

Welcome to



EUSPN 2020

The 11th International Conference on
Emerging Ubiquitous Systems and
Pervasive Networks



ICTH 2020

The 10th International Conference on
Current and Future Trends of
Information and Communication
Technologies in Healthcare

November 2 – 5, 2020
Madeira, Portugal

With support of

University of Coimbra, Hasselt University, Belgium
Acadia University, Canada



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EUSPN / ICTH SYMPOSIA AND WORKSHOPS

EUSPN	The 11th International Conference on Emerging Ubiquitous Systems and Pervasive Networks
ICTH	The 10th International Conference on Current and Future Trends of Information and Communication Technologies in Healthcare
AATCare	The 6th International Workshop on Adults Use of Information and Communication Technologies in Healthcare
BDNT	The 6th International workshop on Big Data and Networks
CIM	The 4rd International Workshop on Connected & Intelligent Mobility
EICN	The 7th International Symposium on Emerging Information, Communication and Networks
HODII	International Workshop on Healthcare Open Data, Intelligence and Interoperability
IA&NLP	International Workshop on Artificial Intelligence for Natural Language Processing
IWBCS	International Workshop on Blockchain Security
IWIT	International Workshop on Innovation and Technologies

PROGRAM AT A GLANCE

EUSPN 2020, ICTH 2020 and Workshops Program Time Slots

Timing	Monday 2 November 2020			
17:00 - 19:00	Registration	Registration Room		
		ROOM 1	ROOM 2	ROOM 3
		Clube de Campo A	Clube de Campo B	Clube de Campo C

Timing	Tuesday 3 November 2020			
Starts 08:30	Registration	Registration Room		
09:00 - 09:30	Opening Ceremony	Ericeira Room		
09:30 - 11:00	Technical Sessions (1)	EUSPN-S1	ICTH-S1	BDNT
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	EICN
15:00 - 15:25	Coffee Break	Meeting Foyer		
15:30 - 17:30	Technical Sessions (3)	EUSPN-S3	ICTH-S3/AATCard	IA&NLP

Timing	Wednesday 4 November 2020			
Starts 09:00	Registration	Conference Desk		
09:30 - 11:00	Technical Sessions (4)	EUSPN-S4	ICTH-S4	IWIT
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)	EUSPN-S5	EUSPN-S6	HODII-S1
15:00 - 15:25	Coffee Break	Meeting Foyer		
15:30 - 17:30	Technical Sessions (6)	EUSPN-S7	EUSPN-S8	HODII-S2
19:00 - 21:00	Banquet and Award Ceremony	Banquet Room		

Timing	Thursday 5 November 2020			
08:30 - 10:00	Technical Sessions (7)	EUSPN-S9	CIM/EICN	IWBCS
	Coffee Break	Meeting Foyer		
	End of Event			

KEYNOTE I

Self adaptive software systems are essential for the Internet of Things

Prof. Dr. Danny Hughes
KU Leuven University, 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 in 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. Dr. Danny Hughes is the Chief Technical Officer of VersaSense NV, a KU Leuven spin-off company that provides end-to-end industrial Internet of Things solutions. He is also a Professor with the Department of Computer Science of KU Leuven (Belgium), where he is a member of the DistriNet (Distributed Systems and Computer Networks) research group and leads the Networked Embedded Software task-force. Danny has a PhD from Lancaster University (UK) and has previously worked at the University of California at Berkeley (USA), the University of Sao Paulo (Brazil) and Xi'an Jiaotong-Liverpool University (China).

