INTERNATIONAL SOCIETY FOR COMPUTATIONAL BIOLOGY

2017 ISCB Annual Report: Accomplishments and State of Society

Dear ISCB Members and Colleagues,

It was a milestone year for ISCB in 2017. The Society celebrated it's 20th anniversary and ISCB's flagship meeting ISMB (Intelligent Systems for Molecular Biology) celebrated its 25th anniversary. The above accomplishments and the many others featured in this annual report are achieved because of the selfless volunteers who give their time, expertise, and energies to the Society. ISCB continues to grow, working towards our goal to be the leading professional society for participants in the field of computational biology and bioinformatics, serving researchers, practitioners, technicians, students, and suppliers worldwide.

One of the most significant changes in 2017 was the restructuring of the flagship meeting, ISMB. With intensified community involvement form the ISCB Communities of Special Interest (COSIs), ISMB brought into the forefront the activities of the COSIs, who had previously organized the Special Interest Group (SIG) meetings at the conference. The active participation of the COSIs enabled a more streamlined scientifically effective program while still retaining the key features that made ISMB a successful open conference. My sincerest gratitude to the fifteen COSI group organizers who were willing to collaborate with ISCB to make a successful community focused conference. Nearly a year of planning resulted in an outstanding meeting with over 1800 participants

As we look ahead to 2018, I am excited about what the horizon may bring. I would also like to recognize and thank Alfonso Valencia for his leadership and guidance over the course of the last three years as ISCB president. Alfonso led with grace and an innovative spirit and we are grateful for his service.

Consider continuing the journey with us by volunteering, renewing your membership, and helping to grow our community by inviting a friend. I look forward to meeting many of you at the upcoming ISCB conferences. I also welcome your feedback and suggestions anytime. Please feel free to reach out to me at executive.office@iscb.org.

Sincerely

Diane E. Kovats, CMP, CAE
Executive Director

The International Society for Computational Biology (ISCB) - www.iscb.org - is the first and only society dedicated to representing the computational biology and bioinformatics community on a global scale. Our mission is focused on advancing the understanding of living systems through computation and for communicating scientific advances worldwide.

ISCB membership reflects commitment toward the advancement of computational biology and bioinformatics globally. ISCB serves its global membership by providing high- uality meetings, publications, and reports on methods and tools by disseminating key information about bioinformatics resources and relevant news from related fields and by actively facilitating training, education, employment, career development, and networking. We advocate and provide leadership for resources and policies in support of scientific endeavors and to benefit society at large.

Collaboration is an essential element to promoting the advancement of bioinformatics and computational biology research. To that end, ISCB has made a significant effort to foster and promote collaborations between researchers in these fields by supporting our Communities of Special Interest (COSIs), collaborating with Affiliated Regional Groups, and organizing a great number of meetings, providing forums to allow researchers to connect. The most notable and longest running meeting organized by ISCB is our flagship meeting, ISMB (Intelligent Systems for Molecular Biology). Beyond ISMB, ISCB regional meetings include ISCB-Africa (since 2009), ISCB-Latin America (since 2010), and ISCB-Asia (since 2011), GLBIO (since 2011), Rocky (since 2003) as well as focused meetings (now called ISCB-focus meeting) CSHALS (2007-2013), RECOMB/ISCB Regulatory and Systems Genomics (since 2012), and ISCB-NGS (since 2013). ISCB also affiliates with and supports many other significant meetings within the computational biology and bioinformatics community though our affiliated meetings program.

ISCB has three official journals, F1000 Research ISCB Community Journal, Bioinformatics and PLOS Computational Biology, two of which have some of the highest impact factors in the Mathematical Computational Biology category. ISCB has affiliations in place with several other publications for the benefit of its members.

ISCB employs a professional staff consisting of an executive director, a marketing and member services manager, and an operations and programs manager. In addition, the organization relies heavily on volunteers and long- term contractors to fulfill additional needs, including the roles of ISMB conference director, conference administrative assistant, database/web programmers, and graphic designers. Each individual provides essential support to the Society's leadership and global membership.

The following report summarizes contributions and activities of the ISCB's elected leaders, committee members, volunteers, and staff during 2017. Grateful acknowledgment goes to the many members named in this report, and the many more left unnamed, whose generosity of time and selfless effort have been essential to advancing the mission of ISCB.

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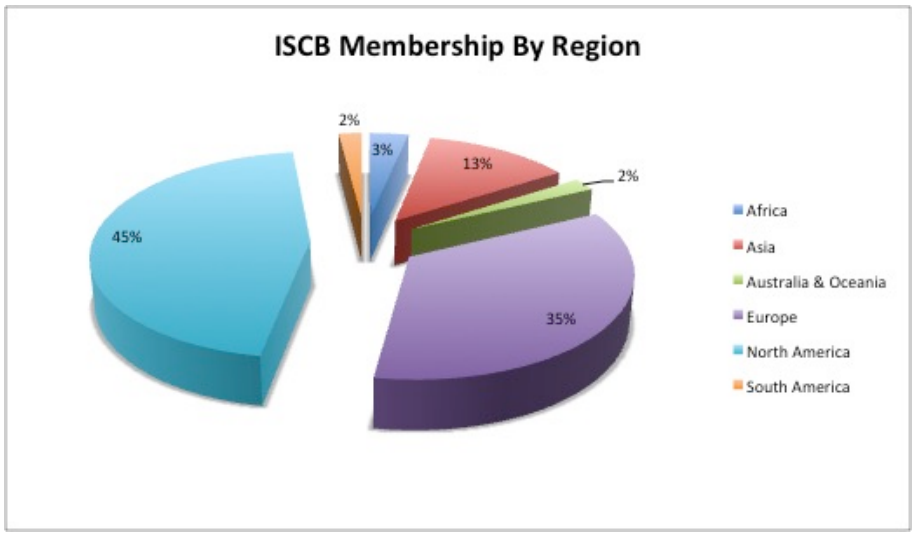
Membership

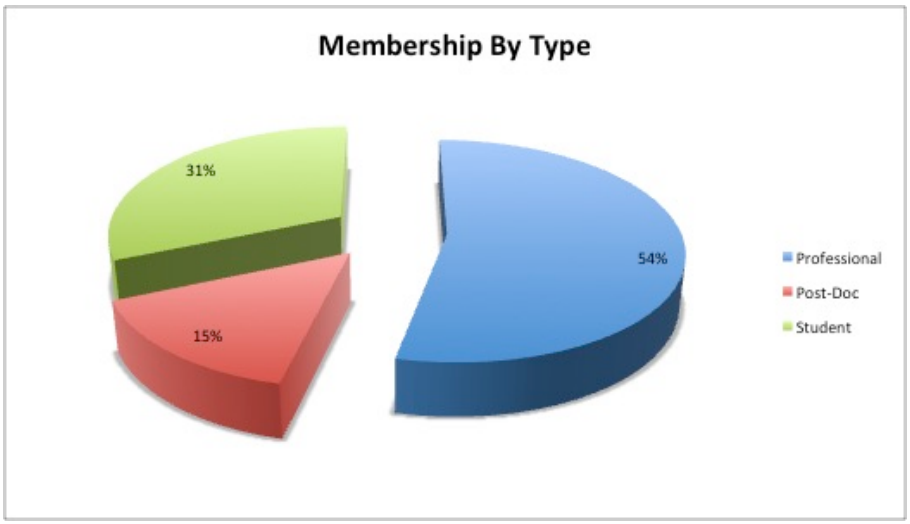
Members are the lifeblood of ISCB, and recruiting and maintaining active members is essential to the vitality of this Society. At the close of 2017 ISCB finished strong maintaining a large membership with over 3,200 members. Members hailed from 77 countries. The two largest representations come from North America at 45%, primarily from the United States, and Europe at 35%. The truly global nature of the discipline and the Society is reflected in the number of members coming from countries in Africa, Asia, Australia and Oceania, and South America (Figure 1). ISCB's worldwide presence is also shown by its support of 25 affiliate societies from around the world.

