



# 2018

## 10<sup>th</sup> IEEE INTERNATIONAL WORKSHOP ON INFORMATION FORENSICS AND SECURITY



**The Hong Kong Polytechnic University  
Hong Kong**

**10<sup>th</sup> December – 13<sup>th</sup> December**





# WIFS 2018

## Welcome Message

### **Message from General and Technical Program Chairs**

On behalf of the Organizing Committee, we would like to convey our warmest welcome to all the attendees of the 10th IEEE International *Workshop on Information Forensics and Security (WIFS 2018)* which is a unique workshop series, technically co-sponsored by the IEEE Signal Processing Society and IEEE Biometrics Council. The 2018 edition of this workshop is held in Hong Kong, Asia's world-class city that brings fine blending traditions from east and the west.

WIFS is the key annual event organised by the IEEE Information Forensics and Security (IFS) Technical Committee of the IEEE Signal Processing Society. Its major forum that brings researchers and the developers in related disciplines to discuss emerging challenges in different areas of information security and forensics that include; *Biometrics, Cryptography, Data Privacy and Anonymity, Communication and Physical-Layer Security, Digital Forensics and Analysis, Hardware Security, Information Theoretic Security, Multimedia Content Hash, Network Security, Security of Large Networked Systems, Steganography and Covert Communications, Surveillance, Usability and Human Factors, Watermarking and Data Hiding.*

With great help from over 80 reviewers, the PC Chairs were able to manage the review process of 108 submissions, by ensuring at least three reviews per paper. Based on the reviewers' recommendations, the PC Chairs deliberated on all the submissions except for those co-authored by a PC Chair. The latter types of papers were handled offline by an external chair nominated by the General Chair. The final acceptance rate was about 32.8%. We apologies for some interesting contributions that were not accepted as the limited number of available slots for the workshop presentations imposed a hard selection.

WIFS 2018 program includes exciting contributions reporting the most recent advances in the field of information forensics and security. The program is full of interesting contributions: 35 presentations are given in 11 different oral sessions, 6 spotlights and poster presentations from the selected papers published in *IEEE Transactions on Information Forensics and Security (T-IFS)*, 2 invited keynote speeches, 4 tutorials, and a panel session on **Key Research Problems in Information Forensics and Security for the next Five Years** to enrich the workshop menu.

Putting together an event of this nature requires the coordinated, volunteered effort of many in many different aspects. In particular, we would like to acknowledge the efforts from the local organizing team members for coordinating various aspects of arrangements required to organize the conference in a university. Conference secretariat support from the Department of Computing, particularly of Carmen Au, Christine Liu, Alice Lam, Rosa Kwan and Grandy Fu from *The Hong Kong Polytechnic University* was vital for this effort. We would like to thank each of our sponsors, *Department of Computing and The Hong Kong Polytechnic University* are graciously and generously sponsoring this conference.

We hope you will enjoy WIFS 2018 and have a pleasant stay at Hong Kong!

