How are We Doing?
Please email ISCB at admin@iscb.org with any comments, questions, or concerns regarding the website (www.iscb.org), this newsletter, or any other ISCB effort. The ISCB staff aims to meet the needs of ISCB’s membership — member advice helps in meeting this objective.

ISCB gratefully acknowledges the support of the San Diego Supercomputer Center, at the University of California, San Diego, which provides office space to the Society in the SDSC and Skaggs School of Pharmacy and Pharmaceutical Sciences building.

Cover Image:
Fourth of July Fireworks in Boston.

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A LETTER TO OUR ISCB MEMBERS AND COLLEAGUES

Economical hardships increasingly grind the advance of science. Of course, the pursuit of scientific discoveries must forge ahead against the growing funding stress. We have had to rethink our approach toward scientific questions, and be creative in our means of attacking problems toward results that benefit human health. Even last year when the US government enacted the American Recovery and Reinvestment Act, causing tens of thousands of scientific grant proposals to be submitted in short order in the hopes of capturing billions of dollars in new, short-term funding, each investigator hoped to be awarded funds and simultaneously wondered what he or she would do to keep their projects alive once the two-year spigot of funds dried up. In the midst of all this uncertainty, ISCB is not just surviving – it is thriving! Our membership has not dipped as we thought it might, our ISMB attendance has not plummeted as we feared it could, and our financial position did not take an about-face and revert to earlier times when ISCB struggled to stay alive. We couldn’t be more pleased to report that our membership, conference attendance and finances have all remained relatively solid and stable during these turbulent times. Now that we got this far, we need to stabilize this unexpected trend and grow more robust. To achieve this, we continue to make careful, thoughtful decisions on when and how to spend our limited resources toward the accomplishment of our mission and for the benefit of ISCB members worldwide.

One way we are joyfully doing this year is with more travel fellowships. At the start of this year, ISCB committed 3,600 USD in travel fellowship funding support to the Student Council for distribution among its selected leaders and leaders of their Regional Student Groups. More recently, the ISCB Board of Directors contributed an additional 10,000 USD of Society funds toward 10-15 ISMB 2010 travel student fellowships from among the competitive application process. Your Board made this move because, although funding is tight all over, and travel costs are among the largest of impediments to attending a conference, we recognize that at this critical but resource-limited stage in their research careers, this type of support can be immeasurable to our student and trainee communities. Your Board is committed to supporting our up-and-coming researchers, and our current financial position enables us to do this. Together with US government grants (DOE, NIGMS/NIH and NSF), ISCB will provide over 80 ISMB travel fellowships to students and post docs.

Did you know that in addition to this year’s ISMB, for many years ISCB has also funded annual travel fellowships for our student/post doc members to attend ECCB, ISCB, PSB and RECOMB. Since 2002 this has amounted to over 100,000 USD in funding, and resulted in over 150 travel fellowship awards to ISCB members to attend some of the most important early conferences of our science. If you are a dues paying member of ISCB, you should be very proud to know that your membership dues are put to good use! If you are not a paying member and would like to support our travel fellowships initiative, please visit our website and consider making a donation today. All donations, from members and non-members alike, are welcome, and no amount is too big or too small to make a real difference.

With our student community well attended to, both from ISCB and from the grand efforts of the ISCB Student Council, our next challenge is in making an ISCB membership more compelling to our entire scientific community by increasing the benefits that are available to all members.

UPCOMING EVENTS AND CONFERENCES

Other Conferences and Events of Interest (continued)

BIOT 2010: 7th Annual Conference on Systems Biology United Kingdom - Scotland
Hosted By: University of Exeter
Sep 21, 2010 - Oct 15, 2010
www.exeter.ac.uk/frontiers

Jornadas de Bioinformática 2010
Spain - Málaga - Torremolinos
Hosted By: University of Málaga
Oct 27, 2010 - Oct 29, 2010
www.jbi2010.es

ICDM Workshop: Biological Data Mining and its Applications in Healthcare
Australia - Sydney
In conjunction with the 10th IEEE International Conference on Data Mining (ICDM 2010)
Dec 14, 2010 - Dec 14, 2010
www1.i2r.a-star.edu.sg/~xlli/BioDM.html

International Conference on SYNTHETIC BIOLOGY
*Bottom-up, Top-down and Cell-free Approaches, Intellectual Property Rights*
France - EVRY
Hosted By: Genopole®, EVRY France
Dec 15, 2010 - Dec 16, 2010

10th IEEE International Workshop on HIGH PERFORMANCE COMPUTATIONAL BIOLOGY
Singapore - Singapore
Hosted By: National University of Singapore
Nov 29, 2010 - Dec 3, 2010
www.ieee-icpb.org
### ISCB Annual Conferences

- **Rocky '10**: 8th Annual Rocky Mountain Bioinformatics Conference, United States - CO - Snowmass
  - Dec 09, 2010 - Dec 11, 2010
  - ISCB Member Discount: 220 USD
  - www.iscb.org/rocky10

- **ISMB/EMCCB 2011**: Austria - Vienna
  - ISCB Member Discount: 220 USD
  - www.iscb.org/ismbecbb2011

### ISCB Co-Sponsored Events and Affiliated Events

- **ISMB 2010**: Fourteenth Annual International Conference on Research in Computational Molecular Biology
  - Portugal - Lisbon
  - Aug 12, 2010 - Aug 15, 2010
  - ISCB Member Discount: 50 EUR
  - http://kdbio.inesc-id.pt/recomb2010

### Conference in Bioinformatics Japan - Tokyo

- **Hosted By**: Asia-Pacific Bioinformatics Network (APBioNet)
  - Sep 26, 2010 - Sep 28, 2010
  - ISCB Member Discount: 2000 JPY
  - www.iscb.org/csic/dils2010

### ISCB Treasurer Reinhard Schneider has dedicated himself to arranging and implementing a variety of new benefits, from Google Apps accounts for all members (free you@iscb.org email address to publish with papers because it stays with you through your career), to the new ISCB Scicasts channel (enabling the latest news from ISCB and the field to feed directly to you at whatever frequency you choose). Together with our web team, Reinhard has shown enormous dedication to improving and enhancing the value of an ISCB membership.

A new institutional membership category will be available when you read this as our latest effort to expand membership. If you are with a research institute that may be interested in this type of membership option, be sure to read the related article in this newsletter. Together with our expanded Affiliates Program, that now includes regional centers and institutes, in addition to the traditional regional membership groups, our vision for ISCB is one that is truly representative of the diversity of scientists and organizations contributing toward the advancement of the worldwide understanding of living systems through computation.

Another initiative launched last year was the incredibly successfully expansion of ISCB's regional meetings. In November/December the first ISCB Africa meeting, in partnership with our African affiliate, ASIBCB, took place in Bamako, Mali. The energy of the attendees, and their enthusiastic desire to absorb as much science as possible in the few short days of the meeting, was awe-inspiring. Incredibly, we were able to replicate that enthusiastic response in March of this year at the ISCB Latin America conference in Montevideo, Uruguay. In both cases, these meetings were inspired by proposals from ISCB Student Council leaders, Manuel Corpas in the case of Africa, and Lucia Peixoto in the case of Latin America. They each had a dream to bring ISCB meetings to developing regions, and your ISCB Board wholeheartedly embraced their visionary proposals. Plans are already underway for the 2nd ISCB Africa, being held March 9-11, 2011 in Cape Town, South Africa, and initial conversations are underway for the next two ISCB Latin America meetings in 2012 and 2014 as well. Soon a call for proposals will also be distributed to initiate a search for a location and date of the first ISCB Asia meeting. Full details will be posted to the ISCB website Conferences page when available.

And speaking of meetings, many of you reading this are at ISMB 2010 in Boston right now. This 18th annual conference is where we direct the majority of ISCB's human resources, to which the bulk of ISCB's expenditures go, and from which about 30-40% of our income continues to come. The success of ISCB remains largely tied to the success of ISMB, and over the years, to ensure that success, we have established a pattern of presenting a massively parallel scientific event in order to attract the best submissions and present the highest quality of science possible. We make a concerted effort to welcome all branches of computational biology, and are especially committed to addressing the reality of our interdisciplinary field by ensuring opportunities for computational and experimental scientists to contribute equally. In a nutshell, we strive to make ISMB the forum that successfully unites the varied entities of our field, under one roof, all at one time.

In the ISMB 2010 program book that is distributed to all attendees on a flashdrive, and available to everyone, everywhere on the conference website, the many volunteers who made this meeting possible have been thanked, so we will not repeat the extent of that praise here. But, we do want to call your attention to the tremendous accomplishments of our first-ever all-female triumphant trio of conference chairs - Olga Troyanskaya, Michal Linial and Jill Mesirov - who have shaped this event into something exceptional. And, Steven Leard also shares that spotlight of gratitude for his expertise in managing the logistical arrangements with a professional poise unequalled in the meeting-planning field.

Looking ahead: ISMB/ECCB 2011 will return to Vienna, Austria, July 17-19 (with pre-conference SIs and Tutorials July 15-16). The return to the Austria Center Vienna is a first for ISMB and ECCB. Never before have we repeated a location, but we intend to do this again in order to save resources. We are looking for a few places that all organizers and attendees overwhelmingly enjoyed and that we could use as return sites. Please help spread the word about Vienna and be sure to make your own plans now to attend.

