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INTERNATIONAL SOCIETY FOR COMPUTATIONAL BIOLOGY

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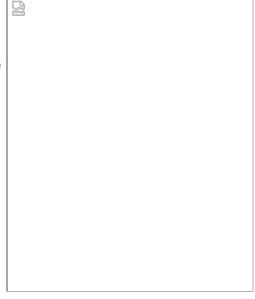
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## A Note From ISCB President...

Michael Gribskov

Welcome to the spring edition of the ISCB newsletter! There has already been great progress within the Society in just the four short months of this year. Our membership is on the way to being the highest in our history, and we are preparing for our annual ISMB conference in Scotland, this year being held jointly with the third annual European Conference on Computational Biology (ECCB), which is expected to draw more attendees than ever before for either of the conferences independently. See the ISMB/ECCB 2004 article in this newsletter for a full status report and links to important information and opportunities for all conference-goers. And don't miss the great information about all ten Special Interest Groups



that will be meeting just prior to the conference in Glasgow.

The developments in membership growth and anticipated conference attendance are a far cry from what we were experiencing last year at this time, when we were in the midst of worldwide travel restrictions due to SARS, the start of the conflict in Iraq, and a downward spiraling global economy. So, we anxiously awaited and welcomed the start of a new year, and to date it is proving to be all we had been waiting for, and more.

One of the very exciting developments within ISCB is the formation of an inaugural Student Council. A full unveiling of the council's mission, priorities and plan of action will be unveiled during ISMB/ECCB 2004 at a meeting dedicated to introducing the Student Council to student and post doc members of the ISCB. An article in this newsletter outlines the council's progress to date, and suffice to say the senior leadership of ISCB is as anxious as the inaugural members of this council to set the wheels in motion and open the council up to all members during ISMB/ECCB 2004.

Each year at this time the ISCB also puts out a call for nominations for upcoming openings within our Board of Directors and for successors to our current Officer positions of Vice President, Treasurer and Secretary. Please see the full call for nominations in this newsletter, and then submit your nominations for the members of our community you would like to see lead the Society in the years to come. Also note that nominating yourself is highly encouraged if you are willing, ready and anxious to serve.

Other articles of interest in this newsletter feature recaps of the PSB conference that kicked off this year in Hawaii, as well as RECOMB held just a month ago in San Diego. Additionally, we are proud to introduce our newest ISCB Affiliated Regional Group in Africa. And finally, Barb Bryant, ISCB Board Member/Corporate Secretary and liaison to the FASEB Board of Directors has contributed an article recapping issues and events being addressed by FASEB, and ISCB's role in their process.

As you can see, there is a lot happening within and all around ISCB. As your elected President, I am always interested to know if there are other or better ways

we can be serving our membership and the scientific community at large. Please feel free to contact me through <a href="mailto:admin@iscb.org">admin@iscb.org</a> for any issues related to ISCB. I welcome your feedback.





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## ISMB/ECCB 2004 Conference Countdown

By Cath Brooksbank
On behalf of the Local Organizing Committee

Combining two of the world's largest bioinformatics conferences – Intelligent Systems for Molecular Biology and the European Conference on Computational Biology – has proved to be an exciting challenge: we had anticipated that this was going to be a big conference, but must confess to being quite taken aback by the level of enthusiasm that the joint conference has generated. The programme committee and the local organizing committee have been working extremely hard over the past few months to distil all your contributions into an especially fine blend with a uniquely Scottish flavour.

### **REGISTER NOW!**

Online registration is open at <a href="http://www.iscb.org/ismbeccb2004/reg.html">http://www.iscb.org/ismbeccb2004/reg.html</a>, and there are significant discounts if you register before 28 May 2004. Register here for the main conference, tutorials, special interest groups (SIGs) and the conference banquet. Places for the banquet are limited, so if you want to experience haggis and Scottish dancing first hand, register now.

#### **PAPERS**

We had a larger number of submissions than ever before for either ISMB or ECCB, so competition was especially tough this year, and the standard of accepted papers is very high. The programme committee had the unenviable task of choosing the very best papers from over 490 submissions. They have selected 67 papers – 50 long and 17 short, spanning genomics, evolution and phylogeny, sequence analysis, transcriptomics, proteomics, structural biology, pathways, networks and systems, biomedical applications, databases, ontologies and text mining. The programme committee opted for an acceptance rate of approximately 14% (the same as for ISMB 2003) and, because we had a larger number of submissions than ever before, there will be parallel sessions. The full programme will be available shortly at <a href="http://www.iscb.org/ismbeccb2004/detailed.html">http://www.iscb.org/ismbeccb2004/detailed.html</a>.

#### **PRIZEWINNERS**

As well as the six keynote speakers highlighted elsewhere in this newsletter, we're delighted to announce that the ISCB Overton Prize will be awarded to Uri Alon (Weizmann Institute of Science, Rehovot, Israel) and the ISCB Senior Scientist Accomplishment Award will go to David Lipman (National Center for Biotechnology Information, Bethesda, MD, USA). Information on our keynote speakers is also available at <a href="http://www.iscb.org/ismbeccb2004/keynotes.html">http://www.iscb.org/ismbeccb2004/keynotes.html</a>. The programme will be organized so that no other talks will be concurrent with any of the keynote lectures.

