



جامعة الأميرة نورة بنت عبدالرحمن
Princess Nourah bint Abdulrahman University

مؤتمر جامعة الأميرة نورة بنت عبدالرحمن الدولي للحوسبة PNU International Conference on Computing

Conference Program

PNU International Conference on Computing

ICC 2019

Day 1: Tuesday December 10, 2019



مركز المؤتمرات والندوات
جامعة الأميرة نورة بنت عبدالرحمن



الوقت:
م 4:00 - 8:30



التاريخ:
م 10 ديسمبر 2019



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Conference Program

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Day 1: Tuesday December 10, 2019

8:00AM-4:30PM	Registration Auditorium The National Anthem Recitation of the Holy Quran Dean of the College of Computer and Information Science Speech Introductory Video HE the Minister of Education Speech Honoring Keynote Speaker I: Prof. Kamal Youcef-Toumi Keynote Title: Forces of Change in the Digital Age Exhibition Opening Coffee Break
08:30 – 08:32	
08:32 – 08:35	
08:35 – 08:40	
08:40 – 08:45	
08:45 – 08:50	
08:50 – 09:00	
09:00 - 10:00	
10:00 – 10:30	
10:30 – 11:00	

	Room 0.124	Room 0.803	Room 0.125
11:00-12:30	Cyber Security I Session Chair: Dr. Muna Elsheik	Data Science I Session Chair: Prof. Souham Meshoul	Information Technology & Applications I Session Chair: Prof. Mohamed C. Batouche
	Dalila Boughaci and Omar Boughaci A comparative study of three Blockchain emerging technologies: Bitcoin, Ethereum and Hyperledger	Rania Abul Seoud rbeng :- Android Live Voice & Text Chat Translator	Jürgen Abel EMD for Technical Analysis
	Ashay Walke Comparison of Supervised and Unsupervised Fraud Detection	Fatihah Mohd, Noor Maizura Mohamad Noor, Wan Fatin Fatihah Yahya, Mumtazimah Mohamad, Masita Abdul Jalil and Suryani Ismail Improving Accuracy of Imbalanced Clinical Data Classification Using Synthetic Minority Over-Sampling Technique	Fati Oiza Salami and Mohd Shafry Mohd Rahim Enhancement of The Segmentation Framework for Rotated Iris Images
	Shaimaa Elsaied Cybersecurity: Design and Implementation of an Intrusion Detection and Prevention System	Abdelhak Mansoul, Baghdad Atmani, Mohamed Benamina and Sofia Benbelkacem Learning CBR Solutions by Association Rules Approach	Kaneeka Vidanage, Noor Maizura Binti Mohamad Noor, Rosmayati Binti Mohamad and Zuriana Abu Bakar Domain and Schema Independent Ontology Verbalizing
		Monia Hamdi, Hela Elmannai & Abeer Algarni Swarm Intelligence and ICA for Blind Source Separation	Reem Alnani and Hanaa Alzahrani The Effect of User Experience on the Quality of Designing User Interface in Healthcare
12:30-1:30	Dhuhr Prayer & Lunch in honour of Princess Nourah University President		

	Room 0.124	Room 0.803	Room 0.125
01:30-02:30	Keynote Speaker II: Prof. Muhammad Khurram Khan Keynote Title: Cybersecurity Challenges and Solutions in Hyper-Connected 5G-based IoT Ecosystem		
02:30-04:00	Network & IoT I Session Chair: Dr. Hoda Ahmed Abdelhafez	Data Science II Session Chair: Dr. Michele Lundy	Information Technology & Applications II Session Chair: Dr. Hanan Hosni
	Shiyam Alalmaei, Matthew Broadbent, Nicholas Race and Samia Chelloug OpenCache: Distributed SDN/NFV Based In-network Caching as a Service	Mohammed Bakri Bashir, Adil Yousif & Muhammad Shafie Abd Latiff Real Time Search Technique for Distributed Massive Data using grid computing	Monerah Alawadhi, Isra Alturaiki, Mohammed Alawadhi & Shahad Tallab Saudi Arabia Market Basket Analysis
	Lujain Alharbi and Dania Aljeaid A blockchain review: a comparative study between Public key infrastructure and Identity Based Encryption	Sara Shaheen, Sawsan Alhalawani, Nuha Alhabib and Dana Alhenaki Analytical Experiments on the Utilization of Data Visualizations	Hadeel Alsolai and Marc Roper Determining the Best Prediction Accuracy of the Software Maintainability Models Using Auto-WEKA tool
	Jamel Nebhen, Mohamed Masmoudi, Wenceslas Rahajendraibe and Khalifa Aguir High DC-gain Two-Stage OTA Using Positive Feedback and Split-Length Transistor Techniques	Sumaya Aleidi, Dalia Alsuhaibani, Nora Alrajebah and Heba Kurdi A Tweets' Ranking System using Sentiment Scores and Popularity Measures	Yusra Mohamed Suliman, Adil Yousif and Mohammed Bakri Bashir Shark Smell Optimization (SSO) Algorithm for Cloud Jobs Scheduling
		Zubaydh Kenkar and Sawsan Alhalawani Event-Based Driving Style Analysis	Fatima Zohra Benhacine, Baghdad Atmani, Mohamed Benamina and Sofia Benbelkacem A visual decision making support system for the diabetes prevention
04:00-04:30	Asr Prayer & Coffee Break		
04:30-05:30	Princess Nourah University Tour (Registration on Site)		