Meanwhile, surviving the economic storms of these past years has made us all stronger. Therefore, we bid you to embrace the challenges and opportunities you may face in daily life and research, and never forget to have fun – we fully support the concept that science should be fun, and we hope you do as well! Be sure to make the most of your time in Boston, or wherever you may be as you read this newsletter.

Sincerely,

BJ Morrison McKay
Executive Officer

Buhhhard Rost
President
2010 ISCB OVERTON PRIZE: STEVEN E. BRENNER

By Bj Morrison McKay, ISCB Executive Officer and Clare Sansom, Bioinformatics Consultant and Science Writer

Each year ISCB honors a young scientist who has already achieved a significant and lasting impact on our field. The ISCB Awards Committee, comprised of current and former directors of the society and chaired by Søren Brunak, announced the recipient of the 2010 ISCB Overtton Prize is Steven E. Brenner of the University of California, Berkeley, USA. Brenner will be presented with his award at ISMB 2010 in Boston, where he will give the opening keynote lecture on July 11th.

Brenner chose the flexibility of Biochemical Sciences for his undergraduate studies at Harvard, and followed his advisor's encouragement to take computer science courses as well. As an undergraduate, he was able to work in Walter Gilbert's lab, "maybe the very first genome lab in the world." Gilbert and his colleagues were sequencing the genome of the bacterium Mycoplasma genitalium. While in Gilbert's lab, Brenner met colleagues who introduced him to the idea of combining both his interests into the study of computational biology.

After graduation, Brenner obtained a fellowship for graduate study at the University of Cambridge, and studied for his PhD in the MRC Laboratory of Molecular Biology under Cyrus Chothia. As one of the original authors of the SCOP: Structural Classification of Proteins database, Brenner presented it at the second ISMB meeting in 1994. While initially having an uncertain reception, SCOP has since been cited over 4,000 times and remains widely used today.

After leaving Cambridge, Brenner obtained a fellowship to the National Institute of Bioscience, Japan, to work on genome analysis, but he was soon back in the US as a postdoctoral research fellow in Michael Levitt's lab at Stanford University. In Levitt's lab, he continued to work on genome and protein sequence analysis and the detection of distant evolutionary relationships between proteins.

In 2000, Brenner moved to the University of California, Berkeley, as an assistant professor, and became a faculty scientist at Lawrence Berkeley National Laboratory that same year. In 2009 he was appointed as an adjunct professor at the University of California, San Francisco, and is promoted to full professorship at UC Berkeley this year. His lab now includes experimental as well as computational biologists.

Over time, Brenner's research interests have broadened away from protein structure. In the decade since obtaining his first independent position, he has contributed to the understanding of genomes, and to protein and RNA function. All of his work, however, can be characterized as using evolutionary principles and statistical and computational methods to understand biology. His most important contribution to the RNA field was the discovery of the prevalence of RNA surveillance and alternative splicing as a novel mode of gene regulation. He continues to work in this area and has extended his work in RNA regulation as a member of the modENCODE consortium, which aims to identify all the functional sequence elements in the Drosophila and Caenorhabditis elegans genomes. His recent research in protein function prediction picks up on scientific interests he first discovered as an undergraduate researcher at Harvard: his group's prediction algorithms are amongst the most accurate available. He has also been involved in establishing computational approaches for the field of structural genomics, and has developed an interest in relating human genetic variation to phenotype and disease. He set out his "vision for personal genome interpretation" in a short paper in Nature in 2007, and for the last few years he has been advancing that vision for translational genomics.

Brunak recognizes that Brenner is at the upper end of the seniority bracket for the Overtton Prize. "Young scientists who achieve a conspicuous success like SCOP very early in their career too often 'burn out.' In contrast, Brenner is a worthy winner because of the long-standing, excellent track record that he has established in research and scholarship," he says. Brenner himself is quick to attribute much of this success to his "wonderful" mentors, collaborators, colleagues—and especially the postdocs and students in his group from whom he says he learned the most science. He cites inspirations ranging from his parents, to advisors Gilbert, Chothia, and Levitt, who taught him "how to do science at a high level," to his senior colleague at Berkeley, Jasper Rine. This readiness to share the credit for his achievements further underscores his worthiness as the recipient of the 2010 ISCB Overtton Prize.

This article is excerpted from the June 2010 issue of PLoS Computational Biology. To link to the full journal article, please visit www.ploscompbiol.org/doi/10.1371/journal.pcbi.1000831.

Blogging at ISMB
For each talk we have a feed entry under: http://friendfeed.com/ismb2010
The latest feeds can also be found on our home page and in the program section: www.iscb.org/
www.iscb.org/ismb2010-program

Make a note of the important upcoming Key Dates for these ISCB and ISCB co-sponsored conferences. Dates listed are in 2010 unless otherwise noted. As all dates are subject to change, please visit the respective conference websites for updates and additional details.

<table>
<thead>
<tr>
<th>Conference</th>
<th>Key Dates</th>
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<tr>
<td>ECCB10 (<a href="http://www.eccb10.org">www.eccb10.org</a>)</td>
<td>September 26-29</td>
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<td>Early registration deadline</td>
<td>August 13</td>
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<tr>
<td>InCoB'10 (<a href="http://incob10.hgc.jp">http://incob10.hgc.jp</a>)</td>
<td>September 26-28</td>
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<td>Late-breaking abstract deadline</td>
<td>August 1</td>
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<tr>
<td>Early registration deadline</td>
<td>August 15</td>
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<td>Rocky '10 (<a href="http://www.iscb.org/rocky10">www.iscb.org/rocky10</a>)</td>
<td>December 9-11</td>
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<td>Abstract submission deadline</td>
<td>October 15</td>
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<td>FASEB MARC travel fellowship deadline</td>
<td>October 15</td>
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<td>Early registration &amp; housing deadline</td>
<td>November 9</td>
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<td>PISB 2011 (<a href="http://pisb%E6%96%AF%E5%9D%A6%E7%A6%8F.edu">http://pisb斯坦福.edu</a>)</td>
<td>January 3-7, 2011</td>
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<td>Paper submissions due</td>
<td>July 12</td>
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<td>Travel award application deadline</td>
<td>September 27</td>
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<td>Poster abstract deadline</td>
<td>November 29</td>
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<td>Oral presentation abstracts deadline</td>
<td>October 15</td>
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<td>Poster abstract deadline</td>
<td>January 7, 2011</td>
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<td>Early registration deadline</td>
<td>January 21, 2011</td>
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<td>Special Sessions proposal deadline</td>
<td>October 22</td>
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<td>Special Interest Group proposal deadline</td>
<td>November 19</td>
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<td>Tutorial proposal deadline</td>
<td>December 3</td>
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<td>Proceedings track submission deadline</td>
<td>January 14, 2011</td>
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<td>Workshops track submission deadline</td>
<td>February 11, 2011</td>
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<td>Highlights track submission deadline</td>
<td>March 4, 2011</td>
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<td>Late Breaking Research Track deadline</td>
<td>March 11, 2011</td>
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<tr>
<td>Poster submission deadline</td>
<td>March 18, 2011</td>
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<td>Art and Science Exhibition deadline</td>
<td>April 15, 2011</td>
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<tr>
<td>Technology track submission deadline</td>
<td>April 29, 2011</td>
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<tr>
<td>Early registration deadline</td>
<td>June 3, 2011</td>
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<tr>
<td>SIGs and Student Symposium date</td>
<td>July 15, 2011</td>
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<tr>
<td>SIGs and Tutorials date</td>
<td>July 16, 2011</td>
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The names and contact details of the 15 individuals must be designated in advance by the IML and are non-transferable to other contacts in the course of the one-year institutional membership.

The online passes expire on the institutional membership expiration date.

One representative, as designated by the IML, is invited to the ISCB affiliates and institutional members meeting held during the ISMB conference with board members of the ISCB.

Total Value of above Benefits: $3,350.00

Annual Fee

The annual fee for an Institutional Membership is $1,675 USD. This is 50% off the total value of the benefits detailed above when purchased separately. The Institutional Membership represents an exceptional opportunity for any organization dedicated to providing its personnel with many of the ISCB benefits offered throughout the year, particularly the access to education, recruitment and networking.

Restrictions

An ISCB Institutional Membership is not an endorsement of the institution in any way, and the Institutional Membership organization explicitly agrees not to advertise, promote or make this membership known in such a way as to imply any endorsement from ISCB. If ICSCB, at its discretion, perceives the membership is presented by the organization as an endorsement, ISCB reserves the right to invalidate the institutional membership immediately, without obligation to refund fee(s) paid to date.

Enrollment

The Institutional Membership application is accessible from www.iscb.org/iscb-membership, and hyperlinks will be included from ISCB conference registration sites in the future. If this is the type of membership opportunity you have been waiting for, please consider joining and become one of the first ISCB Institutional Members.

2010 ISCB ACCOMPLISHMENT BY A SENIOR SCIENTIST AWARD: CHRIS SANDER

By BJ Morrison McKay and Clare Sansom, with grateful attention to detail by Chris Sander

The ISCB’s Accomplishment by a Senior Scientist Award is presented annually to a scientist who has made distinguished contributions over many years of research, teaching and service. This year’s award goes to Chris Sander of Memorial Sloan Kettering Cancer Center, New York, USA. He will be presented with his award and deliver a keynote lecture at ISMB 2010 in Boston, on July 12th.

