

Welcome to



EUSPN 2022

The 9th International Conference on
Emerging Ubiquitous Systems and
Pervasive Networks



ICTH 2022

The 8th International Conference on
Current and Future Trends of
Information and Communication
Technologies in Healthcare

October 26 – 28, 2022
Leuven, Belgium

With support of

Hasselt University, Belgium & Acadia University, Canada



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EUSPN / ICTH SYMPOSIA AND WORKSHOPS

EUSPN	The 13th International Conference on Emerging Ubiquitous Systems and Pervasive Networks
ICTH	The 12th International Conference on Current and Future Trends of Information and Communication Technologies in Healthcare
AISC	The 2nd International Workshop on Artificial Intelligence methods for Smart Cities
HODII	The 3rd International Workshop on Healthcare Open Data, Intelligence and Interoperability
IoT-S&O	The 3rd International workshop on Internet of Things: Scope and Opportunities
IWIT	The 4th International Workshop on Innovation and Technologies

PROGRAM AT A GLANCE

EUSPN 2022, ICTH 2022 and Workshops

Program Time Slots

Timing	Wednesday 26 October 2022				
17:00 - 19:00	Registration		Registration Room		
		ROOM 1	ROOM 2	ROOM 3	
		Erasmus 1	Erasmus 2	Erasmus 3	

Timing	Thursday 27 October 2022				
Starts 08:30	Registration		Registration Room		
09:00 - 09:30	Opening Ceremony		Erasmus 1		
09:30 - 11:00	Technical Sessions (1)	EUSPN-S1	ICTH-S1	IWIT-S1	
11:00 - 11:25	Coffee Break		Meeting Foyer		
11:30 - 12:30	Keynote Speaker I		Prof. Dr. Danny Hughes		
12:30 - 13:25	LUNCH Lunch Room (Restaurant)				
13:30 - 15:00	Technical Sessions (2)	EUSPN-S2	ICTH-S2	IWIT-S2	
15:00 - 15:25	Coffee Break		Meeting Foyer		
15:30 - 17:30	Technical Sessions (3)	EUSPN-S3	ICTH-S3	IWIT-S3	

Timing	Friday 28 October 2022				
Starts 09:00	Registration		Conference Desk		
09:30 - 11:00	Technical Sessions (4)	HODII-S1	IoT-S&O	IWIT-4	
11:00 - 11:25	Coffee Break		Meeting Foyer		
11:30 - 12:00					
12:00 - 13:25	LUNCH Lunch Room (Restaurant)				
13:30 - 15:00	Technical Sessions (5)	HODII-S2	IoT-S&O	AISC	
15:00 - 15:25	Coffee Break		Meeting Foyer		
18:00 - 19:30	Banquet and Award Ceremony		Banquet Room		
	End of Event				

KEYNOTE I

Self adaptive Software Systems are Essential for the Internet of Things

Prof. Danny Hughes
CTO VersaSense, Belgium

Abstract

The Internet of Things is composed of tiny computers equipped with sensors, actuators and low power radios that are embedded in our physical environment. The number of Internet of Things devices is growing dramatically. Gartner predicts that by 2020 there will be over 20 billion deployed internet of things devices. By bridging the physical and digital worlds, the Internet of Things will enable radical efficiency gains across a wide range of industries. This talk will argue that self-adaptive software is essential to achieving the IoT vision. My talk will be illustrated throughout by real-world examples of the demand for self-adaptation on the Internet of Things, as drawn from my experiences as the Chief Technical Officer of VersaSense, an industrial Internet of Things company and spin-off of KU Leuven.

About the Speaker:

Prof. Danny Hughes is the Chief Technical Officer (CTO) of VersaSense, the creators of the world's first true plug-and-play Internet of Things platform. He is also a Professor with the Department of Computer Science at KU Leuven (Belgium), where he leads the Networked Embedded Software task force. Danny holds a PhD from Lancaster University (UK) and has since worked at the University of California at Berkeley (USA), the University of Sao Paulo (Brazil) and at Xi'an Jiaotong-Liverpool University (China). His research focuses on developing and securing the complete Internet of Things (IoT) software stack.

