

# 22<sup>nd</sup> Panhellenic Conference on Informatics

29 Nov – 1 Dec 2018

University of West Attica,  
Department of Informatics &  
Computer Engineering



# Program

## Organizing Committees

### General Chairs

- J. Kontos**, University of Athens
- G. Pantziou**, University of West Attica
- S. Gritzalis**, University of the Aegean
- C. Douligeris**, University of Piraeus

### Program Chairs

- N. Karanikolas**, University of West Attica
- B. Mamalis**, University of West Attica

### Special Sessions Chairs

- E. Galiotou**, University of West Attica
- C. Skourlas**, University of West Attica

### Research Projects Chairs

- A. Bogris**, University of West Attica
- P. Mastorocostas**, University of West Attica

### Local Organising Committee

- A. Voulodimos**, University of West Attica
- P. Karkazis**, University of West Attica
- S. Markaki**, Greek Computer Society

### GCS Steering Committee

- I. Voyiatzis**, Greek Computer Society
- C. Douligeris**, Greek Computer Society
- C. Koilias**, Greek Computer Society
- K. Sgouropoulou**, Greek Computer Society

## Program Committee

**Akoumianakis Demosthenes**, TEI of Crete  
**Ampatzoglou Apostolos**, Rijksuniversiteit Groningen  
**Anagnostopoulos Christos**, Aristotle University of Thessaloniki  
**Anagnostopoulos Dimosthenis**, Harokopio University  
**Angelika Kokkinaki**, University of Nicosia  
**Anthopoulos Leonidas**, TEI of Thessaly  
**Antoniou Angela**, University of Peloponnesse  
**Apostolou Dimitris**, University of Piraeus  
**Berberidis Kostas**, University of Patras  
**Berki Eleni**, University of Tampere  
**Bozani Panayiotis**, University of Thessaly  
**Campos Jaime**, Linnaeus University  
**Caridakis George**, University of the Aegean / NTUA  
**Chalaris Ioannis**, University of West Attica  
**Chatzigeorgiou Alexander**, University of Macedonia  
**Chatzigiannakis Ioannis**, Sapienza University of Rome  
**Chatzimisios Periklis**, Alexander TEI of Thessaloniki  
**Christodoulou Sotiris**, TEI of Western Greece  
**Constantopoulos Panos**, Athens University of Economics and Business  
**Damigos Matthew**, National Technical University of Athens  
**Dasygenis Minas**, University of Western Macedonia  
**Dervos Dimitris**, Alexander Technology Educational Institute  
**Dimitrakopoulos Giorgos**, Democritus University of Thrace  
**Dimopoulos Alexandros**, National Technical University of Athens  
**Doliotis Paul**, University of Texas Arlington  
**Dosis Michalis**, TEI of Western Macedonia  
**Doulkeridis Christos**, University of Piraeus  
**Dranidis Dimitris**, CITY College  
**Efrimidis Pavlos**, Democritus University of Thrace  
**Efstathiou Dimitrios**, TEI of Central Macedonia  
**Efthimiou Aris**, University of Ioannina  
**Eirinakis Pavlos**, Athens University of Economics and Business  
**Eleftherakis George**, CITY College  
**Fabrizio Messina**, University of Palermo  
**Faxantidis Nikos**, University of Western Macedonia  
**Fitsilis Panos**, TEI of Thessaly  
**Fotakis Dimitris**, National Technical University of Athens

**Galiotou Eleni**, University of West Attica  
**Garani Gerorgia**, TEI of Thessaly  
**Garofalakis John**, University of Patras  
**Geneiatakis Dimitris**, Aristotle University of Thessaloniki  
**Georgiadis Christos**, University of Macedonia  
**Georgouli Katerina**, University of West Attica  
**Gergatsoulis Manolis**, Ionian University  
**Gerogiannis Vassilis**, TEI of Thessaly  
**Gkoulalas Divanis Aris**, Cambridge Research Center  
**Gravvanis Giorgos**, Democritus University of Thrace  
**Gritzalis Stefanos**, University of the Aegean  
**Hatzilygeroudis Ioannis**, Hellenic Open University  
**Hatzipanagos Stylianos**, University of West London  
**Iossifides Athanassios**, Alexander TEI of Thessaloniki  
**Kakarontzas George**, TEI of Thessaly  
**Kakarountas Athanasios**, University of Thessaly  
**Kalles Dimitris**, Hellenic Open University  
**Kalogeraki Vana**, Athens University of Economics and Business  
**Kaloxylou Alexandros**, University of Peloponnese  
**Kameas Achilles**, Hellenic Open University  
**Kandris Dionisios**, University of West Attica  
**Kantzavelou Ioanna**, University of West Attica  
**Karageorgos Anthony**, TEI of Thessaly  
**Karagiannis Dimitris**, University of Vienna  
**Karanikolas Nikitas**, University of West Attica  
**Karatza Helen**, Aristotle University of Thessaloniki  
**Karousos Nikos**, Hellenic Open University  
**Karyda Maria**, University of the Aegean  
**Kaskalis Thodoris**, University of Macedonia  
**Katos Vasilios**, Bournemouth University  
**Katsanos Christos**, Hellenic Open University  
**Katsaros Panagiotis**, Aristotle University of Thessaloniki  
**Kavousianos Valantis**, University of Ioannina  
**Keramopoulos Euclid**, TEI of Thessaloniki  
**Koilias Christos**, University of West Attica  
**Kollias Stefanos**, National Technical University of Athens  
**Kompatsiaris Yiannis**, Information Technologies Institute in Greece  
**Konstantopoulos Charalampos**, University of Piraeus  
**Kostaras Nektarios**, Hellenic Open University  
**Kotropoulos Constantine**, Aristotle University of Thessaloniki  
**Kotsilieris Theodore**, TEI of Peloponnese