#### **POSTERS**

We are delighted to have received over 950 poster abstracts. Space in the exhibition hall is tight but we're going to do our very best to accommodate all the posters.

## **SOFTWARE DEMOS**

The purpose of software demos is to allow organizations and individuals to demonstrate software and/or hardware that is relevant to the molecular biology community. If you'd like to give your new bioinformatics resource an airing, why not sign up to give a demo? Take a look at the schedule at <a href="http://www.iscb.org/ismbeccb2004/demoschedule.html">http://www.iscb.org/ismbeccb2004/demoschedule.html</a> to check availability, and then sign up at <a href="http://www.iscb.org/ismbeccb2004/demos\_all.html">http://www.iscb.org/ismbeccb2004/demos\_all.html</a>.

### **TUTORIALS**

The first day of ISMB/ECCB 2004, Saturday 31 July, provides an opportunity for you get a sound grounding in an area of bioinformatics that might be new to you, via a selection of tutorials. We were inundated with proposals for tutorials this year and have selected 13 out of the 65 proposals submitted; you can learn more about these at <a href="https://www.iscb.org/ismbeccb2004/tutorials.html">www.iscb.org/ismbeccb2004/tutorials.html</a> and sign up for one or two tutorials when you register for the conference.

#### **SIGs**

ISMB/ECCB 2004 will be preceded by ten Special Interest Group (SIG) meetings. As well as the old ISMB favourites such as BOSC, BioPathways, Bio-Ontologies, SIGSIM, and WEB; the second Bioinformatics and Statistical Physics will be held as a SIG (the first was a satellite conference of the first ECCB conference in Saarbrücken, Germany, in 2002) and there are some completely new SIGs, including: Bioinformatics of Disease; Genome Annotation; and 3D:Structural Bioinformatics. Learn more about the SIGs at <a href="www.iscb.org/ismbeccb2004/sigs.html">www.iscb.org/ismbeccb2004/sigs.html</a> and register for them when you register for the main conference.

### **SPONSORING AND EXHIBITING**

The organizers have put together an excellent range of sponsorship and exhibition opportunities: whether you're a large multinational or just starting up we have a package that will allow you to make your presence felt at the world's biggest bioinformatics event of 2004. The exhibition hall is filling up fast, so sign up now at <a href="http://www.iscb.org/ismbeccb2004/signup2.php">http://www.iscb.org/ismbeccb2004/signup2.php</a> to avoid disappointment. Register before 23 May to guarantee inclusion in the conference programme book.

#### **GETTING THERE**

Glasgow is an extremely well-connected city – by air, rail and road. Use the information at <a href="http://www.iscb.org/ismbeccb2004/trans.html">http://www.iscb.org/ismbeccb2004/trans.html</a> to plan your journey. If you think you may need a visa to visit the UK, you can check at <a href="http://www.ukvisas.gov.uk">http://www.ukvisas.gov.uk</a>.

#### STAYING THERE

The Scottish Exhibition and Conference Centre (SECC) is close to the city centre and we have negotiated special conference rates at a range of different hostels and hotels, ranging from basic to splendiferous. Information on housing is now available at <a href="http://www.iscb.org/ismbeccb2004/housing.html">http://www.iscb.org/ismbeccb2004/housing.html</a> and you can book online.

#### MAKING THE MOST OF YOUR STAY

While you're in Scotland, why not make the most of its wonderful scenery, historic cities and delicious whisky? Our Professional Conference Organizer, Concorde Services, is offering a range of tours. More information is available at <a href="http://www.iscb.org/ismbeccb2004/local">http://www.iscb.org/ismbeccb2004/local</a> tours.html .



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## Ten Special Interest Group Conferences to Lead Into ISMB/ECCB 2004

ISMB/ECCB 2004 is pleased to offer ten Special Interest Group (SIG) pre-

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**Events and Opportunities of** Interest conference meetings July 29 and July 30 at the Scottish Convention Center in Glasgow, Scotland . These one and two-day meetings are organized with distinct programming in the area of computational biology.

A number of the SIGs are currently soliciting presentations through a call for papers. Please take a moment to review the SIG information below and for more detailed information visit the specific websites.

## One-day SIG meetings are:

BioLink

Bioinformatics and Disease

**Bio-ontologies** 

Genome Annotation

WEB04

### Two-day SIG meetings are:

Bioinformatics and Statistical Physics

BioPathways

Bioinformatics Open Source Conference (BOSC)

SIGSIM

3Dsig: Structural Bioinformatics



Brief descriptions of each SIG are outlined below. To register for any SIG meeting and the ISMB/ECCB conference visit: http://www.iscb.org/ismbeccb2004/reg.html . Participation in SIG meetings is not dependent on attendance at ISMB/ECCB, so if you will not be able to attend the main conference, but are able to attend one or more SIGs, be sure to register now before space fills up.