Sander is one of the best-known researchers in protein structure analysis and genomics pathway analysis. Like other founders of bioinformatics, Sander was initially trained as a physicist, with a first degree in physics and mathematics from the University of Berlin in 1967, and a PhD in theoretical physics after graduate studies at the State University of New York, the Niels Bohr Institute in Copenhagen and the University of California in Berkeley. His interest in biology was first kindled by Joe Franklin, a research chemist, during a high school exchange year in Texas. At the age of 21, he went straight to the top to explore this interest, took a trip to Caltech and knocked on the door of Max Delbrück, a physicist turned pioneering molecular geneticist. Delbrück elaborated on the potential of theoretical physics in molecular biology, but it was not until after completing his first postdoc in theoretical high-energy nuclear physics in Heidelberg that Sander made the lateral transition to biology.

Sander chose to work on protein folding because, as he said with a smile, "I liked stereo views of molecules". He became a post-doc with Shneior Lifson, then a leader in the field of molecular force fields for biopolymers at the Weizmann Institute in Israel. "Lifson taught me that the most important skill in science is to ask good questions,” Sander says with admiration.

Having successfully switched from theoretical physics to biology, he then moved to the Max-Planck Institute for Biophysics in Heidelberg to work with Georg Schulz, a protein crystallographer, and biophysicist Ken Holmes. His first independent collaboration with post-doc colleague Wolfgang Kabsch led to the development of the algorithm for analyzing protein structures, DSSP, that 17 years later is still used as a standard for identifying protein secondary structures in experimental 3D structures.

In 1986, Sander took a giant leap from senior post-doc to department chair and founder of the Biocomputing Program at the European Molecular Biology Laboratories (EMBL) in Heidelberg, with the support of Sydney Brenner, one of the grand masters of molecular biology. “EMBL is an ideal environment for young, independent scientists to flourish”, he says, “it is highly stimulating, collaborative and international.” During that period he also pursued his dream of building international collaborations and a worldwide bioinformatics infrastructure as active co-founder of the European Molecular Biology Network (EMBNet). When, in 1995, EMBL moved its bioinformatics research and services from Heidelberg to the European Bioinformatics Institute (EMBL-EBI) in Cambridge, UK, he joined the new institute as a group leader. Soon thereafter he was a founding member of the Board of Directors of ISCB when the society was established in early 1997.

By the late 1990s Sander was motivated by “having more impact in the real world than can be afforded by publications and conferences. We rapidly cycle between experiment and theory and I now have a wet lab in my group for the first time in my career”, he says.

Sander predicts about his own work: “the best is yet to come”. He is continuing to innovate, and expects to present new results in his keynote lecture at ISMB 2010, describing a novel approach to cell biology that builds network models based on systematic perturbation of the cellular system and rich observation of the resulting changes in molecules and cell behaviors. “We rapidly cycle between experiment and theory and I now have a wet lab in my group for the first time in my career”, he says.

Sander reflects, “The two key ingredients for successful science are asking good questions and working with good people in a friendly atmosphere. The results of my past and present work are in essence the product of my collaborations with scientists across varied disciplines and from many countries, and I am their fan.”

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Benefits Galore!

Have you noticed over the past couple of years how ISCB has been enhancing its benefits package with more and more useful, cool stuff? You have Reinhard Schneidereit, ISCB’s Treasurer since 2009, to thank for that. When he stepped into the Treasurer’s role he was tasked with making membership more compelling to our community, and his efforts to do just that have been tireless.

The key components your ISCB membership now offers are the following...

Knowledge bank: journals; conferences; multimedia content; community news feeds

Web tools: Google apps, including you@iscb.org email address

Across the board savings: on journal subscriptions, conferences, books, long-term membership options

Community connectivity: blog live from ISCB conferences; get active with the student council; submit nominations for awards, honors and future leaders; connect with affiliates; network with local member community

Travel fellowships: benefits from travel fellowship opportunities for students and post docs

Professional advantage: use the jobs database to your advantage; develop your own leadership skills to serve our community; contribute financially or by volunteering your time to ISCB activities.

In addition, the Student Council has been building an outstanding benefits package for leadership and soft skills training opportunities geared specifically for students and young researchers.

Do you need more? Please let us know what additional benefits you would like to see in the future. Write to admin@iscb.org with your suggestions or requests.

INTRODUCING Institutional Membership Categories

The ISCB expands its membership option from solely individual memberships to now include institutional membership opportunities with a wide range of benefits.

Not-For-Profit Institutional Membership

Not-for-profit research organizations such as foundations, governmental research institutes and other institutions with a research program in Life Science Informatics (educational institutions such as universities and colleges are excluded).

For-profit Institutional Membership

For-profit organizations working in the Life Sciences sector including but not limited to pharmaceutical and biotech companies, hard- and software manufacturers, consultants and publishers.

Benefits

One representative of the institution shall be designated as the Institutional Member Liaison (IML) to ISCB for administration of the benefits below.

The Institutional Member organization may opt to be listed on the ISCB portal site with a short description and hyperlink to the organization’s website.

• The Institutional Member organization may take advantage of the ISCB member conference registration discount up to five times per year for ISCB owned conferences – excludes affiliated and co-sponsored conferences. (A $1,100.00 value.)
  a. All 5 registrations may be for the same ISCB conference, or they may be split up between various ISCB conferences. (A $1,100.00 value.)
  b. The names and contact details of each conference registrant shall be designated by the IML prior to conference registration. (A $1,100.00 value.)
  c. The conference date must precede the institutional membership expiration date.

• Up to 10 free job postings per year on the ISCB jobs portal. (A $1,500.00 value.)
• Up to 15 online passes to the membership areas of the ISCB portal. (A $750.00 value.)

Contact ISCB to request information for a customized package for your academic group today.

Contact us to request information for a customized package for your academic group today.

Announcing ISMB/ECCB 2011

8th Annual Rocky Mountain Bioinformatics Conference

Vienna ISMB ECCB 2011

8th Annual International Conference on Intelligent Systems for Molecular Biology & 35th European Conference on Computational Biology

July 15–16 2011

31st Amino Acid Tutorial

July 17–19 2011

Conference Chair

Leonard Widom, Ph.D.
Biology Program
University of Colorado
Champagne, Illinois 61820

www.iscb.org/rocky10

www.iscb.org/ismb3011
FASEB Update continued from page 12

visits was that ARRA funding inspired creative energies of research teams across the U.S., and that we now face a major shortfall when these funds have been spent. Returning to pre-ARRA funding levels would be a setback for science projects as well as those suffering from the burdens of disease.

Breakthroughs in Bioscience

Breakthroughs in Bioscience (http://ipfa.faseb.org/pages/Publications/breakthroughs.htm) is an exceptional publication series of illustrated articles designed to demonstrate how basic research translates into medical advances. New topical ideas that describe basic or clinical research discoveries with a clearly demonstrable societal impact, such as the development of a current therapy or diagnostic technology, are welcome. Write to policy@iscb.org if you are interested in contributing to the publication.

Horizons in Bioscience

This new series of publications describes scientific discoveries on the brink of clinical application. The one page Horizons in Bioscience document (http://ipfa.faseb.org/pages/Publications/horizons.htm) is intended to supplement the Breakthroughs in Bioscience publications. Both publications are available for download, and free hardcopies may be ordered from FASEB.

STUDENT OUTREACH EFFORTS

MARC Program

FASEB administers a multi-year NIH Minority Access to Research Careers (MARC) grant to help U.S. citizen and permanent resident minority students with, among many other things, the costs of attending conferences, including any official meeting of ISCB. See http://marc.faseb.org/pages/page2.htm for information.

ISCB Student Council at ISMB

FASEB has sponsored the Student Council booth space at ISMB, including covering the travel and registration costs of an expert to provide CV critiques from the booth for students and post docs wishing to tap into impartial advice.

ISCB Conference Travel Support

Through the MARC program FASEB fully supported all travel and registration costs for minority students to attend ISMB, Rocky and the new ISCB Latin America conference in Uruguay this past March.

ISCB at ABRCMS

For the past two years FASEB has sponsored ISCB’s participation in the Annual Biomedical Research Conference for Minority Students (ABRCMS; www.abrcms.org/index.html) as a means of supporting our efforts to reach underrepresented minorities. ISCB’s presence at ABRCMS helps us create awareness and foster interest in higher education with the possibility of careers in computational biology/informatics.

ISCB Members Contribute to FASEB Activities

Our members are involved in FASEB in many ways: John Wooley and Barbara Bryant serve on the board of directors, with John also serving on the research information technology committee, Greg Tucker-Kellogg on the international issues committee, Scott Markel on the publications and communications committee, BJ Morrison McKay on the executive officers advisory committee, and other members that volunteer from time to time to serve on the committees that develop U.S. federal funding recommendations. We thank these members of ISCB for their past and current service, and invite other interested members to contact us at policy@iscb.org.

What’s in it for You?