### **Technical Program Co-Chairs**

*Pong C Yuen, Hong Kong Baptist University  
Jiwu Huang, Shenzhen University*

### **General Chair**

*Ajay Kumar, The Hong Kong Polytechnic University*

# WIFS 2018

## Program Schedule

| Monday, December 10, 2018 |   |
|---------------------------|---|
| Monday 08:00 – 09:00      | <p><b>Registration</b><br/>Venue: Registration Desk, Reception Area. M1607, Li Ka Shing Tower<br/>The Hong Kong Polytechnic University</p>  |
| Monday 09:00 – 12:30      | <p><b>Morning Tutorial I : Privacy-Aware Smart Metering</b><br/>Presenters: Deniz Gunduz (<i>Imperial College London, London, UK</i>)<br/>Tobias Oechtering (<i>KTH Royal Institute of Technology, Stockholm, Sweden</i>)</p> <p>Venue: Room PQ 703, Mong Man Wai Building</p> <p><b>Morning Tutorial III :Role of Adversaries in Deep Learning</b><br/>Presenters: Mayank Vatsa (<i>IIIT Delhi, India</i>)<br/>Richa Singh (<i>IIIT Delhi, India</i>)<br/>Venue: WIFS 2018 Conference Room (M1604, Li Ka Shing Tower)</p>                    |
| Monday 10:45 – 11:00      | <p><b>Coffee Break</b></p> <p>Venue: Reception Area (M1607, Li Ka Shing Tower)</p>  |
| Monday 11:00 – 12:30      | <p><b>Morning Tutorial I (Contd.) : Privacy-Aware Smart Metering</b><br/>Presenters: Deniz Gunduz (<i>Imperial College London, London, UK</i>)<br/>Tobias Oechtering (<i>KTH Royal Institute of Technology, Stockholm, Sweden</i>)</p> <p>Venue: Room PQ 703, Mong Man Wai Building</p> <p><b>Morning Tutorial III (Contd.): Role of Adversaries in Deep Learning</b><br/>Presenters: Mayank Vatsa (<i>IIIT Delhi, India</i>),<br/>Richa Singh (<i>IIIT Delhi, India</i>)<br/>Venue: WIFS 2018 Conference Room (M1604, Li Ka Shing Tower)</p> |
| Monday 12:30 – 14:00      | <p><b>Lunch</b></p> <p>Venue: PolyU Staff Restaurant (4/F, Communal Building)</p>   |
| Monday 14:00 – 15:30      | <p><b>Afternoon Tutorial II :</b><br/><b>Privacy-Location Privacy: Threats and Opportunities</b><br/>Presenters: Fernando Pérez-González (<i>University of Vigo, Spain</i>)<br/>Simón Oya (<i>University of Vigo, Spain</i>)<br/>Venue: WIFS 2018 Conference Room (M1604, Li Ka Shing Tower)</p> <p><b>Afternoon Tutorial IV :</b><br/><b>Biometric Template Protection and Evaluation</b><br/>Presenters: Marta Gomez-Barrero (<i>Hochschule Darmstadt, Germany</i>)<br/>Venue: Room PQ 703, Mong Man Wai Building</p>                       |
| Monday 15:30 – 15:45      | <p><b>Coffee Break</b></p> <p>Venue: Reception Area (M1607, Li Ka Shing Tower)</p>  |



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| <p>Monday 15:45 – 17:00</p>  | <p><b>Afternoon Tutorial II (Contd.):</b><br/> <b>Privacy- Location Privacy: Threats and Opportunities</b><br/> Presenters: Fernando Pérez-González (<i>University of Vigo, Spain</i>),<br/> Simón Oya (<i>University of Vigo, Spain</i>)<br/> Venue: WIFS 2018 Conference Room (M1604, Li Ka Shing Tower)</p> <p><b>Afternoon Tutorial IV (Contd.):</b><br/> <b>Biometric Template Protection and Evaluation</b><br/> Presenters: Marta Gomez-Barrero (<i>Hochschule Darmstadt, Germany</i>)<br/> Venue: Room PQ 703, Mong Man Wai Building</p>   |
| <p><b>Tuesday, December 11, 2018</b></p>  |  |
| <p>Tuesday 08:30 - 09:30</p>  | <p><b>Registration</b><br/> Venue: Registration Desk, Reception Area, M1607</p>  |
| <p>Tuesday 09:00 - 09:20</p>  | <p><b>Opening Address - Welcome Session</b><br/> Opening Address: Alex Wai, Vice President (RD), PolyU<br/> Welcome Address: Conference Chairs<br/> Venue: Conference Room</p>   |
| <p>Tuesday 09:20 - 10:20</p>  | <p><b>Keynote Talk: Biometric Identification of Human Individuals: Recent Advances and Future Directions</b><br/> Speaker: Tieniu Tan (<i>Center for Research on Intelligent Perception and Computing National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences (CAS), Beijing</i>)</p> <p>Session Chair: Patrizio Campisi (<i>Roma Tre University, Rome, Italy</i>)<br/> Venue: Conference Room</p>  |
| <p>Tuesday 10:20 - 10:50</p>  | <p><b>Coffee Break</b><br/> Venue: Conference Room Lobby</p>   |
| <p>Tuesday 10:50 - 11:50</p> <p>O1</p> <p>O2</p> <p>O3</p>  | <p><b>Oral Session # 1: Audio and Video Forensics</b><br/> Session Chair: <i>Chang-Tsun Li (University of Warwick, UK)</i><br/> Venue: Conference Room</p> <p><b>In Ictu Oculi: Exposing AI Created Fake Videos by Detecting Eye Blinking</b><br/> Yuezun Li, Ming-Ching Chang, Siwei Lyu (<i>University at Albany, State University of New York, USA</i>)</p> <p><b>MesoNet: a Compact Facial Video Forgery Detection Network</b><br/> Darius Afchar (<i>école des Ponts Paristech, Marne-la-Vallée, France</i>),<br/> Vincent Nozick (<i>UPEM, France</i>), Junichi Yamagishi (<i>National Institute of Informatics, Tokyo, Japan</i>), Isao Echizen (<i>National Institute of Informatics, Tokyo, Japan</i>)</p> <p><b>Transforming Acoustic Characteristics to Deceive Playback Spoofing Countermeasures of Speaker Verification Systems</b><br/> Fuming Fang (<i>National Institute of Informatics, Japan</i>), Junichi Yamagishi (<i>NII Japan and University of Edinburgh, UK</i>), Isao Echizen (<i>National Institute of Informatics, Japan</i>), Md Sahidullah (<i>Inria, France</i>), Tomi Kinnunen (<i>University of Eastern Finland, Finland</i>)</p> |

