



# WIFS'12

## IEEE International Workshop on Information Forensics and Security

Tenerife, Spain, December 2-5, 2012

### Technical Program at a glance

	Sunday 2	Monday 3	Tuesday 4	Wednesday 5
8:00	Registration	Registration	Registration	Registration
8:40		Welcome		
9:00	Tutorial 1   2 (9:15-12:30)	Keynote 1 Prof. Dr. Mauro Barni	Keynote 2 Dr. George Danezis	Keynote 3 Prof. Dr. James Wayman
9:15		Oral Session 1 Biometrics	Oral Session 3 Multimedia Forensics	Oral Session 4 Data Hiding
10:00	Break	Oral Session 1 Biometrics (cont)	Oral Session 3 Multimedia Forensics (cont)	Oral Session 4 Data Hiding (cont)
10:40		Oral Session 1 Biometrics (cont)	Oral Session 3 Multimedia Forensics (cont)	Oral Session 4 Data Hiding (cont)
11:00	Lunch	Lunch	Lunch	Lunch
12:20	Tutorial 3   4 (14:00-17:15)	Poster Session 1 Security and Privacy	Visit to Observatory	Poster Session 2 Media Forensics and Security
12:30		Oral Session 2 Network Forensics		Oral Session 5 Secure Communications
14:00	Oral Session 2 Network Forensics (cont)	Oral Session 5 Secure Communications (cont)		
15:20	Oral Session 2 Network Forensics (cont)	Oral Session 5 Secure Communications (cont)		
15:40	Oral Session 2 Network Forensics (cont)	Oral Session 5 Secure Communications (cont)		
16:00	Tutorial 3   4 (cont)	Demo & Ongoing Work Sessions	Banquet	Farewell
16:20		Demo & Ongoing Work Sessions		
17:20	Welcome Reception	Demo & Ongoing Work Sessions	Banquet	Banquet
17:40				
19:00	Welcome Reception	Demo & Ongoing Work Sessions	Banquet	Banquet
19:30				
20:30	Welcome Reception	Demo & Ongoing Work Sessions	Banquet	Banquet

**NOTE:** This Technical program may be subject to slight changes. Check the WIFS'12 website <http://wifs12.org/> for updates.

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## Sunday 2<sup>nd</sup> December 2012

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**08:00 - 09:15**    **Registration****09:15 - 12:30**    **Tutorials 1 and 2***Tutorial 1: A primer on content protection systems*

G. Doërr, D. Alain, and T. Kalker

*Tutorial 2: Cloud computing for network forensics*

J. François

**12:30 - 14:00**    **Lunch****14:00 - 17:15**    **Tutorials 3 and 4***Tutorial 3: Biometric privacy and secrecy from information-theoretical perspective*

T. Ignatenko

*Tutorial 4: Uncovering the processing history of video content*

A. Piva and S. Milani

**19:30**            **Welcome Reception**


**WIFS'12**

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**Monday 3<sup>rd</sup> December 2012**

