

The Enabled Environment and Assistive Living Sarchi Chair Research & Innovation Seminar

PROGRAMME

25th – 26th November 2021



Tshwane University
of Technology
We empower people



F'SATI
French South African Institute of Technology



National
Research
Foundation

The Enabled Environment and Assistive Living Sarchi Chair Research & Innovation Seminar

INTRODUCTION & WELCOME

On behalf of Tshwane University of Technology, the Deputy Vice Chancellor: Research, Innovation and Engagement, Dr Vathiswa Papu-Zamxaka, welcomes you to the 2021 Enabled Environment and Assistive Living SARCHI Chair Research & Innovation Seminar

Ambient Intelligence (Aml) is part of information technology that aims to provide components in digital environments with sensing and acting capabilities that adapt to human needs, gestures, and emotions. With the aim of empowering the capabilities of people, Aml enables novel approaches in human-machine interactions that are pervasive and unobtrusive.

The SARCHI chair in Enabled Environment and Assistive Living Research and Innovation Seminar aims to discuss new trends and the latest developments in the areas of Assistive Living and Ambient Intelligence, Advanced Robotics, Artificial Intelligence, as well as the Internet of Things and Cloud computing, related to service delivery for physical and cognitive assistance.



THEMES OF THE RESEARCH & INNOVATION SEMINAR

The Research and Innovation Seminar will cover Research, Innovation, and Collaborative projects in the following areas:

- Artificial Intelligence: New trends in Machine learning and Data Science
- Robotics: Modelling and control with human in the loop
- Internet of Things and Cloud computing: New Trends in Massive IoT and Critical Communications for Assistive Living.

OVERVIEW OF THE SARCHI CHAIR IN THE ENABLED ENVIRONMENT AND ASSISTIVE LIVING

The Enabled Environment for Assisted Living Chair is multidisciplinary in nature and focuses on providing innovative technologies and systems to assist persons with disabilities and elderly persons based on their immediate needs.

From a societal point of view, the notion of assistance technology for persons with disabilities is an important world challenge that concerns all of society. Providing assistive technologies to persons with disabilities is in alignment with the principles endorsed by South African government as highlighted in the “Integrated National Disability Strategy” white paper.

The focus of the research work conducted in the Chair is related to the development of devices integrating sensors and actuators to help persons with disabilities. The research work considers how the evaluation of deficiencies, the aid to the re-education, and the compensation using technical means for mobility can be achieved through the aid of appropriate technologies.

By integrating people with disabilities into society and the commercial and industrial sectors, the Chair also aligns itself with Science and Technology for poverty alleviation and local/regional innovation including sustainable rural development, since such individuals who would have traditionally had limitations in accessing the workspace would be ‘enabled’ to gain access. By aligning to these themes, the Chair contributes to technology development, innovation, and commercialisation of assistive technologies in the enabled environment while solving critical issues for people living with disabilities.

The research chair, Prof. Karim Djouani who is appointed both at TUT and UPEC in France, focuses on the development of innovative mechatronic systems comprising of electromechanical systems with embedded computing and communication capabilities, artificial intelligence and machine learning techniques dedicated to assist people in their daily life. Complex mechatronic systems are distributed in the enabled environment or smart spaces and make use of current and emerging wireless and mobile communication technologies.