Figure 1. Membership by Region (%)



ISCB supports members of the computational biology community at all stages of their career and offers three types of membership: professional, postdoctoral trainee, and student. More than half of the Society's members are professional scientists from academic, government, or industry settings. Trainees are also represented well in the ISCB membership, with post-doc and student members representing 46% of the membership (Figure 3).

Figure 2. Membership by Type (%)



Society Committee and Leadership Highlights

ISCB thrives on the dedication of its volunteer members. Their passion and commitment to the ISCB mission is evident each year as the Society continues to grow and offer more programs and benefits to its members. The highlights of some of the major achievements throughout 2017 are featured below.

The ISCB membership elected Scott Markel as Secretary, Bonnie Berger as vice president and Christine Orengo as vice president. Incoming members of the board of directors include Russell Schwartz and Wataru Iwasaki. Returning board members include Nicola Mulder, Francisco Melo Ledermann and Predrag Radivojac. Their terms start in January 2018 and their expertise, experience, and dedication to ISCB will be valuable to the executive committee and board. In addition to the newly and returning elected leadership, Thomas Lenguaer will assume the role of ISCB president serving a three-year term.

President – Thomas Lengauer, Department of Computational Biology and Applied Algorithmics, Max Planck Institute for Informatics, Saarbrücken, Germany. Thomas Lengauer, Ph.D. (Computer Science, Stanford University, 1979), Dr. rer. nat. (Mathematics, Free University of Berlin, 1976), is a Director at the Max Planck Institute for Informatics and Adjunct Professor at Saarland University and the University of Bonn. He is a founding member of ISCB and is currently serving as a member of the Board of Directors, in which he served in all years except 2002 to 2005, and of the Executive Committee where he currently serves as Vice President. Lengauer has chaired the ISCB Awards Committee from 2005 to 2007, where he assisted in the development of a revised selection process. He was also Scientific Chair of ISMB 1999 (Heidelberg) and 2007 (Vienna), as well as an Area Chair in several ISMB conferences. Lengauer is a Fellow of our Society. He will be President-Elect from January 2017 to January 2018 and will become President of the Society in January 2018, serving a three-year term. His research interests and activities include structural bioinformatics, molecular docking and computational chemistry, computational epigenetics and bioinformatics for disease, especially, viral resistance analysis.

Secretary - Scott Markel, PhD, Director, Life Sciences Modeling and Informatics Dassault Systèmes BIOVIA. Scott leads BIOVIA s bioinformatics effort for the Pipeline Pilot product line, working daily with an interdisciplinary team of bioinformaticians, computer scientists, and biologists to develop commercial software for sequence analysis (including next gen sequencing), gene expression, and mass spec for proteomics. Scott is the current Secretary of ISCB and has been a member of the Board of Directors since 2006, and a member of the Executive Committee since 2009. He also serves as the Co-chair for the Publications and Communications Advisory Council and is ISCB's representative to the FASEB Publication Committee. Scott also serves on the editorial board for PLOS Computational Biology and OUP Bioinformatics.

Vice President - Bonnie Berger, PhD, Professor, Applied Mathematics and Computer Science, Massachusetts Institute of Technology, USA. Bonnie has 25 years of experience working at the interface of algorithms and biology, designing algorithms to gain biological insights from current and emerging sources of high-throughput data. She currently works on a diverse set of problems, including Compressive Genomics, Systems Biology, Structural Bioinformatics, and Genomic Privacy. Bonnie is a current Vice President and has been a member of the Board of Directors since 2013, and serves as ISCB's Awards Committee Chair, and Fellows Selection Committee Chair. She is also the Chair of RECOMB. Bonnie spearheaded a highly successful effort to work towards inclusion and diversity within ISCB, with an initial emphasis on gender-balance among our Fellows, as well as expanding the pool of potential Fellows to younger individuals who have also had a substantial impact on our field.

Vice President - Christine Orengo, PhD, Professor, University College London United Kingdom. Christine studies how proteins function and evolve – how relatives in a family ac uire new functions and how they evolve to operate in different biological contexts. Over twenty years ago her lab established the CATH evolutionary classification of protein domains, which is a partner resource in InterPro and widely accessed. They develop methods for predicting functions for proteins and the networks they participate in. Christine is a current Vice President of ISCB and has been a member of the board of Directors since 2011. She is the Chair of the Communities of Special Interest (COSIs) Committee, and a Co-chair of the Conference Advisory Task Force. Christine has been instrumental in the scientific program restructuring of the ISMB conference. Through collaborative conversations and community involvement, she was able to successfully integrate the Special Interest Group meetings into ISMB, which lead to a more streamlined and engaging conference.

Incoming Board Members

Russell Schwartz, PhD, Professor of Biological Sciences and Computational, Biology Carnegie Mellon University. Russell Schwartz, PhD (Computer Science, Massachusetts Institute of Technology) main direction of work is computational genetics and genomics, with his current research primarily focused on bringing methods from phylogenetics, population genetics, and machine learning to understand cancer heterogeneity and progression. Russell currently serves as the Great Lakes Bioinformatics conference (GLBIO) Steering Committee Co-chair and is an active contributing member of the ISCB Education Committee. He has been very active in the computational biology community with service as ISMB Proceedings Chair, ISMB Area Chair, Associate Editor of the IEEE/ACM Transactions on Computational Biology and Bioinformatics and for Biomedical and Healthcare Applications for the INFORMS Journal on Computing, as well as the principal local organizer of past iterations of RECOMB, GLBIO, and two RECOMB satellite meetings.

Wataru Iwasaki, Associate Professor, University of Tokyo, Japan. Wataru Iwasaki, PhD (Computational Biology, University of Tokyo) research integrates bioinformatics, genomic, and metagenomic approaches, and aims at finding principles of how the life has evolved and ecosystems have been organized. Wataru is currently serving as the Vice President of the Japanese Society for Bioinformatics (ISCB Affiliate). Wataru is a member of the Japanese Society for Bioinformatics Board of Director, and the Manager of Promotion of Young Researchers, Newsletter Publication, for Japanese Society for Bioinformatics. He also served as the Secretary for the Regional Student Group in Japan, ISCB Student Council 2009-2011 . Wataru is a rising young star within the bioinformatics community, research and conference planning in Japan.

Re-elected Board Members

Nicola Mulder, Professor, University of Cape Town, South Africa. Nicola Mulder, PhD (Medical Microbiology, University of Cape Town) focuses her research on the use of bioinformatics and systems biology to study infectious diseases, particularly tuberculosis, from both host and pathogen perspectives. Her lab also studies human genetic diversity and the genetic basis of diseases and develops new algorithms and visualization tools to facilitate this research. Nicky has played and continues to play a major role in bioinformatics capacity building in Africa. She manages a Pan-African Bioinformatics network, which has trained over 1000 people on the continent to date in a variety of Bioinformatics topics and using various media outlets (face to face and online training and internships). Nicky is the Co-chair of the ISCB Education Committee and was the Chair of the Officer Nominations Committee in 2017. She also has been instrumental in the success of the ISCB-Africa ASBCB Bioinformatics conference where she currently serves as Conference Co-Chair.

Francisco Melo Ledermann, Professor, Universidad Catolica de Chile, Chile. Francisco Melo Ledermann, PhD (Structural Biology, Universidad Notre Dame de la Paix) current research involves the study of the key determinants at the structural level that mediate the molecular recognition process between proteins and DNA. He is developing new computational tools for 1) the accurate full atom three-dimensional modeling of protein-DNA complexes, 2) the ac uisition of various sources of knowledge from experimental data (se uence, structural, functional data) to better predict in silico the binding affinity of protein-DNA complexes, 3) the alternative graphical representation and visualization of protein-DNA binding modes, 4) the structural comparison of protein-DNA complexes, and 5) the rational design and engineering of new DNA binding proteins with multiple technological applications. Francisco is the Co-chair of the ISCB Conferences Advisory Council and has served as a member of the Board of Directors since 2014. He has been instrumental in the successful creation and continued success of the ISCB-Latin America conference where he served as Chair in 2012 and has been a member of the Steering Committee since its inception.