<b>08:00 - 08:40</b>	<b>Registration</b>
<b>08:40 - 09:00</b>	<b>Welcome</b>
<b>09:00 - 10:00</b>	<b>Keynote 1</b>
	<i>Adversary aware signal processing</i> Prof. Dr. M. Barni
<b>10:00 - 12:20</b>	<b>Oral session 1 – Biometrics</b>
10:00 - 10:20	<i>Detecting Fingerprint Distortion from a Single Image</i> Xuanbin Si, Jianjiang Feng and Jie Zhou
10:20 - 10:40	<i>Novel Fingerprint Aging Features Using Binary Pixel Sub-Tendencies: A Comparison of Contactless CLSM and CWL Sensors</i> Ronny Merkel, Jana Dittmann and Claus Vielhauer
<b>10:40 - 11:00</b>	<b>Coffee break</b>
11:00 - 11:20	<i>Facial Landmark Configuration for Improved Detection</i> Chengwei Huang, Boris Efraty, Uday Kurkure, Xi Zhao, Manos Papadakis, Shishir Shah and Ioannis Kakadiaris
11:20 - 11:40	<i>Two-stage Appearance-based Re-Identification of Humans in Low-Resolution Videos</i> Jürgen Metzler
11:40 - 12:00	<i>Biometric Template Protection using Turbo Codes and Modulation Constellations</i> Emanuele Maiorana, Daniele Blasi and Patrizio Campisi
12:00 - 12:20	<i>Can a "Poor" Verification System be a "Good" Identification System? A Preliminary Study</i> Brian DeCann and Arun Ross
<b>12:20 - 14:00</b>	<b>Lunch</b>
<b>14:00 - 15:20</b>	<b>Poster Session 1 – Security and Privacy</b>
	<i>Machine Learning Attacks on 65nm Arbiter PUFs: Accurate Modeling poses strict Bounds on Usability</i> Gabriel Hospodar, Roel Maes and Ingrid Verbauwhede
	<i>Towards reproducible results in authentication based on physical non-cloneable functions: the forensic authentication microstructure optical set (FAMOS)</i> Sviatoslav Voloshynovskiy, Maurits Diephuis, Fokko Beekhof, Oleksiy Koval and Bruno Keel
	<i>Improving the DGK comparison protocol</i> Thijs Veugen
	<i>General Function Evaluation in a STPC Setting via Piecewise Linear Approximation</i> Tommaso Pignata, Riccardo Lazzeretti and Mauro Barni
	<i>A Framework for Privacy Preserving Statistical Analysis on Distributed Databases</i> Bing-Rong Lin, Ye Wang and Shantanu Rane
	<i>Modeling and Analysis of Electric Network Frequency Signal for Timestamp Verification</i> Ravi Garg, Avinash L. Varna and Min Wu
	<i>Telephone Handset Identification by Feature Selection and Sparse Representations</i> Yannis Panagakis and Constantine Kotropoulos
	<i>Privacy-Preserving Architecture for Forensic Image Recognition</i> Andreas Peter, Thomas Hartmann, Sascha Müller and Stefan Katzenbeisser
	<i>Sequence Detection of Overlapping Latent Fingerprints Using a Short-term Aging Feature</i> Maik Schott, Ronny Merkel and Jana Dittmann