DETAILED PROGRAM

Monday, November 2, 2020

Registration 17:00-19:00

Room: Registration Room

Tuesday, November 3, 2020

Registration Starts 08:30

Room: Registration Room

Opening 09:00 - 09:30

Opening Ceremony

Room: Ericeira Room

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

EUSPN Session S-1

Session Chair:

Room: Room 1

Identifying Users with Wearable Sensors based on Activity Patterns

Muhammad Ehatisham-Ul-Haq, Maryam Naseer Malik, Muhammad Awais Azam, Usman Naeem, Asra Khalid and Mustansar Ali Ghazanfar

A Partial Pre-composing Method for Composition of Web Services

Jing Li, Zhiyong Wu, Panjing Li, Ming Zhu and Yifei Wang

Using Smartphone Accelerometer for Human Physical Activity and Context Recognition in-the-Wild

Muhammad Ehatisham-Ul-Haq, Muhammad Azam, Yusra Asim, Yasar Amin, Usman Naeem and Asra Khalid

Distributed ecosystem of voice communications for air traffic control system

Igor Kabashkin and Vadim Philippov

ICTH Session S-1

Session Chair:

Room: Room 2

Integrated Care and Governance: Missing and Available Indicators

Nelson Rocha, Gonçalo Santinha, Marta Viana, Ana Dias, Anabela Silva, Maria Piedade Brandão, Joaquim Alvarelhão and Luís Jorge Gonçalves

SmartCGMS as a Testbed for a Blood-Glucose Level Prediction and/or Control Challenge with (an FDA-Accepted)

Diabetic Patient Simulation

Tomas Koutny and Martin Ubl

Medical Imaging Data and Process Analysis in a Stroke Scenario

Diana Santos, Milton Santos, Ana Dias and Nelson Pacheco da Rocha

BDNT Workshop**Session Chair:****Room:** Room 3

Artificial neural network to predict the performance of the phosphoric acid production

Ahmed Bichri, Mohamed Anouar Kamzon and Souad Abderafi

A new collaborative platform for research in smart farming

Olivier Debauche, Saïd Mahmoudi, Pierre Manneback, Jérôme Bindelle and Lebeau Frédéric

Deep real-Time Anomaly Identification for Connected Autonomous Vehicles

Rachid Ouheikh, Mouhsene Fri, Faycal Fedouaki and Mustapha Hain

Prediction models of demand in supply chain

*Nisrine Zougagh, Abdelkabar Charkaoui, Abdelwahed Echchatbi***Coffee Break****11:00 - 11:25****Room:** Meeting Foyer**Keynote****11:30 - 12:30*****Self adaptive Software Systems are Essential for the Internet of Things***

Dr. Danny Hughes, KU Leuven University, Belgium

Session Chair: Ansar Yasar, Hasselt University, Belgium**Room:** Ericeira Room**Lunch Break****12:30 - 13:25****Room:** Lunch Room (Restaurant)**Technical Sessions (2)****13:30 - 15:00****EUSPN Session S-2****Session Chair:****Room:** Room 1

Edge AI-IoT Pivot Irrigation, Plant Diseases and Pests Identification

Olivier Debauche, Saïd Mahmoudi, Meryem Elmoulat, Sidi Ahmed Mahmoudi, Pierre Manneback and Frédéric Lebeau

Traffic data collection using active mobile and stationary devices

Johan Holmgren, Henrik Fredriksson and Mattias Dahl

Path Planning Algorithm for Unmanned Ground Vehicles(UGVs) in Known Static Environments

Eman Almoaili and Heba Kurdi

Handling Insider Threat Through Supervised Machine Learning Techniques

*Faisal Janjua, Asif Masood, Haider Abbas and Imran Rashid***ICTH Session S-2****Session Chair:****Room:** Room 2

Toward Semantic IoT Load Inference Attention Management for Facilitating Healthcare and Public Health

Collaboration: A Survey

Sachiko Lim and Rahim Rahmani

Machine-Learning-based Prediction of COVID-19 Individual Susceptibility using Demographic Data

Alhanoof Althnian, Afnan Abou Elwafa, Nourah Aloboud, Hend Alrasheed and Heba Kurdi

A Data-Driven Deep Learning Model to Pattern Recognition for Medical Diagnosis, by using Model Aggregation and Model Selection

Choukri Djellali, Mehdi Adda and Mohamed Tarik Moutacalli

EICN Workshop**Session Chair:****Room:** Room 3

Industry 4.0 and its Implications for the Financial Sector

Badr Machkour

IoT Security: Challenges and Countermeasures

Mohamed Litoussi, Khalid El Makkaoui, Nabil Kannouf and Abdellah Ezzati

An Effective and Efficient Technique for Supporting Privacy-Preserving Keyword-Based Search over Encrypted Outsourced Data