### Tuesday, December 11, 2018

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| <p>Tuesday 11:50 - 12:30</p>  <p>O1</p> <p>O2</p>                     | <p><b>Oral Session # 2: Digital Camera Forensics</b><br/>           Session Chair: Chau-Wai Wong (<i>North Carolina State University, USA</i>)<br/>           Venue: Conference Room</p> <p><b>An Inception-Based Data-Driven Ensemble Approach to Camera Model Identification</b><br/>           Anselmo Ferreira (<i>Shenzhen University, China</i>), Han Chen (<i>Shenzhen University, China</i>), Bin Li (<i>Shenzhen University, China</i>), Jiwu Huang (<i>Shenzhen University, China</i>)</p> <p><b>Countering the Pooled Triangle Test for PRNU-based camera identification</b><br/>           Mauro Barni (<i>University of Siena, Siena, Italy</i>)<br/>           Mariko Nakano-Miyatake (<i>National Polytechnic Inst. of Mexico, Mexico</i>)<br/>           Héctor Santoyo-García (<i>National Polytechnic Insti. of Mexico, Mexico</i>)<br/>           Benedetta Tondi (<i>University of Siena, Siena, Italy</i>)</p>  |
| <p>Tuesday 12:30 - 14:00</p>   | <p><b>Lunch</b><br/>           Venue: PolyU Staff Restaurant (4/F, Communal Building)</p> <p><b>IEEE SPS Technical Committee (Info. Forensics &amp; Security)</b><br/>           Venue (Invited Members Only): PQ 703, Mong Man Wai Building</p>   |
| <p>Tuesday 14:00 - 15:20</p>  <p>O1</p> <p>O2</p> <p>O3</p> <p>O4</p> | <p><b>Oral Session # 3: Data Hiding in Encryption Domain</b><br/>           Session Chair: Mauro Barni (<i>University of Siena, Siena, Italy</i>)<br/>           Venue: Conference Room</p> <p><b>EPE-based Huge-Capacity Reversible Data Hiding in Encrypted Images</b><br/>           Pauline Puteaux (<i>LIRMM – CNRS, Univ. Montpellier, France</i>) William Puech (<i>LIRMM – CNRS, Univ. Montpellier, France</i>)</p> <p><b>Reversible Data Hiding in Encrypted Images with Two-MSB Prediction</b><br/>           Yi Puyang (<i>Anhui University, Shanghai University, China</i>), Zhaoxia Yin (<i>Anhui University, China and Purdue University, USA</i>), Zhenxing Qian (<i>Shanghai University, China</i>)</p> <p><b>Reversible Contrast Mapping based Reversible Data Hiding in Encrypted Images</b><br/>           Yingqiang Qiu (<i>Huaqiao University, China</i>), Hangxing Wang (<i>Huaqiao University, China</i>), Zichi Wang (<i>Shanghai University, China</i>), henxing Qian (<i>Shanghai University, China</i>), Gui Feng (<i>Huaqiao University, China</i>), Xinpeng Zhang (<i>Shanghai University China</i>)</p> <p><b>Camera Attribution Forensic Analyzer in the Encrypted Domain</b><br/>           Alberto Pedrouzo-Ulloa (<i>University of Vigo, Spain</i>), Miguel Masciopinto (<i>University of Vigo, Spain</i>), Juan Ramón Troncoso-Pastoriza (<i>École Polytechnique Fédérale de Lausanne, Switzerland</i>), Fernando Pérez-González (<i>University of Vigo, Spain</i>)</p> |



