

# Preface

The International Conference on Autonomous Infrastructure, Management, and Security (AIMS 2015) is a single-track event integrating regular conference paper sessions, tutorials, keynotes, and a PhD student workshop into a highly interactive event. Within the network and service management community, AIMS is focused on PhD students and young researchers. One of the key goals of AIMS is to provide early-stage 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 the research activity. This focus on early-stage researchers is immediately observable in the program, featuring a high number of educational sessions and PhD sessions, where young PhD students present their research.

AIMS 2015 – which took place during June 22–25, 2015, in Ghent, Belgium, and was hosted by Ghent University and iMinds – was the ninth edition of a conference series on management and security aspects of distributed and autonomous systems. It followed the already established tradition of an unusually vivid and interactive conference series, after successful events in 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.

This year, AIMS 2015 focused on intelligent mechanisms for network configuration and security. This theme is addressed in the technical program with papers related to monitoring, security, and management methodologies in the application areas of wired and wireless networks, Internet-of-Things, and Cloud infrastructures. AIMS 2015 was organized as a 4-day program to encourage the interaction with and the active participation of the conference’s audience. The program consisted of technical sessions for the main track and PhD sessions, interleaved with a research and an educational keynote and three lab sessions.

The lab sessions offered hands-on experience in network and service management topics and they were organized in on-site labs preceded by short tutorial-style teaching sessions. The first tutorial presented the Hadoop framework, explaining common design patterns and how to program using the MapReduce paradigm. The second tutorial covered the topic of deploying Software-Defined Networking (SDN) and Network Functions Virtualization (NFV) on large-scale test-bed facilities. Finally, the third tutorial focused on indexing, searching, and visualizing management tools.

In line with its educational mission, this year the conference also included an educational keynote, which was given by Piet Demeester (Ghent University, iMinds, Belgium) on “Providing Tips and Tricks for Young Researchers” advancing in their PhD career. Additionally, AIMS 2015 featured a research keynote on the “Management of Big Data: The Areas of Conflict” provided by Burkhard Stiller (University of Zürich, Switzerland).

The technical program consisted of two sessions – covering the topics of autonomic and decentralized management, and security, privacy, and management – and included seven full papers, which were selected after a thorough reviewing process out of a total of 22 submissions. Each paper received at least three independent reviews.

The AIMS PhD workshop is 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. This year, the workshop was structured into two technical sessions covering the management of future networks and security management. All PhD papers included in this volume describe the current state of these investigations, including their clear research problem statements, proposed approaches, and an outline of results achieved so far. A total of nine PhD papers were presented and discussed. These papers were selected after a separate review process out of 24 submissions, while all PhD papers received at least three independent reviews, too.

The present volume of the *Lecture Notes in Computer Science* series includes all papers presented at AIMS 2015 as defined within the overall final program. It demonstrates again the European scope of this conference series, since most of the accepted papers originate from European research groups. Also, AIMS 2015 has proven true to its defined DNA of a conference with a strong educational goal, as indicated by the high number of submissions attracted by the PhD Workshop.

The editors would like to thank the many people who helped make AIMS 2015 such a high-quality and successful event. Firstly, many thanks are addressed to all authors, who submitted their contributions to AIMS 2015, and to the lab session speakers, namely, Jérôme François, Niels Bouten, Rachid Mijumbi, Abdelkader Lahmadi, and Frederick Beck, and the keynote speakers Piet Demeester and Burkhard Stiller. The great review work performed by the members of both the AIMS Technical Program Committee and the PhD Student Workshop Committee as well as additional reviewers is highly acknowledged. Thanks are addressed also to Ricardo Schmidt and Tim Wauters for setting up and organizing the lab sessions. Additionally, many thanks are addressed to the local organizers for enabling all logistics and hosting the AIMS 2015 event.

Finally, the editors would like to express their thanks to Springer, and in particular Anna Kramer, for the smooth cooperation in finalizing these proceedings. Additionally, special thanks go to the AIMS 2015 supporters, Ghent University, iMinds, and the European FP7 NoE FLAMINGO under Grant No. 318488.

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