**Kouroupetroglou Georgios**, National and Kapodistrian University of Athens  
**Kozanidis Lefteris**, Patras University  
**Lambrinouidakis Costas**, University of Piraeus  
**Lipitakis Elias**, AUEB  
**Livieris Ioannis**, TEI of Western Greece  
**Loucopoulos Pericles**, University of Manchester  
**Loukis Euripidis**, University of the Aegean  
**Loukopoulos Thanasis**, University of Thessaly  
**Louta Malamati**, University of Western Macedonia  
**Malamateniou Flora**, University of Piraeus  
**Malamos Athanasios**, TEI of Crete  
**Malevris Nikolaos**, Athens University of Economics and Business  
**Mamalis Basilis**, University of West Attica  
**Manolopoulos Yannis**, Aristotle University of Thessaloniki  
**Margaritis Konstantinos**, University of Macedonia  
**Marinagi Catherine**, TEI of Central Greece  
**Mathioudakis Emmanuel**, Technical University of Crete (TUC)  
**Mavridis Ioannis**, University of Macedonia  
**Megalou Elina**, Computer Technology Institute and Press "Diophantus"  
**Metsis Vangelis**, Texas State University  
**Michalakelis Christos**, Harokopio University  
**Michalas Angelos**, National Technical University of Athens  
**Milidonis Athanasios**, Nokia  
**Mitropoulos Sarandis**, TEI of the Ionian islands  
**Moscholios Ioannis**, University of Peloponnesse  
**Mylonas Phivos**, National Technical University of Athens  
**Nikolaidou Mara**, Harokopio University  
**Nikolopoulos Stavros**, University of Ioannina  
**Noulis Thomas**, Aristotle Univ. of Thessaloniki  
**Ntokas Ioannis**, Hellenic Open University  
**Panagiotakis Spyros**, TEI of Crete  
**Pantziou Grammati**, University of West Attica  
**Papadakis John**, University of Piraeus  
**Papadopoulos Pantelis**, Aarhus University  
**Papaspyrou Nikolaos**, National Technical University of Athens  
**Papatheodorou Christos**, Ionian University  
**Paraskevas Michalis**, TEI of Western Greece  
**Polemi Nineta**, University of Piraeus  
**Politi Tanya**, University of Peloponnesse  
**Prentza Andriana**, University of Piraeus  
**Rigou Maria**, University of Patras

**Rizomiliotis Panagiotis**, University of the Aegean  
**Rouskas Angelos**, University of Piraeus  
**Roussopoulos Mema**, University of Athens  
**Sakellariou Ilias**, University of Macedonia  
**Sampson Demetrios**, University of Piraeus  
**Santouridis Ilias**, TEI of Larisa  
**Sfakakis Michalis**, Ionian University  
**Sgora Aggeliki**, Hellenic Telecommunications & Post Commission (EETT)  
**Sgouropoulou Cleo**, University of West Attica  
**Sirakoulis Georgios**, Democritus University of Thrace  
**Sirmakessis Spiros**, TEI of Western Greece  
**Sklavos Nikos**, University of Patras  
**Skourlas Christos**, University of West Attica  
**Soudris Dimitrios**, NTUA  
**Spinellis Diomidis**, Athens University of Economics and Business  
**Spirakis Paul**, University of Liverpool  
**Spyropoulos Costantine**, N.C.S.R. "Demokritos"  
**Stamatatos Efstathios**, University of the Aegean  
**Stamatis Demosthenis**, Alexander TEI of Thessaloniki  
**Stamatopoulos Panagiotis**, University of Athens  
**Stamelos Ioannis**, Aristotle University of Thessaloniki  
**Stroulia Eleni**, University of Alberta  
**Tampakas Vasilios**, TEI of Western Greece  
**Tolias Yannis**, Innovatia Systems  
**Tselios Dimitris**, TEI of Thessaly  
**Tsiatouhas Yiorgos**, University of Ioannina  
**Tsihrintzis George**, University of Piraeus  
**Tsohou Aggeliki**, University of the Aegean  
**Tsolakidis Anastasios**, University of West Attica  
**Varlamis Iraklis**, Harokopio University  
**Varvarigos Emmanouel**, National Technical University of Athens  
**Vassalos Vassilis**, Athens University of Economics and Business  
**Vassilakis Costas**, TEI of Crete  
**Vassilakopoulos Michael**, University of Patras  
**Vassis Dimitris**, University of West Attica  
**Verykios Vasilios**, Hellenic Open University  
**Virvou Maria**, University of Piraeus  
**Vlachos Vasileios**, TEI of Thessaly  
**Vitsas Vasileios**, Alexander TEI of Thessaloniki  
**Vlamos Panagiotis**, Ionian University  
**Vouros George**, University of Piraeus