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| <p>Tuesday 15:20 - 15:40</p>  | <p><b>Coffee Break</b><br/>Venue: Reception Area (M1607, Li Ka Shing Tower)</p>  |
| <p>Tuesday 15:40 - 16:40</p> <p></p> <p>O1</p> <p>O2</p> <p>O3</p> | <p><b>Oral Session # 4: Watermarking and Data Hiding</b><br/>Session Chair: William Puech (<i>LIRMM – CNRS, Univ. Montpellier, Montpellier, France</i>)<br/>Venue: Conference Room</p> <p><b>Are Deep Neural Networks good for blind image watermarking?</b><br/>Vedran Vukotić (<i>Lamark, France</i>)<br/>Vivien Chappelier (<i>Lamark, France</i>)<br/>Teddy Furon (<i>Univ Rennes, Inria, CNRS, IRISA, France</i>)</p> <p><b>A Multi-Task Learning CNN for Image Steganalysis</b><br/>Xiangyu Yu (<i>South China University of Technology, China</i>)<br/>Huabin Tan (<i>South China University of Technology, China</i>)<br/>Hui Liang (<i>South China University of Technology, China</i>)<br/>Chang-Tsun Li (<i>Charles Sturt University, Australia</i>)<br/>Guangjun Liao (<i>Guangdong Police College, China</i>)</p> <p><b>Adaptive Steganography in the Noisy Channel with Dual-Syndrome Trellis Codes</b><br/>Christy Kin-Cleaves (<i>Oxford University, UK</i>), Andrew D. Ker (<i>Oxford University, UK</i>)</p> |
| <p>Tuesday 16:40 - 17:40</p> <p></p> <p>O1</p> <p>O2</p> <p>O3</p> | <p><b>Oral Session # 5: Data Protection and Access Control</b><br/>Session Chair: Fernando Pérez-González (<i>University of Vigo, Spain</i>)<br/>Venue: Conference Room</p> <p><b>Emotional Bots: Content-based Spammer Detection on Social Media</b><br/>Panagiotis Andriotis (<i>University of the West of England, Bristol, U.K.</i>)<br/>Atsuhiko Takasu (<i>National Institute of Informatics, Tokyo, Japan</i>)</p> <p><b>Protect Your Deep Neural Networks from Piracy</b><br/>Mingliang Chen (<i>University of Maryland, USA</i>)<br/>Min Wu (<i>University of Maryland, USA</i>)</p> <p><b>A Randomized Kernel-Based Secret Image Sharing Scheme</b><br/>Akella Ravi Tej (<i>IIT Roorkee, India</i>), Rekula Raviteja (<i>IIT Roorkee, India</i>), Vinod Pankajakshan (<i>IIT Roorkee, India</i>)</p>   |
| <p><b>Wednesday December 12, 2018</b></p>   |  |
| <p>Wednesday 08:30 - 09:30</p>  | <p><b>Registration</b><br/>Venue: Registration Desk, Reception Area (M1607)</p>  |
| <p>Wednesday 09:00 - 10:00</p>  | <p><b>Keynote Talk: Hostile Blockchain Takeovers</b><br/>Speaker: Joseph Bonneau (<i>New York University, USA</i>)<br/>Venue: Conference Room<br/>Session Chair: Allen Au (<i>The Hong Kong Polytechnic University</i>)</p>  |

| Wednesday December 12, 2018  |  |
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| Wednesday 10:00 - 10:20  | <p><b>Coffee break</b><br/>Venue: Reception Area (M1607, Li Ka Shing Tower)</p>  |
| <p>Wednesday 10:20 - 11:20</p>  <p>O1</p>   | <p><b>Oral Session # 6: Privacy Protection and Enhancement</b><br/>Session Chair: Yi Wang (<i>Dongguan University of Technology, China</i>)<br/>Venue: Conference Room</p> <p><b>Latent Feature Disclosure under Perfect Sample Privacy</b><br/>Borzoo Rassouli (<i>University of Essex, UK</i>)<br/>Fernando Rosas (<i>Imperial College London, UK</i>)<br/>Deniz Gündüz (<i>Imperial College London, UK</i>)</p>   |
| O2   | <p><b>Privacy-Preserving Distributed Deep Learning with Privacy Transformations</b><br/>Sen-ching S. Cheung (<i>University of Kentucky, Lexington, KY, USA</i>)<br/>Muhammad Usman Rafique (<i>University of Kentucky, Lexington, KY, USA</i>)<br/>Wai-tian Tan (<i>Cisco Systems Inc., San Jose, CA, USA</i>)</p>   |
| O3   | <p><b>A Novel Approach For Data Packing: Using Trapdoor Knapsack (11:00-11:20 AM)</b><br/>Majid Nateghizad (<i>Delft University of Technology, Netherland</i>)<br/>Zekeriya Erkin (<i>Delft University of Technology, Netherland</i>)<br/>Reginald L. Lagendijk (<i>Delft University of Technology, Netherland</i>)</p>  |
| <p>Wednesday 11:20 - 12:20</p>  <p>O1</p> | <p><b>Oral Session # 7: Fingerprint-based Security and Protection</b><br/>Session Chair: Richa Singh (<i>IIITD, India</i>)<br/>Venue: Conference Room</p> <p><b>One-factor Cancellable Scheme for Fingerprint Template Protection: Extended Feature Vector (EFV) Hashing</b><br/>Ming Jie Lee (<i>Monash University Malaysia, Malaysia</i>)<br/>Zhe Jin (<i>Monash University Malaysia, Malaysia</i>)<br/>Andrew Beng Jin Teoh (<i>Yonsei University, South Korea</i>)</p>   |
| O2   | <p><b>Database Binning and Retrieval in Multi-Fingerprint Identification Systems</b><br/>P. Drozdowski (<i>Biometrics and Internet Security Research Group, Hochschule Darmstadt, Germany and NTNU, Norway</i>)<br/>D. Fischer (<i>Biometrics and Internet Security Research Group, Hochschule Darmstadt, Germany</i>)<br/>C. Rathgeb (<i>Biometrics and Internet Security Research Group, Hochschule Darmstadt, Germany</i>)<br/>C. Schielz (<i>Bundeskriminalamt (BKA), Wiesbaden, Germany</i>)<br/>C. Busch (<i>Biometrics and Internet Security Research Group, Hochschule Darmstadt, Germany</i>)</p> |