PROGRAMME

25TH NOVEMBER

Time	Venue	Description	Speaker
09h00 – 10h00	TB Hall	Technology Demonstrations and Walk Through	SARChI Chair, PDRF M&D Students, Industry
10h00 – 10h30	TB Hall	Welcome & Refreshments (Technology Demonstrations)	
Programme Director: Ria Mojapelo			
10h30 – 10h40	TB Hall	Welcome and Introduction	Dr Vathiswa Papu-Zamxaka DVC: RIE TUT
10h40 – 10h50	TB Hall	French-South African Collaboration in the Digital Era	Prof Lourens van Staden Vice Chancellor & Principal TUT
10h50 – 11h00	TB Hall	Address by the French Ambassador to South Africa	HE Aurélien Lechevallier
KEYNOTE ADDRESSES			
11h00 – 11h15	TB Hall	Strategy on Innovation & Academia-Industry Collaboration	Prof Fuluflhelo Nelwamondo NRF CEO
11h15 – 11h30	TB Hall	Quality Patient Care and the 4IR in the context of Covid-19 Pandemic: Lessons Learned.	Dr Freddie Kgongwana Acting DDG: Hospital Services Dept. of Health
11h30 – 11h45	TB Hall	The Importance of Industrial Cooperation for Innovation & Technology Transfer	Dr Yves Guenon Chairman FSACCI (online)
11h45 – 12h00	TB Hall	The Stakes of Deeptech Start-ups in France and at University Paris Saclay	Prof Bernard Yannou Director of Valorisation and Innovation: Graduate School of Engineering, University Paris Saclay (online)
12h00 – 12h10	TB Hall	Research and Innovation Activities within the SARChI Chair	Prof K. Djouani TUT/F/SATI/UPEC
12h10 – 12h30	TB Hall	Break & Refreshments (Technology Demonstrations)	
12h30 – 12h45	TB Hall	Strategy on Innovation & Academia-Industry Collaboration	Dr Nick Bradshaw CEO AI Media Africa (online)
12h45 – 13h00	TB Hall	Mining resources for Machine Translation of many African Languages	Dr Holger Schwenk Research Scientist Facebook AI Research Laboratory (online)
13h00 – 13h15	TB Hall	AI and IoT application in Telecommunications	Mr Stefan Steffen Executive of Data Science, Telkom Group

13h15 – 13h30	TB Hall	Hyper-connectivity for Augmented Worlds	Mr. Tim Nicholas Customer CTO, Customer Experience Strategy and Technology, Nokia Nokia SA
13h30 – 13h45	TB Hall	Transfer Learning in Brain Computer Interfaces.	Dr. Emmanuel Kalunga Head of Datascience & Business Intelligence: OrderIn
13h45 – 14h00	TB Hall	Break & Refreshments (Technology Demonstrations)	
14h00 – 14h15	TB Hall	Trusted Artificial Intelligence	Dr. Kaoutar Sghiouer Head of Datascience Atos, France (online)
14h15– 14h30	TB Hall	Hybrid approaches for context recognition in Ambient Assisted Living systems	Dr HKM Abdelkawy Toyota Motors Europe (online)
14h30 – 14h45	TB Hall	Future Proof Digitalisation	Mr. Armand du Plessis Presales Solution Consultant Siemens
14h45 – 15h15	TB Hall	Artificial intelligence for an augmented diagnosis on pathology	Prof. Julien Calderaro Henri Mondor Hospital (online)
15h15 – 15h30	TB Hall	COMSIS & F'SATI 802.11ah protocol Design and FPGA implementation	Dr Roxana Ojeda CTO COMSIS SAS France (online)
15h30 – 15h35	TB Hall	DAY 1: Closing & Vote of Thanks	Dr. G Kanakana-Katumba: Executive Dean: FEBE
15h45 onwards	TB Hall	Cocktail Function (Technology Demonstrations)	Prof. A Kurien Node Director: F'SATI TUT

26TH NOVEMBER

Time	Venue	Description	Speaker
09h00 – 09h30	Prestige Auditorium	Welcome & Refreshments	
Programme Director: Ria Mojaelo			
09h30 – 09h35	Prestige Auditorium	Welcome and Introductions	Dr Vathiswa Papu-Zamxaka DVC: RIE
09h35 – 09h50	Prestige Auditorium	Research and innovation at the service of people with disabilities, discussion around our approach	Prof Eric Monacelli LISV Laboratory UPSAY
09h50 – 10h05	Prestige Auditorium	Adaptive Hybrid Approaches for Assisting Walking Activities of Paretic Patients	Prof Samer Mohamed LISSI Laboratory UPEC (online)

