17:02	18:02	19:02	20:02	-
Viale Calabria (incr. Botteghelle)	08:06	09:06	09:21	10:06	11:06	12:06	13:06	155	14:06	15:06	16:06	17:06	18:06	19:06	85	
Aeroporto (Parcheggio)	08:16	09:16	09:31	10:16	11:16	12:16	13:16		14:16	15:16	16:16	17:16	18:16	19:16	9 3 <u>25</u> 9	

Bus stops at the city center from Via de Nava to Stazione FS C.le:

Facoltà Agraria - S. Brunello - Viale Libertà - Ponte Libertà - Via De Nava - Via XXV Luglio - Viale Zerbi (Porto) - Via Roma - Via De Nava - Museo - Largo Colombo - Corso Matteotti - Stazione FS C.le - Argine Calopinace - Viale Calabria - Via Gebbione - Ponte S. Agata - Via Ravagnese Inferiore - Aeroporto



Timetable of Line 5-10: (Stop at University: S. Brunello)

Linee 5-10 Riparo-S. Brunello/Vito																
Riparo Vecchio		06:15		06:55	07:20		08:15	08:35	09:15	09:55	10:15	10:55	11:35	11:55	12:55	13:40
Piazza Garibaldi	05:40	06:30	07:00	07:15	07:40	08:15	08:35	08:55	09:35	10:15	10:35	11:15	11:55	12:15	13:15	14:00
S. Brunello	05:53	06:45	07:14	07:28	07:55	08:30	08:50	09:10	09:50	10:30	10:50	11:30	12:08	12:30	13:30	14:15
Vito Superiore	06:00	<u> </u>	07:25	22	08:05	08:40	120	2 2	120	10:40	120	11:40	823	12:40	13:40	14:25
Riparo Vecchio	14:55	15:15	16:15	#	16:55	17:55	18:15	18:35	8 0 8	19:30	19:45					
Piazza Garibaldi	15:15	15:35	16:35	16:55	17:15	18:15	18:35	18:55	19:30	19:50	20:05					
S. Brunello	15:30	15:50	16:50	17:10	17:30	18:30	18:50	19:10	19:45	8	20:20					
Vito Superiore	-	16:00	2 .	17:20		57		3 Z 3	19:55	2	70,271	3				52 72
Vito Superiore	1 5	06:05	-	73	07:25	08:15	08:40	-	(52)	-	10:40	-	11:50	-	12:55	13:40
S. Brunello	-	06:15	06:45	07:30	07:35	08:25	08:50	09:05	09:25	10:05	10:50	11:05	12:00	12:12	13:05	13:50
Piazza Garibaldi	06:01	06:29	07:00	07:43	07:48	08:40	09:05	09:20	09:40	10:20	11:05	11:20	12:05	12:22	13:20	14:05
Riparo Vecchio	06:15	06:49	07:20	08:03	08:10	09:00	126	09:40	10:00	10:40	11:25	11:40	12:35	2	13:40	14:25
Vito Superiore	14:30	0.50	16:00	7	17:20	73	((5%	3 - 5 - 3	070	20:00		3 - B				
S. Brunello	14:40	15:35	16:10	17:05	17:30	17:45	18:45	19:05	19:25	20:10	20:35					
Piazza Garibaldi	14:55	15:50	16:25	17:20	17:45	18:00	19:00	19:20	19:40	20:25	20:50					
Riparo Vecchio	15:15	16:10	16:45	17:40	18:05	18:20	19:20	19:40	20:00	20:45	21:10	50 51 50 91				

Bus stops at the city center from Via de Nava to Stazione FS C.le:

ito Superiore (Linea 5) - Vito Superiore - S. Brunello - Argine Annunziata - Via Pensilvania - Viale Amendola - Via XXV Luglio - Via De Nava - Museo - Corso Matteotti - Stazione FS C.le - Argine Sx Calopinace - Ponte S. Pietro - Argine Calopinace - Viale Europa - Via del Seminario - Modena - S. Sperato - Riparo Vecchio



City Map Reggio Calabria



City Map Reggio Calabria



Welcome to Reggio Calabria!



Picture Source: ©Francesco Buccafurri

Useful Information

Tourist Information
Associazione Proloco Città di Reggio Calabria
Via Venezia 1 89128 Reggio Calabria RC Italy +39 329 323 4407

Emergency Numbers										
Fire service	115									
Police	112									
Ambulance/ rescue	118									
European emergency	112									

Drinking Water

Officially, it is safe to drink the tap water in Italy. Generally however, people do not drink tap water.

Opening Hours of Shops in Reggio

Shop opening hours may depend indicatively. Pharmacies are open from 8:00 -13:00 with a break until 16:00 and closing at 19:30. Small convince food shops are open from 8:00-13:00 with a break until 16:00/16:30 and then open again until 20:00.

There is a supermarket not far from the conference venue called *IperCoop* with the following opening hours: 8:30 to 21:00 with no breaks. IperCoop Address: Via De Nava, 1, 89123 Reggio Calabria RC

Other shops are typically open from 9:00-13:00 with a break until 16/16:30 and closing at 20:00.