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| O3                      | <p><b>Fingerprint Presentation Attack Detection Using A Novel Multi-Spectral Capture Device and Patch-Based Convolutional Neural Networks</b><br/>         Mohamed E. Hussein (<i>Information Sciences Institute, CA, USA and Alexandria University, Alexandria, Egypt</i>), Leonidas Spinoulas (<i>Information Sciences Institute, USC, USA</i>), Fei Xiong (<i>Information Sciences Institute</i>), Wael Abd-Almageed (<i>Information Sciences Institute, USC, USA</i>)</p> |
| Wednesday 12:20 - 13:20 | <p><b>Lunch</b><br/>         Venue: PolyU Staff Restaurant (4/F, Communal Building)</p>   |
| Wednesday 13:10 - 13:30 | <p><b>Boarding Bus for Social Gathering</b></p>   |
| Wednesday 15:30 - 18:30 | <p><b>Social Gathering/Meeting at Ocean Park (See Details for Options)</b></p>  |



# WIFS 2018

## Program Schedule

Wednesday December 12, 2018

Tuesday 18:30 - 21:20

**Banquet Dinner**



**WIFS 2018 Awards**



**Banquet Dinner**



**Venue:** Neptune's Restaurant (**Ocean Park**)

*Social Gathering: Multiple Locations*

WIFS 2018 Best Paper Awards

WIFS 2018 Best Student Paper Awards

WIFS 2019 Introduction



Wednesday 21:15 - 21:30

**Boarding Bus for the *Return* to Conference Venue**



Thursday, December 13, 2018

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|---|---|
| <p>Thursday 08:30 - 09:30</p>   | <p><b>Registration</b><br/>Venue: Registration Desk, Reception Area (M1607)</p>   |
| <p>Thursday 09:00 - 10:00</p>    | <p><b>Panel Session</b><br/>Panel Session Chair: Mauro Barni (<i>University of Siena, Siena, Italy</i>)<br/>Venue: Conference Room</p> <p><b>Key Research Problems in Information Forensics and Security for the next Five Years</b><br/>Panelist:<br/>Patrizio Campisi (<i>Roma Tre University, Roma, Italy</i>)<br/>Fernando Pérez-González (<i>University of Vigo, Vigo, Spain</i>)<br/>Teddy Furon (<i>Univ Rennes, Inria, CNRS, IRISA, France</i>)<br/>Tobias Oechtering (<i>KTH Royal Institute of Technology, Stockholm, Sweden</i>)<br/>Deniz Gunduz (<i>Imperial College London, London, UK</i>)</p>   |
| <p>Thursday 10:00 - 10:12</p>  <p>P1</p> <p>P2</p> <p>P3</p> <p>P4</p> <p>P5</p> | <p><b>IEEE T-IFS Papers Poster Spotlights (6 Posters)</b><br/>Session Chair: Rafael F. Schaefer (<i>Technische Universität München, Germany</i>)<br/>Venue: Conference Room</p> <p><b>Improving PRNU Compression Through Preprocessing Quantization and Coding, IEEE T-IFS, 2019</b><br/>Luca Bondi (<i>Politecnico di Milano, Italy</i>), Paolo Bestagini (<i>Politecnico di Milano, Italy</i>), Fernando Perez-González (<i>University of Vigo, Spain</i>), Stefano Tubaro (<i>Politecnico di Milano, Italy</i>)</p> <p><b>Slope Authentication at the Physical Layer, IEEE T-IFS, 2018</b><br/>Ning Xie (<i>Shenzhen University, China</i>), Changsheng Chen (<i>Shenzhen University, China</i>)</p> <p><b>Factors Affecting ENF Capture in Audio, IEEE T-IFS, 2018</b><br/>Adi Haji-Ahmad (<i>University of Maryland, College Park, USA</i>)<br/>Chau-Wai Wong (<i>University of Maryland, College Park, USA</i>)<br/>Steven Gambino (<i>Maryland, College Park, USA</i>)<br/>Qiang Zhu (<i>University of Maryland, College Park, USA</i>)<br/>Miao Yu (<i>Maryland, College Park, USA</i>), Min Wu (<i>University of Maryland, College Park, USA</i>)</p> <p><b>Large-Scale JPEG Image Steganalysis Using Hybrid Deep-Learning Framework, IEEE T-IFS 2018</b><br/>Jishen Zeng (<i>Shenzhen University, China</i>), Shunquan Tan (<i>Shenzhen University, China</i>), Bin Li (<i>Shenzhen University, China</i>), Jiwu Huang (<i>Shenzhen University, China</i>)</p> <p><b>Network Traffic Fingerprinting Based on Approximated Kernel Two-Sample Test, IEEE T-IFS, 2017</b><br/>Jan Kohout (<i>Czech Technical University in Prague, Czech Republic</i>)<br/>Tomáš Pevný (<i>Czech Technical University in Prague, Czech Republic</i>)</p> |