**Voyiatzis Ioannis**, University of West Attica

**Vrahatis Mihalis**, University of Patras

**Vrakas Dimitris**, Aristotle University of Thessaloniki

**Xenakis Christos**, University of Piraeus

**Xenakis Apostolos**, TEI of Thessaly

**Xenos Michalis**, University of Patras

### Keynote Speech I: Scientometrics: introduction and advancements

**Yannis Manolopoulos**, Vice Rector of the Open University of Cyprus

#### Abstract

During the past two decades the availability of scholarly data repositories such as Google Scholar, Elsevier Scopus offered tremendous opportunities to the field of scientometrics to analyze the dynamics of science and help design indicators to evaluate the scientific impact of scholars, journals and academic institutions. Thus, scientometrics transformed fast into the exciting new discipline of Science of Science, which seeks to understand, quantify and predict research activities and the corresponding outcomes. In this article we provide a brief coverage of very recent work related to scientific ranking and impact prediction, aim at deepening our faith to Science of Science and stimulating further efforts in this transdisciplinary field.

#### Short Bio of Yannis Manolopoulos

Yannis Manolopoulos received his 5-year Diploma degree in Electrical Engineering (1981) and his Doctoral degree (1986) in Computer Engineering from the Aristotle University of Thessaloniki (AUTH). Currently he serves as Vice Rector of the Open University of Cyprus. He has been with the Aristotle University, the University of Cyprus, the University of Maryland at College Park and the University of Toronto. He has served as Rector of the University of Western Macedonia, Head of the Department of Informatics of Aristotle University and Vice-Chair of the Greek Computer Society. His research interest focuses in Data Management. He has co-authored 5 monographs published by Springer, 8 textbooks in Greek, as well as >350 journal and conference papers. He has received >11.000 citations from ~2000 distinct academic institutions (h-index=52). He is proud of his ex 26 Ph.D. graduates, who pursue careers in Greece and abroad: Italy, Netherlands, Germany, Spain, UK (3) and USA. He has also received 5 best paper awards from SIGMOD, ECML/PKDD, MEDES (2) and ISSPIT conferences and has been invited as keynote speaker in 16 international events. He has served as main co-organizer of several major conferences (among others): ADBIS 2002, SSTD 2003, SSDBM 2004, ICEIS 2006, EANN 2007, ICANN 2010, AIAI 2012, WISE 2013, CAISE 2014, MEDI 2015, ICCCI 2016, DAMDID 2016, CBI 2017, TPDL 2017, DASFAA 2018, INISTA 2018, WIMS 2018. His next plans include MEDES 2019 and SOFSEM 2020. He has also acted as evaluator for funding agencies in Austria, Canada, Cyprus, Czech Republic, Estonia, EU, Hong-Kong, Georgia, Greece, Israel, Italy, Lithuania, Poland and Russia. Currently, he serves in the Editorial Boards of (among others) Information Systems, The World Wide Web Journal, The Computer Journal.



## **Keynote Speech II: Computer Vision and Signal Processing Techniques for Advanced Robotic Applications**

**Dimitrios Tzovaras**, Senior Researcher Grade A' (Professor) and Director at CERTH/ITI

### **Abstract**

The automation of production is accelerating around the world. Alongside, service robots demonstrate an ever-increasing tendency for adoption in a wide spectrum of applications, either regarding personal or professional service robot use. Service robots are anticipated to provide assistance at home, acting as personal, assistive service robots, as well as at further, diverse applications, from ones related to agile manufacturing, others, related to constructions, and more. In this context, technologies that advance robot autonomy, endorsing robots with better action and awareness are necessary. While robot perception, cognition, navigation and human-robot interaction capabilities play a key role in this scope, computer vision and signal processing techniques formulate their essential underlying elements. In this line, the focus of this talk is on computer vision and signal processing methods, researched and developed in view of challenging robotic applications, specifically oriented to personal domestic service robots, professional service robots applied in agile manufacturing and field service robots, dedicated to exploration and construction applications. In the scope of personal domestic service robots, we focus on methods that enable the fused, metric and semantic home environment mapping, as well as object recognition and 6DoF object pose estimation that is accurate enough to enable robust object grasping by a mobile manipulator robot, within real homes. Alongside, methods have been developed focusing on RGBD and laser data -based human location and pose tracking, as well as activity recognition and on top of this, social-aware robot navigation. Moreover, methods for emotion recognition through computer vision fused also with biosignals processing have been developed. Focusing on service robots in agile manufacturing applications, the talk will present a method for joint hand and object detection and tracking in 3D, based on RGBD data, which enables automatic key-frame extraction, allowing robot learning by demonstration. Finally, in the field of service robots for exploration and construction applications, a signal processing framework is presented that allows a mobile service robot – rover to perform joint mapping of the surface and subsurface space, utilizing the robot's stereo vision sensor and the processing of data derived from a Ground Penetrating Radar (GPR) that is further, integrated on-board the mobile robot.