## BioLink (1 day)

Date: Thursday, July 29

URL: <a href="http://www.pdg.cnb.uam.es/BioLink/">http://www.pdg.cnb.uam.es/BioLink/</a>

Contact: Lynette Hirschman at <a href="mailto:lynette@mitre.org">lynette@mitre.org</a>

The BioLINK text mining SIG focuses on providing improved access to the biological literature and tools to help database curators with the maintenance of current and consistent biological databases. The 2004 SIG will focus on recent advances in this area and will include a report of the results from Critical Assessment of Information Extraction: BioCreAtIvE 2003. As in the past, the SIG will include a mix of invited and contributed papers and reports from related SIGs (BioOntologies, BioPathways) and relevant projects (e.g., BioMINT).

## Bioinformatics and Disease (1 day)

Date: Friday, July 30

URL: http://www.bioinformatics.ac.uk

Contact: Hugh Morgan at hmorgan2@hgmp.mrc.ac.uk

Bioinformatics has become a fundamental tool for understanding the molecular basis of disease. It is now commonplace for candidate drug targets to be both suggested and validated through genomic research. Expression profiles derived through microarray analysis routinely give insight into disease aetiology. The study of polymorphisms provides information on the basis of inherited disease

and susceptibility to common disease. These are but a few examples.

The CCP11 SIG on Bioinformatics and Disease will present keynote lectures from protagonists in the field. Primarily, however, it is an opportunity for young-blood scientists to present 20 minute talks on their bioinformatic success stories in this area. Abstracts of proposed talks should be submitted to the Programme Committee (see <a href="http://www.bioinformatics.ac.uk">http://www.bioinformatics.ac.uk</a> for details) who will then invite successful researchers to speak at the event.

**Bio-ontologies** (1 day) Date: Friday, July 30

URL: <a href="http://bio-ontologies.man.ac.uk/">http://bio-ontologies.man.ac.uk/</a> Contact: bio-ontologies@lists.man.ac.uk

The Annual Bio-Ontologies meeting has now been running for six consecutive years, as a SIG at ISMB. It covers all aspects of the use of ontologies to biological problems, including new applications of ontologies, and updates on previously published work. The meeting consists of a series of talks, with no formal peer review, or publication. The meeting is generally attended by around 100 delegates, and tends to be lively. As such its a good opportunity to gain early feedback on new work.

The meeting is loosely themed; this years theme is "Ontologies and Images". We are now well used to annotating gene products and we've seen ontologies used in text analysis, but images are pervasive in bioinformatics -- how do we use ontologies to help us manage bioimages? Talks on this topic are especially encouraged, although not limited to this topic.

The conference organisers are Robert Stevens, and Phillip Lord, from the University of Manchester, and Robin MacEntire and Jim Butler from GSK.

## Genome Annotation (1 day)

Date: Friday, July 30

URL: http://www.pdg.cnb.uam.es/PRE-SIG/

Contact: Alfonso Valencia at valencia@cnb.uam.es

This one-day meeting will review the main activities in genome annotation, definition of biological function, use of database annotations, and genome annotation based genomic/proteomic information. Key scientists will present their views on the needs and possibilities in each one of these areas. The goal of the workshop is to create an open forum for the discussion of the current problems, to foster the analysis of key scientific issues, and to promote the collaboration among scientists interested in this key area of Molecular Biology. The EC funded BioSapiens network dedicated to the development of integrated strategies for the annotation of genomes will coordinate this first activity.

WEB04 (1 day)
Date: Friday, July 30

URL: http://surya.bic.nus.edu.sg/web04

Contact: Shoba Ranganathan at shoba@els.mq.edu.au

"Bioinformaticians are hard to find!" is a complaint that is often uttered. We, the organizers of WEB04, firmly believe that bioinformaticians are not born but made. Education and training in bioinformatics is crucial to the survival of this burgeoning field. WEB04 focuses its attention on current issues facing bioinformatics education: curricula, course delivery: tools and infrastructure, training and pedagogy. Industry requirements are also essential to the

development of successful educational programs. WEB04 is the fourth meeting, following on from the successful WEB meetings held earlier at Copenhagen, Edmonton and Brisbane. If you are interested in bioinformatics education, WEB is the one-day SIG meeting for you. If you have something to say, we would love to hear from you. WEB04 features an invited plenary speaker, short talks as well as posters. Oral and poster abstracts are due on May 7, 2004.

## **Bioinformatics and Statistical Physics** (2 days)

Dates: Thursday, July 29 through Friday, July 30

URL: http://www.lifl.fr/~iri-bn/pages/SIG/

Contact: Dr. Ralf Blossey at ralf.blossey@iemn.univ-lille1.fr

This SIG is a follow-up to the ECCB2002 satellite workshop with the same title, held in Saarbrücken (Germany, http://www.zbi.uni saarland.de/ECCB2002/satellite/index.html). We invite contributions to bioinformatics from (statistical) physics-based methods. Topics include: DNA, RNA, gene prediction, microarrays, protein interactions, biological networks (metabolic, signal transduction, gene regulation), population dynamics, evolution. In particular, the 2004 edition has a special topical focus on the use of nanotechnology for the generation of novel data in bioinformatics. We thus especially encourage contributors to suggest corresponding topics of relevance for genomics, proteomics and cellomics. Contributors should send their abstracts to: ralf.blossey@iemn.univ-lille1.fr.