With each year’s ISCB budget review, the Board appropriately asks, “Is it prudent to allocate funds to belonging to a federation that only stands to benefit our US-based members?” On average approximately 50-55% of ISCB members are based in the U.S., but our total membership includes researchers in over 70 countries, which makes this a fair question and one that merits regular review. Clearly we could not afford to allocate funds to similar organizations if they existed in every member’s country. But, in actually, we have been unable to identify advocacy organizations like FASEB in any other member country. Does the lack of similar organizations mean we should not participate as fully as possible in one that is effective in its mission to advocate for progress and education in biological and biomedical sciences on behalf of at least half of our members? So far, the Board has upheld the belief that FASEB’s advocacy within the U.S. can have far reaching benefits to members in other countries. Scientists around the world have been funded through NIH grants. Many students and post docs cut their teeth in U.S. labs that are funded by the NIH and/or other U.S. government agencies. Without consistently strong U.S. government research budgets, these opportunities for cross cultural collaboration and exchange could dry up within the U.S. and students and researchers from outside the U.S. could have reduced opportunities to study and collaborate with U.S. labs. We welcome your views on FASEB’s efforts and overall effectiveness. Please let us know if you perceive ISCB’s membership in FASEB to be a worthy investment in the future of our science and the broader scientific arena by writing to us at policy@iscb.org.

PLOS COMPUTATIONAL BIOLOGY OVERVIEW

In June 2010, PLoS Computational Biology celebrates its fifth birthday. The vision of Founding Editors Philip E. Bourne, Steven E. Brenner, and Michael Eisen was to provide “a place where computational biologists can find the best work produced by their colleagues, and where the broader biological community can see the myriad ways computation is advancing our understanding of biological systems.” We believe that the breadth and quality of the articles we publish, as well as our ongoing involvement in numerous additional community-focused projects, evidence real fulfillment of this vision – and more on the horizon.

In April 2010, PLoS Computational Biology published its first “Conference Postcards”. We invited young scientists attending the Pacific Symposium on Biocomputing (PSB) 2010 to send us a “Postcard” describing their scientific highlight of the conference. In the article, two graduate students discuss an exhilarating talk by Edward Marcotte; their different approaches highlight the potential of Conference Postcards perfectly.

Examples of highly downloaded content:

- Structure of Protein Interaction Networks and Their Implications on Drug Design
  - Hase T, Tanaka H, Suzuki Y, Nakagawa S, Kitano H
  - www.ploscompbiol.org doi/pcbi.1000381

- Functional Brain Networks
  - Googling Food Webs: Can an Eigenvector Measure Species’ Importance for Coextinctions?
  - Allef S, Pascual M
  - www.ploscompbiol.org doi/pcbi.1000388

- Ten Simple Rules for Choosing Between Industry and Academia
  - Searls DB
  - www.ploscompbiol.org doi/pcbi.1000387

- A Quick Guide to Teaching R Programming to Computational Biology Students
  - Eglen SJ
  - www.ploscompbiol.org doi/pcbi.1000389

As ever, we are aware that the journal’s success is dependent on the hard work and dedication of, and the donation of time and expertise by, the community, and we are grateful to all of you for your support.
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ISCB Student Council Highlights

By Thomas Abeel, Student Council Symposium Chair and Magali Michaut, Student Council Symposium Co-Chair

For the Student Council this is another year full of exciting developments and our packed schedule of events at ISMB 2010 is only part of a much bigger picture.

This year Student Council activities are taking place for the duration of the whole ISMB conference. Our annual Student Council Symposium, as in previous years, is held on the day before the official ISMB opening and our Art and Science Exhibition, now in its third year, will be open for the duration of the conference.

Our volunteers will be staffing the Student Council booth in the exhibition area where career advice sessions and job boards will be available. We will also be running an information session about career opportunities for early career scientists. A series of non-scientific networking events will be taking place at our “Social HQ” during ISMB. Come to our booth to find out more!

We are also very pleased to be able to reach out to the student community beyond ISMB throughout the whole year. This is possible to a large extent due to our commitment to developing the computational biology student community. For instance, the Student Council is currently in the process of developing a series of new educational and career resources for our website that will be available to students and early career researchers anywhere and anytime. Another ongoing effort is an internship program that we are establishing in collaboration with labs that are willing to host a student for a few months.

Our biggest area of growth is our Regional Student Groups initiative, which now comprises an impressive 19 groups in six continents. These groups are run by an ever-increasing number of local student volunteers, and cater to the specific needs of their community. Through their affiliation with us, Regional Student Groups are provided with opportunities to get in touch with community leaders elsewhere and with access to our expertise and resources.

This year, for the first time, ISCB has provided the Student Council with funds to grant financial support for projects run by Regional Student Groups. In the first round of funding 10 proposals were submitted and we expect to fund two projects this summer and two further projects in a second round.

Did this pique your interest? We are doing our best to make staying in touch with the Student Council as easy as possible: our announcements are posted on our Facebook group, our LinkedIn group and on Twitter, and of course on www.iscbsc.org. Why don’t you stop by and have a look around?

The goal of the 6th ISCB Student Council Symposium (http://symposium.iscbsc.org) is to create an opportunity for students to meet their peers from all over the world for an exchange of ideas and networking. To achieve this goal, we encourage students to present their work through oral and poster presentations, we provide financial support for them to attend the symposium and we organize various social events.

Exciting new research results are presented by twelve selected student authors who submitted outstanding work to the symposium. More than 30 young researchers volunteered to review 94 abstracts. A wide range of research areas is covered and the poster session also offers exciting science in various domains. In addition, we are honored to have Gary Bader (University of Toronto), David Altshuler (Broad Institute) and Larry Hunter (University of Colorado) as keynote speakers.

Support to the symposium delegates, we provide no less than 18 travel fellowships, including four full fellowships of 2,500 USD each for students from developing countries (http://symposium.iscbsc.org/content/travel-fellowships #winners). Congratulations to all successful applicants!

We thank our volunteers who have spent many months preparing all aspects of this symposium and hope you enjoy it!
At the time of writing our new 2009 impact factor has just been announced, and we’re happy to report that it has increased to 4.926. Some of the most highly cited papers contributing to this figure include:

- Searching protein structure databases with DaliLite v.3. Holm, L; Kaariainen, S; Rosenstrom, P; and Schenkel, A. Bioinformatics (2008) 24: 2780-2781
- SOAP: short oligonucleotide alignment program. Li, RQ; Li, YR; Kristiansen, K; and Wang, J. Bioinformatics (2008) 24: 713-714
- Clustal W and clustal X version 2.0. Larkin, MA; Blackshields, G; Brown, NP; Chenna, R; McGettigan, PA; McWilliam, H; Valentin, F; Wallace, IM; Wilm, A; Lopez, R; Thompson, JD; Gibson, TJ; and Higgins, DG. Bioinformatics (2008) 24:2947-2948
- Interactive Tree Of Life (ITOL): an online tool for phylogenetic tree display and annotation. Letunic, I; and Bork, P. Bioinformatics (2007) 23:127-128
- WHAP: haplotype-based association analysis. Purcell, S; Daly, MJ; and Sham, PC. Bioinformatics (2007) 23:255-256

Meanwhile the paper on JaiTVew Version 2 by Waterhouse et al. (Bioinformatics (2009) 25: 1189-1191) is currently our most highly cited from 2009.

We were very pleased to welcome David Posada to the Bioinformatics Associate Editor team at the start of 2010, bringing core expertise in the area of phylogenetics, and we have also been joined by three new editorial board members – welcome to Mario Albrecht, Predrag Radiovic and Cathal Seoige. We’d like to take the opportunity to thank over 2800 individuals who acted as reviewers during 2009, making the peer review of over 2000 submissions possible.

Online commenting functionality is now available to encourage comments and debate around the articles we publish. You might, for example, want to contribute your thoughts on Editorial pieces, or if you spot a dead link, the comments feature can be used to let readers know an up-to-date URL if the resource has simply moved location. Comments are moderated by the Editors prior to publication online to check appropriateness and prevent spam.

Bioinformatics is again sponsoring the successful high-throughput sequencing (HiTSeq) SIG at ISMB this year and will award two prizes for the best papers during the event. Last year’s awards were presented to Kai Ye and co-authors for a paper on ‘Pindel’, and to Cole Trapnell and colleagues for ‘TopHat’. A selection of papers from HiTSeq 2010 appear in issue 10 of 2010, with the main conference proceedings of ISMB appearing in issue 12 and available open access. We’ll be handing out a printed collection of papers from our next generation sequencing virtual issue, which continues to grow online, at HiTSeq 2010 in Boston.

Finally a quick update on our optional open access model – each Bioinformatics author has the choice of whether to publish under this model depending on the funds available to them. In 2009, 30% of authors chose the open access option - the highest uptake of all Oxford Journals participating in the optional Open Access initiative, and also we believe across the wider publishing landscape. Importantly the online subscription price for Bioinformatics is adjusted to reflect this level of uptake, so that authors and libraries do not pay twice for open access content.

As always we welcome feedback on any aspect of the journal – please get in touch via the email address below.

Best regards,

Alex Bateman, Alfonso Valencia and the Bioinformatics Editorial team
bioinformatics.editorialoffice @oxfordjournals.org

With CWA, NBIC and partners aim to organize an international public-private alliance to develop practical solutions to ‘interoperability’ of scholarly information and data resources in the life sciences. After New York (2009), the next CWA meeting will be held in Amsterdam, the Netherlands in November 2010, under the title “Connecting Biobanks”.

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NBIC is a regional affiliate of the ISCB, as the Society’s first Affiliated Regional Center, and actively participates in education-related initiatives, such as the ISCB Education Committee. In addition, two young NBIC researchers are now chair and secretary of the ISCB Student Council.