### **Short Bio of Dimitrios Tzovaras**

Dr. Dimitrios Tzovaras is a Senior Researcher Grade A' (Professor) and Director at CERTH/ITI (the Information Technologies Institute of the Centre for Research and Technology Hellas). He received the Diploma in Electrical Engineering and the Ph.D. in 2D and 3D Image Compression from the Aristotle University of Thessaloniki, Greece in 1992 and 1997, respectively. Prior to his current position, he was a Senior Researcher on the Information Processing Laboratory at the Electrical and Computer Engineering Department of the Aristotle University of Thessaloniki. His main research interests include computer vision, robotics, visual analytics, computer security, data

fusion, biometric security, virtual reality, machine learning and artificial intelligence. He is author or co-author of over 130 articles in refereed journals and over 400 papers in international conferences. Since 2004, he has been Associate Editor in the following International journals: Journal of Applied Signal Processing (JASP) and Journal on Advances in Multimedia of EURASIP. Additionally, he was Associate Editor in the IEEE Signal Processing Letters journal (2009-2012) and Senior Associate Editor in the IEEE Signal Processing Letters journal (2012-2016), while since mid-2012 he is also Associate and Senior Associate Editor in the IEEE Transactions on Image Processing journal. Over the same period, Dr. Tzovaras acted as ad hoc reviewer for a large number of International Journals and Magazines such as IEEE, ACM, Elsevier and EURASIP, as well as International Scientific Conferences (ICIP, EUSIPCO, CVPR, etc.). Since 1992, Dr. Tzovaras has been involved in more than 150 European projects, funded by the EC and the Greek Ministry of Research and Technology. Within these research projects, he has acted as the Scientific Responsible of the research group of CERTH/ITI, but also as the Coordinator and/or the Technical/Scientific Manager of many of them (coordinator of technical manager in 30 projects – 13 H2020, 1 FP7 ICT IP, 7 FP7 ICT STREP, 3 FP6 IST STREP and 6 Nationally funded projects).

## Special Sessions

### Mobile Device & Web Software Development – Small Systems Development – MDSD

[[Organizer](#): Nikitas N. Karanikolas]

MDSD 2018 organizers want to provide an international forum for researchers, professionals, and industrial practitioners to share their knowledge in the rapidly growing area of software development technologies for Mobile devices, Web Information Systems and Small-Systems Development. According to the organizers knowledge, there are no other conferences that combine software development technologies for the domains of Mobile devices, Web and Small-Systems.

#### Topics

Mobile devices software development platforms	CFML (ColdFusion Markup Language)
Location/Context-aware mobile applications	html5 development, comet technologies
Navigation mobile applications	websockets development, semantic web
Social networking mobile software	Avoiding full web page reloads
Mobile applications user interfaces	PHP Frameworks
Ubiquitous mobile devices computing	CFML Frameworks, ease web development
Energy saving mobile software	Client-side Frameworks
Software development for limited resources mobile devices	Client-side Libraries
Sensor based mobile applications	single-page applications (SPA)
Security and privacy issues of mobile software	real-time web applications
Mobile cloud computing applications	internet of things, web of things
Cross-platform mobile software development	sensor networks and applications
Data management for mobile applications	sensor data visualisation
E-learning mobile applications	pervasive computing and applications
Distributed computing applications in mobile environments	pervasive healthcare, big data applications
Rapid Application Development for Mobile Devices	mobile crowdsourcing
Applications in Mobile Commerce	mobile applications for single board systems
Medical Informatics Applications for Mobile Devices	Single-board computers / Low-cost systems for Homes
Personalization of Mobile and Web software	Single-board computers / Low-cost systems in Agriculture
Mobile and Web micro payments	Single-board computers / Low-cost systems in Education
Mobile and Web government applications	Single-board computers / Low-cost systems in Industry
Mobile Web services development	Single-board computers / Low-cost systems in Medicine
Architecture & Design of Mobile and Web Software Systems	Metrology and applications
Build and Deployment processes of Mobile and Web Software Systems	Responsive Web Design
Cross-Technology Integration and Tools for Mobile and Web Software	
Server tuning of Mobile and Web Software Systems	

## MDSD Program Committee

**Demosthenes Akoumianakis**, Technological Educational Institute of Crete

**Christos K. Georgiadis**, University of Macedonia

**Athanasios Kakarountas**, University of Thessaly

**Vana Kalogeraki**, Athens University of Economics and Business

**Nikitas N. Karanikolas**, University of West Attica

**Thanasis Loukopoulos**, University of Thessaly

**Athanasios Malamos**, Technological Educational Institute of Crete

**Spyros Panagiotakis**, Technological Educational Institute of Crete

**Christos Skourlas**, University of West Attica

**Michael Gr. Vassilakopoulos**, University of Thessaly

**Ioannis Voyiatzis**, University of West Attica

## Retrieval and Dissemination of Information – RDI

[[Organizers](#): Christos Skourlas, Nikitas Karanikolas, Eleni Galiotou]

As mobile devices are enhanced continuously with more resources, wireless infrastructures provide support to a growing number of specific purpose environments. Advances on sensor technology, wireless environments, Information Retrieval, Personalization, and Content Based Image Retrieval introduce new possibilities in various sectors, realizing the anytime-anywhere access to multimedia information. This Special Session investigates Retrieval and Dissemination of Information (text and image) in various environments. Special attention is given for Secure, Distributed and Wireless specific purpose Environments. The RDI session aims at providing researchers and professionals with an insight on:

- Wireless architectures to enable authorized users to access sensitive information in a secure and transparent manner.
- Policy-based architectures utilizing wireless sensor devices, advanced network topologies and software agents.
- Applications related to remote monitoring of patients, elderly people, etc.
- Evaluation and Integration of Information Retrieval and Personalization techniques.
- Text Retrieval, and Content Based Image Retrieval techniques.
- Classification based on various techniques e.g. neural network techniques, fuzzy techniques, and its applications.