Day 2: Wednesday December 11, 2019

	Auditorium
08:30-09:30	Keynote Speaker III: Prof. Omer Rana Keynote Title: Realizing Edge Marketplaces
09:30-10:00	Coffee Break
10:00-11:00	Gold Sponsors Keynote

	Room 0.124	Room 0.803	Room 0.125
11:00-12:30	Cyber Security II Session Chair: Dr. Leila Menzli	Data Science III Session Chair: Dr. Marwah Ahmed	Information Technology & Applications III Session Chair: Dr. Fathima Abubacker
	Omer Jasim and Safia Abbas Detailed Quantum Cryptographic Service and Data Security in Cloud Computing	Dalila Boughaci & Abdullah A.K. Alkhawaldeh Stochastic local search based feature selection combined with k-means for clients' segmentation in credit scoring	Mayada Elsaid, Sara Altuwaijri, Ayah Alhamdan and Sawsan Alhalawani Sensor-Based Business Process Model for Appliance Repair
	Bedour Alrashidi, Aljawharah Almuhana and Alanoud Aljedaie The Effects of The Property of Access Possibilities and Cybersecurity Awareness on Social Media Application	Maya John and Hadil Shaiba Shiny Framework Based Visualization and Analytics Tool for Middle East Respiratory Syndrome	Hichem Benfriha, Baghdad Atmani, Belarbi Khemliche, Nabil Tabet Aoul and Ali Douah A Multi-labels text categorization framework for cerebral lesion's identification
	Mousa Al-Akhras, Ali Mehdi and Mohammed Alawaidhi Neural Iris Signature Recognition (NISR)	Amal Alkabkabi and Mounira Taileb Ensemble Learning Sentiment Classification for Un-labeled Arabic Text	Mohamed Benamina, Baghdad Atmani, Sofia Benbelkacem and Abdelhak Mansoul Fuzzy adaptation of surveillance plans of patients with diabetes
		Sara Alshaya, Andrew McCaren and Amal Alrasheed Predicting No-show Medical Appointments using Machine Learning	Muna Elsheik, Dua' A. Nassar and Leila Jamel Menzli Healthcare Information System Assessment Case study Riyadh's Hospitals-KSA
12:30-01:30	Dhuhr Prayer & Lunch		

	Room 0.124	Room 0.803	Room 0.125
01:30-02:30	Keynote Speaker IV: Prof. Stephanie E. August Keynote Title: Rethinking Education for the Future World and Future Work		
02:30-04:00	Network & IoT II Session Chair: Dr. Abeer Algarni	Data Science IV Session Chair: Dr. Musfira Jilani	Information Technology & Applications IV Session Chair: Dr. Hend Alqahtani
	Fatimah Alrubaish, Ghada Humaid, Rasha Alamri and Mariam Elhussain Automated Detection for Student Cheating During Written Exams: An Updated Algorithm Supported by Biometric of Intent	Amani Alrobai and Musfira Jilani Cancer Incidence Prediction Using a Hybrid Model of Wavelet Transform and LSTM Networks	Rana Alabdán Exploring Barriers Mobile Payments Adoption: A Case Study of Majmaah University In Saudi Arabia
	Halima Bouazza Integration of Internet of Things and Social Network	Hela Elmannai, Monia Hamdi and Abeer Algarni Enhanced Support Vector Machine applied to land-use classification	Boubakeur Boufama, Mohamed Batouche and Tarik Elamsy A method for 3D-Metric Reconstruction using zoom cameras
	Amaliya Princy Mohan and Maher Elshakankiri Enhanced Priority-based Routing Protocol (EPRP) for Inter-Vehicular Communication	Suad Almutairi, Hadiil Shaiba and Marija Bezbradică Predicting Students' Academic Performance and Main Behavioral Features using Data Mining Techniques	Said Broumi, Nagarajan Deivanayagam Pillai, Lathamaheswari Malayalan, Mohamed Talea, Assia Bakali and Florentin Smarandache Bellman-Ford Algorithm under Trapezoidal Interval Valued Neutrosophic Environment
04:00-04:30	Asr Prayer & Coffee Break		