Tipping:

Tipping in restaurants in Italy is not obligatory. However, if you are happy with the service you can leave a 10% tip of the bill or simply round up to a convenient number. Be aware that in some restaurants supplements through the *servizio* (service charge) on your restaurant bill and/or the *coperto* (cover charge), sometimes both, may be applied. In that case a service fee is being charged and an additional tip is not necessary.



Public Transport Information

Bus stops are indicated by one of the following signs "FERMATA BUS ATAM LINEE":



Bus stop with shelter



Bus stop sign

Costs (urban zone only):

- single ticket € 1.50 (valid for 75 minutes)
- daily ticket € 4.50

Tickets can be purchased from tobacconists, bars, newsstands or shops near bus stops showing the



The complete time-table can be found here (in Italian): http://www.atam.rc.it/cgi/atam.pl?_cgifunction=ricercapercorso_numero09

The list of shops in the city center selling tickets can be found here (in Italian): http://www.atam.rc.it/html/sosta_rivendite_centro.html



About Reggio Calabria

Reggio Calabria is the biggest city and the most populated commune of Calabria, Southern Italy. It is the capital of the Metropolitan City of Reggio Calabria and the seat of the Regional Council of Calabria. It has a population of approximately 200,330 people.

Reggio Calabria has a long history: Its founders, the Chalcidians of Euboea, had come from the Mediterranean in the second half of the eight-century BC. Today, in a city destroyed and rebuilt for many times, testimony of the grandeur of its Greek and Roman past may be found in the "Museo Nazionale" (hosting also the Riace bronzes, also called the Riace Warriors, two full-size Greek bronzes of naked bearded warriors, cast about 460–450 BC) as well as going away in the city center and visiting old churches and other Greek and Roman remnants.



Picture Source: ©Francesco Buccafurri

The center of Reggio shows elegant liberty-style buildings, the cathedral, the Ottimati church, the rests of Greek walls and Roman thermal baths, and, among other attractions, the Lungomare "Italo Falcomatà", the "most beautiful kilometre in Italy", according to the famous poet Gabriele D'Annunzio. It is a magnificent balcony overlooking the straits, with Messina, the Peloritans, the AEtna volcano across the way; the broad avenue is lined with century old trees where people stroll and stop to rest in the shape to enjoy the wonderful landscape. Across the Lungomare, you can find a rich selection of tropical and sub-tropical plants dating back to more than 100 years ago. You can admire species such as the Moreton Bay Fig, the Canary Palm, the Washington Palm, the Cockspur Coral Tree, the Pittosporum Tobira, the Dwarf Palm and Citrus trees.

Reggio Calabria city extends for 23 kilometres along the eastern shores of the Straits of Messina and it climbs along the slopes of the Aspromonte range up to 1708 m at Monte Basilico.









The climate in Reggio Calabria is typically Mediterranean, with high temperatures and sunny days in the summer and mild, temperate weather in the winter. July and August are usually very hot and temperatures tend to stay over 30°C for most of the time; however the daily mean is 26.7°C. Reggio Calabria's low seasons tends to fall between April to June and September to October. In the spring and autumn temperatures are at their most comfortable and pleasant, around 25°C.



A further curiosity: The New York Times recently published the top 52 regions of the world that, according to their view, people should visit. At the 37th position, they placed Calabria.

The Culinary Side of Reggio Calabria

The typical cuisine of Reggio Calabria is a sort of prototype of the Mediterranean diet. It is simple, fresh, genuine and healthy but also characterized by strong flavours. It typically mixes seafood with vegetables, but it includes a large variety of ingredients. Extra virgin olive oil is the main condiment used for all types of dishes. Rarely, and only for winter cuisine, it is replaced by lard. The vegetables that are often served are eggplant, parmigiana style or as fried balls; zucchini, stuffed peppers, red onion ("cipolla rossa di Tropea") and pumpkin.

One of the symbols of Reggio Calabria is Bergamot, which is a round citrus with a very intense and fresh scent. It is exclusive of the area of Reggio Calabria, and its skin contains a very valuable essential oil, highly sought after within the cosmetic industry. It is also used in the traditional pastry or to make fresh beverages.