### Topics

Security issues in IT applications. Benchmarks and evaluation of the applications

Specific purpose Wireless architectures

Agent based architectures. Transparent Information transfer using intelligent agents.

Authentication and information access and retrieval in ad-hoc networks and self-organized networks

Policies and policy-based architectures  
Novel methods for Text Retrieval, personalization, and Content Based Image Retrieval and application in specific purpose environments  
Transparent and secure communication in distributed environments  
Advanced remote medical treatment services through pervasive environments- Remote monitoring of patients and elderly people  
Neural network techniques and its applications e.g. SVM based systems that support diagnosis

### **RDI Program Committee**

**Ioannis Chalaris**, University of West Attica

**Dimitris Dervos**, ATEI of Thessaloniki

**Vassilis Kaburlasos**, TEI of Kavala

**Theodore Kalamboukis**, AUEB

**Anastasios Kesidis**, University of West Attica

**Christos Koilias**, University of West Attica

**G rard Ligozat**, Em. Professor, Universit  Paris-Sud (XI)

**Basilis Mamalis**, University of West Attica

**Catherine Marinagi**, TEI of Chalkis

**Jos  Francisco Aldana Montes**, University of Malaga, Spain

**George Paliouras**, NHRF "Demokritos"

**Grammati Pantziou**, University of West Attica

**Stelios Papadakis**, TEI of Crete

**Demosthenis Stamatis**, TEI of Thessaloniki

**Vasilis Tampakas**, TEI of Patras

**Michael Vassilakopoulos**, University of Central Greece

## Human Computer Interaction in Greece – HCI@PCI

[[Organizers](#): ACM Greek Special Interest Group in Computer Human Interaction (SIGCHI)]

Research efforts and application development in the area of Human Computer Interaction (HCI) in Greece have been gaining ground in recent years. The aim of the Special Session titled HCI at PCI: Human Computer Interaction in Greece is to bring together researchers and practitioners in presenting research projects, student theses and dissertations, creative experiments, and industrial best-practices, to name a few, which represent the various dimensions within the broader spectrum of HCI work conducted in Greece and internationally. In this sense, the Special Session will act as a platform for the exchange of ideas and experiences in the field of HCI.

### Topics

Usability and User Experience, including topics related to this year's World Usability Day (November 8, 2018) theme of "Design for Good or Evil" and the Greek Usability Observatory. Immersive interfaces and innovative forms of interaction (Virtual, Augmented and Mixed Reality, Natural User Interfaces, Tangible, Gesture-based, Wearable Technologies, etc.) Teaching HCI, experiences of incorporating HCI in the educational process, at all levels (secondary, tertiary).

Interdisciplinary research and applications exploring the intersections of HCI within various other domains such as Cultural Heritage, the Arts, Education, Media & Entertainment, Health, Safety, Manufacturing, CSCW, etc.

### HCI@PCI Program Committee

**Nikolaos Avouris**, University of Patras

**George Caridakis**, University of the Aegean

**Dimitris Charitos**, National and Kapodistrian University of Athens

**Dimitris Christopoulos**, Foundation of the Hellenic World

**Panagiotis Kyriakoulakos**, University of the Aegean

**George Lepouras**, University of Peloponnese

**Maria Roussou**, National and Kapodistrian University of Athens

**Manthos Santorinaios**, Athens School of Fine Arts & Paris 8 University

**Stavroula Zoi**, Athens School of Fine Arts & Paris 8 University

## Cloud Computing and Internet of Things - CCIoT

[[Organizers](#): Basilis Mamalis, Grammati Pantziou, Charalampos Konstantopoulos]

Cloud computing and Internet of Things (IoT) are two of the most rapidly evolving technologies, affecting our lives daily in various ways. Their adoption and use is expected to be more and more pervasive, making them important components of the Future Internet. CCIoT Special Session aims at bringing together scientists and practitioners and at soliciting research papers and case studies describing advances in the above areas as well as their integration in real life applications.