DETAILED PROGRAM

Wednesday, October 26, 2022

Registration 16:00-18:00

Room: Registration Room

Thursday, October 27, 2022

Registration Starts 08:30

Room: Registration Room

Opening 09:00 - 09:30

Opening Ceremony

Room: Main Meeting Room

Technical Sessions (1) 09:30 - 11:00

EUSPN Session S-1:

Session Chair:

Room: Room 1

Application of Machine Learning to Sentiment Analysis

Oumaima Bellar, Baina Amine and Mostafa Bellaafkih

The prediction of residential building consumption using profiling and time encoding

Ahmad Hammoudeh and Stephane Dupont

Public Transportation Data Analysis to Estimate Road Status in Metropolitan Areas: The Case of İstanbul

Omer Arifogullari and Gülfem Isiklar Alptekin

Population-based Optimization Model for Energy-Efficient Cluster Formation in Wireless Sensor Networks

Abdullah Alomari

ICTH Session S-1

Session Chair:

Room: Room 2

Towards a health software supporting platform for wearable devices

Maxmilian Otta

A Novel Approach to Multi-Compartmental Model Implementation to Achieve Metabolic Model Identifiability on Patient's CGM Data

Martin Úbl and Tomas Koutny

Use of blockchain in health sensor networks to secure information integrity and accountability

Kithmini Godewatte Arachchige, Philip Branch and Jason But

A Framework for Constructing Discrete Event Simulation Models for Emergency Medical Service Policy Analysis

Saeid Amouzad Mahdiraji, Johan Holmgren, Ala'A Alshaban, Radu-Casian Mihailescu, Jesper Petersson and Jabir Al Fatah

IWIT Session S-1**Session Chair:****Room:** Room 3

Automatic Classification of malocclusion

Idriss Tafala, Azmi Mohamed, Farid Bourzgi and Mohammed Bennani Othmani

The impact of university-industry collaboration in SMEs innovation: the CUC-ICONOS case

Danielle Nunes Pozzo

Towards a Modern ISGA Institute Infrastructure Based on Fortinet SD-WAN Technology: Recommendations and Best Practices

Ayoub Bahnasse, Mouad Zouini, Zakaria El Mantar, Nohaila Rouboa, Othmane Bensaoud, Ahmed Outzourhit

Experimental Study Of The Double Pendulum In Shared E-Lab Architecture

*Zineb Laouina, Lynda Ouchaouka, Mohamed Moussetad, Mohammed Radid and Mordane Soumia***Coffee Break****11:00 - 11:25****Room:** Meeting Foyer**Keynote I****11:30 - 12:25*****Self adaptive software systems are essential for the Internet of Things***

Prof. Danny Hughes, CTO VersaSense, Belgium

Session Chair: Ansar Yasar, Hasselt University, Belgium**Room:** Main Meeting Room**Lunch Break****12:30 - 13:25****Room:** Meeting Foyer**Technical Sessions (2)****13:30 - 15:00****EUSPN Session S-2****Session Chair:** Manuele Kirsch-Pinheiro, Université Paris 1 - Panthéon Sorbonne, France**Room:** Room 1

Performance Analysis and Functionality Comparison of First Hop Redundancy Protocol IPV6

Mahmud Mansour

Privacy Threat Analysis for connected and autonomous vehicles

Badreddine Chah, Alexandre Lombard, Anis Bkakria, Reda Yaich, Abdeljalil Abbas-Turki and Stéphane Galland

Towards Digital Twins for Multi-Sensor Land and Plant Monitoring

Rui Neves Madeira and Pedro Santos

Effective Anomaly Detection in Smart Home by Integrating Event Time Intervals

*Chenxu Jiang, Chenglong Fu, Zhenyu Zhao and Xiaojiang Du***ICTH Session S-2****Session Chair:****Room:** Room 2

Metaverse and Personal Healthcare

Yeong-Tae Song and Jiachen Qin

Addressing Residual Interference in Massive MIMO Utilizing Intelligent Reflecting Surfaces

Muhammad Nasrullah Khan, Imram Rashid and Muddassar Rizvi

Swarm Intelligence Model for Securing Healthcare Eco-System

Patrizia Ribino, Mario Ciampi, Shareeful Islam and Spyridon Papastergiou

The Adjusted Reality Vision - Emerging Technology for Digital Transformation of Disruptive Environmental Stimuli

