

Preface

This volume includes a collection of peer-reviewed contributions from among those presented at the third Bayesian Young Statisticians Meeting (BAYSM 2016). The conference was organized by the Istituto di Matematica Applicata e Tecnologie Informatiche “E. Magenes” (IMATI) of the National Research Council of Italy (CNR), in collaboration with the Dipartimento di Statistica, Informatica, Applicazioni “G. Parenti”, University of Florence, and the Department of Decision Sciences, Bocconi University. The conference was held in Florence from 19 to 21 June 2016.

The Bayesian approach to statistics is becoming increasingly popular within the scientific community. Over the years, various problems involving complex data (e.g., *big data*) and posing challenging methodological issues have stimulated the scientific community to develop and apply novel Bayesian statistical methods. BAYSM represents an opportunity for MS and Ph.D. students, post-docs, and young researchers interested in Bayesian statistics to connect with their scientific community at the beginning of their careers. The goal of BAYSM is to stimulate collaborations and encourage discussions both with colleagues at the same level of experience and with more senior researchers, in order to promote research in a wide spectrum of fields where Bayesian methods can be employed.

The scientific program of BAYSM 2016 included contributions that develop and apply Bayesian methods in a variety of fields, ranging from the traditional (e.g., biostatistics and reliability) to the most innovative (e.g., big data and networks).

BAYSM 2016 included four plenary sessions and a keynote session as well as contributed talk sessions and a poster session. The plenary sessions offered four brilliant lectures by Fabrizia Mealli (University of Florence, Italy), Peter Müller (The University of Texas at Austin, TX, USA), Steve Scott (Google Inc., CA, USA), and Marina Vannucci (Rice University, TX, USA). The exciting keynote speech on the foundations of Bayesian statistics was delivered by Alessandra Guglielmi (Politecnico di Milano, Italy). Each standard session was chaired by a senior discussant, who provided helpful feedback to the young speakers on their current activity, encouraging them to pursue their research. Networking among the young participants was supported by vivid and inspirational discussions.

Three prizes were assigned: best methodological talk, best talk on applications, and best poster.

We acknowledge all participants who made BAYSM 2016 an outstanding scientific event and an enjoyable experience. We thank all of the speakers, young and senior. We express our gratitude to the discussants (Daniela Cocchi, Emanuela Dreassi, Brunero Liseo, Antonio Pievatolo, and Fabrizio Ruggeri) for their valuable work. Special acknowledgments are also owed to Ilaria Bianchini (Politecnico di Milano, Italy) and Michela Tizzani (Promoest S.r.l., Italy) for their support in organizing the conference. Finally, we give credit to our sponsors for their outstanding support: Google Inc., Comune di Firenze, International Society for Bayesian Analysis (ISBA), and Società Italiana di Statistica (SIS).

Hosting this meeting was an exciting and rewarding experience for the organizers. We expect that future BAYSM conferences will continue to have the same success as the first three editions, inspiring the new generations of Bayesian statisticians. Stay tuned at www.baysm.org!

This volume includes contributions from younger Bayesian statisticians in which theoretical aspects and application issues, often considered separately, are blended together to successfully tackle complex problems. It is structured in two parts. The first, *Theory and Methods*, is mainly devoted to mathematical statistics, model building, and methodological works. The second, *Applications and Case Studies*, deals with applications of complex methods to real-world problems and data.

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<http://www.springer.com/978-3-319-54083-2>

Bayesian Statistics in Action

BAYSM 2016, Florence, Italy, June 19-21

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Mattei, A. (Eds.)

2017, IX, 251 p. 56 illus., 44 illus. in color., Hardcover

ISBN: 978-3-319-54083-2