### Topics

IoT Design and Implementation  
Wireless Sensor Networks and IoT  
Security in Cloud Computing and IoT  
Mobile Edge and Fog Computing Architectures  
Algorithms and Systems for Big Data Search  
Scheduling Algorithms for Cloud Computing  
Cloud Computing Architectures and Platforms for IoT and Big Data  
Emerging Technologies for Cloud Computing and IoT  
IoT and Pervasive Computing Applications  
Cyber Physical Systems and Smart Cities

### CCIoT Program Committee

**Bogris Adonis**, University of West Attica  
**Fragopoulou Paraskevi**, Technological Educational Institute of Crete  
**Gavalas Damianos**, University of the Aegean  
**Karkazis Panagiotis**, University of West Attica  
**Kehagias Dimitris**, University of West Attica  
**Konstantopoulos Charalampos**, University of Piraeus  
**Mamalis Basilis**, University of West Attica  
**Pantziou Grammati**, University of West Attica  
**Papadopoulos Apostolos**, Aristotle University of Thessaloniki  
**Sioutas Spyros**, University of Patras  
**Tampakas Vasilis**, Technological Educational Institute of Western Greece  
**Venetis Ioannis**, University of West Attica

## Program Brief

### Thursday 29/11

12.30-14.00	Registration	
14.00-14.30	Opening	
14.30-15.30	Keynote I Yannis Manolopoulos, Scientometrics: Introduction and Advancements	
15.30-16.30	Profile and Activities of the Greek Computer Society and the Department of Informatics and Computer Engineering, UniWA	
16.30-17.00	Coffee Break	
17.00-18.30	Session 1 Algorithms & Computing	Session 2 Communication Networks

### Friday 30/11

10.00-11.30	Session 3 Security	Session 4 Education & Learning Technologies
11.30-12.00	Coffee Break	
12.00-13.30	Session 5 RDI	Session 6 Artificial Intelligence
13.30-15.00	Lunch Break	
15.00-16.30	Session 7 MDS - I	Session 8 Inf. Systems & Software Engineering
16.30-17.00	Coffee Break	
17.00-18.30	Session 9 MDS - II	Session 10 Image, Video & Signal Processing
20.00	Social Event	

### Saturday 1/12

09.30-10.30	Keynote II Dimitrios Tzovaras. Computer Vision and Signal Processing Techniques for Advanced Robotic Applications	
10.30-11.00	Coffee Break	
11.00-12.45	Session 11 HCI@PCI - I	Session 12 Data Mining & Cloud Computing
12.45-14.00	Lunch Break	
14.00-15.45	Session 13 HCI@PCI - II	Session 14 CCIoT
15.45-16.30	Closing	

Amfitheatre Room 1 Room 2



## Conference Agenda

### Thursday 29/11

12.30 - 14.00	Registration
14.00 - 14.30	Opening
14.30 - 15.30	Keynote I Yannis Manolopoulos, Scientometrics: Introduction and Advancements
15.30 - 16.30	Profile and Activities of the Greek Computer Society and the Department of Informatics and Computer Engineering, UniWA
16.30 - 17.00	Coffee Break
17.00 - 18.30	Sessions 1 & 2
	Session 1 - Algorithms & Computing <i>Chair: Basilis Mamalis</i>
	Panagiota N. Panagopoulou <b>Simple Algorithmic Techniques to Approximate Nash Equilibria</b>
	Panagiota Tselenti, Konstantinos Danas and Olympia Lazaridou <b>Inferring and calculating trust for trust-based recommendations</b>
	Helen Briola, George Drosatos, Giorgos Stamatelatos, Sotirios Gyftopoulos and Pavlos S. Efraimidis <b>Privacy Leakages about Political Beliefs through Analysis of Twitter Followers</b>
	Session 2 - Communication Networks <i>Chair: Panagiotis Karkazis</i>
	Apostolos Galanopoulos, Fotis Foukalas and Apostolos Xenakis <b>Multi-RAT Spectrum Reallocation including Carrier Aggregation for 5G Networks</b>
	Anestis Dalgkitsis, Malamati Louta and George T. Karetsos <b>Traffic Forecasting in Cellular Networks using the LSTM RNN</b>
	Anna Triantafyllou, Panagiotis Sarigiannidis, Antonios Sarigiannidis, Erkuden Rios and Eider Iturbe <b>Towards An Anonymous Incident Communication Channel for Electric Smart Grids</b>

## Friday 30/11

10.00-11.30	<b>Sessions 3 &amp; 4</b>
	<b>Session 3 – Security</b> <i>Chair: Ioanna Kantzavelou</i>
	Georgios Makrodimitris, Panayiotis Kotzanikolaou and Christos Douligeris <b>Preliminary design of a new approach to choose cyber exercise methodologies for Critical Infrastructures</b>
	Dimitrios Kontogeorgis, Konstantinos Limniotis and Ioanna Kantzavelou <b>An Evaluation of the HTTPS adoption in websites in Greece - Estimating the users awareness</b>
	Vasileios Anastopoulos and Sokratis Katsikas <b>Design of a Dynamic Log Management Infrastructure Using Risk and Affiliation Network Analysis</b>
	Theodoula - Ioanna Kitsaki, Anna Angelogiani, Christoforos Ntantogian and Christos Xenakis <b>A Forensic Investigation of Android Mobile Applications</b>
	<b>Session 4 - Education &amp; Learning Technologies</b> <i>Chair: Katerina Georgouli</i>
	Nikolaos Avouris <b>Introduction to computing: A survey of courses in Greek higher education institutions</b>
	Athanasios Sypsas and Dimitris Kalles <b>Virtual Laboratories in Biology, Biotechnology and Chemistry education: A Literature Review</b>
	Andreas F. Gkontzis, Sotiris Kotsiantis, Rozita Tsoni and Vassilios S. Verykios <b>An Effective LA Approach to Predict Student Achievement</b>
	Elias Misailidis, Angelos Charitopoulos and Maria Rangoussi <b>Visualization of educational data mined from the moodle e-learning platform</b>
11.30-12.00	<b>Coffee Break</b>
12.00-13.30	<b>Sessions 5 &amp; 6</b>
	<b>Session 5 – RDI</b> <i>Chair: Christos Skourlas</i>
	Theodoros Anagnostopoulos, Klimis Ntalianis, Christos Skourlas and S.R. Jino Ramson <b>IoT-enabled fall verification of elderly and impaired people in Smart Cities</b>
	Michael Galliakis, Christos Skourlas, Eleni Galiotou and Ioannis Voyiatzis <b>A low-cost Smart Home for the assistance of elderly persons and patients</b>
	Catherine Marinagi, Christos Skourlas and Eleni Galiotou <b>Advanced Information Technology Solutions for Implementing Information Sharing across Supply Chains</b>