10h05 – 10h20	Prestige Auditorium	Machine learning in chemistry and material sciences	Prof Jean Claude Crivello UPEC (online)
10h20 – 10h35	Prestige Auditorium	Human-machine collaborative systems challenges and opportunities	Prof Shenzhi Du Electrical Engineering TUT
10h35 – 10h50	Prestige Auditorium	LiFi - Studies on an example for Laboratory-to- Startup process	Prof Luc Chassagne LISV Laboratory UPSAY
10h50 – 11h05	Prestige Auditorium	Break & Refreshments	
11h05 – 11h20	Prestige Auditorium	Investigation of human-robot Interaction: application to upper limb exoskeletons	Prof Abderraouf Benali LISV Laboratory UPSAY
11h20 – 11h35	Prestige Auditorium	Generic Semi-Supervised Adversarial Subject Translation for Sensor-Based Activity Recognition	Dr Ghazaleh Khodabandelou UPEC (online)
11h35 – 11h50	Prestige Auditorium	Solutions of assistive technologies specially adapted for speech and vision impairments	Mr Kyle Williams Blind and Low vision specialist (Eyesight) Ms Rushdah Hartley Speech Pathologist MicroEdit (online)
11h50 – 12h05	Prestige Auditorium	Augmented Mobility – TUT start-up	Dr. Nico Steyn, Ms. TD Modise F'SATI/Electrical Engineering TUT
12h05 -12h20	Prestige Auditorium	Epidemiologic Modelling of the dynamic of Covid-19 pandemic	Mr Gontran Peubez Partner OnePoint (online)
12h20 – 12h35	Prestige Auditorium	5G Network and Haptic-Enabled Internet for Remote Robotic Surgery	Associate Prof Mjumo Mzyece WITS Graduate School of Business Administration (online)
12h35 – 13h00	Prestige Auditorium	Break & Refreshments	
13h00 – 13h15	Prestige Auditorium	Hapicare: Integrating IoT, Blockchain and AI for enhancing telecare	Dr Wagdy Zahran CEO Maidis, France (online)
13h15 – 13h30	Prestige Auditorium	Data Platform for IoT and MLOps	Dr. Mohamed Hillia Ippon Technologies
13h30 – 13h45	Prestige Auditorium	IoT, a key enabler of the circular economy	Dr. Guillaume Noel Head of Innovation Heliot Group, France

13h45 – 14h00	Prestige Auditorium	Bridging the semantic gap between context sensing from IoT and Context Aware Decision in Ambient Assisted Living and eHealth	Associate Prof Abdelghani Chibani, LISSI Laboratory UPEC (online)
14h00 – 14h15	Prestige Auditorium	Towards Hallow-WiFi based product design for Massive IoT	Dr Roxana Ojeda CTO COMSIS SAS France(online) and Prof K Djouani
14h15 – 14h30	Prestige Auditorium	Research & Innovation at RICE Research Center	Prof Eric Matson Purdue University/M2M Lab (online)
14h30 – 14h45	Prestige Auditorium	Q/A - Open discussion	Prof. K Djouani / Prof. AM Kurien
14h45 – 14h50	Prestige Auditorium	DAY 2: Closing & Vote of Thanks	Prof. JL Munda Assistant Dean: PG, R&I: FEBE

BIOGRAPHIES OF SPEAKERS



Prof Fulufhelo Nelwamondo is the CEO of the National Research Foundation. He is a seasoned executive with a proven track record in strategy, operational planning and successful implementation. He has worked within the National System of Innovation with multiple stakeholders in the public and private sectors and led complex organisational outfits in the forefront of research, development and innovation, in areas such as Artificial Intelligence, Communication Technologies and Data Science, that underpins the Fourth Industrial Revolution. He has a proven track record in spearheading innovation-driven research portfolios that demonstrated huge financial returns and societal impact. He holds a PhD in Electrical Engineering in Computational Intelligence from the

University of the Witwatersrand. In 2008, he advanced his research endeavours as a Postdoctoral Fellow at the Graduate School of Arts and Sciences at Harvard University and was the youngest South African to receive the Harvard-South Africa Fellowship.