# WIFS 2018

## Program Schedule

| Thursday, December 13, 2018 |  |
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| P6                          | <p><b>Multi-Scale Difference Map Fusion for Tamper Localization using Binary Ranking Hashing, IEEE T-IFS, 2017</b><br/>           Cai-Ping Yan (<i>University of Macau, Macau, China</i>)<br/>           Chi-Man Pun (<i>University of Macau, Macau, China</i>)</p>  |
| Thursday 10:12 – 10:40      | <p><b>TIFS Poster Session and Coffee break</b><br/> <b>Poster Session (6 Posters)</b><br/>           Venue: Reception Area (M1607, Li Ka Shing Tower)</p>  |
| Thursday 10:40 – 11:40      | <p><b>Oral Session # 8 : Compression and Authentication</b><br/>           Session Chair: Iuliia Tkachenko (<i>University Lyon, UJM-Saint-Etienne, France</i>)<br/>           Venue: New Conference Room TU 201</p> <p></p> <p>O1</p> <p><b>JPEG Implementation Forensics Based on Eigen-Algorithms</b><br/>           Nicoló Bonettini (<i>Politecnico di Milano, Italy</i>), Luca Bondi (<i>Politecnico di Milano, Italy</i>), Paolo Bestagini (<i>Politecnico di Milano, Italy</i>), Stefano Tubaro (<i>Politecnico di Milano, Italy</i>)</p> <p>O2</p> <p><b>Exposing Image Resizing utilizing Welch Power Spectral Density Analysis for Double Compressed JPEG Images</b><br/>           Sidhant Sahu (<i>NIT Rourkela, India</i>), Manish Okade (<i>NIT Rourkela, India</i>)</p> <p>O3</p> <p><b>Enhanced Geometric Reflection Models for Paper Surface Based Authentication</b><br/>           Runze Liu (<i>North Carolina State University, USA</i>), Chau-Wai Wong (<i>North Carolina State University, USA</i>), Min Wu (<i>University of Maryland, College Park, USA</i>)</p> |
| Thursday 11:40 – 12:40      | <p><b>Oral Session # 9 : Pattern Analysis and Forensics</b><br/>           Session Chair: Bin Li (<i>Shenzhen University, China</i>)<br/>           Venue: New Conference Room TU 201</p> <p></p> <p>O1</p> <p><b>Revealing the processing history of pitch-shifted voice using CNNs</b><br/>           Lihua Wang (<i>Sun Yat-sen University, Guangzhou, China</i>), Huixin Liang (<i>Sun Yat-sen University, Guangzhou, China</i>), Xiaodan Lin (<i>Sun Yat-sen University, Guangzhou, China</i>), Xiangui Kang (<i>Sun Yat-sen University, Guangzhou, China</i>)</p> <p>O2</p> <p><b>Error Analysis of Forensic ENF Matching</b><br/>           Guang Hua (<i>Wuhan University, China</i>)</p> <p>O3</p> <p><b>Exploitation of Redundancy for Pattern Estimation of Copy-Sensitive Two Level QR Code</b><br/>           Iuliia Tkachenko (<i>University Lyon, UJM-Saint-Etienne, France</i>)<br/>           Christophe Destruel (<i>IGO, France</i>)</p>   |



## Thursday, December 13, 2018

Thursday 12:40 – 14:00



### Lunch

Venue: PolyU Staff Restaurant (4/F, Communal Building)