Pia Beyer-Wunsch, Manfred Reichert and Rüdiger Prys

IWIT Session S-2**Session Chair:****Room:** Room 3

Legal Challenges for Blockchain Implementation in Colombia

Marlys Herazo Narváez, Andrés Guarín García, Tatiana Arrieta Barrios, Laura Carrasquilla-Díaz, Alejandra De Luque-Pisciotti and José Fernando Gallego Nichols

Internationalization of Higher Education Institutions through Marketing Orientation

Ana Moreno Charris, Adalberto Escobar Castillo, Carlos Rondon Rodríguez Rondon Rodríguez, Stefany Palacio de la Cruz, Olson Ortíz Tovar and Felipe Acosta Ortega

A Look at The Innovative Thinking of Leaders In SMEs In The Industrial Sector In Colombia

Diva Licet Mendoza, Aida Luz Vargas Lugo and Luis Bolaño Melo

Exporters' risk perceptions during covid times: a study with Colombian and Brazilian SMEs

*Danielle Nunes Pozzo, Isamar Gutiérrez Roa, Carlos Alfonso González Beleño, Andrés Mauricio Ahumada Montaña, Aníbal José Rueda Gomez and Hussein Jaafar Orfale***Coffee Break****15:00 - 15:25****Room:** Meeting Foyer**Technical Sessions (3)****15:30 - 17:30****EUSPN Session S-3****Session Chair:****Room:** Room 1

Social Networking Applications: A Comparative Analysis for a Collaborative Learning through Google Classroom and Zoom

Tariq Abu Hilal, Hasan Abu Hilal and Alaa Abu Hilal

Distributed Meta-Learning for Context Based on Culture Heritage Collection Data in an Immersive Reality System

Rahim Rahmani, Susanne Tienken and Elisabeth Nivre

Towards Lifelong Federated Learning in Autonomous Mobile Robots with Continuous Sim-to-Real Transfer

Xianjia Yu, Jorge Peña Queraltá and Tomi Westerlund

Review of Recent Intrusion Detection Systems and Intrusion Prevention Systems in IoT Networks

Zouhair Chiba, Noredine Abghour, Khalid Moussaid, Oumaima Lifandali and Rachid Kinta

Soccer captioning: dataset, transformer-based model, and triple-level evaluation

*Ahmad Hammoudeh, Bastien Vanderplaetse and Stephane Dupont***ICTH Session S-3****Session Chair:****Room:** Room 3

Standardized and extensible reference data model for clinical research in Living Labs

Christoniki Maga-Nteve, Gorka Epelde, Mikel Hernandez, Nikos Tsolakis, Evdokimos Konstantinidis, Georgios Meditskos, Panagiotis Bamidis and Stefanos Vrochidis

Artificial Intelligence for dentistry: Review

Niama Assia El Joudi, Mohamed Lazaar and Oussama Mahboub

Gesture recognition of wrist motion based on wearables sensors

Marcos Rylo, Renan Landau Paiva de Medeiros and Vicente Ferreira de Lucena Júnior

IWIT Session S-3

Session Chair:

Room: Room 3

Family business: a systematic review framed in the Sustainable Development Model

Jenny Romero Borre, Gabriela Cuba Romero and Davidson Martínez Padilla

Implementing a serious game as a learner motivation tool.

Soumia Yamoul, Lynda Ouchaouka, Mohammed Radid and Mohammed Moussetad

Organizational capabilities and competitive strategies in a developing country. An empirical analysis

Diego Alberto Baez Palencia, Lydia López-Barrago and Juan Pablo Mariño Jimenez

Society of Knowledge and ICT skills

Ana Cecilia Chumaceiro Hernandez, Judith Josefina Hernandez Garcia and Marilu Tibisay Acurero Luzardo

End of Thursday Technical Sessions

Friday, October 28, 2022

Registration Starts 09:00

Room: Registration Room

Technical Sessions (4) 09:30 - 11:00

HODII Session S-1

Session Chair

Room: Room 1

Data Mining Models for Automatic problem identification in intensive medicine

Inês Quesado, Julio Duarte, Álvaro Silva, Maria Manuel, César Quintas

Association Models Relating problems with semiologic data in intensive medicine

Inês Tavares, Julio Duarte, Hugo Peixoto, Álvaro Silva, Maria Manuel, César Quintas