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Best regards,
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Finally, we’d like to draw your attention to a wide range of exciting new initiatives.

Knowledge, tools and expertise. To train the next generation of bioinformaticians, the NBIC community undertakes a broad array of education activities, ranging from advanced courses offered by the NBIC PhD School to programs for high school students.

With CWA, NBIC and partners aim to organize an international public-private alliance to develop practical solutions to ‘interoperability’ of scholarly information and data resources in the life sciences. After New York (2009), the next CWA meeting will be held in Amsterdam, the Netherlands in November 2010, under the title “Connecting Biobanks”.

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**SPOTLIGHT ON ISCB AFFILIATED REGIONAL CENTER: NETHERLANDS BIOINFORMATICS CENTER (NBIC)**

**NBIC: The Dutch Bioinformatics Hub**

The Netherlands Bioinformatics Centre (NBIC) represents the academic and industrial bioinformatics community in the Netherlands. Since its start in 2004, NBIC has been pivotal in bringing the initially scattered field together to form a strong and dynamic community that performs internationally competitive bioinformatics research and provides bioinformatics expertise, infrastructure and personnel to support large-scale research initiatives within the Dutch life science sectors.

NBIC is a public-private partnership and is supported by the Dutch government through the Netherlands Genomics Initiative (www.genomics.nl).

**Research, Support, Education**

The NBIC network of scientists consists of bioinformaticians and computational biologists working on a broad array of life sciences topics: from cancer genomics to industrial fermentation, from crop improvement to toxicogenomics and from ecogenomics to nutrition. Scientific programmers and software engineers help to create bioinformatics tools and toolboxes and to set up common infrastructures that support life science projects. Throughout the year, NBIC organizes numerous scientific meetings and other events to stimulate dissemination of knowledge, tools and expertise. To train the next generation of bioinformaticians, the NBIC community undertakes a broad array of education activities, ranging from advanced courses offered by the NBIC PhD School to programs for high school students.

**Interactively**

**INTERACE**

**INTERNATIONALLY ACTIVE**

Next to the central role it plays in the Netherlands, NBIC takes an active position in the worldwide bioinformatics community. NBIC scientists participate in a growing number of international research projects and international partnerships are established to support high-level bioinformatics education.

**Concept Web Alliance**

NBIC scientists actively contribute to several standardization programs, including the World Wide Web consortium (W3C), BioCatalogue and the Concept Web Alliance (CWA), a global NBIC initiative.

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Did this pique your interest? We are doing our best to make staying in touch with the Student Council as easy as possible: our announcements are posted on our Facebook group, our LinkedIn group and on Twitter, and of course on www.iscbsc.org. Why don’t you stop by and have a look around!

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To support the symposium delegates, we provide no less than 18 travel fellowships, including four full fellowships of $2,500 USD each for students from developing countries (see http://symposium.iscbsc.org/content/travel-fellowships #winners). Congratulations to all successful applicants!

We thank our volunteers who have spent many months preparing all aspects of this symposium and hope you enjoy it!
FASEB UPDATE

In 2003 ISCB joined the Federation of American Societies for Experimental Biology (FASEB; www.faseb.org), the largest coalition of biomedical research associations in the United States, composed of 23 societies with more than 100,000 members. The Federation’s mission is to advance health and welfare by promoting progress and education in biological and biomedical sciences through service to its member societies and collaborative advocacy. How’s it been doing?

FASEB Advocacy

FASEB has also been actively advocating for the broadening of science training opportunities by submitting comments to the NIGMS/NIH strategic plan for training and career development. FASEB believes the goal should be to prepare trainees for careers in biomedical sciences, including positions in research, education and science-related fields for which their training makes them especially qualified. Further emphasis is that training should be broad-based enough to enable students to pursue a wide range of scientific questions with the capability to transition among research areas as opportunities emerge.

Science Funding Recommendations

The majority of FASEB’s focused advocacy effort goes toward making NIH budget recommendations, with additional recommendations on the budgets of the NSF, DOE, USDA and Veteran’s Administration. Toward this effort, FASEB staffers and its president attend meetings with and provide presentations to key congressional leaders and their staff, who champion FASEB’s message onto the House and Senate floors, and into the Appropriation Committee meetings.

Using projections from the Summary of the 2010 nominations/election timelines, call for nominations, and responsibilities can be found at www.iscb.org/leadership-nominations-and-elections. Full information regarding the FY 2011 President’s Budget that indicates a decrease from 36.4 billion to 32.2 billion USD year-over-year as the consequence of budget cuts and a decrease in grant awards by 15.5%. Therefore, FASEB is strongly advocating that Congress appropriate 37 billion USD for NIH in 2011, and they are using all available channels to spread that message and the rationale behind it. Will they succeed? It’s too soon to tell.

But, encouraged by comments made by NIH Director Francis Collins during a talk he gave to FASEB’s Board of Directors at their meeting last December, the message is heavily weighted with an emphasis on the importance of investigator-initiated research, and that a reduction of research capacity will potentially delay or interrupt promising new efforts to find treatments and cures of life-threatening diseases.

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Research Information Technology

ISCB’s John Wooten chairs this new committee that addresses topics of information technology in biomedical research. The committee has released a policy statement regarding cyberinfrastructure and the need to develop strategies for coping with mass storage and other computational infrastructure needs.

International Issues

The committee on international issues has begun to address scientific activities that are building momentum around the world. A summit is being planned to further discuss this issue.

U.S. Entry Visas

In recent years ISCB worked with FASEB to produce data on this topic. If you entered the U.S. to attend ISMB or for any other science-related reason this year, what was your experience in obtaining a visa? Was the process more efficient than in the past, or do you feel things have changed? Does ISCB need to rattle this cage once again, or are there marked improvements? Please let us know at policy@iscb.org.

Other Active Advocacy Issues

In addition to the above, other recent advocacy efforts have been: (1) opposed a set-aside increase to 40% of Small Business Innovation Research grants that would redirect 1 billion USD to this single research program at the expense of all others; (2) responded to the White House Office on Science and Technology Policy proposal on Grand Challenges of the 21st Century and on the proposed rule on meaningful use of electronic health records put forward by the Centers for Medicare and Medicaid Services; (3) took a stand in support of the humane treatment of animals in research, and against the Great Ape Protection Act that would prohibit all research using chimpanzees.

RESOURCES

For scientists to use to interact with members of Congress, this Tool Box is now available as an online resource and contains talking points on the importance of biomedical research. ISCB’s Barbara Bryant put the Tool Box to the test when she participated in this year’s annual Capitol Hill Day on May 5th. Altogether, FASEB researchers and staff visited nearly 40 congressional offices and attended breakfasts with two members of the Senate Appropriations Committee to advocate for FASEB’s recommendations of 37 billion USD for NIH and 7.68 billion for NSF in FY 2011. The consistent message in the

Leadership Elections Notice of Officer Nominations

Submitted by Dietlinde Gerloff, ISCB Nominations Committee Chair

It’s that time again! Officer nominations are due by July 27, 2010 at www.iscb.org/nominate (you must be logged in to your membership record to access the nomination form). This time we are seeking nominations for Vice President, Treasurer and Secretary.

These two-year Officer terms begin January 1, 2011, followed by one additional year as a Board Member. Each nominee must have served at least one year on the ISCB Board of Directors and be a current ISCB member (or can renew an expired membership by the end of August). The nomination form includes the list of possible nominees based on their current or past Board service eligibility.

All Officer candidates must pledge to make every reasonable effort to attend the weekly Executive Committee teleconferences, the bi-monthly Board of Directors teleconferences, and the annual in-person Board meeting at ISMB through completion of the two-year Officer term, plus the additional year on the Board.

Full information regarding the 2010 nominations/elections timeline, call for nominations, and responsibilities can be found at www.iscb.org/leadership-nominations-and-elections.

MEET THE ISCB FELLOWS CLASS OF 2010

The ISCB Fellows Program was inaugurated last year to honor members that have distinguished themselves through outstanding contributions to the fields of computational biology and bioinformatics. During the inaugural year of the program, ISCB conferred Fellows status on all seven of the ISCB Accomplishment by a Senior Scientist Award winners to-date: David Haussler, David Lipman, Webb Miller, David Sankoff, Temple Smith, Janet Thornton, and Mike Waterman, and committed to automatically honoring all future winners of this award as Fellows as well.

For this year’s Fellows, the Society put out a call for nominations to our member community. The minimum criteria for nomination of highly accomplished and distinguished scientists was that the nominated member had maintained an active membership for at least three of the last six years, and the nomination required endorsement by at least three additional current members. Upon closing of the nomination and endorsement periods, the Fellows Committee, chaired by Suren Brunak (who also chaired the Awards Committee over the past three years), held two meetings to thoughtfully discuss each nominee in order to make the final selections for the Fellows Class of 2010. The selection was particularly difficult this first time around because many nominations were of exceptional contributors to ISCB, and all were of researchers who have fulfilled important roles within our science. Because of the exceptional qualities of the many nominees not selected as Fellows this year, all nominations are being carried over for consideration again in 2011. (Watch for the next Call for Fellows Nominations coming out in October of this year.)