Predrag Radivojac, Professor, Indiana University, USA. Predrag Radivojac, PhD (Computer and Information Sciences, Temple University) research interests focus on understanding protein function and the development of methods for its prediction and impact upon se uence variation. He is also interested in mass-spectrometry proteomics in particular, method development for protein identification and uantification from tandem mass spectra with computational interest is in machine learning and data mining. Pedja has lead ISCB efforts in understanding members behavior as it relates to the decision of a prospective member to join and later within member retention. He lead the task force that developed the Senior Member designation program and also serves as the Publications and Communications Advisory Council Co-chair. Pedja has also served as the principal conference organizer for the Greal Lakes Bioinformatics conference and is an incoming ISMB Proceedings Chair.

Linking Industry and ISCB – The Innovation Forum

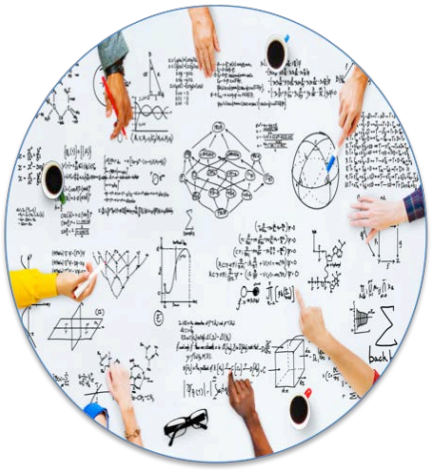
The ISCB Innovation Forum is a unique and productive opportunity for industry to contribute in a sustained manner to the ISCB mission and to gain prominence in its expert and influential constituency. We look to the ISCB Innovation Forum to provide our corporate and industry partners the opportunity to influence directly and actively the future of ISCB and its growing membership.

The mission of the International Society for Computational Biology (ISCB) is to be the leading professional society for researchers, practitioners, technicians, students, and suppliers in the field of computational biology and bioinformatics. By building the networks and bridges necessary to support research developments by passionate groups of researchers from a variety of backgrounds, we believe that the ISCB enables computational biology and bioinformatics to transform and accelerate basic biological research.

The ISCB Innovation Forum recognizes corporations and industry groups with the highest level of commitment to the mission and programs of ISCB.

The activities of the Innovation Forum offer unequaled opportunities for the constituencies it represents, including the following examples:

• A Forum for dialogue on timely issues of interest to the entire field, thus affording an opportunity to maintain an open dialogue with other industry professionals and ISCB leaders on strategic priorities and timely issues in computational biology, bioinformatics, and related fields.
• The design and implementation of workshops important to the members and industry in general.
• Innovation Forum members will receive exclusive access to workshops and programs specifically developed by the Industry Platform that address the most relevant needs of the group.
• Opportunities for unmitigated collaboration
• Through its open dialogue, the stakeholders identify areas of collaboration that can advance computational sciences, translate key research findings, and address challenges facing the global community.
• Access to and guidance of tomorrow's leaders
• Forum's member contributions to ISCB will support travel fellowships for student and post-doctoral researchers to attend ISCB official conferences held worldwide.



To learn more or become a member today, visit https://www.iscb.org/iscb-innovation-forum.

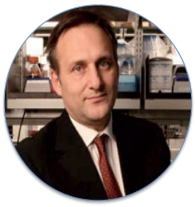
Welcome Class of 2017 Fellows

The ISCB Fellows Program recognizes members of the scientific community for their service and their noteworthy contributions to the fields of computational biology and bioinformatics.

Fellows are distinguished through a rigorous process that includes a call for nominations by the ISCB membership, selection by the Fellows Selection committee that is comprised of the previously named Fellows.

The 2014 ISCB Fellows are exemplary members of ISCB and the scientific community and embody the Society's mission to advance scientific understanding of living systems through computation. The research, teaching, and service records of each Fellow shows how their contributions are invaluable to the computational biology community.

Alex Bateman, Senior Team Leader, Protein Sequence Resources, European Bioinformatics Institute, EMBL, has made major contributions to Bioinformatics in protein domain research, specifically in providing research infrastructure through major protein and RNA related databases. His work has centered around the idea that there are a finite number of families of protein and RNA genes. He aims to collect and analyze these families to gain an understanding of how complex biological processes have evolved from a relatively small number of components. Alex is an active members of the ISCB community where he currently serves as a member of the Board of Directors, volunteers on numerous committees and is a past ISMB/ECCB conference chair, and Editor of Bioinformatics.



Andrea Califano, Clyde and Helen Wu Professor of Chemical and Systems Biology, Biochemistry and Molecular Biophysics, Biomedical Informatics, Columbia University, is a leader in cancer systems biology. He has pioneered algorithms and technologies for the systematic mapping and interrogation of cancer regulatory/signaling networks that have become a standard in the field and have led to key discoveries. Dr. Califano is currently the founding director and chair of the Columbia Department of Systems Biology, which includes the Sulzberger Columbia Genome Center and the Center for Computational Biology and Bioinformatics (C2B2). He co-founded the DREAM Challenges, which have become a popular and integral part of the RECOMB/ISCB Conference on Regulatory and Systems Genomics.

Daphne Koller, Rajeev Motwani Professor, Computer Science Department, Stanford University has made seminal contributions to machine learning techniques in computational genomics and to education through her founding of Coursera, an innovative model for online learning. Her research focuses on the application of machine learning and Bayesian techniques to problems and interpretation in the biomedical sciences, specifically genomics. Daphne is one of the founders of Coursera, an education platform bringing courses, including from computational biology, from top universities online, free, for anyone who wants to take them. This work is transformative both in how education will be delivered in the future, but also in democratizing accessibility to these courses to the developing world.

Anders Krogh, Professor of Bioinformatics, Head of the Section for Computational and RNA Biology, Department of Biology, University of Copenhagen, initiated the widespread use of hidden Markov models in computational biology and was a key author on one of the most influential textbooks, Biological Sequence Analysis Probabilistic Models of Proteins and Nucleic Acids. His recent research focuses on analysis of data from high-throughput DNA sequencing with applications to post-transcriptional regulation, ancient genomics, metagenomics, and transcriptome analysis.

William S. Noble, Professor, Department of Genome Sciences, Department of Computer Science and Engineering, University of Washington, has made seminal contributions in both developing and applying statistical and machine learning methods for the analysis of complex biological data sets. He has extensive experience developing novel analytical algorithms, creating user-friendly software implementing those methods, and collaborating with experimentalists. Dr. Noble is a former member of the ISCB Board of Directors (2008-2011) and an Associate or Deputy Editor of PLOS Computational Biology since 2008.

Lior Pachter, Bren Professor of Computational Biology, Division of Biology and Biological Engineering, CalTech, is a leader in both comparative genomics and RNA-Se data analysis. He is also known for bringing algebraic geometry to biological se uence analysis. So ware developed by his group in collaboration with others, such as Cu inks, Tophat, FSA, MAVID, are used extensively around the world. Dr. Pachter's contribution's to education includes the development of Math courses for biological majors. He serves the public by his famous WordPress blog that advocates for rigorous research approaches to bioinformatics.

Olga Troyanskaya, Professor, Computer Science, Lewis Sigler Institute for Integrative Genomics, Princeton University, has made important contributions to the study of gene function and regulation in biological networks through integrated analysis of biological data from diverse data sources using techniques from computer science and statistics. She translates her work into accessible software for the community. Olga was the 2011 recipient of the ISCB Overton Prize, which recognizes outstanding accomplishment of a scientist in the early- to mid- stage of his or her career. She is a former member of the ISCB Board of Directors (2013 – 2016), chaired the ISMB/ECCB 2011 conference and served as ISCB editor for PLOS Computational Biology. She currently serves as deputy director for genomics (2014-present) at the Simons Foundation Center for Computational Biology.

Tandy Warnow, Founder Professor of Engineering, Professor of Bioengineering and Computer Science, University of Illinois, Urbana-Champaign, is a pioneer and leader in the design of algorithms and experimental studies of computational phylogenetics. She and others laid the theoretical foundations of fast convergent phylogenetic algorithms in a series of papers in the late 90s, which led to the development of divide-and-con uer methods that make accurate phylogenetic inference of millions of species practical. Her work in fast convergent phylogenetic inference led to new algorithms for simultaneously estimating multiple sequence alignment and phylogeny. Dr. Warnow was also the Program Chair for the ISCB Great Lakes Bioinformatics Conference and is Conference Chair for ISMB 2018.