Day 3: Thursday December 12, 2019

Auditorium			
09:00-10:00	Keynote Speaker V: Dr. Norma Alias Keynote Title: Big Data Simulation-Driven and Analytics to Guide High-Resolution Visualization and Decision-Making		
10:00-10:30	Coffee Break		
	Room 0.124	Room 0.803	Room 0.125
10:30-12:00		Data Science V Session Chair: Dr. Romana Aziz. Mrouj Almuhajri and Ching Suen Intensive Survey about Road Traffic Signs Preprocessing, Detection and Recognition	Information Technology & Applications V Session Chair: Dr. Nazeek Alturki Fawzia Zohra Abdelouhab, Baghdad Atmani and F.Zohra Benhacine Association Rules for Detecting Lost of View in the Expanded Program on Immunization
		Hanadi Alhamdan and Musfira Jilani Machine Learning for Automobile Driver Identification Using Telematics Data	Ayman Mostafa, Mohamed Maher and Mohamed Monier Hybrid Model Architectures for Enhancing Data Classification Performance in E-commerce Applications
		Lama Alaskar, Martin Crane and Mai Alduaillij Employee Turnover Prediction Using Machine Learning	Samiha Brahim, Aseel Aljulaud, Anwar Badr, Norah Alguraibi, Mariam Alrubei and Samiha Brahim Performance dashboards for project management
		Rawan Alamo Predicting Saudi Stock Market by Incorporating GDELT Using Multivariate Time Series Modelling	Shaimaa Ahmad Arabic Real-Time License Plate Recognition System
12:00-01:30	Dhuhr Prayer & Lunch		
01:30-02:00	Best Paper Award		
02:00-05:00	Riyadh Trip (Registration on Site)		



Prof. Kamal Youcef-Toumi

Kamal Youcef-Toumi is a Professor in the Mechanical Engineering Department at Massachusetts Institute of Technology(MIT) USA. He is Co-Director of the Center for Complex Engineering Systems at KACST and MIT, and Director of the Ibn Khaldun Fellowship for Saudi Women. His M.S. and Sc.D. degrees are from MIT. Professor Youcef-Toumi's research focuses on design, modeling, simulation, instrumentation, and control theory with applications to manufacturing, robotics, automation, and metrology. He has made significant contributions to MIT's international research and education collaborations in Qatar, Saudi Arabia, and Singapore. Professor Youcef-Toumi is a recipient of the National Science Foundation Presidential Young Investigator award from President Ronald Reagan. He served on many professional committees and as a consultant for multinationals. He is an IEEE member and an ASME Fellow. He served as Editor of several symposia/conference proceedings. He is author of over 320 publications, and about 50 registered/pending patents. He has been invited to lecture at over 200 seminars worldwide.

Keynote Title: Forces of Change in the Digital Age

The end-to-end digitalization and integration of physical assets, people and data of an organization into one digital ecosystem is industry 4.0. Digital is transforming all industries including the oil and gas industry. In this trend of the huge reformation, significant investments have been committed globally. In 2018 alone, the spending was more than 1\$trillion with manufacturing industries as the primary lead. Industries that adopted digital technologies and IR4.0 concepts are prospered by important benefits including enhanced competitiveness and better positioning in the global value chain. These are due to a greater operational effectiveness, cost reduction, superior flexibility and automation in production, improved worker safety, along with a digital services and business management. New kinds of modern organizations are triggered by this digital transformation with the characteristics of forward-thinking, and adaptability to diverse business environment, technology innovation, collaboration approach, as well as the changing generation of workers, talent and customers. We will then look briefly into some experimental results illustrating the advancements and main approaches in computing, intelligent robotic systems, and machine intelligence, along with some fundamental limitations. Finally, we will emphasize some aspects of competitiveness as related to digital technologies and IR4.0. Continuous professional development of employees is inevitable for the digital transformation. The presentation also covers some industry practices to illustrate the remarkable benefits, powerful investment, and emphasis on the training and development of their workforce.