## BioPathways (2 days)

Dates: Thursday, July 29 through Friday, July 30

URL: http://www.biopathways.org/

Contacts: Aviv Regev at aregev@cgr.harvard.edu and Vincent Schachter at

vs@genoscope.cns.fr

The 6th BioPathways meeting will be organized by the BioPathways Consortium (www.biopathways.org), an open forum aimed at fostering computational approaches to the modeling, reconstruction, analysis and simulation of biological networks.

As in previous years, the meeting will include plenary sessions, presenting invited talks on various aspects of computational pathway biology such as systems scale analysis of molecular networks, reconstruction of pathways from heterogenous types of high throughout data, the evolution of molecular pathways, and the representation and visualization of pathway data. Each plenary session will include several long invited presentations (45'), followed by a panel discussion on the theme. This year will also include a tools session this, consisting of short presentations of relevant tools. Particular emphasis will be made on works along the themes of the plenary sessions, as well as research in pathway visualization and reconstruction, all of which are subjects followed by the consortium's workgroups.

## Bioinformatics Open Source Conference (BOSC) (2 days)

Dates: Thursday, July 29 through Friday, July 30

URL: http://open-bio.org/bosc2004/

Contact: Darin London at dlondon@ebi.ac.uk or send mail to bosc@open-bio.org

The 5th annual Bioinformatics Open Source Conference (BOSC'2004) is organized by the not-for-profit Open Bioinformatics Foundation (<a href="http://open-bio.org">http://open-bio.org</a>). The meeting will take place July 29-30, 2004 in Glasgow, Scotland and is one of several Special Interest Group (SIG) meetings occurring in conjunction with the 12th International Conference on Intelligent Systems for Molecular Biology. The focus of the meeting will be on current and emerging open

source informatics tools and toolkits. BOSC provides a forum for developers, project groups, users and interested parties to meet personally, exchange ideas and collaborate together. Keynote speeches from well-known Open Source Bioinformatics leaders are being planned.

SIGSIM (2 days)

Dates: Thursday, July 29 through Friday, July 30 URL: <a href="http://biosim.genebee.msu.su/sigsim\_en.php">http://biosim.genebee.msu.su/sigsim\_en.php</a> Contact: Prof Igor Goryanin at Igor.Goryanin@gsk.com

One of challenges in the modern biology is that a huge amount of biological data should be integrated and analyzed to plan new series of wetlab or clinical experiments. The range, quality, and level of biological complexity are very different and ambiguous. The new knowledge covers different biological entities and processes, from genes, molecular mechanisms of DNA repair transcription factors to toxicogenomics and personalized medicines. Ultimately, all information fluxes should be combined, and analyzed together to give a real understanding of biological process and to find the best therapeutical intervention. Pathways reconstruction and mathematical modeling of cellular processes is one of possible ways to tackle this complex problem.

3Dsig: Structural Bioinformatics (2 days with Dinner)

Dates: Thursday, July 29 through Friday, July 30

URL: http://3dsig.weizmann.ac.il/

Contacts: Ilan Samish at 3Dsig@weizmann.ac.il

We are happy to announce the first 2-day special interest group meeting on Structural Bioinformatics. Previous ISMB conferences have had many attendees interested in the field, but lacked a session devoted to it. The time is ripe to initiate a tradition of a focused meeting on aspects associated with 3D bioinformatics. These include topics such as: structural databases, structure representation, secondary structure and domain assignment, 3D data-mining, 3D programming modules, structure-based function prediction, membrane protein assembly, role of geometry and of energetics in protein structure and function, docking and protein-protein/ligand interaction prediction, structure prediction, structural genomics. A combination of plenary lectures, short presentations and structured panels/discussions should provide a good anchor for a program in which scientists in the field will be able to interact. Conference organizers are Ilan Samish, Marvin Edelman and John Moult.



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# ISCB Student Council Update: Inaugural Group Building the Foundation for Long Term Success

The inaugural group of the ISCB Student Council was selected in March based on applications submitted by student and post doc/trainee members of the Society. In all, 21 members make up the inaugural council, whose job it is to propose a mission statement, outline strategic priorities, and present a general action plan to the ISCB Board of Directors during ISMB/ECCB 2004 in Scotland this August for final approval of the Student Council and its role within the larger Society. The Student Council will then hold a meeting during ISMB/ECCB where membership will be open to all student/trainee members interested in getting involved and creating a strong voice for the young scientists of our community (and future leaders of the ISCB!).

Manuel Corpas, whose idea it first was to start a Student Council of the ISCB, is leading the inaugural team through their various tasks. Having agreed on a draft mission statement, the council members have now divided up into five groups to address the specific areas of concern and outline a plan of activities to address them. They are...

OPERATIONS: internal issues related to the organisation, decision making and administration of the council

- Jana T.R.Janarththanan, Group Leader
- · Amandeep S. Sidhu
- Annie Chiang
- John W. Pinney

MARKETING: strategies to let our community know about and get active in the council.