C. Fogg, ISCB Summer Newsletter, July 2017

Peter Karp
SRI International

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University of California, Davis

Hershel Safer
Consultant

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University of Pittsburgh, School of Medicine

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University of Idaho

Russ Altman
Stanford University

Satoru Miyano
The University of Tokyo

Torsten Schwede
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Michael Waterman
University of Southern California

Chris Rawlings
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Raffaele A Calogero
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Andy Baxevanis
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Lawrence Hunter
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Minoru Kanehisa
Kyoto University

Nir Friedman
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Ron Shamir
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Li-San Wang
University of Pennsylvania

Anna Tramontano
University of Rome

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Peking University

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Bonnie Berger
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The Ohio State University

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Yale University

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Swiss Institute of Bioinformatics

Andrej Sali
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Ruth Nussinov
National Cancer Institute

Anatoly Sorokin
Institute of Cell Biophysics RAS

Criteria for the Elevation to a Senior member Status:

Initiating Senior Member Status

An ISCB professional member can self-nominate via an online form for elevation to senior member status or be nominated by any of the eligible endorsers. After the ISCB staff verifies that a candidate meets the first criteria, all endorsers are given an opportunity to endorse the candidate. Each eligible candidate securing three or more endorsements (excluding self) will be elevated to the status of senior member. As the endorsers are not required to participate in voting, senior member candidates are encouraged to contact a small number of eligible endorsers to secure their support through personal interaction.

Maintaining and Re-establishing the Senior Member Status:

The senior ISCB member must remain in good standing to retain his or her status. If good standing is not maintained, the senior member status becomes invalid. Senior member status is automatically re-established when the member returns to good standing. However, if a senior member has more than a one-year lapse in membership and returns to good standing, he/she will not receive the 10% registration discount to ISCB official conferences unless he/she remains in good standing for two-consecutive years.

Benefits to Senior Member Status:

As a Senior Member of the Society, members enjoy

- Recognition on the ISCB website featuring our Senior Members
- Special recognition ribbons at ISCB official conferences
- Opportunity to be selected for keynote speaking positions & important steering committees
- Annual 10% registration discount off the early member rate for a select ISCB official conference of choice
- Special ISCB Senior Member logo for website and CV

ANNA TRAMONTANO FELLOWSHIP FUND

The International Society for Computational Biology (ISCB) established the Anna Tramontano Fellowship Fund in 2017 to honor the memory of Anna Tramontano, a renowned Italian computational biologist and long-time member of the ISCB and its board of directors, who died unexpectedly in March 2017.

Anna had a passion for facilitating the professional development and training for young researchers specifically in under-developed countries. While the loss of Anna provided a great void for ISCB, it was important for us as an organization to find a way to carry on her legacy.

The goal of the Anna Tramontano Fellowship Fund is to help reduce the financial burden to the students who are offered internships by providing travel support. We hope that by providing financial support, reducing costs to the PIs, we will be able to increase the number of internships offered in a given year. Demand (students) continues to increase and this is an excellent way to develop our future researchers.

https://www.iscb.org/tramontano-fellowship-fund

Continued Growth of COSIs & ISCB*connect*

ISCBconnect has 21 active ISCB Communities of Special Interest (COSI) online community groups. COSIs are member communities of shared interest that have self-organized and have multiple activities or interactions throughout the year, rather than solely meeting during the SIG program of the ISMB conference. An important goal of any COSI is to foster a topically-focused collaborative community wherein scientists communicate with one another on research problems and/or opportunities in specific areas of computational biology.

Such communication is often in the form of meetings, but can also be through other social media tools that allow for vibrant participation in a virtual environment. This virtual communication has been given a greater voice through the creation and implemention of the ISCBconnect, which allows each COSI to easily communicate, engage, share and connect in an easy to use online forum. Each COSI has a customized homepage through which topical discussions are created, events are marketing, and information is easily disementiated.

Consider joining one of these dynamic groups today:

3D-SIG
3Dsig focuses on structural bioinformatics and computational biophysics and has become the largest meeting in this growing field.
Chair: Rafael Najmanovich

BIOINFO-CORE
Bioinfo-core is a worldwide body of people that manage or staff bioinformatics cores within organizations of all types including academia, academic medical centers, medical schools, biotechs and pharmas.
Chair: Simon Andrews

BIO-ONTOLOGIES
Bio-Ontologies Special Interest Group (SIG) covers the latest and most innovative research in the application of ontologies and more generally the organisation, presentation and dissemination of knowledge in biomedicine and the life sciences.
Chairs: Karin Verspoor, Michel Dumontier

BioVis – Biological Data Visualizations
Data visualization cuts across all areas of computational biology. On the one hand, sophisticated data visualization techniques are required to allow the biologist to explore their large/complex datasets and gain insight from them. On the other hand, this approach can lower the black-box nature of complex (bioinformatics) algorithms. The goal of BioVis is to bring together researchers from the visualization, bioinformatics, and biology communities with the purpose of educating, inspiring, and engaging bioinformatics and biology researchers in state-of-the-art visualization research, as well as visualization researchers in problems in biological data visualization.
Chairs: Jan Aerts, Nils Gehlenborg

CAMDA: CRITICAL ASSESSMENT OF MASSIVE DATA ANALYSIS CAMDA presents a crowd sourcing and open-ended data analysis challenge format which focuses on big heterogeneous data sets that are increasingly produced in several fields of the life sciences.
Chairs: David Kreil, Pawel Labaj

CompMS: COMPUTATIONAL MASS SPECTROMETRY
COSI CompMS promotes the efficient, high quality analysis of mass spectrometry data through dissemination and training in existing approaches and coordination of new, innovative approaches. The CompMS initiative aims to exploit synergies between different application domains, in particular proteomics and metabolomics.
Chair: Oliver Kohlbacher

Education
The ISCB EDUCATION COSI focuses on bioinformatics and computational biology education and training across the life sciences. A major goal of this COSI is to foster a mutually supportive, collaborative community in which bioscientists can share bioinformatics education and training resources and experiences, and facilitate the development of education programs, courses, curricula, etc., and teaching tools and methods.
Chairs: Fran Lewitter, Teresa Attwood

Evolution & Comparative Genomics
Evolution and comparative genomics are deeply intertwined with computational biology. Computational evolutionary methods, such as phylogenetic inference methods or multiple sequence alignment are widely used, yet remain far from "solved" and are indeed intense areas of research. At the same time, evolutionary and comparative genomics are inherently "transversal" disciplines in that work in many other biological areas of research have some evolutionary component (e.g. cancer genomics, epidemiology, toxicology, population genetics, functional genomics, structural biology just to name a few). The scope of this COSI is intentionally kept broad. The track will feature a mix of proceedings, highlight, and invited talks. Priority will be given to contributions which are relevant to more than a single area of application, or to contributions which are not covered by more specialised COSIs.
Chair: Christophe Dessimoz

Function SIG
The accurate annotation of protein function is key to understanding life at the molecular level. The Function SIG COSI brings together computational biologists, experimental biologists and biocurators who are dealing with gene and gene product function prediction, to share ideas and create collaborations. The Function-SIG holds annual meetings and conducts the multi-year Critical Assessment of protein Function Annotation, or CAFA, experiment.
Chairs: Iddo Friedberg, Casey S. Greene, Michal Linial, Sean D. Mooney, Predrag Radivojac

HITSEQ: High Throughput Sequencing Algorithms & Applications
HiTSeq is devoted to the latest advances in computational techniques for the analysis of high-throughput sequencing data including novel algorithms, analysis methods and applications in biology where high-throughput sequencing data has been transformative. It provides a forum for in depth presentations of novel algorithms, analysis methods, and applications in multiple areas of biology that HTS is transforming.
Chairs: Francisco De La Vega, Dirk Evers

