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Program

Tutorial 9: Tutorial #9 Scalable Approaches to Network Protocol and Architectures Design in New Generation Wireless Systems: Current State and Future Directions

Tutorial 1: Tutorial #1 2020: Toward Practical Quantum Networks

Tutorial 2: Tutorial #2 Intent-based Network Programmability

Tutorial 3: Tutorial #3 Low Power Wide Area Networks

Tutorial 4: Tutorial #4 Connected Vehicles in the 5G Era

WS: 3rd Workshop on Ambient Assisted Living and Health

Coffee: Networking & Coffee Break

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Tutorial 2: Tutorial #2 Internet based Network Programmability

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Tutorial 4: Tutorial #4 Connected Vehicles in the 5G Era

WS: 3rd Workshop on Ambient Assisted Living and Health

L1: Lunch (on your own)

Tutorial 3: Tutorial #3 Low Power Wide Area Networks

Tutorial 5: Tutorial #5 Towards Programmable Mobile Networks and Network Slicing

Tutorial 6: Tutorial #6 Virtualization of IoT and Big Data Paradigm in Consumer Application

WS: 2nd Workshop on Game Theory in Computer Communications

WS: 3rd Workshop on Edge Computing

Coffee: Networking & Coffee Break

Tutorial 3: Tutorial #3 Low Power Wide Area Networks

Tutorial 5: Tutorial #5 Towards Programmable Mobile Networks and Network Slicing

Tutorial 6: Tutorial #6 Virtualization of IoT and Big Data Paradigm in Consumer Application

WS: 3rd Workshop on Edge Computing

R1: Opening Reception

GS: General Session: Opening remarks and Keynote I

Title: Network of 'Things'

Abstract: System primitives allow for formalisms, reasoning, simulations, and reliability and security risk trade-offs to be formulated and argued. In this work, five core primitives belonging to most distributed systems are presented. These primitives apply well to systems with large amounts of data, scalability concerns, heterogeneity concerns, temporal concerns, and elements of unknown pedigree with possible nefarious intent. These primitives form the basic building blocks for a Network of 'Things' (NoT) [NIST SP 800-183], including the Internet of Things (IoT). This talk discusses the underlying and foundational science of IoT and thus gives the audience a general understanding of what IoT is all about. The talk will also touch on the university curriculum education that needs to be taught to be "workplace-ready" as an IoT engineer.

Coffee: Networking & Coffee Break

SS: Special-Sessions (I): Physical Layer Advances

Track 3: Track 3: Wireless Communications: MAC & Cross-Layer Design

Track 4: Track 4: Wireless Communications: Fundamentals & PHY (I)

Track 5: Track 5: Mobile & Wireless Networks (I)

Track 9: Track 9: Vehicular Comm. & Applications in Water, Land and Sky

WIP: Work-in-Progress (I)

L2: Luncheon

SS: Special-Sessions (II): New Approaches to MAC

SS: Special-Sessions (III): Future Cellular Networks

Track 1: Track 1: Networking Solutions for Games, Multimedia, Social Good, & P2P Apps. (I)

Track 2: Track 2: Cloud Services & Networking

Track 4: Track 4: Wireless Communications: Fundamentals & PHY (II)

A Carrier frequency offset compensation Algorithm with Synchronization for Digital Communication Receivers 297

Sujit Jos (Samsung Advanced Institute of Technology India Labs & Samsung R&D Institute Bangalore, India); Kiran Bynam (Samsung, India); Jinesh P Nair (Nokia Networks, India); Chandrashekhar Thejaswi Pataguppe Suryanarayan Bhat (Samsung R&D Institute India, Bangalore, India); Chang Soon Park (SAIT, Korea); Young-Jun Hong (Samsung Electronics & Samsung Advanced Institute of Technology, Korea); Youngsoo Kim (Samsung Electronics, Korea)

