2015 10th Asia-Pacific Symposium on Information and Telecommunication Technologies

(APSITT 2015)

Colombo, Sri Lanka
4-7 August 2015
Selected Sessions

Selected Session 1  Wireless (1)

SS-1-1: "Detection of Emergency Wake-Up Trigger Signal with TMCC Parity and Subcarrier Frequency Diversity for ISDB-T Digital Television Receivers" ....1
Satoshi Takahashi (Hiroshima City University, Japan)

SS-1-2: "A Novel Time Synchronization Scheme for OFDM Systems Based on Variational Pseudo-Noise Preamble"....4
Wenjian Wang, Chang-Jun Ahn (Chiba University, Japan)

Nuwan Balasuriya (The Open University of Sri Lanka & University of Moratuwa, Sri Lanka)

SS-1-4: "Ad hoc routing protocol by taking the communication quality into account between adjacent links"....10
Shinya Ishikawa (Graduate School of Information Environment, Tokyo Denki University, Japan)

SS-1-5: "Proposed Multi-channel Ad-hoc Network with Cross-layer Design of MAC and Routing Protocols"....13
Toshinori Tsuboi (Tokyo University of Technology, Japan); Hiromi Ueda (Tokyo University of Technology, Japan); Takao Ito, Cyounou Hitsu (Tokyo University of Technology, Japan)

Selected Session 2  Network Security and Management

SS-2-1: "Designing a Fast Log-Tracing Scheme for Targeted Attack Prevention"....16
Takuya Suzuki (Tokai University, Japan)

SS-2-2: "A Dynamic IPS Allocation Scheme using OpenFlow for Economical Secure Networking"....19
Pichaya Kietkaroon (Tokai University, Japan)

SS-2-3: "The Method of Detecting Malware-Infected Hosts Analyzing Firewall and Proxy Logs"...22
Kazunori Kamiya (NTT Secure Platform Laboratories, Japan); Kazufumi Aoki (NTT & Information Sharing Platform Laboratories, Japan); Kensuke Nakata, Toru Sato, Hiroshi Kurakami, Masaki Tanikawa (NTT Secure Platform Laboratories, Japan)

SS-2-4: "Analysis and Practicality of Traffic Flow Classification Method using Binned Time-Series Data"....25
Shuichi Nawata (KDDI R&D Laboratories, Japan); Hideyuki Koto (KDDI R&D Laboratories, Inc., Japan); Shigehiro Ano (KDDI R&D Laboratories, Japan)

Selected Session 3  Optical Network

SS-3-1: "Cost-Effective Control Plane Design for Optical Sub-Wavelength Switched Ring Network"....28
Masahiro Nakagawa, Kyota Hattori (NTT, Japan); Toshiya Matsuda (NTT, Japan); Masaru Katayama (NTT Network Service Systems Labs, Japan); Katsutoshi Koda (NTT, Japan)

SS-3-2: "Transmission Performances of SDM-PON Using Clipped Signal Sending Scheme"....31
Hiromi Ueda (Tokyo University of Technology, Japan); Toshinori Tsuboi (Tokyo University of Technology, Japan)

SS-3-3: "Dynamic Spectrum Allocation Based on Connection Alignment for Elastic Optical Networks"....34
Yusuke Hirota, Yoshihiko Hatada (Osaka University, Japan); Hideki Tode (Osaka Prefecture University, Japan); Takashi Watanabe (Osaka University, Japan)

SS-3-4: "An eight-channel FDM system using Mach-Zehnder filters with cosine roll-off band-limiting characteristics"....37
Isamu Wakabayashi, Yuki Fukushima, Takayuki Kawahara (Tokyo University of Science, Japan)
Selected Sessions 4  Application

SS-4-1: "Delay-Insertion-Based P2PTV Traffic Localization Using AS-Level Topological Information"....40
Chitapong Wechtaisong (Shibaura Institute of Technology & Graduate School of Engineering and Science, Japan); Hiroaki Morino, Takumi Miyoshi (Shibaura Institute of Technology, Japan)

SS-4-2: "Implementation of Infrared as a Service in Cloud-Based HNS"....43
Hikaru Inomoto, Sachio Saiki, Satoshi Takatori, Seiki Tokunaga, Shinsuke Matsumoto, Masahide Nakamura (Kobe University, Japan)

SS-4-3: "Subjective assessment of super-resolution -High-resolution effect of nonlinear signal processing-"....46
Chinatsu Mori, Masaki Sugie, Hirohisa Takeshita, Seiichi Gohshi (Kogakuin University, Japan)