IRB: Integrative RNA Biology
The Integrative RNA Biology (IRB) group organizes the RNA SIG session at ISMB. The group aims to bring together experts in computational and experimental aspects of research in RNA Biology to cover new developments across this broad field of research. The RNA SIG session at ISMB focuses on two major areas: (1) the development of computational and high-throughput experimental methods, and (2) the application of such methods to break new grounds in the study of RNA biology and disease. We aim to educate and inspire researchers in the field, novice and seasoned alike, by meshing together different aspects of Computational RNA Biology, and promoting cross-disciplinary collaborative research.
Chairs: Yoseph Barash, Alex Bateman

Junior Principal Investigators
Transitioning from a post-doc to a junior PI can be a challenging process requiring careful planning. Once running a group, junior PIs are faced with many new tasks, some of which are learnt on the job. The Junior Principal Investigators group (JPI) aims to provide support during this process via a community of peers.
Chair: Manny Corpus, Lucia Peixoto

MLCSB: Machine Learning in Computational and Systems Biology
Machine Learning in Computational and Systems Biology (MLCSB) is a community for researchers interested in the interface of data sciences and life sciences, in particular the method development and application challenges that arise for Machine Learning in Computational and Systems Biology.
Chairs: Karsten Borgwardt, Katharina Heinrich

MICROBIOME
The MICROBIOME Community of Special Interest aims at the advancement and evaluation of computational methods in microbiome research, especially metaomic approaches. Based on the Critical Assessment of Metagenome Interpretation (CAMI), the COSI supplies users and developers with exhaustive quantitative data about the performance of methods in relevant scenarios. It therefore guides users in the selection and application of methods and in their proper interpretation. Furthermore, the COSI provides a platform for exchange and networking between method developers, and provides valuable information allowing them to identify promising directions for their future work.
Chairs: Thomas Rattei, Alice McHardy, Alexander Sczyrba

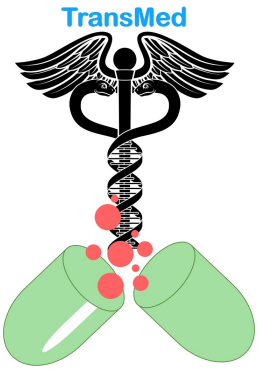
NetBio: Network Biology
As more research fields turn to network visualization and analysis for perspective, our Network Biology Community serves to introduce novel methods and tools, identify best practices and highlight the latest research in the growing and interconnected field of network biology.
Chairs: Alexander Pico, Natasa Przulj

OBF: Open Bioinformatics Foundation
The Open Bioinformatics Foundation (OBF) is a non-profit, volunteer-run group dedicated to promoting the practice and philosophy of Open Source software development and Open Science within the biological research community. Our primary activities are running the annual Bioinformatics Open Source Conference (BOSC, held as an ISMB SIG meeting), and managing the servers, domain names and other assets of our member projects which include BioJava, BioPerl, Biopython, and BioRuby.
Chairs: Peter Cock, Nomi Harris

RegSys: Regulatory and Systems Genomics
The Regulatory and Systems Genomics Community of Special Interest focuses on computational methods that are important in the study of regulation of genes and systems. The RegSys COSI organizes the following activities: (1) ISMB Regulatory Genomics SIG Meeting, (2) RECOMB/ISCB Conference on Regulatory and Systems Genomics and DREAM Challenges, and (3) Top Ten Papers in Regulatory and Systems Genomics.
Chairs: Lonnie Welch, Manolis Kellis

SysMod: Computational Modeling of Biological Systems
The SysMod Community of Special Interests aims at bridging the gap between bioinformatics and systems biology modeling. Recently, aspects of the two fields have converged. Systems modeling has become more reliant on bioinformatic network inference to build models and has begun to use transcriptomics and proteomics data to train models. In addition, more communication between systems modellers and bioinformaticians is needed to build models of whole cells, organs and organisms. Furthermore, the promises of precision medicine lie, in part, on the interplay between bioinformatics-based analysis of patient data and model-based predictions of treatments.
Chairs: Nicolas Le Novre, Tomas Helikar

TransMed: TRANSLATIONAL MEDICINE INFORMATICS & APPLICATIONS



Knowledge-based translational medicine is a rapidly growing discipline in biomedical research and aims to expedite the discovery of new diagnostic tools and treatments by using a multi-disciplinary, highly collaborative, "bench-to-bedside" approach. It involves the integration of multiple high dimensional datasets that capture the molecular profiles of patients, as well as detailed clinical information. Within public health, translational medicine is focused on ensuring that proven strategies for disease treatment and prevention are actually implemented within the community, and on progressing towards data-educated personalised therapy. To genuinely realise the promise of Big Data in healthcare, we must consistently collate the data, annotate it with consistent and useful ontologies, apply sophisticated statistical analysis and translate these findings to the clinic. As a community, we will explore the current status of computational biology approaches within the field of clinical and translational medicine. In this COSI we will bring scientists from both academia and industry to exchange knowledge and foster networking, to help in building up of the translational medicine community.

Chair: Venkata Satagopam

VarI: VARIANT INTERPRETATION

The Variant Interpretation Community of Special Interest (VarI-COSI) is a community of scientists interested in "breaking" the genomic code. The main goal of our COSI is to promote the formation of a collaborative network of scientists interested in the understanding of the meaning of genomic variation as applied to a range of questions, including population studies, functional and evolutionary impacts, and disease.

Chairs: Hannah Carter, Emidio Capriotti, Yana Bromberg

Fostering Relationships through Affiliated Groups

The Affiliates Committee continues to foster interactions between the Society and its affiliated regional and institutional groups. ISCB now has 19 active affiliated groups with more in the application and evaluation process. Once confirmed their information will be listed on the website and conferences included on our conference calendar and added to our affiliate marketing schedule.

ISCB continues to strengthen its ties with affiliated groups by providing an annual review of the website content posted on ISCB to ensure organization information is accurate. Additionally, ISCB offers a bulk membership option for affiliated groups. This bulk membership drive allows these regional and institutional groups to establish a group membership for their individual organization and ISCB and simplifies the registration process with ISCB.

The Affiliates Committee also introduced a reorganization of the affiliated group structure to remove entry barriers during the application process. The new structure features different tiered levels of affiliation and removed the two-year waiting period to for application.

Revised Tiered Structure for ISCB Regional Affiliates:

TIER 1 (provisional affiliate)

- characteristics: a newly formed regional group
- benefits: all of the current benefits, except for voting rights on the Affiliates Committee

TIER 2 (established affiliate)

- characteristics: a regional group that has been in existence for at least two years and is in good standing
- benefits: reduced ISMB registration rate for each Affiliate's Liaison (student rate)
  - Affiliate will be required to attend the committee meeting

TIER 3 (contributing affiliate)

- characteristics: organizes activities that contribute to ISCB's mission and provide benefit to ISCB members, and is active in the Affiliates Committee
- benefits: opportunities to be involved in governance and oversight of the Affiliates Committee, including a seat on the Affiliates Council; an additional benefit is eligibility to be the Affiliates' representative on the ISCB Board of Directors

2017 Student Travel Fellowship Campaign

Student travel fellowships help propel young investigators toward important future discoveries. Join ISCB in giving students access to the principal role models within the field and help influence the paths of scientific careers. As government-funding opportunities continue to decline, ISCB is reaching out to the membership to help this important initiative. Each year, ISCB receives over 300 travel fellowship requests. With currently available funds, this can only support ~50% of these requests by providing partial funding to each recipient.

ISCB will continue the travel fellowhsip campaign in 2018. Consider making a donation to enable support of even more students with higer travel awards. We continue to do all we can but there is still more to do—your contributions at any level will allow us to reach more students. By donating to ISCB student travel fellowships, you are investing in the future of our science.

2017 ISCB Wikipedia Competition Winners

ISCB held its fift international competition to improve the coverage on Wikipedia of any aspect of computational biology. A key component of the ISCB's mission to further the scientific understanding of living systems through computation is to communicate this knowledge to the public at large. Wikipedia has become an important way to communicate all types of science to the public and Wikidata plays an increasingly growing role in that. ISCB aims to further its mission by increasing the quality of Wikipedia and Wikidata coverage of Computational biology, and by improving accessibility to this information via Wikipedia and its sister sites. The competition is open to students and trainees at any level either as individuals or as groups.