- Shwetal Patel, Group Leader
- Shailesh Date
- Shaun Mahony
- Lan Zhang

EVENTS: opportunities for council activities at existing conferences and workshops, or possible stand alone activities with invited speakers

- Sarath Chandra Janga, Group Leader
- Michael Sierk
- Toni Gavaldon
- Michael Hoffman

BUSINESS RELATIONS: affiliation with industry, recruiting important contacts in organisations, fundraising for council activities and services

- Kyle Jensen, Group Leader
- Thomas M. Smith
- Robert Park
- Rebecca Lynn Luzcando

OUTREACH: identify opportunities such as course availability, internships, and jobs

- Amonida Zadissa
- Shweta Bansal
- Debra Goldberg
- Nandita Mullapudi

During the recent RECOMB conference in San Diego, Manuel Corpas met with ISCB's Executive Officer and various members of the Board of Directors, including current and immediate past presidents, Michael Gribskov and Philip Bourne, respectively, to discuss the development of this council and gather feedback from the initial steps that have been taken. To say the least, the general consensus was that this inaugural group of Student Council members is incredibly enthusiastic about the task they have undertaken, and their efforts and initial ideas are very promising for the future success of a long term Student Council that will effectively serve the unique needs of our student and young scientist community.

If you are planning to attend ISMB/ECCB 2004 in Glasgow this July/August (see related articles in this newsletter), and getting involved in the Student Council is of interest to you, please be sure to find the meeting on the detailed conference agenda (available soon) and mark it on your calendar. It will be one meeting no student or post doc at the conference should miss!





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## **ISCB Call for Board and Officer Nominations**

By Dietlind Gerloff
ISCB Nominations Committee Chair

The International Society for Computational Biology (ISCB) is encouraging members to put forward nominees for members of the Board of Directors and for the Officer positions of Vice President, Treasurer and Secretary by submitting nominations to http://www.iscb.org/nominate.php

If you know of excellent candidates, or if you are personally interested in serving as a Board member or as an Officer, and meet the eligibility requirements below, please be sure to submit your nominations right away.

- In order to be eligible to be a Board candidate, a person must be or become an ISCB member in good standing no later than June 18, 2004; Officer candidates must have been a member of the ISCB Board of Directors for at least one year, either with the current or a previous Board (\*see list at bottom of this email of all eligible Officer candidates).
- All Board candidates must pledge to make every reasonable effort to attend
  the semi-monthly Board teleconference and the annual Board of Directors
  meeting (normally held at the ISMB conference) at their own expense
  through completion of the three year Board term in January 2008.
- Officer candidates must also pledge to make every reasonable effort to attend the monthly Executive Committee teleconference beginning with a training period in October 2004 through completion of the two year Officer term in January 2007.

The online nomination form requires the name, affiliation, and e-mail address of the person being nominated, along with an assurance that the indicated person meets the qualifications and is willing to stand for election for the position in question. The nomination must also include a few sentences of justification that makes the strongest case possible for the person being nominated.

Nominations will be accepted through June 18, and elections of Board members will take place during the annual ISCB Board of Directors meeting on July 30, with elections of Officers scheduled to begin September 22 by a vote of the membership at large.

Elected Board members and Officers will take office on January 21, 2005. Board members will serve three year terms and elected Officers will serve two year terms, plus one additional year on the Board of Directors.

We are looking forward to an active participation by the ISCB membership in the election process, and thank you in advance for your qualified nominations.\* The following lists eligible Candidates for ISCB Officer positions of Vice President, Treasurer, and Secretary (only officer positions require current or previous Board service; all members are eligible to run for a seat on the Board of Directors):

**CURRENT 2004 Board of Directors:** 

### **Last Name First Name BoD Term Ends Remarks**

Altman Russ Jan. 21, 2005 President 6/2000-1/2002 Bourne Philip Jan. 21, 2006 Secretary 1/2001-1/2002 President 1/2002-1/2003 Brenner Steven Jan. 21, 2006 Brunak Soren Jan. 21, 2005

Bryant Barbara Jan. 21, 2006 Secretary 1/2002-1/2005

Casadio Rita Jan. 21, 2006 Gerloff Dietlind Jan. 21, 2007

Gribskov Michael Jan. 21, 2008 VP 1/2002-1/2003; President 1/2003-1/2007

Guigo Roderic Jan. 21, 2006 Hide Winston Jan. 21, 2005

Hunter Larry Jan. 21, 2007 President 1999-2000

Karp Peter Jan. 21, 2005 Kazic Toni Jan. 21, 2005

Klein Teri Jan. 21, 2005 Treasurer 6/2000-1/2002

Linial Michal Jan. 21, 2007 Miyano Satoru Jan. 21, 2007 Neshich Goran Jan. 21, 2006

Ranganathan Shoba Jan. 21, 2006

Rocke David Jan. 21, 2006 Treasurer 1/2002-1/2005

Rost Burkhard Jan. 21, 2006 Safer Hershel Jan. 21, 2007

Tramontano Anna Jan. 21, 2006 VP 1/2002-1/2005 Valencia Alfonso Jan. 21, 2005 VP 2000-1/2002

