

## Editorial

# ISMB 2018 proceedings

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The 26th Annual Conference on Intelligent Systems for Molecular Biology (ISMB) was held in Chicago, Illinois, USA, July 6–10, 2018. ISMB is the flagship conference of the International Society for Computational Biology (ISCB) and the world's premier forum for dissemination of scientific research in computational biology and its intersection with other fields. This special issue serves as the Proceedings of ISMB 2018.

One of the primary goals of this year's conference organization was to provide the community with a unified interface for submission/acceptance of high-quality papers in the field of computational biology. That is, we explicitly aimed to ensure homogeneity in quality of accepted papers across different scientific themes. Moreover, we looked to simultaneously acquaint researchers outside the immediate ISCB community with the areas of interest represented by our Community of Special Interests (COSIs; COSI stands for the Community of Special Interests. There are 20 active COSIs currently operating under ISCB. Of those, 16 COSIs participated in the ISMB 2018 Proceedings.) and to invite submissions beyond these pre-determined interests. The scope of ISMB includes theoretical papers, algorithms, or statistical methods, while allowing for important novel biological insights and broadly defined intellectual contributions. We invited submission of papers in 10 general scientific areas

(Table 1), organized by relevant biological problems. The area of General Computational Biology was created to accommodate under-represented innovation in the field. Upon inspection of the papers submitted to this area, three methodology-specific scientific sub-areas were identified (Text Mining, Mass Spectrometry and Visualization) in addition to a number of unclassifiable outliers. All papers submitted to all areas were expected to present methodological and scientific contributions to the specific areas of submission.

Prominent researchers were selected to the Senior Program Committee (SPC). SPC consisted of the Proceedings Chairs, Area Chairs (ACs) and COSI-selected Chairs (CCs). This structure reflected the desire of the ISMB 2018 Steering Committee to involve COSIs early on and throughout the review process, in part because the Proceedings papers were to be ultimately presented in COSI sessions at the main meeting. Overall, the SPC consisted of 26 people (Table 1).

In total, 331 papers were submitted for an 18.6% increase over ISMB/ECCB 2017. Of those, 324 papers were sent to review for which 1040 reviews were written by 337 Program Committee (PC) members (average of 3.2 reviews per submission). Twenty-nine submissions had 2 completed reviews, 209 had 3, 64 had 4, 15 had 5 and 4 submissions had 6 completed reviews. The conditional acceptance information was provided to the authors a month later and

**Table 1.** Thematic areas of ISMB 2018

Area	Area chair	Submissions	Accepted papers	Acceptance rate (%)
Studies of phenotypes and clinical applications	Anna Goldenberg	59	11	18.6
Comparative and functional genomics	Carl Kingsford	53	12	22.6
Bioinformatics education	Fran Lewitter	2	1	50.0
Genomic variation analysis	Sriram Sankararaman	14	4	28.6
Bioinformatics of microbes and microbiomes	Mihai Pop	22	3	13.6
Population genomics and molecular evolution	Nadia El-Mabrouk	15	5	33.3
Macromolecular sequence, structure and function	Charlotte Deane	54	11	20.4
Systems biology and networks	Roded Sharan	63	9	14.3
Genome privacy and security	Haixu Tang	10	3	30.0
General computational biology	Yana Bromberg and Predrag Radivojac	32	6	18.6

*Notes:* The table lists the ACs for each theme, the number of reviewed papers, the number of accepted papers and the acceptance rate for each area. A special area of General Computational Biology was created for papers not fitting in any of the pre-defined areas. This area contained 6 Text Mining papers (1 accepted), 7 Mass Spectrometry papers (2 accepted), 5 Visualization papers (2 accepted) and 14 additional diverse papers (1 accepted). The list of CCs includes: Rolf Backhofen, Jan Baumbach, Emidio Capriotti, Ana Conesa, Christophe Dessimoz, Jeremy Goecks, Pavel Labaj, Florian Markowitz, Nicola Mulder, Alice McHardy, Natasa Przulj, Venkata Satagopam, Saurabh Sinha, Karin Verspoor and Olga Vitek.

**Table 2.** Distribution of ISMB 2018 proceedings papers to COSIs

COSI	Number of papers
MLCSB	13
HiTSeq	9
RegSys	6
TransMed	6
Bio-ontologies	4
Evolution	4
3DSIG	3
NetBio	3
RNA	3
VarI	3
BioVis	2
CompMS	2
Function	2
Microbiome	2
CAMDA	1
Education	1
No COSI	1

final acceptance conveyed 2 months after initial submission. Overall, 65 manuscripts were accepted for a final acceptance rate of 19.6%. The distribution of papers reviewed in different areas is shown in [Table 1](#).

A new feature of this year's ISMB submission was that the authors had an opportunity to request that their accepted manuscript be presented in one of the COSI sessions. The most requests were made for MLCSB (73), followed by NetBio (47), HiTSeq (29), Function (29), RegSys (27), TransMed (25), RNA (23), Evolution (20), Bio-Ontologies (17), Microbiome (15), BioVis (13), VarI (5), CAMDA (5) and Education (1). Roughly 37% of the submitted manuscripts did not provide this information. Final assignments to COSI sessions were made by the Proceedings Chairs on the basis of the author and COSI requests. One of the papers did not fit any of the COSIs and was assigned to the General Computational Biology session. The distribution of accepted papers to COSIs is shown in [Table 2](#).

We thank the ISMB 2018 Steering Committee for their guidance. Special thanks go to the SPC and reviewers for all their fantastic work dedicated to maintaining the high quality standards of ISMB in a very short timeframe. We are particularly grateful to Steven Leard, Diane Kovats and Pat Rodenburg for world-class organizational support. Finally, we thank the community for their interest and engagement in this conference—ISMB 2018 belongs to you! With this, we invite you to read the Proceedings of ISMB 2018. See you next year in Basel, Switzerland, for ISMB/ECCB 2019.

*Conflict of Interest:* none declared.