Alfredo Cuzzocrea, Carson Leung, Bryan Wodi, S Sourav and Edoardo Fadda

Current and Future RL's Contribution to Emerging Network Security

*Christophe Feltus***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

Communication model in the Internet Of Thing

Naoual El Farissi, Driss El Ouadghiri and Aghoutane Badraddine

Big Data Processing Architecture for Smart Farming

Amine Roukh, Fabrice Nolack Fote, Sidi Ahmed Mahmoudi and Saïd Mahmoudi

IoT-based Irrigation Management for Smallholder Farmers in Rural Sub-Saharan Africa

Ethiopia Nigusse, Thomas Olwal, George Musumba, Tesfa Tegegne, Atli Lemma and Fisseha Mekuria

A Slotted Transmission with Collision Avoidance Protocol for LoRa Networks

Quy Lam Hoang, HUU Phi Tran, Woo-Sung Jung, Si Hong Hoang and Hoon Oh

An Autonomic IoT Gateway for Smart Home Using Fuzzy Logic Reasoner

Ramin Firouzi, Rahim Rahmani and Theo Kanter

A Novel Approach to Social Media Privacy Education Through Simulated Role Reversal

*Kambiz Ghazinour, Sean Scarnecchia, Jake Rabideau and Blake Pecore***ICTH Session S-3/AATCare Workshop****Session Chair:****Room:** Room 2

Monitoring the Dynamics of Emotions during Covid-19 Using Twitter Data

Simranpreet Kaur, Pallavi Kaul and Pooya Moradian Zadeh

Machine learning for the evaluation of the presence of heart disease

Ivan Miguel Piresa, b, , Gonçalo Marquesa, Nuno M. Garciaa and Vasco Ponciano

Yes, ICAN(b)E - Active Aging in Place supported by a Caregiver-centered Modular Low-Cost Platform

João Capinha, Patricia Macedo and Rui Neves Madeira

IA&NLP Workshop

Session Chair:

Room: Room 3

Yousfi Abdellah, Aouragh Silhossin, Gueddah Hicham and Nejja Mohamed

Spelling correction for the Arabic language -space deletion errors-

Benyamin Ahmadnia

Low-Resource Multi-Domain Machine Translation for Spanish-Farsi: Neural or Statistical?

Sahand Vahidnia, Alireza Abbasi and Hussein A. Abbass

A Framework for Understanding the Dynamics of Science: A Case Study on AI

Daniel Braun, Manoj Bhat, Andreas Biesdorf and Florian Matthes

Would You Lie To Me Bot? Supporting Decision-Making Processes with Deceiving Virtual Agents

Kavitha Karimbi Mahesh, Asha B, Bryan Abreo, Adline Jovita Dsouza and Akarsha Kondana

YouTube Comment Classification

End of Tuesday Technical Sessions

Wednesday, November 4, 2020

Registration Starts 09:00

Room: Registration Room

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

EUSPN Session S-4

Session Chair:

Room: Room 1

Integrating consortium blockchain into edge server to defense against ransomware attack

In-San Lei, Su-Kit Tang and Rita Tse

Road traffic forecasting using a real dataset in Morocco

Nadia Slimani, Ilham Slimani, Mustapha Amghar and Nawal Sbiti

Toward a Big Data Knowledge-Base Management System for Precision Livestock Farming

Fabrice Nolack Fote, Amine Roukh, Saïd Mahmoudi, Sidi Ahmed Mahmoudi and Olivier Debauche

Let My Car Alone: Parking Strategies with Social-Distance Preservation in the Age of COVID-19

Thierry Delot and Sergio Ilarri

ICTH Session S-4

Session Chair:

Room: Room 2

IoT Ambient Assisted Living: Scalable Analytics Architecture and Flexible Process

Guillaume Gingras, Mehdi Adda, Abdenour Bouzouane, Hussein Ibrahim and Clémence Dallaire

Ambient understanding of stairway ascension and descension by the elderly using a handrail-based force sensor