2017 Winners:

Award for *Wikipedia article in any language*:

1st Prize - Yadi Zhou, "Smith-Waterman algorithm"
2nd Prize - Charlotte Klimovich, "Margaret Oakley Dayhoff"
3rd Prize - icole Wheeler, “Pfam"

Congratulations to the winners and thank you to the dedicated volunteers that keep the competition going!

ISCB Member-get-a-Member Campaign

Personal testimony and endorsement is the highest compliment an organization could receive. Over the course of six months, ISCB members were encouraged to recruit new members to the Society. Members participating in the program were rewarded with additional incentives which included discounted registrations to ISMB, the flagship meeting of ISCB, and even a chance to win a ISMB conference package which will include a complimentary registration, 4-night hotel stay, and invitation to a special reception.

Recruit 10 professional members (15 students or postdocs) – receive **20% off ISMB registration**

Recruit 15 professional members (20 students or postdocs) - receive **25% off ISMB registration**

Recruit 25 professional members (30 students or postdocs) – receive **50% off ISMB registration**

The 2017 winner of the member-get-a-member campaign was:

Winner: Catherine Putonti, Loyola University Chicago, 12 recruited members

Honorable Mention: Larry Hunter, 5 recruited members

Learn more about our member get a member campaign at
https://www.iscb.org/member-get-a-member

Society Conferences Highlights

Highlights and recaps for each conference are featured below.

ISMB/ECCB 2017 – ISCB Flagship Conference

The 25th annual ISMB/ECCB 2017 meeting kicked off on Friday July 21st, 2017 at the Convention Center in Prgue, Czech Republic. Alfonso Valencia, ISCB President, opened the 7th combined ISMB/ECCB conference by dedicating the meeting to the memory or Anna Tramontano, long time ISCB member and renowned computational biologist whom we lost in March. ISMB/ECCB 2017 marks the 25th clebreation of ISMB and the 16th annual ECCB conference which welcomed over 1,800 delegates.

ISMB/ECCB 2017 provided an intense multidisciplinary forum for disseminating the latest developments in bioinformatics/ computational biology, and fostered fresh dialogues. This year's conference focused organization of the scientific content around the ISCB Communities of Special Interest (COSIs) who have previously organized the Special Interest Group (SIG) meetings at ISMB. ISCB would like to thank all of the COSI track organizers for supporting the scientific organization of the conference and organizing these dynamic tracks.

The conference format retained the key features that made ISMB a successful open conference, including proceedings talks and presentations that include highlights (previously published research) and late-breaking research (unpublished research). Over the four-day conference, delegates had the opportunity to listen to the outstanding keynote lectures (Aviv Regev, James Sharpe, Zhiping Weng, and Pavel Pevzner) , explore new technologies and services in the technical tracks and exhibtirs, and identify with their home community (or for some several communities) in the COSI track presentations. The conference also featured a variety of workshops, special sessions, equal opportunities activities, a students' council day and focused presentations on other important research area topics in computational biology that were outside of the established COSIs. Many of the conference talks were recorded and are now available online at https://www.iscb.org/ismb-mm/media-ismb2017.

The conference leading keynote was 2017 ISCB Innovator Award recipient, Aviv Regev, a computational and systems biologist, a professor of biology at MIT, and Howard Hughes Medical Institute Investigator. Her keynote focused on Reconstructing Cellular Circuits: From Cells to Tissues concentrating on Molecular circuits of multiple interacting molecules process information in cells and connect diverse cells together into the functioning ecosystem of tissues. The talked described how recent advances in single cell and spatial genomics, genetic perturbation, and analysis methods open up new opportunities for dissecting complex circuits, all inspired and driven by computation and analytics. These included reformulating problems, using new experimental strategies inspired by computational considerations, and developing new analysis algorithms to derive unprecedented impact on the cells that make up the human body, the circuits that underlie their function, and how they come together in tissues in homeostasis and disease.

The second keynote talk was James Sharpe of EMBL-CRG Systems Biology Unit Centre for Genomic Regulation (CRG) in Barcelona, Spain gave an engaging speech on Dynamic computer modeling to span the scales: from molecular circuits to organogensis. His talk focused on the predominant emphasis of genomics, bioinformatics and computational biology at the molecular scale, however many of the things we wish to understand occured at the macroscopic scale of organs and organisms: the development of a phenotype, the spread of a cancer, the regeneration of an organ. At the molecular scale, regulation of genes and proteins create a complex networks which control cell activities (division, migration, cell fate decisions, differentiation, and many others), with both an intracellular part (circuits of transcription factors) and an extracellular part (secreted ligands which move between cells allowing cell-cell communication, such as FGFs, WNTs, etc). The coordination of thousands of cells by this extended molecular network, leads to large-scale morphogenesis at the scale of tissues and organs. However, these large-scale tissue movements also feedback to the molecular scale: the movement of tissue regions relative to each other causes cells to receive dynamically changing concentrations of signaling molecules, and this in turn changes the activation or repression of genes and proteins.

ISCB 2017 Overton Prize Award Keynote, Christoph Bock, CeMM Research Center for Molecular Medicine of the Austrian Academy of Sciences in Vienna, Austria, gave a talk titled Bioinformatics for Personalized Medicine: Looking Beyond the Ge-nome focusing on the complexity of the human body requires trillions of individual cells to integrate, interact, and strike the right balance between stability and plasticity. Key mechanisms underlying this extraordinary feat of self-organization are encoded in the human genome, yet there are additional levels of regulation that are operate on top of the genomic DNA sequence, collectively referred to as the epigenome. The talk drew a robust question and answer period from the audience culminating in an evocative and informative speech!

Capping off the morning, distinguished keynote, Zhiping Weng from the University of Massachusetts Medical School Worcester gave an engaging talk on ENCODE Encyclopedia: Featuring a Registry of Candidate Regulatory Elements and the Visualization Tool SCREEN for Searching Them, focusing on The Encyclopedia of DNA Elements (ENCODE) Consortium generating thousands of genomic datasets with the goal of annotating the functional elements in the human and mouse genomes.

See you next year at ISMB 2018 in Chicago, USA!

Next Generation Sequencing Conference (NGS) - 2017

Hosted by the International Society for Computational Biology (ISCB) and the Centre for Genomic Regulation (CRG), the Next-generation sequencing conference covers a broad range of topics in genome sequencing and analysis. Our particular focus areas in 2017 are structural variation and population genomics.

Nearly 200 delegates from 30+ countries gathered together for this dedicated meeting on cutting-edge approaches to the processing and analysis of Genome Annotation methods. New sequencing technologies have opened up the possibility to sequence genomes at a previously unprecedented scale. The sequencing of whole genomes from large number of individuals representing multiple populations allows the extent of genetic diversity, of both at the single nucleotide level, and of larger structural variants, to be catalogued. Using such data the genetic basis of evolutionary and disease processes can be explored. The meeting drew together researchers from diverse backgrounds who developed and applied novel tools to sequencing data. Topics covered include, genome assembly, variant characterization and analysis, gene expression, population history, disease, and more!

Topics included:

- Copy number variation in population genomics and translational applications
- Software and algorithms for high-throughput sequencing technologies
- NGS data management and visualisation
- Applications of NGS in:
    - Population genomics
    - Metagenomics
    - Single cell analysis
    - Clinical and translational biology

Great Lakes Bioinformatic Conference (GLBIO) 2017

The conference is organized by the Great Lakes Bioinformatics Consortium to provide an interdisciplinary forum for the discussion of research findings and methods. An important goal for the conference is to foster long term collaborative relationships and networking opportunities within the domain of computational approaches to biology. The program will include oral presentations, poster presentations, invited keynote speakers and tutorials.

The program attracted over 340 delegates from 11 countries. Over the course of the meeting, delegates had the opportunity to participate in tutorials, hear from renown keynote speakers, get the latest updates in research sessions, and explore nearly 160 posters.

Regulatory and System Genomics Conference with DREAM Challenges 2017

In its tenth year, the RECOMB ISCB Conference on Regulatory and Systems Genomics with Dream Challenges (RegSyGen DREAM) is one of the premier annual meetings in the fields of regulatory genomics, systems biology, and network visualization.

