Preface

The 16th International Workshop on Digital Forensics and Watermarking (IWDW 2017), hosted by the Advanced Multimedia and Security Lab (AMSL) of the Department of Computer Science, Otto von Guericke University Magdeburg, was held on the premises of the newly renovated "Haus des Handwerks" in Magdeburg, Germany, during August 23–25, 2017. The chosen venue is close to the place where Otto von Guericke first held his famous Magdeburg Hemispheres Experiment in the 17th century.

IWDW 2017, following the principles of the IWDW series, aimed at providing a technical program covering state-of-the-art theoretical and practical developments in the fields of digital watermarking, steganography and steganalysis, forensics and anti-forensics, visual cryptography, and other multimedia-related security issues. Among 48 submissions from Europe, Asia, and North America, the Technical Program Committee selected 30 papers for presentation and publication, including one paper for a best paper award. The selection was based on the reviews provided by 52 Program Committee members.

Besides the regular presentations, two special session were held: The first one ("Emerging threats of Criminal Use of Information Hiding: Usage Scenarios and Detection Approaches") was organized jointly with the Europol EC3 initiative CUING (Criminal Use of Information Hiding) and aimed to bring together academic and law-enforcement-related research on the application of steganography, covert channels, watermarking and other forms of information hiding in the context of cybercrime. The second special session ("Biometric Image-Tampering Detection") was co-organized by the German national research project ANANAS (Anomalie-Erkennung zur Verhinderung von Angriffen auf gesichtsbildbasierte Authentifikationssysteme: Anomaly Detection for the Prevention of Attacks Against Face Image-Based Authentication Systems), to address the challenging task of blind validation of biometric image authenticity. Here, detecting traces of illegitimate image editing and distinguishing them from traces of legitimate image editing was the major concern of this session, motivated by the fact that digital photographs have recently been actively used in machine-readable documents for the purpose of biometric identity verification, generating the risk of criminal intent to overcome automated recognition systems by image manipulation.

In addition to the paper presentations, the workshop featured two invited talks: One keynote "Applications of Natural Laws for Multimedia Security and Forensics," presented by Professor Anthony T.S. Ho (University of Surrey, UK) and an introductory talk for one of the special sessions, titled "Media Forensics and Trustworthiness of Biometric Images – An Industry Perspective" by Dr. Andreas Wolf (Principal Scientist Biometrics at Bundesdruckerei GmbH, Germany, and one of the German DIN experts delegated to the ISO/IEC JTC1 committees SC17, SC31, and SC37 as well as to the European Standards Committee CEN).

We wish to thank Springer for sponsoring a Best Paper Award for IWDW 2017. It was decided to be awarded to the paper with the title "Topological Data Analysis For Image Tampering Detection" by Aras Asaad and Sabah Jassim (The University of Buckingham, UK). As the reviewers pointed out for this paper, the application of Topological Data Analysis to media forensics done is still early stage work, but it opens a new and promising perspective in the field of media forensics. We feel that this novelty deserves to be awarded to encourage (especially young) researchers to step outside the well established routes.

We would like to thank all of the authors, reviewers, lecturers, and participants for their valuable contributions to IWDW 2017. Our sincere gratitude also goes to all the members of the Technical Program Committee, special session reviewers, and our local volunteers for their careful work and great efforts made in the wonderful organization of this workshop.

Finally, we hope that the readers will enjoy this volume and that it will provide inspiration and opportunities for future research.

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