	<p>Manolis Chalaris, Fanis Karamichalelis and Ioannis Chalaris  <b>Development of a Prototype ISO-compliant Quality Assurance System for a University</b></p>
	<p><b>Session 6 - Artificial Intelligence</b>  <i>Chair: Athanasios Voulodimos</i></p>
	<p>George Kandilogiannakis, Paris Mastorocostas and Dimitris Varsamis  <b>A Computational Intelligence-based Filter for Lung Sound Separation</b></p>
	<p>George Kyriakides and Konstantinos Margaritis  <b>Towards automated neural design: An open source, distributed neural architecture research framework</b></p>
	<p>Polixeni Kiratsa, George Sidiropoulos, Eftichia Badeka, Cristina Papadopoulou, Alexandros Nikolaou and George Papakostas  <b>Gender Identification Through Facebook Data Analysis Using Machine Learning Techniques</b></p>
13.30-15.00	<p><b>Lunch Break</b></p>
15.00-16.30	<p><b>Sessions 7 &amp; 8</b></p>
	<p><b>Session 7 – MDSD I</b>  <i>Chair: Nikitas Karanikolas</i></p>
	<p>Natalia Panagou, Panos Papadopoulos, Maria Koziri and Thanasis Loukopoulos  <b>On Evaluating the Impact of Tile Partitioning in AV1</b></p>
	<p>Ioannis Deliyannis, Sifis Simianakis and Konstantinos Chorianopoulos  <b>ActionTrip: Automating Egocentric Video Production through Gestural Interaction and Landmark Awareness</b></p>
	<p>Vassilios Kalavrouziotis, Andreas Komninos and John Garofalakis  <b>Venue Matching in Social Network APIs using Neural Networks</b></p>
	<p>Nikitas Karanikolas and Antonios Liaramantzas, Leonidas Theodorakopoulos  <b>Cheap and efficient Solar Energy: Software and Electronics</b></p>
	<p><b>Session 8 - Inf. Systems &amp; Software Engineering</b>  <i>Chair: Vassilis Gerogiannis</i></p>
	<p>John Garofalakis, Konstantinos Plessas, Athanasios Plessas and Panoraia Spiliopoulou  <b>A Project for the Transformation of Greek Legal Documents into Legal Open Data</b></p>
	<p>Vassilis Gerogiannis, Panos Fitsilis, George Kakarontzas and Christian Born  <b>Handling Vagueness and Subjectivity in Requirements Prioritization</b></p>
	<p>George Kakarontzas and Christina Pardalidou  <b>Improving Component Coupling Information with Dynamic Profiling</b></p>
	<p>Euripidis Loukis and Spyros Arvanitis  <b>Policy Analytics for improving firm behaviour in crisis</b></p>
16.30-17.00	<p><b>Coffee Break</b></p>

17.00-18.30	<b>Sessions 9 &amp; 10</b>
	<b>Session 9 - MDSD – II</b> <i>Chair: Nikitas Karanikolas</i>
	Eleni Regkou and Minas Dasygenis <b>Design and Development of an Android Application with Supportive Website in order to create a Travel Guide for Western Macedonia</b>
	George Nasis and Aphrodite Tsalgatiidou <b>BLACE: A Real Time Tracking Application as a Social Network</b>
	Yorghos Voutos and Phivos Mylonas <b>A semantic data model for sensory spatio-temporal environmental concepts</b>
	Iliana Potsika and Minas Dasygenis <b>Web Information System for Natural Gas Technicians Dealing with Malfunctions Management – iGasService</b>
	<b>Session 10 - Image, Video &amp; Signal Processing</b> <i>Chair: Georgios Bardis</i>
	Konstantinos Alachouzakis, Nikolaos - Dimitrios Veneris, Spyridon Kavvadias, Angeliki Antoniou and George Lepouras <b>A study of micro-augmentations: personality, gender, emotions and effects on attention and brain waves</b>
	Panagiotis Adamopoulos, Dimitrios Kotsifakos and Christos Douligeris <b>Study, design and development of a modern video system to improve services from production to the end user</b>
	Georgios Karantaidis and Constantine Kotropoulos <b>Assessing spectral estimation methods for electric frequency extraction</b>
	Nikos Petrellis <b>Skin Disorder Diagnosis Assisted by Lesion Color Adaptation</b>
20.00	<b>Social Event</b>