Warnow Tandy Jan. 21, 2005 Waterman Mike Jan. 21, 2005

### **PAST Board MEMBERS:**

## **Last Name First Name Term Ended Remarks**

Agarwal Pankaj 1998

Brutlag Douglas 1999

Clark Dominic 2000

Collado-Vides Julio 2002

Dunker Keith 2001

Gaasterland Terry 2004 Secretary 1999-2000

Glasgow Janice 2000

Higgins Desmond 2002

Istrail Sorin 2001

Kanehisa Minoru 2004

Kiyoshi Asai 1999

Kolker Eugene 2000

Krogh Anders 2002

Lathrop Rick 1998 Treasurer 1997-1998

Lengauer Thomas 2002 Vice President 1999-2000

Myers Gene 2001

Ouzounis Christos 1999

Pevzner Pavel 2001

Rawlings Christopher 2001 Vice President 1998-1999

Sander Chris 1998

Searls David 1999

Shavlik Jude 1998

Slonim Donna 2004

Smith Randy 1998

States David 2004 Treasurer 1998-2000

Stormo Gary 2004

Tomita Masaru 2004

Von Heijne Gunnar 2002

Wodak Shoshana 1998

Wu Cathy 2004



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## Pacific Symposium on Biocomputing 2004

Once again, ISCB was proud to be affiliated with the Pacific Symposium on Biocomputing (PSB) 2004, an international, multidisciplinary conference focused on the presentation and discussion of current research in the theory and application of computational methods in problems of biological significance. Through ISCB's ongoing student travel fellowship program, four young scientist members were able to attend PSB 2004 to present their work in the form of papers and posters. The conference was held January 6-10, 2004 at the beautiful Fairmont Orchid Hotel on the Big Island of Hawaii.

PSB 2004 brought together over 300 top researchers from the US, the Asian Pacific nations, and around the world to exchange research results and address open issues in all aspects of computational biology. PSB is a forum for the presentation of work in databases, algorithms, interfaces, visualization, modeling and other computational methods, as applied to biological problems, with emphasis on applications in data-rich areas of molecular biology. Papers and presentations were rigorously peer reviewed and published in an archival electronic proceedings volume available at http://psb.stanford.edu/psb-online/ or from World Scientific Press as a complete set of bound proceedings.

PSB 2004 sessions included:

- Computational and Symbolic Systems Biology Ten talks were given on the nascent field of Systems Biology. In its current form Systems Biology relies on a variety of novel computational approaches, including, dynamics modeling, multivariate analysis, and Bayesian networks. Yet it is also highly dependent on experimental design, such as how one perturbs a particular system under investigation. Therefore, a key aspect of this field is that the computational side is very closely tied to the experimental wet-lab side, and focus on one without regard for the other will be inadequate. What differentiated this session from other computational biology programs was that it relied on the inclusion of experimental design models to show its full potential.
- Joint Learning from Multiple Types of Genomic Data This session featured nine talks focused on novel methods that use more than one type of data in their analysis and do so jointly. As an example, rather than obtaining clusters of genes with similar expression profiles and then trying to identify common DNA-binding sequence motifs in promoter regions of the genes in each cluster, methods are expected to combine the gene expression levels and sequences of promoter regions in a single framework or algorithm. Since there are many largely equivalent ways to cluster genes according to their expression profiles, the advantage of a combined approach is that it may refine the clustering so that it is also supported by the presence of sequence motifs, potentially increasing the signal-to-noise ratio critical to achieving meaningful results.
- Alternative Splicing Seven talks made up this session, the first for PSB, which brought together researchers from the biological, computational and statistical fields with the goal of sharing efforts in alternative splicing research. Alternative splicing is an essential yet complicated biological process, often controlled by developmental or tissue-specific factors. More than one alternatively spliced mRNA from the same gene may be expressed in the same tissue, sometimes simultaneously yielding an extensive set of proteins with distinct functions. In humans, it is estimated that approximately

30-60% of genes undergo alternative splicing, and many human diseases are associated with aberrant splicing. However, until recent times, the complexity of alternative splicing has eluded detailed analysis. Bolstered by genomic data and new experimental approaches, bioinformatics is emerging as an important tool for studying this phenomenon.

- Computational Tools for Complex Trait Gene Mapping This session presented six talks on the novel computational and statistical strategies required for planning, executing, and analyzing the data of large association studies aimed to elucidate the basis of complex-traits, either common disease, response to environmental impact, or adverse drug response. This session was the presentation and discussion of new research, methods, algorithms, and tools, that promise to facilitate the elucidation of the connections between genotypes and complex-traits using the data generated by high-throughput SNP genotyping technologies.
- Biomedical Ontologies As we celebrate the 50th anniversary of the description of the structure of DNA, biology is evolving from a science of organisms and molecules to a science of information. Eight talks featured ontologies providing a conceptualization of a domain that can be shared among diverse groups of researchers and health care professionals and used computationally for multiple purposes. Promoting the creation and use of ontologies for the field and linking to other ontologies in related domains holds the promise of assisting those working in biomedical disciplines and thus making more rapid scientific progress.
- Informatics Approaches in Structural Genomics The goal of structural genomics is to discover and characterize the three dimensional structure of all proteins and other macromolecules found in nature. Currently there are ongoing efforts to develop high-throughput methods for protein structure determination both in industry and in academia. This session presented eight talks on the progress and achievements in the field through the use of computational techniques. Topic areas included in the discussions were (1) Progress in projects aimed at high throughput structure determination, (2) Structure-based functional prediction and classification and (3) Determining, using and analyzing large datasets of experimental and modeled proteins and nucleic acid structures.