Dr Freddie Kgongwana is the Acting Deputy Director General: Hospital Services at the Department of Health. Prior to this, he was Head of Hospital Services at the Gauteng Health Department. He has served as CEO of the second largest hospital in South Africa, Dr George Mukhari Academic Hospital (DGMAH). He has also served as the Deputy Director: Health Care Services in the Department of Correctional Services (DCS) from 2008 to 2010. He then progressed to DGMAH as a medical officer under the Internal Medicine Department in which he served for a full year and subsequently became the senior clinical executive from 2011 to 2013 then served as a deputy chief executive officer from 2013 to 2015. Dr. Kgongwana completed his matric in 1982 at the WF Nkomo

High School, enrolled with SMU, previously known as the Medical University of Southern Africa (MEDUNSA) where he obtained his Bachelor of Medicine and Bachelor of Surgery (MBChB) in 1991.



Dr Yves Guenon is founder of Izibani Consultancy that offers strategic and organization consultation services which he created after a long career in industrial and energy sectors. Dr. Guenon has strongly been committed for years to the development of business relationships between France and South Africa: He is Vice Chairman of the French Foreign Trade Advisors Committee (CEEF – Conseillers du Commerce Extérieur) and became Chairman of the French South African Chamber of Commerce (FSACCI) in May 2018.



Prof Bernard Yannou is the Director of Valorisation and Innovation, Graduate School of Engineering, University Paris-Saclay. He is a full Professor of Industrial and Mechanical Engineering. His area of expertise is in design engineering, especially design automation, artificial intelligence in design, innovation engineering, design under uncertainty, decision-based design, ecodesign, design optimization, design processes and organisation. He is member of the Advisory Board of the Design Society and of the ASME, Associate Editor of IJDCI and Design Science.



Dr Nick Bradshaw is the founder and CEO of AI Media Group. The AI Media Group is an EMEA focused consulting, media & events company helping drive and grow the B2B B2G 4IR opportunity in the region. He created a community of 20K+ industry practitioners and owners of Africa's largest business focused AI, RPA & Smart Tech conference, AI Expo Africa, Synapse Magazine & AI TV charting the 4IR in Africa. He holds a PhD in Chemistry from the University of Wales, Swansea.



Dr Holger Schwenk is a Research Scientist at Facebook where he works on deep neural networks for applications in natural language processing, in particular machine translation. He was Scientific Director and co-founder at DeepLingo responsible for the development of highly customized machine translation engines which perfectly fit the needs of our clients. He was also Professor Université du Maine where he was Director of the Computer Science Laboratory.



Mr Stefan Steffen is Executive for Data Science at the Telkom Group. Prior to that, he was Lead data scientist at BCX. He was Head of Customer Retention and Data Management Old Mutual South Africa. Prior to that, he worked as a Marketing actuary and Account Manager at Gen Re Life in the UK. Stefan holds a Honours degree in Actuarial Science from the Stellenbosch University

Mr. Tim Nicholas is Customer CTO, Customer Experience Strategy and Technology at Nokia. Tim has held positions of Solutions Consultant, Chief Technology Officer (regional), Solutions Architect, General Manager: Fixed Solutions Division and various other positions at Alcatel-Lucent (now Nokia). He holds a BSc in Electrical and Electronic Engineering from UCT.

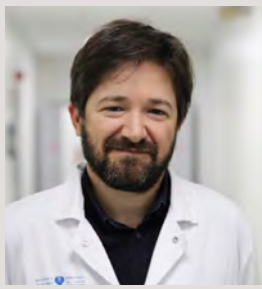


Dr. Emmanuel Kalunga is a Tshwane University of Technology (TUT) and the French South African Institute of Technology (F'SATI) alumni. He pursued his postgraduate studies at the institution majoring in signal processing. He is a receiver of multiple awards including the Mandela Rhodes Scholarship and the NRF Innovation Doctoral Scholarship. He conducted research in EEG-based brain computer interfaces at the Laboratoire d'ingénierie des systèmes de Versailles (LISV) and the F'SATI under the supervision of Prof Karim Djouani and Prof Eric Monacelli. He is the author of multiple peer reviewed articles in the field of brain computer interfaces. Dr. Kalunga obtained his Joint Doctorate from TUT and UVSQ (Université Paris-Saclay) in 2017. His fields of interest are signal

processing, brain computer interfaces, machine learning and business intelligence. He currently heads the department of data science and business intelligence at Orderin.