## Saturday 1/12

09.30-10.30	<p style="text-align: center;"><b>Keynote II</b>  <b>Dimitrios Tzovaras, Computer Vision and Signal Processing Techniques for Advanced Robotic Applications</b></p>
10.30-11.00	<b>Coffee Break</b>
11.00-12.45	<b>Sessions 11 &amp; 12</b>
	<p style="text-align: center;"><b>Session 11 - HCI@PCI – I</b>  <i>Chair: Maria Roussou</i></p>
	Welcome on behalf of ACM Gr-SIGCHI
	<p style="text-align: center;">Marientina Gotsis and Maryalice Jordan-Marsh  <b>Calling HCI Professionals into Health Research: Patient Safety and Health Equity at Stake</b></p>
	<p style="text-align: center;">Vasilis Zafeiropoulos and Dimitris Kalles  <b>Quantitative Liquid Simulation in an Interactive 3D Virtual Laboratory</b></p>
	<p style="text-align: center;">Alexandros Merkouris and Konstantinos Chorianopoulos  <b>Programming Touch and Full-body Interaction with a Remotely Controlled Robot in a Secondary Education STEM Course</b></p>
	<p style="text-align: center;">Nikolaos Avouris, Christos Sintoris and Christina Katsini  <b>Studying Human-Computer Interaction for Social Good: the Case of Digital Government Evaluation and Re-Design Project</b></p>
	<p style="text-align: center;">Tasos Makris  <b>Usability Evaluation of the Athens Transport Electronic Ticket</b></p>
	<p style="text-align: center;">Nikos Karousos and Dionisis Karousos  <b>Visualizing the Keystroke Level Model in Web Form Filling Tasks through Adaptive Animation towards Learning</b></p>
	<p style="text-align: center;"><b>Session 12 - Data Mining &amp; Cloud Computing</b>  <i>Chair: Basilis Mamalis</i></p>
	<p style="text-align: center;">Aikaterini Karanikola, Stamatis Karlos, Vangel Kazllarof and Sotiris Kotsiantis  <b>An incrementally updateable ensemble learner</b></p>
	<p style="text-align: center;">Nikolaos Sachpenderis and Georgia Koloniari  <b>Determining Interesting Communities in Evolving Social Networks</b></p>
	<p style="text-align: center;">Elias Dritsas, Ioannis Livieris, Konstantinos Giotopoulos and Leonidas Theodorakopoulos  <b>An Apache Spark Implementation for Graph-based Hashtag Sentiment Classification on Twitter</b></p>
	<p style="text-align: center;">Sofia Megarchioti and Basilis Mamalis  <b>The BigKClustering Approach for Document Clustering using Hadoop MapReduce</b></p>
12.45-14.00	<b>Lunch Break</b>

14.00-15.45	<b>Sessions 13 &amp; 14</b>
	<b>Session 13 - HCI@PCI - II</b> <i>Chair: George Caridakis</i>
	Markos Konstantakis, John Aliprantis, Alexandros Teneketzis and George Caridakis <b>Understanding User eXperience aspects in Cultural Heritage interaction</b>
	Kyriakos Christodoulou, Maria Vayanou, George Tsampounaris and Yannis Ioannidis <b>MagicARTS: An Interactive Social Journey in the Art World</b>
	Dimitrios Darzentas, Martin Flintham and Steve Benford <b>Object-Focused Mixed Reality Storytelling: Technology-Driven Content Creation and Dissemination for Engaging User Experiences</b>
	Panayiotis Koutsabasis, Spyros Vosinakis, Modestos Stavrakis and Panayiotis Kyriakoulakos <b>Teaching HCI with a Studio Approach: Lessons Learnt</b>
	Anastasios Ntourmas, Nikolaos Avouris and Sophia Daskalaki, Yannis Dimitriadis <b>Teaching assistants' intervention in online courses: a comparative study of two massive open online courses</b>
	Closing remarks, Q&A
	<b>Session 14 - CCIoT</b> <i>Chair: Grammati Pantziou</i>
	Michael Dossis, Ioannis Kazanidis, Stavros Valsamidis, George Kokkonis and Sotirios Kontogiannis <b>Proposed Open Source Framework for Interactive IoT Smart Museums</b>
	Nikolas Vidakis, Michail Angelos Lasithiotakis and Emmanouel Karapidakis <b>Recodify – An Intelligent Environment and space hazard condition Monitoring System based on WSN and IoT technology</b>
	Ioannis Georgiadis, Michael Dossis and Sotirios Kontogiannis <b>Performance evaluation on IoT devices secure data delivery processes</b>
	Charalampos Konstantopoulos, Basilis Mamalis and Grammati Pantziou <b>Secure and Trust-Aware Routing in Wireless Sensor Networks</b>
15.45-16.30	<b>Closing</b>

## NOTES

Organized by



Sponsor



Cooperating Organizations