Securing OFDM-Based Wireless Links Using Temporal Artificial-Noise Injection 301

Mohamed Marzban and Ahmed El Shafie (University of Texas at Dallas, USA); Rakan Chabaan (Hyundai, USA); Naofal Al-Dhahir (University of Texas at Dallas, USA)

Chaos MIMO-based Downlink Non-orthogonal Multiple Access Scheme With Physical Layer Security 307

Naoto Horiike, Hiroki Kitagawa and Eiji Okamoto (Nagoya Institute of Technology, Japan); Tetsuya Yamamoto (Panasonic Corporation, Japan)

Visible Light Communications: Toward Multi-Service Waveforms 314

Ahmed Hussein (State University of New York at Albany, USA); Hany Elgala (University at Albany, SUNY & NSF Lighting Enabled Systems and Applications ERC, USA); Thomas DC Little (Boston University & NSF Smart Lighting ERC, USA)

Track 5: Track 5: Mobile & Wireless Networks (II)

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Mahmoud Bahnasy (École de Technologie Supérieure (ÉTS) & Université du Québec à Montréal (UQAM), Canada); Halima Elbiaze (University of Quebec at Montreal, Canada); Catherine Truchan (Ericsson, Canada)

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Ubaid Abbasi (Universite du Quebec a Montreal, Canada); Halima Elbiaze (University of Quebec at Montreal, Canada)

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Aziza Ben Mosbah (NIST & Télécom SudParis, USA); David Griffith (NIST, USA); Richard Rouil (National Institute of Standards and Technology, USA)

Coffee: Networking & Coffee Break

SS: Special-Sessions (IV): Network Architecture Evolution

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Yutaro Oda, Yosuke Tanigawa and Hideki Tode (Osaka Prefecture University, Japan)

Protocol for Reduction in Network Resource Wastage for 4G Dual SIM Dual Standby User Equipment 351

Tushar Vrind (Samsung, India); Lalit Pathak (Samsung Electronics, India); Diwakar Sharma (Samsung Semiconductor India Research, India); Debabrata Das (International Institute of Information Technology - Bangalore, India)

SS (V): Special-Sessions (V): Advanced, Network- based Applications

Track 1: Track 1: Networking Solutions for Games, Multimedia, Social Good, & P2P Apps. (II)

Track 2: Track 2: Cloud Services & Networking

Track 4: Track 4: Wireless Communications: Fundamentals & PHY (III)

Track 5: Track 5: Mobile & Wireless Networks (III)

Coffee: Networking & Coffee Break

Panel I: Panel I Fog Computing and Networking - What's Next?

Posters: Happy Hour and Posters

Plenary: Plenary Session: Keynote II

Coffee: Networking & Coffee Break

Track 10: Track 10: Emerging Topics in Consumer Comm. & Networking (I)

Track 5: Track 5: Mobile & Wireless Networks (IV)

Track 6: Track 6: Sensing, Smart Spaces & IoT: Applications and QoE (I)

Track 7: Track 7: Security, Privacy & Content Protection (I)

WIP: Work-in-Progress (II)

SS: Special-Sessions (VI): Traffic Management and Control

Track 10: Track 10: Emerging Topics in Consumer Comm. & Networking (II)

Track 6: Track 6: Sensing, Smart Spaces and IoT: Applications and QoE (II)

Track 7: Track 7: Security, Privacy & Content Protection (II)

Track 8: Track 8: Mobile and Wearable Devices, Services & Applications

Coffee: Networking & Coffee Break

Panel II: Panel II "Immersive Future" with New and Emerging Innovations and Predictions

Banquet: Banquet and Awards Ceremony (Jazz Band)

Tutorial 7: Tutorial #7 Classification, Solutions, and Challenges of Denial of Service Attacks on the Smart Grid

Tutorial 8: Tutorial #8 A First-Principles Approach to Computer Networking

Tutorial 9: Tutorial #9 Scalable Approaches to Network Protocol and Architectures Design in New Generation Wireless Systems:

WS: 3rd Workshop on Accessible Devices and Services

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