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<b>15:20 - 15:40</b>	<b>Oral session 2 – Network Forensics</b>
15:20 - 15:40	<i>Semantic based DNS Forensics</i> Samuel Marchal, Jérôme François, Radu State and Thomas Engel
15:40 - 16:00	<i>Fingerprinting a flow of messages to an anonymous server</i> Juan A. Elices and Fernando Pérez-González
<b>16:00 - 16:20</b>	<b>Coffee break</b>
16:20 - 16:40	<i>Detecting anomalous network hosts by means of PCA</i> Tomáš Pevný, Martin Rehák and Martin Grill
16:40 - 17:00	<i>Forensic Analysis of Wireless Networking Evidence of Android Smartphones</i> Panagiotis Andriotis, George Oikonomou and Theo Tryfonas
17:00 - 17:20	<i>A Least Squares Approach to User Profiling in Pool Mix-based Anonymous Communication Systems</i> Fernando Pérez-González and Carmela Troncoso
17:20 - 17:40	<i>Mapping Evidence Graphs to Attack Graphs</i> Changwei Liu, Anoop Singhal and Duminda Wijesekera
<b>17:40 - 19:00</b>	<b>Ongoing Work Session</b>
<b>17:40 - 19:00</b>	<b>Demo Session</b>
	<i>A Tattoo image retrieval system</i> Daniel Manger Fraunhofer Institute of Optronics, System Technologies and Image Exploitation IOSB
	<b>REWIND-Demos@WIFS2012</b> Paolo Bestagini, Pedro Comesaña Alfaro, Christian Dittmar, Marco Fontani, Marco Visentini Scarsella, and Stefano Tubaro REWIND project ( <a href="http://www.rewindproject.eu/">http://www.rewindproject.eu/</a> )
	<i>An Effective Tool for Copy-Move Forgery Detection and Localization</i> Irene Amerini, Lamberto Ballan, Roberto Caldelli, Alberto Del Bimbo, Luca Del Tongo, Giuseppe Serra Media Integration and Communication Center, University of Florence
	<b>Technicolor's ContentArmor™ Solutions</b> Michael Arnold, Séverine Baudry, Peter G. Baum, Xiao-Ming Chen, Bertrand Chupeau, Gwenaël Doërr, Ulrich Gries, Frédéric Lefèbvre, Sylvain Lelievre, Antoine Robert, Christophe Vincent and Mario de Vito Technicolor
	<i>Demonstration of the Gradient Asymmetric Encryption System based on Handwritten Signature</i> Enrique Argones Rúa, Francisco Javier García Salomón, Luis Pérez Freire Gradient
	<i>Watermarking technology for ambient detection on mobile devices</i> Tomas Filler and Osama Alattar Digimarc
	<b>SIGNED: a tool for protecting the authenticity of digital and printed documents</b> Claudio Dosio, Alberto Malvido, Kush Wadwha, Luis Pérez Freire, Giuseppe Italiano SIGNED project ( <a href="http://www.signedfp7.eu">www.signedfp7.eu</a> )
	<i>Monitoring Large Scale Networks using Tree Based Multidimensional Aggregation</i> Lautaro Dolberg, Jérôme François, Thomas Engel SnT - Interdisciplinary Centre for Security, Reliability and Trust, University of Luxembourg

**WIFS'12***IEEE International Workshop on Information Forensics and Security*  
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<b>08:00 - 09:00</b>	<b>Registration</b>
<b>09:00 - 10:00</b>	<b>Keynote 2</b> <i>Playing hide and seek online: anonymous communications, traffic analysis and censorship</i> <b>Dr. G. Danezis</b>
<b>10:00 - 12:20</b>	<b>Oral session 3 – Multimedia Forensics</b>
10:00 - 10:20	<i>Reverse Engineering of Double JPEG Compression in the Presence of Image Resizing</i> Tiziano Bianchi and Alessandro Piva
10:20 - 10:40	<i>Content Authentication and Identification under Informed Attacks</i> Fokko Beekhof, Sviatoslav Voloshynovskiy and Farzad Farhadzadeh
<b>10:40 - 11:00</b>	<b>Coffee break</b>
11:00 - 11:20	<i>Forensic Analysis of Ordered Data Structures On The Example of JPEG Files</i> Thomas Gloe
11:20 - 11:40	<i>Preventing unauthorized copying of displayed information by utilizing differences in spectral sensitivity between humans and imaging devices</i> Takayuki Yamada, Seiichi Gohshi and Isao Echizen
11:40 - 12:00	<i>Detection of video double encoding with GOP size estimation</i> David Vázquez-Padín, Marco Fontani, Tiziano Bianchi, Pedro Comesaña, Alessandro Piva, and Mauro Barni
12:00 - 12:20	<i>IPTV streaming source classification</i> Miguel Masciopinto and Pedro Comesaña
<b>12:20 - 14:00</b>	<b>Lunch</b>
<b>14:00 - 20:30</b>	<b>Visit to Observatory</b>
<b>20:30</b>	<b>Banquet</b>


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**Wednesday 5<sup>th</sup> December 2012**