### Meeting: Editorial Board Meeting (*IEEE Transactions on Information Forensics and Security*)

Venue (Invited Members Only): PQ 703, Mong Man Wai Building

Thursday 14:00 – 15:20



### Oral Session # 10 : Physical Layer Security

Session Chair: Tobias Oechtering (*KTH Royal Institute of Technology, Stockholm, Sweden*)

Venue: Conference Room TU 201

O1

#### The Deterministic and Correlated Random Public-Confidential Capacity Regions of the Arbitrarily Varying Wiretap Channel

Ahmed S. Mansour (*Technische Universität München, Germany*)

Rafael F. Schaefer (*Technische Universität München, Germany*)

Holger Boche (*Technische Universität München, Germany*)

O2

#### Adaptive Channel Estimation in Side Channel Attacks

Shan Jin (*Texas A & M University, USA*)

Riccardo Bettati (*Texas A & M University, USA*)

O3

#### Performance Evaluation of Secure Communication Systems on Turing Machines

Holger Boche (*Technische Universität München, Germany*)

Rafael F. Schaefer (*Technische Universität München, Germany*)

H. Vincent Poor (*Princeton University, New Jersey, USA*)

O4

#### Community-based Anomaly Detection

Martin Kopp (*Cisco Systems, Inc. and Czech Technical University, Prague, Czech Republic*), Martin Grill (*Cisco Systems, Inc.*), Jan Ko-

hout (*Cisco Systems, Inc. and Czech Technical University, Prague, Czech Republic*)

Thursday 15:20 – 15:40

Coffee break, Venue: New Conference Room TU 201 Lobby

Thursday 15:40 – 17:00



### Oral Session # 11 : Biometrics Identification

Session Chair: Andrew Beng Jin Teoh (*Yonsei University, South Korea*)

Venue: New Conference Room TU 201

O1

#### Gender Effect on Face Recognition for a Large Longitudinal Database

Caroline Werther (*University of North Carolina Wilmington, North Carolina, USA*), Morgan Ferguson (*Elon University, North Carolina, USA*),

Kevin Park (*Emory University, Atlanta, USA*), Troy Kling (*University of North Carolina Wilmington, North Carolina, USA*), Cuixian Chen

(*University of North Carolina Wilmington, North Carolina, USA*), Yishi Wang (*University of North Carolina Wilmington, North Carolina, USA*)

# WIFS 2018

## Program Schedule and Maps

Thursday, December 13, 2018

O2

**Finger-vein Recognition using Deep Fully Convolutional Neural Semantic Segmentation Networks: The Impact of Training Data**  
Ehsaneddin Jalilian (*University of Salzburg, Austria*), Andreas Uhl (*University of Salzburg, Austria*)

O3

**Age Estimation via Fusion of Depthwise Separable Convolutional Neural Networks**  
Kuan-Hsien Liu (*National Taichung University of Science and Technology, Taiwan*), Hsin-Hua Liu (*National Taiwan University, Taiwan*), Pak Ki Chan (*National Chung Hsing University, Taiwan*), Tsung-Jung Liu (*National Chung Hsing University, Taiwan*), Soo-Chang Pei (*National Taiwan University, Taiwan*)

O4

**Generalized Joint Sparse Representation for Multimodal Biometric Fusion of Heterogeneous Features**  
Rudi Primorac (*The University of Western Australia, Australia*), Roberto Togneri (*The University of Western Australia, Australia*), Mohammed Bennamoun (*The University of Western Australia, Australia*), Ferdous Sohel (*Murdoch University, Australia*)