Dr. Kaoutar Sghiouer holds a PhD in Artificial Intelligence with a first experience as a researcher in academia. Kaoutar developed and deployed several AI projects, then managed data science teams on several AI projects with his role of Chief data science. Within Atos, she initiated AI products with his role of AI Product Manager. Today she performs the role Atos Group AI Authorative Advisor. She influences the group's AI strategy, the definition of AI roadmaps and the main axes of investments in AI.



Dr. Julien Calderaro is an Associate Professor University-Hospital Practitioner in the Department of Pathology of Henri Mondor Hospital. He is specialized in medical and tumoral liver pathology. His research interests include the study of early mechanisms of hepatic carcinogenesis, the relationship between hepatic tumor phenotype and its molecular alterations, and the involvement of the immune microenvironment in tumor progression.



Dr Roxana Ojeda is the CTO of COMSIS SAS France. She has held this position since July 2003. Prior to that, she was a R&D Engineering at COMSIS. Dr. Ojeda was an Assistant Professor and Junior Researcher at UNLP-Universidad Nacional de La Plata prior to that. Dr. Ojeda holds a PhD from Telecom Paristech specialising in Signal Processing & Telecommunications.

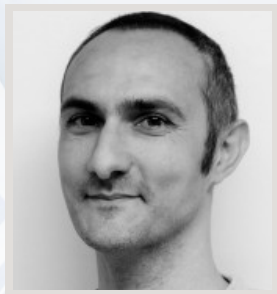


Prof Eric Monacelli is Full Professor at the university of Paris Saclay. He is the head of the Interactive Robotics Team at LISV lab (UVSQ). He is also, the president of the CEREMH, National Cluster for Mobility Aids. Prof Eric Monacelli is leading research activity based on the intention of promoting the autonomy of users with disabilities. In this sense, it is necessary to assess the needs and test the uses to ensure the dissemination of the product of our research. His talk will be based on our experience around LISV, CEREMH and innovative projects: Gyro-lift, new personal mobility solution, Becape, driving ability assessment bench and our current projects in sport and dance.



Prof Samer Mohammed received his M.S. degree from the University of Montpellier (UM) and the PhD Degree in Computer Science from the Laboratory of Computer Science, Robotic and Microelectronic of Montpellier (LIRMM/CNRS), Montpellier. In November 2016, he received the Habilitation degree in wearable robotics from the University of Paris-Est Créteil (UPEC). He is currently a Full Professor with the Laboratory of Images, Signals and Intelligent Systems (LISSI). Prof. Mohammed was recipient of the Japan Society for the Promotion of Science (JSPS) fellowship Award to conduct a Postdoc at the Joint Robotics Laboratory (JRL, CNRS-AIST), Japan. His current research interests include modeling, identification, and control of robotic systems (wearable robots),

artificial intelligence, and decision-support theory. Target applications concerns mainly the functional assisting of dependent people. He has authored or co-authored more than 100 papers in scientific journals, books, and conference proceedings. Prof. Mohammed is the general chair of the IEEE-RAS Technical Committee on Wearable Robotics. He is actively involved in different national and international projects in the field of wearable robotics.



Prof Jean-Claude Crivello is research director at the CMTR - ICMPE - CNRS, Institut de Chimie et des Matériaux de Paris Est. His research is in Physical Chemistry, Materials Chemistry and Theoretical Chemistry. His research interests include the stability of solid phases and their electronic structure determined by density functional theory (DFT) calculations. In particular, he is interested in the modification of physicochemical properties (nature of bonds, magnetism, structural ordering, reaction mechanism) during a transformation, such as the hydrogen absorption in intermetallic compounds. To support this research, it is important to me to develop various complementary methodologies.



Prof Eric T. Matson is a Full Professor at Purdue University/Polytechnic Institute, USA. He is the Director of the RICE Research Center and the Co-Founder of the M2M Lab. He is also International Faculty Scholar, Kyung Hee University, Yongin, Korea and a Professor (non-tenure), Department of Computer Science and Engineering, Dongguk University, Seoul, Korea



Prof Abderraouf Benali received the engineering degree in electrical engineering from the University Polytechnic of Algiers, Algiers, Algeria, in 1988, and the M.S. in robotics and the Ph.D. degrees in control and robotics from the University of Paris VI, Paris, France, in 1991 and 1997, respectively. From 1997 to 1999, he was at the Laboratoire de Robotique de Paris as a Research Assistant. From 2000 to 2016, he was associate professor with the Ecole Nationale d'Ingénieurs de Bourges, Bourges, France. Since 2016, he is a full professor at University of Paris Saclay (USPAY). He is leading the E3A master in assistive robotics and mobility. He research interest is in human and robot interaction, haptic interface, impedance control, and nonlinear control systems.