Prof. Omer Rana

Omer F. Rana is Professor of Performance Engineering at Cardiff University, with research interests in high performance distributed computing, data analysis/mining and multi-agent systems. He is the Dean of International for the Physical Science and Engineering College at Cardiff University. He previously led the Complex Systems Research Group, and was also formerly the deputy director of the Welsh Science Centre and had the opportunity to interact with a number of computational scientists across Cardiff University and the UK. He serves on the steering committee of Cardiff University's multi-disciplinary "Data Innovation" and "Energy Systems" Research Institutes. Rana has contributed to specification and standardization activities via the Open Grid Forum and worked as software developer with London-based Marshall Bio-Technology Limited prior to joining Cardiff University, where he developed specialist software to support biotech instrumentation. He also contributed to public understanding of science, via the Wellcome Trust funded "Science Line", in collaboration with BBC and Channel 4. Rana holds a PhD in "Neural Computing and Parallel Architectures" from Imperial College (London Univ.), an MSc in Microelectronics (Univ. of Southampton) and a BEng in Information Systems Eng. from Imperial College (London Univ.). He serves on the editorial boards (as Associate Editor) of IEEE Transactions on Parallel and Distributed Systems, (formerly) IEEE Transactions on Cloud Computing, IEEE Cloud Computing magazine and ACM Transactions on Internet Technology. He is a founding-member and associate editor of ACM Transactions on Autonomous & Adaptive Systems.

Keynote Title: Realizing Edge Marketplaces

Research in the Internet of Things (IoT) conceives a world where everyday objects are connected to the Internet and exchange, store, process, and collect data from the surrounding environment. IoT devices are becoming essential for supporting the delivery of data to enable electronic services, but they are not sufficient in most cases to host application services directly due to their intrinsic resource constraints. Edge (or Fog) computing can be a suitable paradigm to overcome these limitations, as it can coexist and cooperate with centralized Cloud systems and extends the latter toward the network edge. In this way, it is possible to distribute resources and services of computing, storage, and networking along the Cloud- to-Things continuum. The edge of the network therefore has the potential to host services for supporting a variety of user applications, ranging in complexity from data preprocessing, image and video rendering, and interactive gaming, to embedded systems in autonomous cars and built environments. However, the computational and data resources over which such services are hosted, and the actors that interact with these services, have an intermittent availability and access profile, introducing significant risk for user applications that must rely on them. This talk will describe the development of an edge marketplace, which is able to support multiple providers for offering services at the network edge, and to enable demand supply for influencing the operation of such a marketplace. Resilience, cost, and quality of service and experience will subsequently enable such a marketplace to adapt its services over time. This talk will also describe how distributed-ledger technologies (such as blockchains) provide a promising approach to support the operation of such a marketplace and regulate its behavior (such as the GDPR in Europe) and operation. Application scenarios provide context for the discussion of how such a marketplace would function and be utilized in practice. The talk suggests potential edge services that can be hosted in cities in the Middle East (such as Riyadh), and business models to support these services.



Prof. Muhammad Khurram Khan

Prof. Muhammad Khurram Khan is currently working at the Center of Excellence in Information Assurance (CoEIA), King Saud University, Kingdom of Saudi Arabia. He is the founder and CEO of the ‘Global Foundation for Cyber Studies and Research’ (<http://www.gfcyber.org>), which is an independent, non-profit, and non-partisan cybersecurity think tank based in Washington D.C. He is the Editor-in-Chief of a well-reputed International journal ‘Telecommunication Systems’ published by Springer with its recent impact factor of 1.542 (JCR 2017). Furthermore, he is the editor of several international journals, including, IEEE Communications Surveys & Tutorials, IEEE Communications Magazine, IEEE Internet of Things Journal, IEEE Transactions on Consumer Electronics, IEEE Access, IEEE Consumer Electronics Magazine, Journal of Network & Computer Applications, PLOS ONE, Electronic Commerce Research, and IET Wireless Sensor Systems. Prof. Khurram is the recipient of King Saud University Award for Scientific Excellence (Research Productivity) in May 2015. He is also a recipient of King Saud University Award for Scientific Excellence (Inventions, Innovations, and Technology Licensing) in May 2016. He has published more than 350 papers in the journals and conferences of international repute. In addition, he is an inventor of 10 US/PCT patents. His research areas of interest are Cybersecurity, digital authentication, biometrics, IoT security, and technological innovation management. He is a fellow of the IET (UK), fellow of the BCS (UK), fellow of the FTRA (Korea), senior member of the IEEE (USA), member of the IEEE Consumer Electronics Society, member of the IEEE Communications Society, member of the IEEE Technical Committee on Security & Privacy, member of the IEEE IoT Community, and member of the IEEE Cybersecurity Community. He is also the Vice Chair of IEEE Communications Society Saudi Chapter. He is a distinguished Lecturer of the IEEE. His detailed profile can be visited at <http://www.professorkhurram.com>

