



Conference Report: [WIFS 2018](http://www.wifs2018.org/)  
 10<sup>th</sup> IEEE International Workshop on  
 Information Forensics and Security, WIFS 2018  
 The Hong Kong Polytechnic University, Hong Kong  
 10<sup>th</sup> - 13<sup>th</sup> December 2018, <http://www.wifs2018.org/>

The 10<sup>th</sup> edition of IEEE International Workshop on Information Forensics and Security (WIFS 2018) was recently held in Hong Kong from December 10 to December 13, 2018. This is a unique workshop series, technically co-sponsored by the IEEE Signal Processing Society and IEEE Biometrics Council. It is the key annual event organized 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*.

This year the 10<sup>th</sup> edition of this workshop received 108 paper submissions. With great help from 80 reviewers the program chairs were able to manage the review process of the submissions and accepted 35 papers and therefore the final was about 32.8%. The WIFS 2018 program included exciting contributions reporting the most recent advances in the field of information forensics and security. The program was full of interesting contributions: 35 presentations were delivered in 11 different oral sessions, 6 spotlights were presented along with the 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** enriched the workshop menu.

The technical [program](#) schedule for WIFS 2018 encompassed a broad range of topics. The paper presentations were complemented with 4 invited tutorial talks offered by two distinguished researchers. The tutorial topics were chosen to emphasize the recent advances in the information forensics and security technologies. The tutorial speakers were Mayank Vatsa and Richa Singh ([Role of Adversaries in Deep Learning](#)), Deniz Gunduz and Tobias Oechtering ([Privacy-Aware Smart Metering](#)), Fernando Pérez-González and Simón Oya ([Privacy- Location Privacy: Threats and Opportunities](#)), Marta Gomez-Barrero ([Biometric Template Protection and Evaluation](#)). The tutorials were held on December 10<sup>th</sup> with breaks and working lunch that provided additional opportunities for the speakers to interact with the conference participants.



(a)



(b)

(a) Tieniu Tan (Institute of Automation, NLPR, CASIA,) delivering keynote talk on 'Biometric Identification of Human Individuals: Recent Advances and Future Directions' (b) Joseph Bonneau (New York University) delivering keynote talk on 'Hostile Blockchain Takeovers'.

WIFS 2018 also featured a most distinguished set of speakers: *Tieniu Tan* (Institute of Automation, NLP, Chinese Academy of Sciences, China) and *Joseph Bonneau* (New York University, USA). *Tieniu Tan* delivered a keynote talk titled ‘Biometric Identification of Human Individuals: Recent Advances and Future Directions’. His talk systematically introduced the advances in biometric identification capabilities, especially for the face and iris recognition, and also deliberated on the emerging challenges for protecting the integrity of biometrics during their deployment. He emphasized on the importance of fundamental work while capitalizing the potential from emerging deep learning capabilities. *Joseph Bonneau*, delivered invited talk titled ‘Hostile Blockchain Takeovers’. This invited talk systematically enlightened the participants on the sources of potential threats on the blockchains, systematically evaluated the costs for such attacks from and for the popular applications like cryptocurrencies.



Speaker for the tutorial session during WIFS 2018; (a) *Mayank Vatsa* (Role of Adversaries in Deep Learning), (b) *Fernando Pérez-González* (Privacy-Location Privacy), (c) *Tobias Oechtering* and *Deniz Gunduz* (Privacy-Aware Smart Metering), and (d) *Marta Gomez-Barrero* (Biometric Template Protection and Evaluation).

The program for WIFS 2018 also witnessed a panel session on [Key Research Problems in Information Forensics and Security for the next Five Years](#). This panel session was chaired by *Mauro Barni* (University of Siena, Italy) and included *Patrizio Campisi* (Roma Tre University, Italy), *Fernando Pérez-González* (University of Vigo, Spain), *Teddy Furon* (Univ Rennes, Inria, CNRS, IRISA, France), *Tobias Oechtering* (KTH Royal Institute of Technology, Sweden) and *Deniz Gunduz* (Imperial College London, UK) as the panelist. These panelists typically represented Biometrics, Multimedia Forensics/Watermarking, Traitor Tracing and Watermarking, Information Theoretic Security), and Privacy Protection respectively. The panelists presented vigorous arguments in specific areas that underlined its importance and the need for further research efforts in coming years.



WIFS 2018 panel session on ‘Key Research Problems in Information Forensics and Security for the next Five Years’: (left) *Mauro Barni* (Session Chair); (right) panelist, *Teddy Furon*, *Deniz Gunduz*, *Fernando Pérez-González*, *Tobias Oechtering* and *Patrizio Campisi*.

WIFS 2018 also recognized the authors of the *best papers*, which were selected through a rigorous vetting process. In order to select these papers for the awards, the program-chairs used the comments from the reviewers to select



several papers. These selected papers were sent to the *Award Committee Chair* to provide a final decision on papers for the awards in two categories.



Patrizio Campisi, *Editor-in-Chief* for *IEEE Transactions on Information Forensics and Security*, delivering WIFS 2018 best paper awards during the banquet session: (a) *Pawel Drozdowski* receiving best student paper runner-up award, (b) *Christy Kin-Cleaves* receiving best student paper award, (c) *Shan Jin* receiving best paper runner-up award and (d) *Alberto Pedrouzo-Ulloa* and *Fernando Pérez-González* receiving best paper award for WIFS 2018.

The **Best Paper Award** for WIFS 2018 was presented to *Alberto Pedrouzo-Ulloa* (*University of Vigo, Spain*), *Miguel Masciopinto*, *Juan Ramón Troncoso-Pastoriza*, *Fernando Pérez-González* for their paper titled “Camera Attribution Forensic Analyzer in the Encrypted Domain”. The **Best Student Paper Award** for WIFS 2018 was presented to *Christy Kin-Cleaves* and *Andrew D. Ker* (*Oxford University, UK*) for their paper titled “Adaptive Steganography in the Noisy Channel with Dual-Syndrome Trellis Codes”. The **Best Paper Runner-Up Award** for WIFS 2018 was presented to *Shan Jin* and *Riccardo Bettati* for their paper titled “Adaptive Channel Estimation in Side Channel Attacks”. The **Best Student Paper Runner-Up Award** for WIFS 2018 was presented to *Pawel Drozdowski*, *Daniel Fischer*, *Christian Rathgeb*, *Schiel Christopher*, and *Christoph Busch* for their paper titled “Database Binning and Retrieval in Multi-Fingerprint Identification Systems”.

WIFS 2018 attracted about 100 participants from 17 different countries and regions. This year’s workshop also selected four student participants for the award of travel grants: *Christy Kin-Cleaves*, *Shan Jin*, *Hector Santoyo-Garcia* and *Mingliang Chen*. These travel grants were generously supported by the *IEEE Signal Processing Society*. The chair of Information and forensics technical committee of *IEEE Signal Processing Society* announced that WIFS 2019 will be held in The Netherlands. A brief presentation on WIFS 2019 was made by *Zekeriya Erkin* during the conference banquet and he sent invitation to all the members of community for participating in the next edition of workshop.



Sample photos from WIFS 2018 participants during the banquet dinner.