It is with great honor that the ISCB Board of Directors, together with the ISCB Fellows Committee, introduces the newest Fellows featured to the right. If you are attending ISMB in Boston, please be sure to come to the ISCB Open Business Meeting on Sunday, July 11th at 5:45 p.m., during which a brief Fellows ceremony will take place in Room 302 of the Hynes Convention Center.

INTERNATIONAL SOCIETY FOR COMPUTATIONAL BIOLOGY

Summer 2010 Newsletter

www.iscb.org
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Through the MARC program FASEB fully supported all travel and registration costs for minority students to attend ISMB, Rocky and the new ISCB Latin America conference in Uruguay this past March.

ISCB at ABRCSM

For the past two years FASEB has sponsored ISCB’s participation in the Annual Biomedical Research Conference for Minority Students (ABRCSM: www.abrcsm.org/index.html) as a means of supporting our efforts to reach underrepresented minorities. ISCB’s presence at ABRCSM helps us create awareness and foster interest in higher education with the possibility of careers in computational biology/informatics.

ISCB Members Contribute to FASEB Activities

Our members are involved in FASEB in many ways: John Woolley and Barbara Bryant serve on the board of directors, with John also serving on the research information technology committee, Greg Tucker-Kellogg on the international issues committee, Scott Markel on the publications and communications committee, BJ Morrison McKay on the executive officers advisory committee, and other members that volunteer from time to time to serve on the committees that develop U.S. federal funding recommendations. We thank these members of ISCB for their past and current service, and invite other interested members to contact us at policy@iscb.org.

What’s in it for You?

With each year’s ISCB budget review, the Board appropriately asks, “Is it prudent to allocate funds to belonging to a federation that only stands to benefit our US-based members?” On average approximately 50-55% of ISCB members are based in the U.S., but our total membership includes researchers in over 70 countries, which makes this a fair question and one that merits regular review. Clearly we could not afford to allocate funds to similar organizations if they existed in every member’s country. But, in actuality, we have been unable to identify advocacy organizations like FASEB in any other member country. Does the lack of similar organizations mean we should not participate as fully as possible in one that is effective in its mission to advocate for progress and education in biological and biomedical sciences on behalf of at least half of our members? So far, the Board has upheld the belief that FASEB’s advocacy within the U.S. can have far reaching benefits to members in other countries. Scientists around the world have been funded through NIH grants. Many students and post docs cut their teeth in U.S. labs that are funded by the NIH and/or other U.S. government agencies. Without consistently strong U.S. government research budgets, these opportunities for cross cultural collaboration and exchange could dry up within the U.S. and students and researchers from outside the U.S. could have reduced opportunities to study and collaborate with U.S. labs.

We welcome your views on FASEB’s efforts and overall effectiveness. Please let us know if you perceive ISCB’s membership in FASEB to be a worthy investment in the future of our science and the broader scientific arena by writing to us at policy@iscb.org.

PLOS Computational Biology Overview

In June 2010, PLoS Computational Biology celebrates its fifth birthday. The vision of Founding Editors Philip E. Bourne, Steven E. Brenner, and Michael Eisen was to provide “a place where computational biologists can find the best work produced by their colleagues, and where the broader biological community can see the myriad ways computation is advancing our understanding of biological systems.” We believe that the breadth and quality of the articles we publish, as well as our ongoing involvement in numerous additional community-focused projects, evidence real fulfillment of this vision — and more on the horizon.

In April 2010, PLoS Computational Biology published its first “Conference Postcards.” We invited young scientists attending the Pacific Symposium on Biocomputing (PSB) 2010 to send us a “Postcard” describing their scientific highlight of the conference. In the article, two graduate students discuss an exhilarating talk by Edward Marcotte; their different approaches highlight the potential of Conference Postcards perfectly.

Examples of highly downloaded content:

Structure of Protein Interaction Networks and Their Implications on Drug Design

Hase T, Tanaka H, Suzuki Y, Nakagawa S, Kitano H

www.ploscompbiol.org doi/pcbi.1000050

Googling Food Webs: Can an Eigenvector Measure Species’ Importance for Coexistencies?

Allesina S, Pascual M

www.ploscompbiol.org doi/pcbi.10000494

Functional Brain Networks

Develop from a “Local to Distributed” Organization

Fair DA, Cohen AL, Power JD, Dosenbach NUF, Church JA, et al.

www.ploscompbiol.org doi/pcbi.10000381

Ten Simple Rules for Choosing Between Industry and Academia

Searls DB

www.ploscompbiol.org doi/pcbi.10000388

A Quick Guide to Teaching R Programming to Computational Biology Students

Eglen SJ

http://opa.faseb.org pages/Publications/horizons.htm) are intended to supplement the Breakthroughs in Bioscience articles.

Horizons in Bioscience

Examples of highly downloaded content:

Structure of Protein Interaction Networks and Their Implications on Drug Design

Hase T, Tanaka H, Suzuki Y, Nakagawa S, Kitano H

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Benefits Galore!

Have you noticed over the past couple of years how ISCB has been enhancing its benefits package with more and more useful, cool stuff? You have Reinhard Schneider, ISCB’s Treasurer since 2009, to thank for that. When he stepped into the Treasurer’s role he was tasked with making membership more compelling to our community, and his efforts to do just that have been tireless.

The key components your ISCB membership now offers are the following...

Knowledge bank: journals, conferences, multimedia content; community news feeds

Web tools: Google apps, including you@iscb.org email address

Across the board savings: on journal subscriptions, conferences, books, long-term membership options

Community connectivity: blog live from ISCB conferences, get active with the student council; submit nominations for awards, honors and future leaders; connect with affiliates; network with local member community

Travel fellowships: benefit from travel fellowship opportunities for students and post docs

Professional advantage: use the jobs database to your advantage; develop your own leadership skills to serve our community; contribute financially or by volunteering your time to ISCB activities.

In addition, the Student Council has been building an outstanding benefits package for leadership and soft skills training opportunities geared specifically for students and young researchers.

Do you need more? Please let us know what additional benefits you would like to see in the future. Write to admin@iscb.org with your suggestions or requests.

INTRODUCING Institutional Membership Categories

The ISCB expands its membership option from solely individual memberships to now include institutional membership opportunities with a wide range of benefits.

Not-For-Profit Institutional Membership

Not-for-profit research organizations such as foundations, governmental research institutes and other institutions with a research program in Life Science Informatics (educational institutions such as universities and colleges are excluded).

Benefits

One representative of the institution shall be designated as the Institutional Member Liaison (IML) to ISCB for administration of the benefits below.

The Institutional Member organization may opt to be listed on the ISCB portal site with a short description and hyperlink to the organization’s website.

• The Institutional Member organization may take advantage of the ISCB member conference registration discount up to five times per year for ISCB owned conferences - excludes affiliated and co-sponsored conferences. (A $1,100.00 value.)

  • All 5 registrations may be for the same ISCB conference, or they may be split up between various ISCB conferences. (A $1,100.00 value.)

  • The names and contact details of each conference registrant shall be designated by the IML prior to conference registration (registration refunds/credits will not be given for conference registrants that have not been pre-designated in this way).

  • The conference date must precede the institutional membership expiration date.

• Up to 10 free job postings per year on the ISCB jobs portal. (A $1,500.00 value.)

• Up to 15 online passes to the membership area of the ISCB portal. (A $750.00 value.)

For-profit Institutional Membership

For-profit organizations working in the Life Sciences sector including but not limited to pharmaceutical and biotech companies, hard- and software manufacturers, consultants and publishers.

Benefits

The Institutional Member organization may take advantage of the ISCB member conference registration discount up to five times per year for ISCB owned conferences - excludes affiliated and co-sponsored conferences. (A $1,100.00 value.)

• All 5 registrations may be for the same ISCB conference, or they may be split up between various ISCB conferences. (A $1,100.00 value.)

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ANNOUNCING ISMB/ECCB 2011

ANNOUNCING ROCKY ‘10

8th Annual Rocky Mountain Bioinformatics Conference

December 9 – 11, 2010
Aspen/Snowmass, Colorado Silverteer Hotel

In this year’s policy of the International Society for Computational Biology

www.iscb.org/rocky10

CONTINUED ON PAGE 15
The names and contact details of the 15 individuals must be designated in advance by the IML and are non-transferable to other contacts in the course of the one-year institutional membership.

The online passes expire on the institutional membership expiration date.

One representative, as designated by the IML, is invited to the ISCB affiliates and institutional members meeting held during the ISMB conference with board members of the ISCB.

Total Value of above Benefits: $3,350.00

Annual Fee
The annual fee for an Institutional Membership is $1,675 USD. This is 50% off the total value of the benefits detailed above when purchased separately. The Institutional Membership represents an exceptional opportunity for any organization dedicated to providing its personnel with many of the ISCB benefits offered throughout the year, particularly in the areas of education, recruitment and networking.

Restrictions
An ISCB Institutional Membership is not an endorsement of the institution in any way, and the Institutional Membership organization explicitly agrees not to advertise, promote or make this membership known in such a way as to imply any endorsement from ISCB. If ISCB, at its discretion, perceives the membership is presented by the organization as an endorsement, ISCB reserves the right to invalidate the institutional membership immediately, without obligation to refund fee(s) paid to date.

Enrollment
The Institutional Membership application is accessible from www.iscb.org/iscb-membership, and hyperlinks will be included from ISCB conference registration sites in the future. If this is the type of membership opportunity you have been waiting for, please consider joining and become one of the first ISCB Institutional Members.