In addition to the 48 presentations that made up the above six sessions of PSB 2004, a keynote address was delivered by Henry (Hank) Greely, the C. Wendell and Edith M. Carlsmith Professor of Law and a professor, by courtesy, of genetics at Stanford University. His riveting lecture, entitled Social Constraints on Acquiring and Using Human Biodata - Is Privacy Dead? focused on the difficult legal and ethical ramifications of biodata collection, use and storage.

A selection of tutorials was also presented immediately preceding the conference. They included (1) Systems Biology Host/Pathogen and Other 'Community' Interactions, (2) Creating Web Services for Bioinformatics, (3) Network (Reticulated) Evolution: Biology, Models, and Algorithms, and (4) Modeling Genetic and Metabolic Networks: Design of High Throughput Experiments.

In addition, ISCB hosted an open members meeting with a presentation on the state of the Society by Michael Gribskov, ISCB President. He discussed the 2003 year in review, looking back on the many accomplishments of the past year, and outlined goals and plans for 2004.

For more information on the past or future PSB conferences, please see <a href="http://psb.stanford.edu/">http://psb.stanford.edu/</a> or contact Tiffany Jung, PSB Coordinator, at <a href="psb@smi.stanford.edu">psb@smi.stanford.edu</a>



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### RECOMB 2004

For 2004 ISCB was very pleased to have a close working relationship with the Research in Computational Molecular Biology conference (RECOMB), a well established annual event in a dynamic field of science bridging computer science and biology. The 2004 conference was held March 28-31 at the Westin Horton Plaza hotel in San Diego, and brought together over 650 attendees from 30 countries.

This highly respected meeting always consists of keynotes from the best scientists in the field and the latest research findings presented as both oral papers and posters. One of the highlights of each RECOMB conference is a collection of keynotes by four distinguished award winners and five invited talks by researchers of highest international esteem who are asked to inform the community about landmark advances in computational and experimental research and inject new directions into the field of computational molecular biology. In 2004 those keynotes were:

- Carlos Bustamante, University of California Berkeley, winner of The Distinguished New Technologies Lecture, gave a talk entitled Recent Advances on the Manipulation of Single Biomolecules
- Russell Doolittle, University of California San Diego, awarded The Stanislaw Ulam Memorial Computational Biology Lecture, delivered an address on Fifty Years of Sequence Analysis: What Have We Learned?
- Andrew Fire, Carnegie Institution of Washington, selected for The
  Distinguished Biology Lecture, talked about RNAi, Genome Ultrastructure,
  and Other Unexpected Tales from the Analysis of Genetic Silencing
- Richard Karp, University of California Berkeley, recipient of the Fred Howes Distinguished Service Award, presented Algorithms for Inferring Cis-Regulatory Structures and Protein Interaction Networks
- William McGinnis, University of California San Diego, presented Evolutionary Change in Developmental Genetic Networksl
- Deborah Nickerson, University of Washington, gave a talk on SNPing in the Human Genome
- Martin Nowak, Harvard University, lectured on the Somatic Evolution of Cancer
- Christine Orengo, University College London, presented A Structural Perspective on Genome Evolution
- Elizabeth Winzeler, Scripps Research Institute, gave a talk entitled Systems Biology and Malaria

In addition, 38 papers were presented, representing a 17.6% acceptance rate from among the 215 submissions received. RECOMB, like ISMB, ECCB and PSB, is grappling with relatively low acceptance rates due to the ever increasing number of submissions - a clear indication of the explosive rate of growth within our science. The conference organizers have considered the options of either parallel sessions or extending the program to include another day. Unfortunately, both of those options have their critics, and how this will be addressed in the future is yet to be determined.

The poster sessions provided an opportunity for 292 researchers to present the results of their current work, answer questions from other attendees, and gain feedback that may prove beneficial to the continuation of these evolving projects.

RECOMB'04 conference proceedings are available for purchase by contacting <a href="mailto:acmhelp@acm.org">acmhelp@acm.org</a> or if calling from within the US you can dial toll free 1-800-342-6626 (Order # 508041).

Next year RECOMB will be held Boston; watch the ISCB website for announcement of dates and location when available.

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**RECOMB 2004 KEY DATES** 

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PAPER SUBMISSIONS

**President's Letter** 

January 5, 2004

ISMB/ECCB 2004

Accepted paper (final version) submission deadline

Special Interest Groups

**POSTER SUBMISSIONS** 

January 16, 2004

Poster submission deadline

ISCB Student Council

January 30, 2004

**2004 Call for Nominations** Not

Notification of poster acceptance

**PSB 2004** 

TRAVEL FELLOWSHIPS APPLICATIONS

February 7, 2004

RECOMB 2004

Travel fellowship applications deadline

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February 21, 2004

Travel fellowship applications notification

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**REGISTRATION** 

**Events and Opportunities of** 

February 15, 2004

<u>Interest</u>

Early registration discount cutoff date

March 12, 2004

Pre-registration closes

March 27, 2004

On-site registration open

#### **HOUSING**

March 5, 2004

Hotel reservation cut-off date

## **MEETING**

March 27-31, 2004

RECOMB 2004 meeting at the Westin Hotel San Diego

For more details on all of the above, please visit <a href="recomb04.sdsc.edu/">recomb04.sdsc.edu/</a>