The conference presented the latest findings about regulatory and systems genomics, fostered discussion about current research directions, and established new collaborations that will advance the development of a systems-level understanding of gene regulation. It featured keynote presentations, oral presentations, and poster presentations.

RegSyGen Dream 2017 was attended by nearly 300 from 25 countries. Talks from the conference are available at **ISCB*tv***.

ISCB Africa ASBCB Conference on Bioinformatics 2017

The 5th joint meeting of the ISCB and ASBCB Conference on Bioinformatics took place from the 10th-12th October 2017 in Entebbe, Uganda. The conference featured a broad bioinformatics scope with a special focus on diseases relevant to Africa. The ISCB Africa ASBCB Conference on Bioinformatics is the premier African bioinformatics conference held biannually on the continent, and showcases the most exciting current bioinformatics research being conducted by African students and scientists.

More than 120 delegates from leading Biomedical research labs within and outside of Africa attended the conference, which was held at the Uganda Virus Research Institute (UVRI), to present on and discuss contemporary research in bioinformatics. Figure 1 shows a photo of some of the conference attendees outside UVRI. The conference program included five scientific sessions focusing on bioinformatics tools and research presented primarily by African students and scientists, and three poster viewing sessions. The ISCB Africa ASBCB Conference on Bioinformatics also marked the closure of the first phase of the H3Africa Pan African Bioinformatics network, H3ABioNet. A special joint H3ABioNet ASBCB session was dedicated to student research and relevant bioinformatics project presentations. Special sessions attached to the conference were arranged, which included the ISCB Student Council Symposium, career development and NGS data analysis using Galaxy workshops, as well as a discussion panel supported by the Mozilla Open Science Foundation focusing on the importance of Open Science in accelerating biomedical research discovery.

Rocky 2017

The Rocky series began fourteen years ago as a regional conference, and has grown into an international program with a spotlight on regional development in the computational biosciences. The presenters of the Rocky conference are scientists representing a broad spectrum of universities, industrial enterprises, government laboratories, and medical libraries from around the world. The meeting is a chance to get to know your colleagues near and far, seek collaborative opportunities, and find synergies that can drive our field forward.

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ISCB thanks the following sponsors for their generous support of meetings and conferences:

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ISCB Africa ASBCB 2017

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Rocky 2017

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UCHSC Staff

Kathy Thomas, University of Colorado-Denver, School of Medicine, Computational Bioscience Program
Stephanie Hagstrom, San Diego, CA

Volunteer Honor Roll

Thank you for supporting ISCB!

ISCB thanks everyone who has made a gift in support of the Society, including the many generous donors who wish to remain anonymous.

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ISCB Student Council Annual Report 2017

ISCB Student Council Annual Report 2017

Organization

The elected leadership of the SC for 2017, referred to as "**Executive Team**", consists of the following: Farzana Rahman (**Chair**), Nazeefa Fatima (**Vice Chair**), Gonzalo Parra (**Secretary**), Aishwarya Alex (**Finance Committee Chair**) Dan DeBlasio (**BoD Representative**) and Sayane Shome (**RSG Committee Chair**).
In addition to the Executive Team, the Student Council is made up of a number of volunteer sub-committees responsible for different aspects of the Student Council. Each committee has a Chair and Executive Team advisor (listed below).

Sub-committee	Chair(s)	Executive Team Advisor
Education & Internship	Emre Guney	Farzana Rahman
Fundraising	Aishwarya Alex	Aishwarya Alex
Outreach/Volunteer	Alexander Junge	Nazeefa Fatima
Web	Mehedi Hassan Aziz Khan	Dan DeBlasio
Regional Student Group	Sayane Shome	Sayane Shome

Mission

The mission of the ISCB Student Council is to promote the development of the next generation computational biologists. We achieve our goal through provision of scientific events, networking opportunities, soft-skills training, educational resources and career advice, while attempting to influence policy processes affecting science and education.

Summary of activities by various committees (January 2017-December 2017)

Student Council Symposia

The Student Council successfully organized two Student Council Symposia in different continents. The SC is preparing to organise two symposiums in July and September in Chicago, USA and Athens, Greece respectively in 2018.

13th Student Council Symposium, Prague, Czech Republic (July 2017)

- Chairs: Julien Fumey and Mehedi Hassan.
- Keynote Speakers: Dr. Christine Orengo (University College London, UK) and Dr. Johannes Söding (MaxPlanck Institute for Biophysical Chemistry, Germany).
- The meeting featured 7 student talks, 12 flash talks and 70 poster presentations.
- Meeting report to appear in BMC Bioinformatic

2nd ISCB Student Council Symposium in Africa, Uganda

- Chairs: Candice N. Rafael and Efejiro Ashano
- Keynote Speakers: Dr. Segun Fatumo (African Scoeity for Bioinformatics and Computational Biology)
- The meeting featured 5 student talks and had 30 attendees.
- Meeting report is published in F1000Research.
  Link to the report: https://f1000research.com/articles/6-2183/v1

Education and Internships Committee (EIC)

Chair: Emre Guney
Co-Chair: Anupama Jigisha

The education committee continues to strive to bring internship opportunities to students from developing nations through its internship program. As a student managed body, we understand it is important to get the right guidance and a good mentor during the early years of training. With the aim to facilitate scientific and cultural exchange between students from developing nations and host labs the program provides short-term (3 to 6 months) fellowships in leading international research groups and institutions working in the field of computational biology.

The committee recently facilitated the recruitment of the ninth intern to the SC Internship Program since its inception in 2009. The intern has been selected to the Schneider lab at the Luxembourg Centre for Systems Biomedicine (LCSB) at the University of Luxembourg. Dr. Reinhard Schneider has offered another internship through the Student Council for summer of 2016 targeting applicants from African countries.

The initiative still faces some challenges such as outreach and funding. It is often through the SC network or through interactions during ISMB and ECCB that the committee is able to acquire offers from group leaders. The committee is able to recruit one intern per year and it is looking to expand the program to allow for more internships per year. So far, summer internships have been more successful in terms of the number of applications received but with more volunteers available and the experience the team gained over a few years, the committee is ready to organize more internships at a time.

In order to secure more internships, EIC initiated contacts with several PIs such as Bonnie Berger, Jörg Menche and Johannes Söding but so far, no internship positions have been confirmed. Dr. Schneider kindly continues to support the program and has pledged to offer another position, for which a call is planned to be out by mid-February. The committee also has plans to switch to Swiss Bioinformatics Institute application submission system once it is customized for the needs of the internship positions/applications. The programme is expected to receive more attention upon the publication and dissemination of the PLoS Computational Biology article describing the EIC internships programme.

EIC also works on creating an Educational Resource Portal which aims to provide an up-to-date collection of links and materials containing bioinformatics tutorials, videos, courses, review papers and books. The committee tries to incorporate new volunteers through development of this portal, potentially alleviating the workload of the committee for the upcoming internship call preparation and evaluation period.

Every year during ISMB, the Student Council organizes talks or a panel discussion on Career guidance for students. In 2017, SC's Education committee collaborated with ISCB to organize a panel discussion on essential skills and networking advice for early career researchers during BoF session at ISMB 2017. Anna Ritz (Reed College), Nils Gehlenborg (Harvard Medical School), Scott Markel (Biovia) and Venkata Satagopam (University of Luxembourg) were in the panel.

Link to EIC presented poster at ISMB/ECCB 2017:
http://www.iscbsc.org/content/internships-0

EIC's paper in PLoS computational Biology: https://doi.org/10.1371/journal.pcbi.1005802

Regional Student Group (RSG) Committee

Chair: Sayane Shome
Co-chair/Vice-chair Asia-pacific: Ashwani Kumar
Vice-chair Africa: Candice N. Rafael
Vice- Chair Europe: Bart Cuypers
Vice-chair LA: Alexander M.Monzon
Vice-chair USA: Ben Siranosian

The Regional Student Group committee experienced an expansion with the addition of 4 new RSGs this year, thus taking the total number of active RSGs to 32. The new RSGs that joined the RSG network in the year include: RSG-Bangladesh, RSG-Chile, RSG-Southeastern USA, RSG-Colombia.
The committee has successfully conducted two rounds of RSG funding program this year, extending 2000$ to various RSGs. Similar to last year, we selected two RSGs as "Spotlight RSG of the year 2017" from a pool of six RSGs that were extremely active and performed exceptionally in extending the mission of SC and RSGs. The spotlight RSGs of the year 2017 are RSG UK and RSG Argentina. The leaders of these RSGs would be rewarded with a complimentary ISCB membership for a one year period and they will also receive certificates of appreciation from the ISCB. Table 1 highlights some of the events funded by the RSG-Funding program.