<b>08:00 - 09:00</b>	<b>Registration</b>
<b>09:00 - 10:00</b>	<b>Keynote 3 – IEEE Biometrics Council Distinguished Lecturer Talk</b> <i>Issues, Controversies and Advancements in Forensic Speaker Recognition</i> <b>Prof. Dr. J. L. Wayman</b>
<b>10:00 - 12:20</b>	<b>Oral session 4 – Data Hiding</b>
10:00 - 10:20	<i>Effect of Cover Quantization on Steganographic Fisher Information</i> Jessica Fridrich
10:20 - 10:40	<i>An Efficient JPEG Steganographic Scheme Using Uniform Embedding</i> Linjie Guo, Jiangqun Ni and Yun Qing Shi
<b>10:40 - 11:00</b>	<b>Coffee break</b>
11:00 - 11:20	<i>Active content fingerprinting: a marriage of digital watermarking and content fingerprinting</i> Sviatoslav Voloshynovskiy, Farzad Farhadzadeh, Oleksiy Koval and Taras Holotyak
11:20 - 11:40	<i>AC-3 Bit Stream Watermarking</i> Xiao-Ming Chen, Michael Arnold, Peter Baum and Gwenaël Doërr
11:40 - 12:00	<i>Decoding Fingerprints Using the Markov Chain Monte Carlo Method</i> Teddy Furon, Arnaud Guyader and Frédéric Cérrou
12:00 - 12:20	<i>Weighted Stego-Image Steganalysis for Naive Content-Adaptive Embedding</i> Pascal Schoettle, Stefan Korff and Rainer Boehme
<b>12:20 - 14:00</b>	<b>Lunch</b>
<b>14:00 - 15:20</b>	<b>Poster Session 2 – Media Forensics and Security</b>
	<i>Optimum Forensic and Counter-forensic Strategies for Source Identification with Training Data</i> Mauro Barni and Benedetta Tondi
	<i>ML Estimation of the Resampling Factor</i> David Vázquez-Padín and Pedro Comesaña
	<i>Detection and information theoretic measures for quantifying the distinguishability between multimedia operator chains</i> Pedro Comesaña
	<i>Watermarking Method with Exact Self-Propagating Restoration Capabilities</i> Sergio Bravo-Solorio, Chang-Tsun Li and Asoke Nandi
	<i>Capacity Control of Reversible Watermarking by Two-Thresholds Embedding</i> Ion Caciula and Dinu Coltuc
	<i>How to Find Relevant Training Data: A Paired Bootstrapping Approach to Blind Steganalysis</i> Pham Hai Dang Le and Matthias Otto Franz
	<i>Designing Steganographic Distortion Using Directional Filters</i> Vojtěch Holub and Jessica Fridrich
	<i>Dynamic Traitor Tracing for Arbitrary Alphabets: Divide and Conquer</i> Thijs Laarhoven, Jan-Jaap Oosterwijk and Jeroen Doumen
	<i>Low Level Crowd Analysis Using Frame-Wise Normalized Feature For People Counting</i> Hajer Fradi and Jean-Luc Dugelay
	<i>Identify computer generated characters by analysing facial expressions variation</i> Duc-Tien Dang-Nguyen, Giulia Boato and Francesco G.B. De Natale

**WIFS'12***IEEE International Workshop on Information Forensics and Security*  
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15:20 - 15:40 *Non-regenerative Two-Hop Wiretap Channels using Interference Neutralization*  
Sabrina Gerbracht, Eduard Jorswieck, Gan Zheng and Björn Ottersten

15:40 - 16:00 *End-to-end secure connection in heterogeneous networks for critical scenarios*  
Romeo Giuliano, Alessandro Neri and Damiano Valletta

**16:00 - 16:20 Coffee break**

16:20 - 16:40 *Comparison of Different Attack Classes in Arbitrarily Varying Wiretap Channels*  
Holger Boche and Rafael Felix Wyrembelski

16:40 - 17:00 *Optimality of Beamforming for Secrecy Capacity of MIMO Wiretap Channels*  
Jiangyuan Li and Athina Petropulu

17:00 - 17:20 *Destination Assisted Cooperative Jamming for Wireless Physical Layer Security*  
Yupeng Liu and Athina Petropulu

**17:20 - 17:30 Conclusions and Farewell**