2010 ISCB ACCOMPLISHMENT BY A SENIOR SCIENTIST AWARD: CHRIS SANDER

By BJ Morrison McKay and Clare Sansom, with grateful attention to detail by Chris Sander

The ISCB’s Accomplishment by a Senior Scientist Award is presented annually to a scientist who has made distinguished contributions over many years of research, teaching and service. This year’s award goes to Chris Sander of Memorial Sloan Kettering Cancer Center, New York, USA. He will be presented with his award and deliver a keynote lecture at ISMB 2010 in Boston, on July 12th.

Sander is one of the best-known researchers in protein structure analysis and genomics pathway analysis. Like other founders of bioinformatics, Sander was initially trained as a physicist, with a first degree in physics and mathematics from the University of Berlin in 1967, and a PhD in theoretical physics after graduate studies at the State University of New York, the Niels Bohr Institute in Copenhagen and the University of California in Berkeley.

His interest in biology was first kindled by Joe Franklin, a research chemist, during a high school exchange year in Texas. At the age of 21, he went straight to the top to explore this interest, took a trip to Caltech and knocked on the door of Max Delbrück, a physicist turned pioneering molecular geneticist. Delbrück elaborated on the potential of theoretical physics in molecular biology, but it was not until after completing his first postdoc in theoretical high-energy nuclear physics in Heidelberg that Sander made the lateral transition to biology.

Sander chose to work on protein folding because, as he said with a smile, “I liked stereo views of molecules”. He became a post-doc with Shneior Lifson, then a leader in the field of molecular force fields for biopolymers at the Weizmann Institute in Israel. “Lifson taught me that the most important skill in science is to ask good questions,” Sander says with admiration.

Having successfully switched from theoretical physics to biology, he then moved to the Max-Planck Institute for Biophysics in Heidelberg to work with Georg Schulz, a protein crystallographer, and biophysicist Ken Holmes. His first independent collaboration with post-doc colleague Wolfgang Kabsch led to the development of the algorithm for analyzing protein structures, DSSP, that 17 years later is still used as a standard for identifying protein secondary structures in experimental 3D structures.

In 1986, Sander took a giant leap from senior post-doc to department chair and founder of the Biocomputing Program at the European Molecular Biology laboratories (EMBL) in Heidelberg, with the support of Sydney Brenner, one of the grand masters of molecular biology. “EMBL is an ideal environment for young, independent scientists to flourish”, he says, “it is highly stimulating, collaborative and international.” During that period he also pursued his dream of building international collaborations and a worldwide bioinformatics infrastructure as active co-founder of the European Molecular Biology Network (EMBnet). When, in 1995, EMBL moved its bioinformatics research and services from Heidelberg to the European Bioinformatics Institute (EMBL-EBI) in Cambridge, UK, he joined the new institute as a group leader. Soon thereafter he was a founding member of the Board of Directors of ISCB when the society was established in early 1997.

By the late 1990s Sander was motivated by “having more impact in the real world than can be afforded by publications and conferences. While a guest at the MIT Genome Center in Cambridge, Massachusetts in 1998, he co-founded the bioinformatics company Millennium Information, a short-lived spinout from Millennium Pharmaceuticals. Recruited by Harold Varmus, in 2002 Sander accepted the challenge to found his second department of computational biology, now at Memorial Sloan-Kettering Cancer Center in New York, with strong emphasis on translational, i.e., clinically relevant, techniques and applications, particularly in cancer medicine.

Sander predicts about his own work: “the best is yet to come”. He is continuing to innovate, and expects to present new results in his keynote lecture at ISMB 2010, describing a novel approach to cell biology that builds network models based on systematic perturbation of the cellular system and rich observation of the resulting changes in molecules and cellular physiology. “We rapidly cycle between experiment and theory and I now have a wet lab in my group for the first time in my career”, he says.

Sander reflects, “The two key ingredients for successful science are asking good questions and working with good people in a friendly atmosphere. The results of my past and present work are in essence the product of my collaborations with scientists across varied disciplines and from many countries, and I am their fan.”
2010 ISCB OVERTON PRIZE: STEVEN E. BRENNER

By Bj Morrison McKay, ISCB Executive Officer and Clare Sansom, Bioinformatics Consultant and Science Writer

Each year ISCB honors a young scientist who has already achieved a significant and lasting impact on our field. The ISCB Awards Committee, comprised of current and former directors of the society and chaired by Soren Brunak, announced the recipient of the 2010 ISCB Overtone Prize is Steven E. Brenner of the University of California, Berkeley, USA. Brenner will be presented with his award at ISMB 2010 in Boston, where he will give the opening keynote lecture on July 11th.

Brenner chose the flexibility of Biochemical Sciences for his undergraduate studies at Harvard, and followed his advisor’s encouragement to take computer science courses as well. As an undergraduate, he was able to work in Walter Gilbert’s lab, “maybe the very first genome lab in the world.” Gilbert and his colleagues were sequencing the genome of the bacterium Mycoplasma genitalium. While in Gilbert’s lab, Brenner met colleagues who introduced him to the idea of combining both his interests into the study of computational biology.

After graduation, Brenner obtained a fellowship for graduate study at the University of Cambridge, and studied for his PhD in the MRC Laboratory of Molecular Biology under Cyrus Chothia. As one of the original authors of the SCOP: Structural Classification of Proteins database, Brenner presented it at the second ISMB meeting in 1994. While initially having an uncertain reception, SCOP has since been cited over 4,000 times and remains widely used today.

After leaving Cambridge, Brenner obtained a fellowship to the National Institute of Bioscience, Japan, to work on genome analysis, but he was soon back in the US as a postdoctoral research fellow in Michael Levitt’s lab at Stanford University. In Levitt’s lab, he continued to work on genome and protein sequence analysis and the detection of distant evolutionary relationships between proteins.

In 2000, Brenner moved to the University of California, Berkeley, as an assistant professor, and became a faculty scientist at Lawrence Berkeley National Laboratory that same year. In 2009 he was appointed as an adjunct professor at the University of California, San Francisco, and is promoted to full professorship at UC Berkeley this year. His lab now includes experimental as well as computational biologists.

Over time, Brenner’s research interests have broadened away from protein structure. In the decade since obtaining his first independent position, he has contributed to the understanding of genomes, and to protein and RNA function. All of his work, however, can be characterized as using evolutionary principles and statistical and computational methods to understand biology. His most important contribution to the RNA field was the discovery of the prevalence of RNA surveillance and alternative splicing as a novel mode of gene regulation. He continues to work in this area and has extended his work in RNA regulation as a member of the modENCODE consortium, which aims to identify all the functional sequence elements in the Dro sophila and Caenorhabditis elegans genomes. His recent research in protein function prediction picks up on scientific interests he first discovered as an undergraduate researcher at Harvard: his group’s prediction algorithms are amongst the most accurate available. He has also been involved in establishing computational approaches for the field of structural genomics, and has developed an interest in relating human genetic variation to phenotype and disease. He set out his “vision for personal genome interpretation” in a short paper in *Nature* in 2007, and for the last few years he has been advancing that vision for translational genomics.

Brunak recognizes that Brenner is at the upper end of the seniority bracket for the Overtone Prize. “Young scientists who achieve a conspicuous success like SCOP very early in their career too often ‘burn out’. In contrast, Brenner is a worthy winner because of the long-standing, excellent track record that he has established in research and scholarship,” he says. Brenner himself is quick to attribute much of this success to his “wonderful” mentors, collaborators, colleagues—and especially the postdocs and students in his group from whom he says he learned the most science. He cites inspirations ranging from his parents, to advisors Gilbert, Chothia, and Levitt, who taught him “how to do science at a high level,” to his senior colleague at Berkeley, Jasper Rine. This readiness to share the credit for his achievements further underscores his worthiness as the recipient of the 2010 ISCB Overtone Prize.

This article is excerpted from the June 2010 issue of PLoS Computational Biology. To link to the full journal article please visit www.ploscompbiol.org/doi/10.1371/journal.pcbi.1000831.

KEY DATES FOR KEY CONFERENCES

Make a note of the important upcoming Key Dates for these ISCB and ISCB co-sponsored conferences. Dates listed are in 2010 unless otherwise noted. As all dates are subject to change, please visit the respective conference websites for updates and additional details.