Name of the RSG	Name of the event	Date held
Turkey	RSG-Turkey 2017 Symposium	June 2017
Brazil	2nd Brazilian Student Council Symposium	October 2017
Chile	Course "Biological Network Analysis"	January 2018
Argentina	2do Simposio Argentino de Jóvenes Investigadores en Bioinformática	November 2017
France	RSG-France 2017 Symposium and Round table meeting	October 2017
Italy	CaspITA 2017	September 2017
Belgium	Belgium Student Symposium	June 2017
Luxembourg	2nd RSG Luxembourg National Congress	October 2017
Colombia	Congreso Colombiano de Bioinformatica. Cali 2017	September 2017
Belgium+France+ Luxembourg+ Netherlands	BeneluxFra symposium(Collaborative effort)	July 2017

We have organised periodic regional meetings with different RSGs to invite their feedback. Also, we are in pipeline to initiate virtual seminar series program where members from different RSGs volunteer to present a short talk related about their research topic/or any particular topic of interest related to computational biology.

In addition, the committee presented a poster in Education section at ISMB conference titled “ISCB-SC Regional Student Groups: Connecting young computational biologists around the world.”. The poster highlighted presence of different RSGs across the world, and several initiatives undertaken by them.

We have also revised the renewal process by introducing a template system to facilitate easier processing, as well included the names of few selected active team members (as nominated by their president) of RSGs apart from President and Secretary in the renewal document.

Link to RSG poster presented at ISMB/ECCB 2017:
http://www.iscbsc.org/sites/default/files/RSG_finlversion.pdf

Web Committee

Chairs: Mehedi Hassan and Aziz Khan

The SC web committee is in charge of developing and maintaining the online infrastructure for the Student Council. In the past year, the web committee has invested in overhauling and greatly expanding most of the online Student Council presence.

Since we launched a new website for the Student Council with a new back-end system allowing for more flexibility in its design and functionality. Together with the new website, we launched a new community board to promote interaction an collaboration between all of our members across the world. The websites for the symposiums had already been changed the previous year to this new system with great success and they are now fully integrated into the main SC site. In addition, our new symposium management framework was used to handle submission and reviewing of abstracts and travel fellowships for SCS 2016, ESCS 2016, SCS 2017 and regional groups symposiums. The vision is to further expand this symposium management framework to aid in the organization of future symposia through integration and sharing of information.

The change of the main SC website also meant a change in the way the RSG websites are managed. Each RSG now has their own subdomain and webspace available on the webhost so they can create and maintain their own page. We are currently migrating all existing RSG pages to this new system and hope to have this completed in 2016. Further we are in the testing phase for a new system to store and utilize a dedicated SC mailing list, through which we can send out regular newsletters. We expect to have the Outreach committee actively using this mailing list system within the next few months.

Outreach Committee

Chair: Nazeefa Fatima

The Outreach and Volunteer Committee of the Student Council is committed to keeping the members of the ISCB and the Student Council up-to-date on our work. It is responsible for handling queries concerning Student Council activities and for disseminating important announcements and information on the Student Council's social media (Facebook [1], LinkedIn [2], and Twitter [3]) as well as online bioinformatics communities (such as Biostars [4]). It is, furthermore, responsible for membership recruitment and extensively involved in planning and implementation of all activities related to the promotion of the Student Council.

Over the past year, the Outreach and Volunteer Committee has been focusing on increasing user engagement on our social media profiles and our community board [5]. In addition to sharing information about Student Council activities, we regularly broadcast updates from our Regional Student Groups (RSGs) and other important content, such as job opportunities and research highlights, relevant to our audience.

The committee's efforts helped reach over 75 accepted abstracts presented at our flagship event, the Student Council Symposium 2017. The committee has also helped build the

Wikipedia page [6] of the ISCB Student Council, as a team effort, by contributing towards writing, organising content, and reviewing before final publication.

Overall, our efforts have not only focused on building a community, but also on attracting participants for our symposiums, RSG events, and ISCB conferences, therefore providing networking opportunities. Our main goal, at the Student Council, is to make the field of bioinformatics more inclusive and accessible for all, and the Outreach and Volunteer committee will continue to work hard to achieve it.

1. Facebook: facebook.com/iscbsc
2. ISCB Student Council LinkedIn
3. Twitter: twitter.com/iscbsc
4. Biostars: https://www.biostars.org/u/17378/
5. Community Board: community.iscbsc.org
6. ISCB Student Council Wikipedia Page

Finance Committee

Chair: Aishwarya Alex

The Finance committee aims to make a comprehensive and realistic budget for the activities carried out by the student council. This includes events such as the Student Council Symposium, funding opportunities for ISCB Regional Student Groups, and general operations. In addition to revising and adapting the annual budget for the operation of the student council, the committee is responsible for raising money by recruiting sponsors, writing grants, or finding other funding opportunities. The committee secured the following funding to organise SCS in Prague and SCS –Africa in Uganda in 2017.

- SCS-Africa-2017 received 2 000 USD from ISCB
- SCS-2017 received 7500 USD from 7 sponsors

The finance committee is currently working on finding sponsors for the future symposiums (SCS 2018, Chicago, USA and E-SCS 2018, Athens, Greece). The Finance Committee is also working on optimizing the passing along of knowledge for future committee chairs and members. An internal knowledge base is maintained in the wiki and google drive. This will ease the transition for new members to the committee. The Finance Committee is also successful in maintaining a recurring relationship with several sponsors to fund the SCS through Travel Fellowships and awards. We aim to continue these existing relationships as well as foster similar synergistic collaborations with new and potential sponsors.

For the future tasks, the finance committee would like to recruit more volunteers and make it a rewarding experience for them to work with committee and finances and encourage them to be involved in the committee for longer periods.

Publication list of Student Council and its committees in 2017 till date

1. Education and Internships committee paper in PLoS Computationl Biology: Anupama J, Francescatto M, Rahman F, Fatima N, DeBlasio D, Shanmugam AK, et al. (2018) The ISCB Student Council Internship Program: Expanding computational biology capacity worldwide. *PLoS Comput Biol* 14(1): e1005802. https://doi.org/10.1371/journal.pcbi.1005802
2. 2nd Student Council Symposium Africa: Rafael CN, Ashano E, Moosa Y *et al.* Highlights of the second ISCB Student Council Symposium in Africa, 2017 . *F1000Research* 2017, **6**(ISCB Comm J):2183 (doi: 10.12688/f1000research.13463.1)
3. 2nd ISCB Latin American Student Symposium: Monzon AM, Hasenahuer MA, Mancini E *et al.* Second ISCB Latin American Student Council Symposium (LA-SCS) 2016. F1000Research 2017, 6(ISCB Comm J):1491 (doi: 10.12688/f1000research.12321.1)
4. Highlights of the 1st Student Symposium on Computational Genomics: IBN-SALEM, Jonas et al. Highlights of the 1st Student Symposium on Computational Genomics. *Genomics and Computational Biology*, [S.l.], v. 2, n. 1, p. e59, jan. 2017. ISSN 2365-7154. Available at: doi: http://dx.doi.org/10.18547/gcb.2016.vol2.iss1.e59.

Future Perspectives

The Student Council will be striving to continue to increase its outreach and visibility on the community. This will be accomplished by continuing successful initiatives such as the ISCB Student Council Symposium, Internship program and RSG program; and new initiatives such as increasing the frequency of the Student Council newsletter. In addition, before the end of the current ET term, we are planning new publications allowing our volunteers to share their experience to the community. Over the coming year, further effort will be placed on fundraising, expanding online presence, acquiring collaborations for our internship initiative and welcoming more RSGs.