Decision models on therapies for intensive medicine

Maria Passos, Julio Duarte, Álvaro Silva, Maria Manuel, César Quintas

Towards an effective Clinical Decision Support System in Intensive Medicine

Francini Hak, Julio Duarte, Manuel Santos, Tiago Guimarães

Permissioned Blockchain Approach using Open Data in Healthcare

Tiago Guimarães, João Cunha, Ricardo Duarte, Bruno Pinheiro, Daniel Faria

IoT-S&O

Session Chair:

Room: Room 2

Survey of today's IoT data processing techniques

Nabhi Shah, Pulak Jain, Saumya Shah, Nishant Doshi

Energy Efficiency in IoT Environment

Stavan Shah, Anshumansinh Jadeja and Nishant Doshi

LSTM Filter for Smart Agriculture

Junwhan Kim and Byunggu Yu

A Survey on IoT-Based Smart Cars, their Functionalities and Challenges

Kunj Shah, Chaitanya Sheth and Nishant Doshi

IWIT Session S-4

Session Chair:

Room: Room 3

Types of competencies of human talent supported by TIC: definitions, elements, and contributions

Mauricio Junior Santamaria Ruiz, Reynier Israel Ramirez Molina, Ricardo Romario Antequera Amaris and Nelson David Lay Rabi

University social responsibility for the generation of ICT skills

Ana Cecilia Chumaceiro Hernandez, Judith Josefina Hernandez Garcia and Maria Elena Perez Prieto

Generic and technical skills of human talent supported by ICT: systematization, scope, and reflections

Ricardo Romario Antequera Amaris, Reynier Israel Ramirez Molina, Mauricio Junior Santamaria Ruiz and Nelson David Lay Rabi

Using Ordered Weighted Average Operators in the Great Place to Work Scale

Diego Alberto Baez Palencia, Diana Emilce Rodriguez-Fuentes, Jinna Catalina Montoya Muñoz, Ernesto León-Castro, Reynier Ramirez Molina and Angie Johanna Alvarez-Gomez

Coffee Break 11:00 - 11:25

Room: Meeting Foyer

Lunch 12:30 - 13:25

Room: Meeting Foyer

Technical Sessions (5) 13:30 - 15:00

HODII Session S-2

Session Chair:

Room: Room 1

Predictive analytics for hospital discharge flow determination

Mariana Faria, Agostinho Barbosa, Tiago Guimarães, João Lopes, Manuel Santos

Predictive analytics for hospital inpatient flow determination

Diogo Peixoto, Agostinho Barbosa, Hugo Peixoto, Tiago Guimarães, Manuel Santos

Intelligent Decision Support in Beds Management and Hospital Planning

Rui Macedo, Agostinho Barbosa, João Lopes, Manuel Santos

OpenEHR modelling applied to Complementary Diagnostics Requests

Ana Santos, Diana Braga, Inês Silvat, Hugo Peixoto, Regina Sousa, Daniela Oliveirat, António Abelha, José Machado

OpenEHR based bariatric surgery follow-up

Ana Afonso, César Alvaréz, Diana Ferreira, Daniela Oliveira, Hugo Peixoto, António Abelha, José Machado

AISC

Session Chair:

Room: Room 3

A comparison of audio-based deep learning methods for detecting anomalous road events

Riccardo Balia, Alessandro Giuliani, Leonardo Piano, Alessia Pisu, Roberto Saia, Nicola Sansoni

The More Secure, The Less Equally Usable: Gender and Ethnicity (Un)fairness of Deep Face Recognition along Security Thresholds

Andrea Atzori, Gianni Fenu, Mirko Marras

Understanding the Choice of Collection & Delivery Point by the E-Consumer via a Machine Learning Model: Moroccan Case Study

Alaa Eddine El Moussaoui, Taoufiq El Moussaoui, Brahim Benbba, Anicia Jaegler, Zineb El Andaloussi

Coffee Break 15:00 - 15:25

Room: Meeting Foyer

End of Friday Technical Sessions

Banquet and Award Ceremony 18:00 - 19:30

Banquet Room

END of Event