**ECCB10** (www.eccb10.org)  September 26-29
- Early registration deadline  August 13
- Late-breaking abstract deadline  September 26-28

**InCoB’10** (http://incob10.hgc.jp)  September 26-28
- Abstract submission deadline  December 9-11
- Early registration & housing deadline  November 9

- Paper submissions due  July 12
- Poster abstract deadline  November 29

- Oral presentation abstracts deadline  October 15
- Poster abstract deadline  January 7, 2011

- Special Sessions proposal deadline  October 22
- Special Interest Group proposal deadline  November 19
- Tutorial proposal deadline  December 3
- Proceedings track submission deadline  January 14, 2011
- Workshops track submission deadline  February 11, 2011
- Highlights track submission deadline  March 4, 2011
- Late Breaking Research track deadline  March 11, 2011
- Poster submission deadline  March 18, 2011
- Art and Science Exhibition deadline  April 15, 2011
- Technology track submission deadline  April 29, 2011
- Early registration deadline  June 3, 2011
- SIGs and Student Symposium date  July 15, 2011
- SIGs and Tutorials date  July 16, 2011

**Blogging at ISMB**

For each talk we have a feed entry under: http://friendfeed.com/ismb2010

The latest feeds can also be found on our home page and in the program section:

www.iscb.org/
www.iscb.org/ismb2010-program

See also the PLoS Comp. Biol. articles: http://tinyurl.com/Lister001 and http://tinyurl.com/Lister002
ISCB Annual Conferences

Rocky ‘10: 8th Annual Rocky Mountain Bioinformatics Conference
United States - CO - Snowmass
Dec 09, 2010 - Dec 11, 2010
ISCB Member Discount: 220 USD
www.iscb.org/rocky10

CISHALS 2011: Conference on Semantics in Healthcare and Life Sciences
United States - MA - Cambridge
Feb 23, 2011 - Feb 25, 2011
ISCB Member Discount: 220 USD
www.iscb.org/cishals2011

ISMB/ECCB 2011
Austria - Vienna
ISCB Member Discount: 220 USD
www.iscb.org/ismbecb2011

ISCB Co-Sponsored Events and Affiliated Events

RECOMB 2010: Fourteenth Annual International Conference on Research in Computational Molecular Biology
Portugal - Lisbon
Aug 12, 2010 - Aug 15, 2010
ISCB Member Discount: 50 EUR
http://kdbio.inesc-id.pt/recomb2010

International Conference on Computational Immunology
United States - NY - Niagara Falls
In conjunction with the ACM International Conference on Bioinformatics and Computational Biology (ACM-BCB)
Aug 02, 2010 - Aug 02, 2010
http://ailab.cs.iastate.edu/iciw2010

International Conference on Computational Biology
Belgium - Gent
Sep 26, 2010 - Sep 29, 2010
ISCB Member Discount: 100 EUR
www.eccb10.org

ISCB Co-Sponsored Events

Developing Multi-Scale, Multi-Cell Developmental and Biomedical Simulations with CompuCell3D and SBW
United States - IN - Bloomington
By: Biocomplexity Institute, Indiana University
Aug 02, 2010 - Aug 13, 2010
http://bio-complexity.indiana.edu/events/wc10.php

International Conference on Intelligent Computing
China - Hunan - Changsha
Hosted By: Intelligent Computing Lab, Hefei Institute of Intelligent Machines, Chinese Academy of Sciences
Aug 25, 2010 - Aug 27, 2010
www.chalmers.se/cs/ecl/dils2010/

ISCB Treasurer Reinhard Schneider has dedicated himself to arranging and implementing a variety of new benefits, from Google Apps accounts for all members (free you@iscb.org email address to publish with papers because it stays with you through your career), to the new ISCB Scholars channel (enabling the latest news from ISCB and the field to feed directly to you at whatever frequency you choose). Together with our web team, Reinhard has shown enormous dedication to improving and enhancing the value of an ISCB membership.

A new institutional membership category will be available when you read this as our latest effort to expand membership. If you are with a research institute that may be interested in this type of membership option, be sure to read the related article in this newsletter. Together with our expanded Affiliates Program, that now includes regional centers and institutes, and in addition to the traditional regional membership groups, our vision for ISCB is one that is truly representative of the diversity of scientists and organizations contributing toward the advancement of the worldwide understanding of living systems through computation.

Another initiative launched last year was the incredibly successful expansion of ISCB’s regional meetings. In November/December the first ISCBAfrica, being held March 9-11, 2011 in Cape Town, South Africa, and initial conversations are underway for the next two ISCBAfrica Latin America meetings in 2012 and 2014 as well. Soon a call for proposals will also be distributed to initiate a search for a location and date of the first ISCBAfrica meeting. Full details will be posted to the ISCB website Conferences page when available.

And speaking of meetings, many of you reading this are at ISMB 2010 in Boston right now. This 18th annual conference is where we direct the majority of ISCB’s human resources, to which the bulk of ISCB’s expenditures go, and from which about 30-40% of our income continues to come. The success of ISCB remains largely tied to the success of ISMB, and over the years, to ensure that success, we have established a pattern of presenting a massively parallel scientific event in order to attract the best submissions and present the highest quality of science possible. We make a concerted effort to welcome all branches of computational biology, and are especially committed to addressing the reality of our interdisciplinary field by ensuring opportunities for computational and experimental scientists to contribute equally. In a nutshell, we strive to make ISMB the forum that successfully unites the varied entities of our field, under one roof, all at one time.

In the ISMB 2010 program book that is distributed to all attendees on a flashdrive, and available to everyone, everywhere on the conference website, the many volunteers who made this meeting possible have been thanked, so we will not repeat the extent of that praise here. But, we do want to call your attention to the tremendous accomplishments of our first-ever all-female triumphant trio of conference chairs - Olga Troyanskaya, Michal Linial and Jill Mesirov - who have shaped this event into something exceptional. And, Steven Leard also shares that spotlight of gratitude for his expertise in managing the logistical arrangements with a professional poise unequalled in the meeting-planning field.

Looking ahead: ISMB/ECCB 2011 will return to Vienna, Austria, July 17-19 (with pre-conference SIGs and Tutorials July 15-16). The return to the Austria Center Vienna is a first for ISMB and ECCB. Never before have we repeated a location, but we intend to do this again in order to save resources. We are looking for a few places that all organizers and attendees overwhelmingly enjoyed and that we could use as return sites. Please help spread the word about Vienna and be sure to make your own plans now to attend.

Meanwhile, surviving the economic storms of these past years has made us all stronger. Therefore, we bid you to embrace the challenges and opportunities you may face in daily life and research, and never forget to have fun – we highly support the concept that science should be fun, and we hope you do as well! Be sure to make the most of your time in Boston, or wherever you may be as you read this newsletter.

Sincerely,

BJ Morrison McKay
Bj Morrison McKay
Executive Officer

Bunkhard Rost
Bunkhard Rost
President
A LETTER TO OUR ISCB MEMBERS AND COLLEAGUES

Economical hardships increasingly grind the advance of science. Of course, the pursuit of scientific discoveries must forge ahead against the growing funding stress. We have had to rethink our approach toward scientific questions, and be creative in our means of attacking problems toward results that benefit human health. Even last year when the US government enacted the American Recovery and Reinvestment Act, causing tens of thousands of scientific grant proposals to be submitted in short order in the hopes of capturing billions of dollars in new, short-term funding, each investigator hoped to be awarded funds and simultaneously wondered what he or she would do to keep their projects alive once the two-year spigot of funds dried up. In the midst of all this uncertainty, ISCB is not just surviving – it is thriving! Our membership has not dipped as we thought it might, our ISMB attendance has not plummeted as we feared it could, and our financial position did not take an about-face or revert to earlier times when ISCB struggled to stay alive. We couldn’t be more pleased to report that our membership, conference attendance and finances have all remained relatively solid and stable during these turbulent times. Now that we got this far, we need to stabilize this unexpected trend and grow more. To achieve this, we continue to make careful, thoughtful decisions on when and how to spend our limited resources toward the accomplishment of our mission and for the benefit of ISCB members worldwide.

One way we are joyfully doing that this year is with more travel fellowships. At the start of this year, ISCB committed 3,600 USD in travel fellowship funding support to the Student Council for distribution among its selected leaders and leaders of their Regional Student Groups. More recently, the ISCB Board of Directors contributed an additional 10,000 USD of Society funds toward 10-15 ISMB 2010 student travel fellowships from among the competitive application process. Your Board made this move because, although funding is tight all over, and travel costs are among the largest of impediments to attending a conference, we recognize that at this critical but resource-limited stage in their research careers, this type of support can be immeasurable to our student and trainee communities. Your Board is committed to supporting our up-and-coming researchers, and our current financial position enables us to do this. Together with US government grants (DOE, NIGMS/NIH and NSF), ISCB will provide over 80 ISMB travel fellowships to students and post docs.

Did you know that in addition to this year’s ISMB, for many years ISCB has also funded annual travel fellowships for our student/post doc members to attend ECCC, INCOB, FSBI and RECOMB. Since 2002 this has amounted to over 100,000 USD in funding, and resulted in over 150 travel fellowship awards to ISCB members to attend some of the most important early conferences of our science. If you are a dues paying member of ISCB, you should be very proud to know that your membership dues are put to good use! If you are not a paying member and would like to support our travel fellowships initiative, please visit our website and consider making a donation today. All donations, from members and non-memnon-alike, are welcome, and no amount is too big or too small to make a real difference.

With our student community well attended to, both from ISCB and from the grand efforts of the ISCB Student Council, our next challenge is in making an ISCB membership more compelling to our entire scientific community by increasing the benefits that are available to all members.

UPCOMING EVENTS AND CONFERENCES

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While ISCB provides for news, conference and event listings that may be of interest to members and bioinformaticians at large, ISCB is not responsible for the content provided by outside sources. Such listings are not meant as an endorsement by ISCB.
How are We Doing?
Please email ISCB at admin@iscb.org with any comments, questions, or concerns regarding the website (www.iscb.org), this newsletter, or any other ISCB effort. The ISCB staff aims to meet the needs of ISCB’s membership — member advice helps in meeting this objective.

ISCB gratefully acknowledges the support of the San Diego Supercomputer Center, at the University of California, San Diego, which provides office space to the Society in the SDSC and Skaggs School of Pharmacy and Pharmaceutical Sciences building.