

AIMS 2018

12th International Conference on Autonomous Infrastructure, Management, and Security

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Proceedings

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AIMS 2018 Preface

The International Conference on Autonomous Infrastructure, Management, and Security (AIMS 2018) is a single-track event integrating regular conference paper sessions, hands-on lab, and a PhD student workshop into a highly interactive event. Within the security and network and service management community, AIMS is focused on PhD students and young researchers. One of the goals of AIMS is to provide early researchers with constructive feedback by senior scientists and give them the possibility to grow in the research community by means of targeted lab sessions on technical and educational aspects of their research activity. This focus on early-stage researchers is immediately observable in the program, which is dominated by PhD sessions, where young students present their research.

AIMS 2018 – which took place as the 12th event during June 4-6, 2018 in Neubiberg, Germany and was hosted by the Universität der Bundeswehr München, Germany – was the twelfth edition of a conference series on management and security aspects of distributed and autonomous systems. It followed the established tradition of unusually vivid conference series, after successful events in Zürich, Switzerland in 2017, Munich, Germany in 2016, Ghent, Belgium in 2015, Brno Czech Republic in 2014, Barcelona, Spain in 2013, Luxembourg, Luxembourg in 2012, Nancy, France in 2011, Zürich, Switzerland in 2010, Enschede, The Netherlands in 2009, Bremen, Germany in 2008, and Oslo, Norway in 2007.

AIMS 2018 was focused on the fundamental impact that the data explosion and the subsequent need for better automation will have on management and security of networks. This theme was addressed by both the technical and PhD sessions by papers focusing on next-generation network monitoring, automated threat identification and prevention, network management and resilience, and data protection. AIMS 2018 was organized as a 2-day program consisting of a lab session on the first day and a technical session and two PhD sessions on the second day.

The lab session addressed the current topic of the security of IoT devices, which are being widely adopted in multiple application domains including Industry 4.0, smart homes, smart cities, and intelligent transport. The lab presented a detailed overview of IoT devices, protocols, and their security issues and provided participants with hands-on experience in analyzing their network traffic. Additionally, AIMS 2018 featured a research keynote on “Thirty years of Incident Response: What have we learned?” by Thomas Schreck, head of Siemens CERT.

The technical program consisted of one full paper session, which addressed many of the AIMS 2018 topics, namely network monitoring, malware mitigation, and data protection. The session included three papers, which were selected after a thorough reviewing process out of seven submissions.

The PhD sessions are a venue for doctoral students to present and discuss their research ideas, and more importantly to obtain valuable feedback from the AIMS audience about their planned PhD research work. For AIMS 2018 two PhD sessions had been arranged for, focusing on threat identification and prevention, and on network management of future networks. A total of eight papers were presented and discussed. These papers were selected after a separate review process out of sixteen submissions.

These proceedings include all papers presented at AIMS 2018 as defined within the overall final program. It demonstrates the European scope of the conference, as most of the accepted papers originate from European research groups. The ratio of PhD workshop submissions to full paper submissions clearly showed that AIMS is mainly a conference for young researchers, which give them a unique opportunity to share and discuss their research.

The editors would like to thank all the people that helped make the AIMS 2018 a successful event. First and foremost, our thanks go to the authors, who submitted their papers, and to the members of the AIMS Technical Program Committee for reviewing those papers and providing highly valued feedback. Many thanks are extended to the keynote speaker, Thomas Schreck, to the lab lecturers, Abdelkader Lahmadi and Frederic Beck, and to Sofiane Lagraa, who helped to organize the lab session. The thanks are as well in order for Burkhard Stiller for preparing these proceedings and many thanks are due as well to the local organizers for handling all the logistics and hosting the AIMS 2018 event.

Finally, special thanks go to the AIMS 2018 supporter, Universität der Bundeswehr München.

June 2018

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Table of Content

Martin Drašar, Jérôme François: <i>AIMS 2018 Preface</i>	iii
<i>AIMS 2018 Organizing Committee</i>	v
<i>AIMS 2018 Technical Program Committee</i>	vi
<i>AIMS 2018 Table of Content</i>	vii

PhD Session I

Olivier van der Toorn, Anna Sperotto: <i>Threat Identification Using Active DNS Measurements</i>	1
Stanislav Spacek, Pavel Celeda: <i>Advanced Threat Detection Through Network Flows and Log Correlation</i>	6
Katharina Kuhnert, Jessica Steinberger, Harald Baier: <i>Botnet Detection in Anonymous Networks</i>	11
Raphael Labaca Castro, Gabi Dreo Rodosek: <i>Black Box Attacks using Adversarial Samples against Machine Learning Malware Classification to Improve Detection</i>	16

Full Paper Session

Tomas Cejka, Petr Velan, Jiří Havránek, Pavel Benáček: <i>Enhanced Flow Monitoring with P4 Generated Flexible Packet Parser</i>	21
Mohamed Nassar, Haidar Safa: <i>Throttling Malware Families in 2D</i>	33
Paulo Silva, Lukas Kencl, Edmundo Monteiro: <i>Data Privacy Protection - Concealing Text and Audio with a DNA-inspired Algorithm</i>	46

PhD Session II

Moritz Mueller, Roland van Rijswijk-Deij: <i>Towards an Independent and Resilient DNS</i>	60
Godfrey Kibalya, Joan Serrat, Juan Luis Gorricho: <i>RAN Slicing Framework and Resource Allocation in Multi-domain Heterogeneous Networks</i>	65
Eder John Scheid, Burkhard Stiller: <i>Leveraging Smart Contracts for Automatic SLA Compensation - The Case of NFV Environments</i>	70
Nils Rodday, Aiko Pras, Gabi Dreo Rodosek: <i>Towards European Network Sovereignty</i>	75
<i>List of Authors</i>	79