Moe Hamada, Koji Kitamura and Yoshifumi Nishida

Health of Humans and Machines in a Common Perspective

Mohamad Rahhal, Mehdi Adda, Mirna Atieh and Hussein Ibrahim

IWIT Workshop

Session Chair:

Room: Room 3

Covid-19's Rapid diagnosis Open platform based on X-Ray Imaging and Deep Learning

Mohamed Tabaa and Hassna Bensag

Multi-Agents System Implementation for Supply Chain Management Making-Decision

Loubna Terrada, Mohamed El Khaïli and Hassan Ouajji

Cloud Computing for Industrial Predictive Maintenance Based on Prognostics and Health Management

Redouane Fila, Mohamed El Khaïli and Mohamed Mestari

Towards smart manufacturing: Implementation and benefits

Karim Haricha, Zeddine Khat, Yassine Issaoui, Ayoub Bahnasse and Hassan Ouajji

Coffee Break 11:00 - 11:25

Room: Meeting Foyer

Lunch 12:00 - 13:25

Room: Lunch Room (Restaurant)

Technical Sessions (5)**13:30 - 15:00****EUSPN Session S-5****Session Chair:****Room:** Room 1

Emerging Data Sources in Decision Making and Artificial Intelligence

Asharul Khan and Ali Al-Badi

Deriving Access Control Models based on Generic and Dynamic Metamodel Architecture: Industrial Use Case

Nadine Kashmar, Mehdi Adda, Mirna Atieh and Hussein Ibrahim

A Combined Deep-Learning and Transfer-Learning Approach for Supporting Social Influence Prediction

Alfredo Cuzzocrea, Carson Leung, Deyu Deng, Jiaying Mai, Fan Jiang and Edoardo Fadda

Children's Online Privacy From Parents' Perspective

*Kambiz Ghazinour and Paweena Manotipya***EUSPN Session S-6****Session Chair:****Room:** Room 2

Obturator ring fracture detection using anteroposterior view x-ray

Sabiheh Faghieh, Arpita Shah, Zehan Wang, Abolfazl Safikhani and Camille Kamga

Taxi and Mobility: Modeling Taxi Demand Using ARMA and Linear Regression

Ubiquitous Distributed Deep Reinforcement Learning at the Edge: Analyzing Byzantine Agents in Discrete Action Spaces

Wenshuai Zhao, Jorge Peña Queralta, Li Qingqing and Tomi Westerlund

An Approach towards Position-Independent Human Activity Recognition Model based on Wearable Accelerometer Sensor

Naima Qamar, Nasir Siddiqui, Muhammad Ehatisham-Ul-Haq, Muhammad Azam and Usman Naeem

Towards using Graph Analytics for Tracking Covid-19

*Zakariyaa Ait El Mouden, Rachida Moulay Taj, Abdeslam Jakimi and Moha Hajar***HODII Workshop S-1****Session Chair:****Room:** Room 3

Management of pandemic situation based on openEHR approach

*Daniela Oliveira, Rui Miranda, Pedro Leuschner, Nuno Abreu, António Abelha, Manuel Filipe Santos, José Machado*How Descriptive Analytics Influences^[1]Decision making in Precision Medicine*Manuel Filipe Santos*

A conceptual model for multichannel interaction in healthcare services

Ailton Veiga, Manuel Filipe Santos, Tiago Guimarães

Adaptive Business Intelligence in Healthcare: A New Architectural Approach

*João Lopes, Tiago Guimarães, Manuel Santos***Coffee Break****15:00 - 15:25****Room:** Meeting Foyer

Technical Sessions (6)**15:30 - 17:30****EUSPN Session S-7****Session Chair:****Room:** Room 1

Dealing with Failures for Execution Consistency in Context-aware Systems

Ahmed Chawki Chaouche, Jean-Michel Ilie and Francois Pecheux

The use of a Blockchain-based System in Traffic Operations to promote Cooperation among Connected Vehicles

Vittorio Astarita, Vincenzo Pasquale Giofrè, Giuseppe Guido and Alessandro Vitale

