Advanced Methodologies for Bayesian Networks 2017:
Preface

Joe Suzuki
Osaka University
Osaka (Japan)

Antti Hyttinen
Helsinki Institute for Information Technology, University of Helsinki
Helsinki (Finland)

Brandon Malone
NEC Laboratories Europe
Heidelberg (Germany)

Over the last few decades, graphical models such as Bayesian and Markov networks have become increasingly popular AI approaches. In the International Workshop on Advanced Methodologies for Bayesian Networks (AMBN), we explore methodologies for enhancing the effectiveness of graphical models including modeling, reasoning, model selection, logic-probability relations, and causality. The first and second AMBNs were held in Tokyo and Yokohama in 2010 and 2015, respectively.

This AMBN is the first to publish accepted papers in the Proceedings of the Machine Learning Research. These proceedings contain fifteen contributed papers and six invited talk abstracts that are presented at the third AMBN, held in Kyoto, Japan on September 20-22, 2017. The fifteen contributed papers were selected out of 22 submissions by the program committee with additional help from external reviewers.

The invited talks are by Kun Zhang (Carnegie Mellon University) for causality, Taisuke Sato (AIST) for discrete & logics, Wray Buntine (Monash University, Australia), Tomi Silander (Xerox Research Centre Europe), and Marco Scutari (University of Oxford) for BDeu, and John Halloran (University of California, Davis) for applications. In addition to regular sessions on a variety of graphical model topics, the workshop includes two special sessions: one on causality and another on Bayesian network model selection criteria.

We thank all the people below and others to collaborate the conference. In particular, we appreciate the Artificial Intelligence Research Center (AIRC), National Institute of Advanced Industrial Science and Technology (AIST) and Research Institute for Mathematical Sciences (RIMS), Kyoto University.

Joe Suzuki, Antti Hyttinen, and Brandon Malone,
AMBN 2017 Program Chairs

Organizing Team: Joe Suzuki (General Chair/PC co-Chair, Osaka University), Antti Hyttinen (PC co-Chair, Helsinki Institute for Information Technology, University of Helsinki), Brandon Malone (PC co-Chair, NEC Laboratories Europe), Maomi Ueno
Advisors: Wray Buntine (Monash University, Australia), David Heckerman (Microsoft, USA), Aapo Hyvärinen (University College London, UK), Petri Myllymäki (University of Helsinki, Finland), Peter Spirtes (CMU, USA), and Milan Studený (Institute of Information Theory and Automation, Czech Republic).

Program Committee: Russell Almond (Florida State University, USA), Alessandro Antonucci (IDSIA, Switzerland), Peter van Beek (University of Waterloo, Canada), Cassio P. de Campos (Queens University, UK), James Cussens (University of York, UK), Hei Chan (Hokkaido University, Japan), Arthur Choi (UCLA, USA), Robin Evans (University of Oxford, UK), Luca Faes (University of Trento, Italy), Zhigao Guo (Northwestern Polytechnical University, China, USA), Takashi Isozaki (Sony CSL, Japan), Manabu Kuroki (Yokohama National University, Japan), Peter Lucas (Leiden University, The Netherlands), Shin-Ichi Minato (Hokkaido University, Japan), Alessio Moneta (Scuola Superiore Sant’Anna, Italy), Pekka Parviainen (Aalto University, Finland), Jose M. Peña (Linköping University, Sweden), Marco Scutari (University of Oxford, UK), Tomi Silander (Xerox Research Centre Europe, France), Linda Smail (Zayed University, UAE), Maomi Ueno (University of Electro Communications, Japan), Changhe Yuan (Queens College/CUNY, USA), Jiji Zhang (Lingnan University, Hong Kong), Kun Zhang (Carnegie Mellon University, USA).

External Reviewers: Makoto Yamada (Riken AIP, Japan), Tomoharu Iwata (NTT CS labs, Japan), Giorgio Corani (IDSIA, Switzerland), Sabina Marchetti (IDSIA, Switzerland)