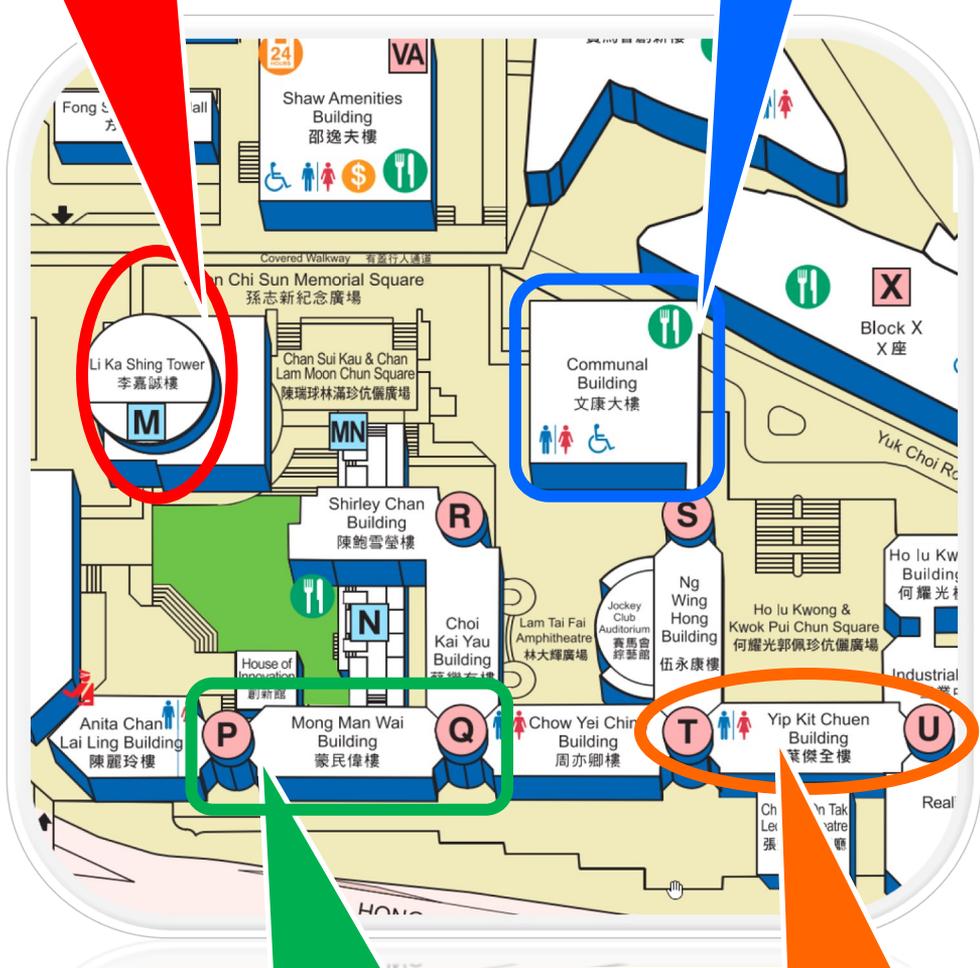
**Map for Social Gathering Venue: Ocean Park**  
(use online version to zoom and plan for the gathering on 12th December)





**Main Conference (16/F)  
Registration, Keynotes  
Panel and Oral Sessions**

**Lunch Venue  
(4/F)**



**Tutorial II and Tutorial IV  
PQ703 (7/F)**

**New Conference Room  
TU 201, 13th December**

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## WIFS 2018 ADMISSION

Admission to ALL sessions of the WIFS 2018 is restricted to registered participants. The registration badge is valid in the campus of The Hong Kong Polytechnic University from, 10-13 December 2018, Monday through Thursday. All conference sessions will be held in the campus of *The Hong Kong Polytechnic University*. Oral and poster sessions will be held in the M1604 and TU 201 Conference Rooms.

## Wi-Fi ACCESS

Free Wi-Fi is available to all the participants during the conference. Participants can select the SSID "**Wi-Fi.HK via PolyU**" to avail free internet access. access the

## ON-SITE REGISTRATION

Registration will be conducted outside M1607 during the following days and hours:

| Date        | Time         |
|-------------|--------------|
| 10 December | 8:00 - 9:00  |
| 11 December | 8:30 - 17:00 |
| 12 December | 8:30 - 9:30  |

Registration fees, payable in US dollar or HK dollar\* are as follows:

\* Current Rate is 1US\$ = 7.82 HK\$

### Registration Fee for WIFS 2018

|          | By 4 October 2018 | After 4 October 2018 | On-site 10-13 December 2018 |
|----------|-------------------|----------------------|-----------------------------|
| Regular  | USD 400           | USD 480              | USD 480                     |
| Students | USD 200           | USD 300              | USD 300                     |

Note: Above registration fee is for one person that covers all plenary / presentation sessions, coffee breaks, three lunches (each on 11-13 December), banquet, electronic copy of the Proceedings and Conference Souvenir. Full-time Students are required to send/show their valid identity card.

Registration payments must be received by the registration deadline for the rate at which you registered; if payment is not received by the deadline, you will be responsible for the higher rate.

## CURRENCY, BANKING, EXCHANGE SERVICES

The unit of Hong Kong Currency is the Hong Kong dollar (HK\$) and the current exchange rate is 1US\$1 = 7.82HK\$. Foreign currency or travellers cheques can be changed at local banks, hotels and money changers. Most major credit cards (AMERICAN EXPRESS, DINERS CLUB, VISA, MASTERCARD, etc.) are widely accepted throughout Hong Kong. On-campus banks are located within short distances from the conference venue.

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## 10<sup>th</sup> IEEE International Workshop on Information Forensics and Security