Dr. Nico Steyn is a Senior Lecturer at F'SATI and the Department of Electrical Engineering at TUT. Dr. Steyn commenced with his Joint Doctorate Degree at the Tshwane University of Technology and University of Paris Saclay, France which he completed in 2014. He currently work closely with postgraduate students and visiting professors from French Universities at the F'SATI on Enabling Technologies with various collaborative research projects, enabling assistive prototype system designs, and patented outputs. With a passion towards human and robotic interaction, he strongly believes the research team can make a great impact in the development of enabling technologies by harnessing trending engineering advances.



Ms. Tsolofelo Modise is a Lecturer in the Department of Electrical Engineering at TUT. She is co-founder of a start-up, Augmented Mobility (PTY) LTD. She was the winner of the second prize together with Dr. Nico Steyn in the Gauteng Accelerator programme in the Medical Division with seed funding and business incubation benefits at the Innovation Hub. They entered their innovation, a smart robotic rollator used for gait mobility and motion rehabilitation practices, to the Medical Division of the Competition. Ms Modise is presently busy with her Doctorate in Electrical Engineering at TUT.



Prof Shengzhi Du is a C-rated researcher and Full Professor at the Department of Electrical Engineering. Prof Du is involved in a variety of projects which include Enabled Environment Research at F'SATI, Brain Computer Interface based on EEG Technology, Assistive living environment based on biology signals, Digital Topology/Morphology and the Application in Hough Transform; and Control Systems and Computer Vision research group at the Department of Electrical Engineering. Prof Du is a well recognised supervisor for postgraduate students and author and co-author of numerous publications. He has published more than 70 papers in international journals and conferences since 2002. He holds a PhD in Pattern Recognition, Control Theory, and Control Engineering

from Nankai University.



Dr Gontran Peubez is a graduate of the Institute of Financial Science and Insurance. He started his career in 1998 at Arthur Andersen before joining Accenture in 2003. Gontran joined Deloitte in 2007 where he specialized in management and valuation of data, and created the offer Predictive & Cognitive Analytics including artificial intelligence and machine learning activities. In 2018, Gontran joined OnePoint Group as a partner in the BI & Big Data and Banking, Finance, Insurance communities.



Associate Prof Mjumo Mzyece is with the Graduate School of Business Administration at the University of Witwatersrand. He is an Engineer, technology consultant and Duke MBA with extensive international experience in multiple leadership, operational, R&D, consulting, entrepreneurial and academic roles, including at top technology firms around the world such as IBM (USA), Econet Wireless Group (South Africa) and Agilent Technologies (UK). I am deeply passionate about ideas, science, technology, innovation, and above all execution and results



Mr. Armand du Plessis resides within Siemens Digital Industries Software South Africa as a PreSales Consultant. His background in Industrial Engineering and Discrete event simulation modelling helps him connect the many needs of companies to solutions that can help them drive forward their unique value. Armand holds a BEng in Industrial Engineering from the University of Pretoria.



Mr Kyle Williams is with EditMicro where he is responsible for Blind & Low Vision Sales & Support. He is responsible for the introduction of the e-Braille Project throughout South Africa in all 22 schools for learners with visual impairments, ensuring the success and smooth roll out of the project, product demonstrations and training to both staff and clients, responsible for increased sales of the e-braille products and technology, conduct onsite, online, telephonic consultations, sales and support to the wider South African market. His role also includes technical support, and product development of assistive technology. He has performed various assistive related technologies services for government, the private sector and neighbouring countries including Lesotho, Botswana, Kenya, eSwatini and more. He has received specialised training from Assistive Devices – International Manufacturers for Blind and Low Vision Equipment offered as solutions to customers, therefore able to offer unique support and training on these products to customers and the wider South African market.