Tourism Information Reggio Calabria:

Here are some websites that provide further information and suggestions for your stay in Reggio:

Calabria Tourism Website: http://turismo.reggiocal.it/HomePage.aspx

Lonely Planet: https://www.lonelyplanet.com/italy/calabria/reggio-di-calabria

TripAdvisor: https://en.tripadvisor.com.hk/Tourism-g187777-

Reggio_Calabria_Province_of_Reggio_Calabria_Calabria-Vacations.html



Survive in Italy... ☺

Hello!	Ciao!	Chow!
Goodbye!	Arrivederci	Ah-ree-vuh-dehr-chee
How are you?	Come va?	Come va?
Do you speak English?	Parli inglese?	Par-lee een-gleh-zeh
(informal)		
Repeat please.	Ripeta, per favore.	Rii-peta pehr fah-voh-reh
You're welcome.	Prego.	Prego.
Please.	Per favore.	pehr fah-voh-reh
Yes.	Sì.	See
No.	No.	Noh
I don't know	Non so.	Non soh
I (don't) understand.	(Non) capisco.	(Non) kah-pees-koh
Okay.	Va bene.	Vah beh-neh
Help!	Aiuto!	Aju-toh!
Thank you	Grazie.	Grat-see-je
Thank you very much	Grazie tante.	Grat-see-je tante.
Excuse me? (When walking	Permesso?	Pehr-mehs-soh
through a crowd)		
Excuse me.	Mi scusi.	Mee-skoh-zee
l'm sorry.	Mi dispiace.	Mee dees-pyah-cheh
Good morning/afternoon!	Buon giorno!	Bwon zhor-no
Good evening!	Buona sera!	Bwoh-nah seh-rah
Good night!	Buona notte!	Bwoh-nah noht-the
See you later!	A più tardi!	Ah pyoo tar-dee
Where is / Where are ?	Dov'è / Dove sono?	Doh-veh / doh-veh soh-noh
The Train station	Stazione ferroviaria	Stasione ferrro-vi-aria
Restroom	Toilette/WC	To-lett
The Airport	Aeroporto	Ae-ro-porto
The Post Office	Posta	Poo-sta
What?	Cosa?	Koh-sah
When?	Quando?	Kwahn-doh
How much?	Quanto?	Kwahn-toh



Conference Office / Contact

If you need any support, please do not hesitate to contact us.

Bettina Bauer

bbauer@sba-research.org

Tel: +43 664 254 03 14

Yvonne Poul

ypoul@sba-research.org Tel: +43 699 100 41066

Program Overview ARES 2017 29 August - 01 September, 2017, Reggio Calabria

	Tues	day, 29.08.20			Wednesday, 30.08.2017							Thursday,	31.08.2017					
Time	Lecture Hall A	Lecture Hall B	Lecture Hall C	Lecture Hall D	Time	Lecture Hall A	Lecture Hall B	Lecture Hall C	Lecture Hall D	Time	Lecture Hall A	Lecture Hall B	Lecture Hall C	Lecture Hall D	Lecture Hall			
08:00 - 18:15		REGISTR	RATION		08:00 - 16:15		REGIST	RATION		08:00 - 18:00	REGISTRATION							
	ARES	Opening & Keyr	note (Lecture H	all A)				CD-MAK	E Keynote		ARES Keynote							
09:00 - 10:30		Andrea 9			09.00 - 10.30	ARES Full V WSDF I Marta Milo			09:30 - 10:30									
	ARES EU	Symposium Op	ening (Lecture	Hall A)				(Lectur	e Hall D)				(Lecture Hall A)					
10:30 - 11:00		Coffee I	Break		10.30 - 11.00	Coffee Break				10:30 - 11:00			Coffee Break					
11:00 - 12:30	ARES Full I - Best Paper Session	TAKEDOWN	CITE I	S-CH	11.00 - 12:30	ARES Full VI	WSDF II	IWCC I	CD-MAKE I	11:00 - 13:00	Ares Full VIII	CUING I	SSE I	CD-MAKE III	FARES I			
12:30 - 13:30		Lune	ch		12:30 - 13.50		Lur	nch		13:00 - 14:30	Lunch							
13:30 - 15:00	ARES Full II	SECPID I	CITE II	S-CI II	13:50 - 14:30	CD-MAKE I	Keynote, Neil D.	Lawrence (Lec	ture Hall D)	14:30 - 16:00	ARES Short I	CUING II	SSE II	CD-MAKE IV	FARES II			
15:00 - 15:30		Coffee I	Break		14:30 - 14:35		Room	Switch		16:00 - 16:30								
								14:35 - 15:35/16:00	ARES Full VII	IWSMA	IWCC II	CD-MAKE II	16:30 - 18:00	ARES Short II	CUING III	SSE III	CD-MAKE V	FARES III
15:30 - 17:00	ARES Full III	SECPID II	SC-SRA	S-CI III	15:35/16:00- 16:15		Coffee Break											
					16:15 - 19:30		Excursion Scilla	and Chianalea			Frie	day, 01.09.2	017					
17:00 - 17:15		Room s	witch		19:30 - 23:00		Conferen	ce Dinner		Time	Lecture Hall A	Lecture Hall B	Lecture Hall C	Lecture Hall D				
17:15 - 18:15	S ARES Full IV SECPID III S-CI IV								08:00 - 12:30	REGISTRATION								
19:15 - 21:30	19:15 - 21:30 Welcome Reception / Dinner									09:00 - 10:30	ARES Short III	FARES IV	WMAI	CD-MAKE VI				
·					_					10:30 - 11:00		Coffee	Break					
										11:00 - 12:30	ARES Short IV	SAW	WMAII					
								12:30 - 14:00		Lui	nch]					