Keynote Title: Cybersecurity Challenges and Solutions in Hyper-Connected 5G-based IoT Ecosystem

Due to the modern technological advancements and innovations, computers are not just limited to the desktop, laptop or portable devices, but they are proliferating into various areas of our lives and blurring the lines between reality and fiction. This fact is becoming truth due to the emergence of Internet of Things (IoT), which unites physical and virtual worlds by extending computing and connectivity capabilities to everyday things e.g. cars, refrigerators, and home appliances, etc. IoT is ushering in a new era which is transforming the way we work, live, communicate and perform businesses. The dawn of fifth generation networks (5G) with the promise of ultra-high speed, massive bandwidth, and super-low latency is the building block of making this all happen with more IoT friendly ecosystem and its applications in automotive, healthcare, energy, aerospace & defense, industrial, and consumer electronics products, etc. However, this unprecedented dependence and increased connectivity of billions of connected IoT devices could lead to unexpected cybersecurity risks and threats, which may have serious ramifications beyond our imagination. In this speech, we would dissect cybersecurity challenges and concerns in the 5G connected IoT-enabled world. Furthermore, we would explore some peculiar problems inherent in 5G and IoT ecosystem, which could exacerbate the risks of cybersecurity breaches, crimes, and attacks. Finally, we would discuss some of our research contributions as well as future trends in this domain.



Prof. Stephanie E. August

Stephanie E. August is a Professor of Computer Science in the Department of Electrical Engineering and Computer Science in the Frank R. Seaver College of Science and Engineering at Loyola Marymount University in Los Angeles. She is currently serving as a Program Director in the Directorate for Education and Human Resources Division of Undergraduate Education at the National

Science Foundation in Arlington, Virginia, in the United States. At NSF she works on programs related to undergraduate education, data science, the future of work, and the future of STEM education. She received her B.A. in Slavic Languages and M.S. and Ph.D. in Computer Science, all from the University of California, Los Angeles. Prior to LMU she was a staff engineer at Hughes Aircraft Company and a copy cataloger at UCLA. Stephanie has served as department director of graduate studies and special assistant to the chief academic officer for graduate studies. Her current research interests focus on online interactive digital learning environments and infusing other disciplines with computing concepts. She is also interested in computational models of reasoning by analogy and exploring the boundaries between people and machines. Her teaching repertoire includes courses in databases, artificial intelligence, new media (English + graphics + computing), programming 3D animation tools (animation + computing), and first year seminars (English composition + computing). Stephanie enjoys hiking, camping, gardening and baking, and looks forward to the day when a machine can read a novel and understand the symbolism in it.

Keynote Title: Rethinking Education for the Future World and Future Work

In eight years, today's ten-year-olds will be entering college and today's fourteen-year-olds will be embarking on careers. In twenty years, today's seven-year-olds will become the assistant professors that will prepare the workforce of a world that we are just beginning to envision. What will we encounter in that world? What can AI contribute to preparing students for the future? What more needs to be done? Our rapidly evolving human-technology interface has enormous implications for science, education, work, and society. In addition, our students will be asked to solve social and cultural problems that involve not only incomplete or contradictory knowledge, but also large numbers of people and opinions. Addressing such problems can incur a large economic burden. These problems are made more complex by their interconnectedness with other equally challenging problems. How will we prepare our students for this future? There is a call for experiential learning that transcends traditional disciplinary boundaries and incorporates the skills needed to build bridges across stakeholders. We can use technology to empower instructors and to teach our students, or better yet, to enable all students to learn in the 21st century. The Internet of Things and cloud-based resources enable us to share courses, modules, devices, and experiences, and provide education at scale. Experiential learning is labor intensive. Researchers are developing exoskeletons and augmented reality systems to enhance a worker's physical and cognitive abilities. Similarly, instructors require metaphorical exoskeletons that extend their ability to provide meaningful guidance and feedback to students in real time, and also extend their ability to support real-world, hands-on, problem-based, and just-in-time learning. Applications of AI-based education technology support learning in four ways: automated tutoring, personalizing learning, assessing student knowledge, and automating tasks normally performed by the instructor. Intelligent Tutoring Systems (ITS) produce statistically significant improvements in student learning outcomes, such as mastery and retention, when

