

Preface

The papers in this volume were presented at the 18th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS), held November 8–10, 2016, in Lyon, France.

SSS is an international forum for researchers and practitioners in the design and development of distributed systems with self-* properties: self-stabilizing, self-configuring, self-organizing, self-managing, self-healing, self-optimizing, self-adaptive, self-repairing, self-protecting, etc. They mainly aim to tolerate different kinds of undesirable phenomena without human intervention. Research in distributed systems is now at a crucial point in its evolution, marked by the importance of dynamic systems such as peer-to-peer networks, large-scale wireless sensor networks, mobile ad hoc networks, cloud computing, mobile agent computing, opportunistic networks, and robotic networks. Moreover, new applications with self-* requirements are currently coming up in different fields such as grid and Web services, banking and e-commerce, e-health and robotics, aerospace and avionics, automotive, and industrial process control, among others.

SSS started as the Workshop on Self-Stabilizing Systems (WSS), the first two of which were held in Austin in 1989 and in Las Vegas in 1995. Since 1995, the workshop has been held biennially; it was held in Santa Barbara (1997), Austin (1999), and Lisbon (2001). As interest grew and the community expanded, in 2003, the title of the forum was changed to the Symposium on Self-Stabilizing Systems (SSS). SSS was organized in San Francisco in 2003 and in Barcelona in 2005. As SSS broadened its scope and attracted researchers from other communities, significant changes were made in 2006. It became an annual event, and the name of the conference was changed to the International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS). From then, SSS conferences were held in Dallas (2006), Paris (2007), Detroit (2008), Lyon (2009), New York (2010), Grenoble (2011), Toronto (2012), Osaka (2013), Paderborn (2014), and Edmonton (2015).

This year the Program Committee was organized into three groups reflecting the major trends related to self-* systems: (a) Self-* and Autonomic Computing, (b) Foundations, and (c) Networks, Multi-Agent Systems, and Mobility.

We received 53 submissions from 30 countries. Each submission was reviewed by at least three Program Committee members with the help of external reviewers. Out of the 53 submitted papers, 23 papers were selected for presentation. The symposium also included nine short papers. Selected papers from the symposium will be published in a special issue of *Theory of Computing Systems* (TOCS) journal. This year, we were very fortunate to have three distinguished invited speakers: Hagit Attiya (Technion, Israel), Joseph Halpern (Cornell University, USA), and Maurice Herlihy (Brown University, USA).

We would like to deeply thank the program vice chairs, Stéphane Devismes, Vijay Garg, Manish Parashar, Yvonne-Anne Pignolet, Sergio Rajsbaum, and Roger Wattenhofer. We sincerely acknowledge the tremendous time and effort that the

Program Committee members have put in for the symposium. We are grateful to the external reviewers for their valuable and insightful comments. We also thank the members of the Steering Committee for their invaluable advice. We gratefully acknowledge the publicity chair, Janna Burman, local organization chair, Eddy Caron, and the Organizing Committee members for their time and invaluable effort that greatly contributed to the success of this symposium. Last but not least, on behalf of the Program Committee, we thank all the authors who submitted their work to SSS.

Finally, the process of paper submission, selection, and compilation of the proceedings was greatly simplified thanks to the strong and friendly interface of the EasyChair system (<http://www.easychair.org>).

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Borzoo Bonakdarpour
Franck Petit

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