SS-4-4: "Content Delivery Network Using Community Information"....49
Takuya Kitano, Noriaki Yoshikai, Shun-ichi Kurino (Nihon University, Japan); Toshio Takahashi (JEED, Japan)

Selected Session 5  Wireless (2)

SS-5-1: "A Study on Power Saving using RTS/CTS Handshake and Burst Transmission in Wireless LAN"....52
Kohei Omori, Yosuke Tanigawa, Hideki Tode (Osaka Prefecture University, Japan)

SS-5-2: "Difference Analysis in IEEE 802.11 DCF"....55
Daisuke Umehara (Kyoto Institute of Technology, Japan); Hidekazu Murata (Kyoto University, Japan); Satoshi Denno (Okayama University, Japan)

SS-5-3: "Performance Evaluation of Device Discovery in Bluetooth LE with Probabilistic Model Checking"....58
Selected Session 6  Traffic

SS-6-1: "Routing Optimization for Live VM Migration between Datacenters"....64
Yukio Nagafuchi (NTT, Japan); Yasuhiro Teramoto (NTT, Japan); Bo Hu (NTT, Japan);
Toshiharu Kishi, Takaaki Koyama, Hideo Kitazume (NTT, Japan)

SS-6-2: "An Effect of Combining CDN with Reactive In-network Guidance Method"....67
Yutaro Inaba, Yosuke Tanigawa, Hideki Tode (Osaka Prefecture University, Japan)

SS-6-3: "Regulating Network Traffic by Exploiting the Price Elasticity of Demand in
Wireless Random Access Networks"....70
Bo Gu, Cheng Zhang (Waseda University, Japan); Kyoko Yamori (Asahi University,
Japan); Zhenyu Zhou (North China Electric Power University & Waseda University, P.R.
China); Song Liu (North China Electric Power University, P.R. China); Yoshiaki Tanaka
(Waseda University, Japan)

SS-6-4: "User-side Flooding for Query Distribution in Breadcrumbs-based
Content-Oriented Network and its Experimental Evaluation"....73
Christophe Michard, Yosuke Tanigawa, Hideki Tode (Osaka Prefecture University, Japan)

Regular Sessions

Regular Session 1  Optical Network

RS-1-1: "Digital Baseband Signal Broadcasting of Ultra-High Definition Video over
Analog/Digital Hybrid Network"....76
Tomohiro Taniguchi (NTT, Japan); Toshihito Fujiwara (NTT & NTT Access Network Service Systems Laboratories, Japan); Hidekazu Shimizu, Ryota Shiina, Toshiaki Shitaba, Yasunobu Kasahara, Hisao Yoshinaga, Tomoki Sugawa (NTT, Japan)

RS-1-2: "Implementation of flexible network system with the grouping method by using VNIC and unique ID"....79
Yuta Watanabe, Satoshi Kodama (Tokyo University of Science, Japan)

RS-1-3: "Optical Characteristics of Do-It-Yourself Short Optical Links with Multiple Connectors"....82
Kimio Oguchi, Masahiro Watanabe (Seikei University, Japan)

RS-1-4: "Effectiveness of Dynamic Reconfiguration of Path Protection for Carrier's Backbone Network"....85
Hiroshi Yamamoto, Shohei Kamamura, Rie Hayashi, Takafumi Hamano, Kouichi Genda (NTT, Japan)

RS-1-5: "Delaunay Overlay Network Construction Method For Super-Wide Area Disaster Situations"....88
Masaaki Ohnishi, Hiroaki Harai (National Institute of Information and Communications Technology, Japan)

Regular Session 2  Ubiquitous Application

RS-2-1: "Effective Approach to Character Input for Novice BCI Users"....91
Y. Koizumi, Y. Ijichi and H. Tanaka (Kogakuin University, Japan); A. Otera (Kitasato University East Hospital, Japan); K. Takahashi, M. Fukuda, N. Asai (Kitasato University, Japan)

RS-2-2: "Helping Testers by Fault-Prone Functionality Prediction"....94
Keiichi Tabata, Haruto Tanno, Morihide Oinuma (NTT, Japan)

RS-2-3: "Time-frequency Analysis of Grasp Motion and associated Motor Imagery for Event-related Desynchronization"....97
T. Enomae, H. Tanaka (Kogakuin University, Japan)
RS-2-4: "Supporting User Interaction of Social Network Mobile Application with Multimodal Interaction"....100
Piumi Ishanka (Nagaoka University of Technology, Sri Lanka); Ashu Marasinghe (Nagaoka University of Technology, Japan)