Performance Evaluation of First Hop Redundancy Protocols

Mahmud Mansour

IoT Architecture for Enhancing Rural Societal Services in Sub-Saharan Africa

Ethiopia Nigussie, Thomas Olwal, Atli Lemma, Fisseha Mekuria and Bo Peterson

Digital Canaries: Identifying Hazardous Patterns in MSHA Data Using a Machine Learner

Haroon Malik and Olivia Milam

Vehicular Data Offloading by Road-Side Units Using Intelligent Software Defined Networks

*Sony Guntuka, Elhadi Shakshuki, Ansar Yasar and Hana Gharrad***EUSPN Session S-8****Session Chairs:****Room:** Room 2

IoT mobile device Data Offloading by Small-Base Station Using Intelligent Software Defined Network

Sony Guntuka, Elhadi Shakshuki and Ansar Yasar

Comparative analysis on the indicators from Latin American countries with more scientific paper publications in the SIR Iber 2020

Jesus Viloría, Marisabel Luna and Nunziatina Bucci

Scientific production and dissemination forecast related with COVID-19

Jesus Viloría, Martha Mendoza and Nohora Mercado

Management indicators system for a dairy farm with cattle

Jesus Viloría, Kumar D and Omar Duque

Analysis of Buñuelos Growth Rate Using 2k Factorial Design

Jesus Viloría, Ivan Tabora and Martha Mendoza

Design of a methodology to incorporate Lean Manufacturing tools in risk management, to reduce work accidents at service companies

*Guillermo Lopez, Jesus Viloría and Kumar D***HODII Workshop S-2****Session Chairs:****Room:** Room 3

ICU Data Management - A Permissioned Blockchain Approach

Tiago Guimarães, Ailton Veiga, Manuel Santos

What is the impact of Open Science in pandemic times?

Francini Hak, António Abelha, Manuel Santos

Prediction of mental illness associated with unemployment using data mining

Carina Gonçalves, Diana Ferreira, Cristiana Neto, António Abelha, José Machado

Data mining to predict early stage chronic kidney disease

*Ana Pinto, Diana Ferreira, Crsitiana Neto, António Abelha, José Machado***End of Wednesday Technical Sessions****Banquet and Award Ceremony****19:00 - 21:00**

Banquet Room

Thursday, November 5, 2020

Technical Sessions (7)

08:30 – 10:00

EUSPN Session S-9

Session Chair:

Room: Room 1

Model for the collection and analysis of data from teachers and students supported by Academic Analytics

Nohora Suarez, Jesus Vilorio and Ramon Lopez

Construction of a robotic arm to improve the communication of people with auditive or non-verbal disabilities

Omar Bonerge, Jesus Vilorio and Juan Carlos Correa

Evaluation of water quality state through regulations and physicochemical indicators for the administration of water resources in the Integrated Management District of Salto del Tequendama

Jorymar Leal, Nuncaitina Bucci and Jesus Vilorio

Contextual Healing: Privacy through Interpretation Management

Fatma Outay and Rula Sayaf

CIM/EICN Workshops

Session Chair:

Room: Room 2

Improved traffic sign recognition using deep ConvNet architecture

Omar BELGHAOUTI, Wahida HANDOUZI, Mohamed TABAA

The Computer System Architecture of the first real-time real-world experiment of adaptive traffic signals with "connected" vehicles

Vittorio Astarita, Vincenzo Pasquale Giofrè, Giuseppe Guido and Alessandro Vitale

Edge Computing and Artificial Intelligence for Landslides Monitoring

Meryem Elmoulat, Olivier Debauche, Saïd Mahmoudi, Sidi Ahmed Mahmoudi, Pierre Manneback and Frédéric Lebeau

An environment based approach for the ant colony convergence

Pierre Romet, Franck Gechter, El-Hassane Aglzim, Olivier Grunder and Sidi-Mohammed Senouci

IWBCS Workshop

Session Chair:

Room: Room 3

Stuck-me-not: A deadlock detector on blockchain software in Rust

Pengxiang Ning, Boqin Qin

Blockchain infrastructure management and monitoring

Dominique Bernard Kanga, Mohamed Azouazi

Mapping the OWASP Top Ten to Blockchain

Howard Poston

END of Event