Ms Rushdah Hartley is with EditMicro. She is a Paediatric Speech-Language Pathologist. She has Clinical experience within the public (health, education), private and corporate sectors. She is Passionate about working with children with disabilities. She has special interest in Early Childhood Intervention and AAC. She also has keen interest in the effects of environmental influences on a young child's development. She is an advocate for building strong caregiver- child dyads, family-focused intervention and community upliftment. She is committed to learning and growing as an Allied Health Professional. She holds a BSc Speech– Language Pathology (UCT) and a Masters in Early Childhood Intervention (UP).



Dr Abdelghani Chibani is Associate Professor at the University Institute of Technology (IUT Créteil Vitry) of UPEC University .He is managing the contributions of UPEC in several collaborative research projects dealing with IoT, Ambient Assisted Living, Robotics, Artificial Intelligence, Identity and Access Management and eHealth. Most of them are funded through the ITEA research program. He is the co-founder of a living lab on ambient intelligence. He has strong involvement in industry as an expert in Identity and Access Management and as an architect of service-oriented software engineering, BPMN systems and e-health applications.



Dr. Mohamed Hilia is a Data Architect at IPPON Technologies since 2019, He designs and implements Data platforms on the public Cloud. He was a member of Atos Evidian R&D team from 2010 until 2018. He contributes as Research Engineer on several innovative research & development projects. He is also a member of Laboratory Images, Signals and Intelligent Systems and MeFoSyLoMa (Formal Methods for Software and Hardware Systems) group. The research interests of Mohamed include Formal Modelling, Software Architecture, Contextual Access Control, Ontology Modelling and Reasoning.



Dr. Guillaume NOEL is the head of innovation at Heliot Europe, the largest IoT service provider in Europe. Promoter of a very low energy wireless technology (named 0G in opposition to 5G), Heliot Europe operates more than 1 million sensors in Germany, Austria and Switzerland. Within the company, Guillaume is in charge of the innovation and technologies of the future focusing on making the sensors smaller and reducing their carbon footprint using printed batteries, energy harvesting, Previously, Guillaume worked for major telco manufacturers and operators in Europe and the USA. Last but not least, Guillaume is the proud holder of a TUT D-Tech degree.



Prof Luc Chassagne is Professor, director of LISV laboratory, University of Versailles Saint-Quentin Paris-Saclay. Luc Chassagne received a B.Sc. in Electrical Engineering (1994) from Supelec (France) and received his Ph.D. (2000) in optoelectronics from the University of Paris XI, Orsay (France) for his work in the field of atomic frequency standard metrology. He is now Professor and Director of the LISV laboratory at the University of Versailles. The topics of interest in his research are nanometrology, sensors, and Visible Light Communications.



Dr. Ghazaleh Khodabandelou received a Ph.D. degree from the University of Paris 1 Panthéon-Sorbonne, Paris, France. She is currently an Associate Professor with the Laboratory of Images, Signals and Intelligent Systems, University of Paris-Est Créteil, France. Her research interests include advanced deep neural networks, optimization, and mathematical modeling.

Dr Wagdy Zahran is the CEO and Research and Innovation Director of Maidis. He had conducted his research activities at the IRISA laboratory before joining Thomson CSF as project manager. Prior to that, he was a lecturer at the University of Rennes. After 6 years working on military systems, he joined the group Control Data to manage the development of real time systems for stock market dealing rooms between London, New York and Paris. Dr Zahran managed the project for the first digital dealing room worldwide at Credit Lyonnais bank in Paris (1988). In 1994, he was named as the President and CEO of CSK in Paris. In 1999, jointly with CSK group, he founded CSK-Sante that became Maidis in 2003. Maidis is specialized in healthcare software solutions. In 2007, he created a Joint venture in Abu Dhabi between Maidis and the well-known group “ Emirates Advanced Investment”. Maidis is considered today as a leading company in France in the healthcare information systems. Dr. Zahran holds a PhD in Computer Sciences from Rennes I University in 1983. His research interests are Artificial Intelligence and IoT for Healthcare, Medical Informatics and Clinical Decision Support.

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