compared to traditional classroom teaching, independent textbook use, and non-AI computer-based instruction. Additional effort is needed to increase flexibility of ITS curricula to overcome technical challenges in accommodating user feedback, modified core standards, and content change. Along the way we need to carefully consider what is effective and reproducible, and generate evidence to support our beliefs. We also need to reflect on the questions that we, as computer science education researchers, practitioners, and administrators, are not asking. Higher education needs to evolve to meet these challenges and prepare our students to deal with the future world and consequences of technology. A major transformation is needed in how we package and present knowledge, how we track knowledge gained, and what students experience along the way. Critical thinking exercises from the liberal arts can be adopted to train students to view a problem from multiple perspectives and at multiple levels of abstraction. Effective relationships can replace silos in our organizational units. Team building, collaboration, communication, and bridge building skills can be woven into our courses. Concerns regarding design, privacy, security, and ethics can be woven throughout the curriculum, rather than being distinct upper division courses. Convergence of disciplines can be experienced in thoughtfully chosen project. Formal acknowledgement of achievements and skill acquisition of skills at a more granular level than a college degree can address changing workforce through adoption of micro-credentialing and badging, with buy-in from academia and industry. Our challenge is to understand what lies ahead; identify the tools available; involve all stakeholders from students, educators, and administrators through workforce leaders and policy makers; and consider social, economic, and political perspectives to collectively construct a shared vision for the future of STEM education.



Dr. Norma Alias

Dr. Norma Alias is currently an Associate Professor, and Research Fellow and Head of Networking and Linkages Division of Center for Sustainable Nanomaterials, IbnuSina Institute for Scientific and Industrial Research (IIS), Universiti Teknologi Malaysia (UTM). She was appointed as an Associate Professor and Research Fellow at King Saud University, Saudi Arabia. She is a member of the

Malaysian Mathematical Sciences Society. AP Dr. Norma possessed a PhD degree in Industrial Computing (Parallel Computing) in 2004. She has a diverse field of specializations including mathematical modeling, big data simulation, industrial computing, scientific computing, high performance computing, shared-distributed parallel computing system, grid computing and software development. She has supervised for 13 PhD students and 32 MSc with Philosophy. She is supervising ongoing 5 PhD students, 12 MSc with Philosophy students, 2 postdoctoral students and reviewing postgraduate students of local and international universities. Awarded as Distinguished Women in Mathematical Sciences in the year 2018 from VIWA, India. AP Dr. Norma has a distinguished academic and research track record having published over 200 publications which consist of index journal, index proceedings articles, books and modules. She is an active innovator , having earned 2 product patent disclosures in 2015, 4 Intellectual property declarations, and 16 medals won in product innovation and invention expo since 2004 and having 2 products for commercialization. She is active organizing a monthly workshop such as Matlab, Maple, Mathematica, Comsol Multiphysics, CUDA, C++, PVM, MPI, OpenMP, Big data analytics, FEM, FDM and Machine Learning. She has been invited by 14 international conferences in the year 2016-2017 as keynote, plenary and invited speaker in Malaysia, China, India, New Zealand, New Zealand, South Korea, Japan, Indonesia, Vietnam, Laos, Saudi Arabia, Kuwait, United Arab Emirates and Pakistan.

Keynote Title: Big Data Simulation-Driven and Analytics to Guide High-Resolution Visualization and Decision-Making

The revolution of big data simulation and big data analytics has empowered the high resolution of visualization and accurate decision making. The transformation trend of modelling and simulation, sequential and parallel algorithms, distributed and shared memory are required to achieve the information technology revolution in big data analytics. The trend of data simulation and model simulation-driven were focused on the independent and dependent parameters of the strong fundamental theory and methodology in data modelling and mathematical modelling. The use of complex modelling and machine learning technique for training a high-dimensional and integrated dataset can be obtained by the SIMD architecture of high performance computing system. Some applications highlight the indicators of the parallel performance measurement and big data analytics performance for investigating the high resolution of visualization and decision making. In conclusion, a variety of different analysis such as numerical analysis, parallel performance evaluation, visualizations, multi-dimensional graph, list of tables, and effective indicators are able to predict and interpret the decision making accurately.