RS-2-5: "Smooth Automatic Vehicle Stopping Control System for Unexpected Obstacles"....103
Ryo Gohara, Chinthaka Premachandra, Kiyotaka Kato (Tokyo University of Science, Japan)

**Regular Session 3  Resilient Network**

RS-3-1: "Frequency Domain Analysis for Super Resolution Image Reconstruction and Its limitations"....106
Seiichi Gohshi (Kogakuin University, Japan)

RS-3-2: "Study on the Growth and Decline of SNSs by Using the Infectious Recovery SIR Model"....109
Moena Tanaka, Yusuke Sakumoto, Masaki Aida (Tokyo Metropolitan University, Japan); Konosuke Kawashima (Tokyo University of Agriculture and Technology, Japan)

RS-3-3: "An Allocation Algorithm of Indivisible Goods"....112
Kohei Shimizu, Yoshifumi Manabe (Kogakuin University, Japan)

RS-3-4: "Methods of Dynamic Scaling with VM for High Availability Server Clusters"....115
Mamoru Namikata, Kenta Sato, Kazumi Iizuka, Kiyoshi Ueda (Nihon University, Japan)

RS-3-5: "Efficient Use of Hardware Resources on Virtualization Environment"....118
Takehiro Kitano, Ryoichi Nakamura (NTT, Japan)

**Regular Session 4  Wireless & Application**

RS-4-1: "M2M Gateway Selection Scheme for Smart Wireless Devices: An Energy
Consumption Perspective"....121
Tharinda Nishantha Vidanagama, Daisuke Arai (KDDI R&D Laboratories Inc., Japan); Tomohiko Ogishi (KDDI R&D Laboratories, Japan)

RS-4-2: "Implementation of dual transmission function for remote vehicle controls"....124
Hisaya Hadama (National Defence Academy & Department of Communications Engineering, Japan); Naoki Chiba, Daisuke Fukui, Masaki Ogura (National Defence Academy, Japan); Ryohei Nakamura (National Defense Academy of Japan, Japan)

RS-4-3: "An Improved Pedestrian Tracking Algorithm for NLOS Cellular Environments"....127
Nuwan Balasuriya (The Open University of Sri Lanka & University of Moratuwa, Sri Lanka); Chalitha Lumbini (The Open University of Sri Lanka, Sri Lanka)

RS-4-4: "Formulating Device-Independent Pass-by Rendezvous"....130
Arisa Hayashi, Sachio Saiki, Seiki Tokunaga, Shinsuke Matsumoto, Masahide Nakamura (Kobe University, Japan)

RS-4-5: "Sleep Control Considering Relay Node Information in Mobile Ad-hoc Networks"....133
Takashige Inoue (Kanagawa Institute of Technology, Japan)

Regular Session 5 Security

RS-5-1: "Highly Secure Communication Service Architecture using SDN Switch"....136
Masahiro Furukawa, Kouki Kuroda (Tokyo Denki University, Japan)

RS-5-2: "Security Information Sharing Platform over Multiple Services" ....139
Bo Hu, Yuuichi Murata (NTT, Japan); Junichi Murayama (Tokai University, Japan)

RS-5-3: "A Privacy-Preserving Collaborative Filtering Protocol Considering Updates"....142
Yuji Mochizuki, Yoshifumi Manabe (Kogakuin University, Japan)

RS-5-4: "The Group Data Access Control Method in Content Centric Network"....145
Shouhei Nagai, Takahiro Kaida, Osamu Mizuno (Kogakuin University, Japan)
Regular Session 6  Application

RS-6-1: "Considering Multi-Modal Speech Visualization for Deaf and Hard of Hearing People"....148
Yusuke Toba, Hiroyasu Horiuchi, Shinsuke Matsumoto, Sachio Saiki, Masahide Nakamura (Kobe University, Japan); Tomohito Uchino, Tomohiro Yokoyama, Yasuhiro Takebayashi (Special Needs Education School for the Deaf, University of Tsukuba, Japan)

RS-6-2: "The Dynamic Network Configuration Method that reflects User Requests using OpenFlow"....151
Takeshi Oowari, Ayumu Yoshine, Osamu Mizuno (Kogakuin University, Japan)

RS-6-3: "Acquisition of Cooperative Behaviour among Heterogeneous Agents using Step-up Reinforcement Learning"....154
Wataru Sato, Kanta Tachibana (Kogakuin University, Japan)

RS-6-4: "Hot spots evolution to a new wireless LAN with mobility support"....157
Takahiko Yamada, Toshikazu Nishimura (Ritsumeikan University, Japan)