#### ISMB/ECCB 2004 KEY DATES

## PAPER SUBMISSIONS

January 15, 2004

Paper submission deadline

March 1, 2004

Notification of Paper Acceptance/Notification of Rejected Paper

March 15, 2004

Accepted paper (final version) submission deadline

### **POSTER SUBMISSIONS**

April 19, 2004

Poster submissiondeadline

May 3, 2004

Notification of poster acceptance

### TRAVEL FELLOWSHIPS APPLICATIONS

March 29, 2004

Travel fellowship applications deadline

April 12, 2004

Travel fellowship awards notification

## **TUTORIALS**

February 1, 2004

Notification of Preselected Tutorials

March 15, 2004

**Draft Handouts Due** 

April 1, 2004

Notification of Final Tutorial Acceptance

May 15, 2004

Final Handouts for Reproduction must be Received

## SPONSOR/EXHIBITOR/SOFTWARE DEMO

May 3, 2004

Commitment deadline to be included in program book

#### **REGISTRATION**

March 1, 2004

Registration opens

May 28, 2004

Early registration discount cutoff date

July 23, 2004

Pre-registration closes

July 29, 2004

SIG registration opens on-site

July 30, 2004

On-site registration opens

## **HOUSING**

July 19, 2004

Hotel reservation cut-off date

## **MEETING**

July 29-30, 2004

SIG meetings

July 31, 2004

**Tutorials** 

July 31 – August 4

ISMB/ECCB 2004 at the Scottish Exhibition and Conference Center

For more details on all of the above, please visit www.iscb.org/ismbeccb2004/

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## Introducing ...

# African Society for Bioinformatics and Computational Biology (ASBCB)

By Patrick O Erah President, ASBCB

Above is a group photo of the founder members of the society at the 2004 WHO TDR Bioinformatics training course.

Previously the African Bioinformatics Network was formed at a meeting in South Africa in 2002. Major achievements of ABioNET included the ABioNET website and affiliation with the International Society for Computational Biology (ISCB). While the Network made some progress in advancing the application of bioinformatics and computational biology in many parts of Africa (as indicated by the significant number of applications for, amongst others, the WHO/TDR Course), some major constraints including lack of a functional organizational structure significantly affected the group's activities.

In order to facilitate the actualisation of the vision, mission and objectives of ABioNET, it was decided at a meeting in South Africa in February 2004 that ABioNET should transform to a Society now known as African Society for Bioinformatics and Computational Biology (ASBCB) (<a href="www.asbcb.org">www.asbcb.org</a>) and the following were elected as members of the Governing Council:

President – Dr Patrick O Erah, PhD Vice President – Jaco de Ridder Honorary Secretary – Daniel Masiga, PhD Honorary Treasurer – Nicky Mulder, PhD

The merits of this decision include enhanced support for individuals, professionalism, increased credibility amongst other professionals, improved opportunities for networking, enhanced access to bioinformatics and computational biology information and education, and greater opportunities for raising funds through registration fees, grants and other sources.

All those who intend to retain their previous ABioNet membership or become new members of ASBCB should visit the new website to fill the online membership application form (<a href="http://www.asbcb.org/Membership.html">http://www.asbcb.org/Membership.html</a>). For the avoidance of doubt, all members of ABioNET as at February 2004 (including all participants of the WHO/TDR training courses in SANBI from 2002 to February 2004) should fill the online registration form. Membership fee for 2004 has been waved for all members.

Please find time to read through the decisions taken at the meeting in February 2004, the constitution of ASBCB and the plan to move the Society forward (<a href="http://www.asbcb.org/const.html">http://www.asbcb.org/const.html</a>, <a href="http://www.asbcb.org/vision.html">http://www.asbcb.org/vision.html</a>, <a href="http://www.asbcb.org/objectives.html">http://www.asbcb.org/objectives.html</a>). Opinions on the constitution and activities planned will be welcome by Daniel Masiga at <a href="mailto:dmasiga@icipe.org">dmasiga@icipe.org</a>.



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## ISCB's Membership in FASEB

By Barbara Bryant, Ph.D.

ISCB Secretary and representative on the FASEB Board of Directors

ISCB joined the Federation of American Societies for Experimental Biology (FASEB; <a href="http://www.faseb.org">http://www.faseb.org</a>) in 2003. The ISCB Board had been interested in a number of public policy issues, including open source software (definitions, funding requirements, and the freedom of academic researchers to contribute open source code to the community), open access to scientific journals, government funding for bioinformatics, and better functioning of grant review bodies. We were interested in joining with groups that would give our Society greater access to government – to have our voice heard more effectively, to learn more about how things work, and to track current issues of relevance to ISCB members.

FASEB was our choice for gaining this access within the United States. We remain interested in identifying similar organizations and forging such relationships in other countries as well, and plan to dedicate part of our ISCB open business meeting during ISMB to that question; since we'll be in Scotland this summer, we'll focus particularly on how to expand our public policy voice within Europe.

#### **ISSUES**

FASEB has been a longstanding advocate for increased federal funding for biomedical research. The organization played a very active role in achieving the doubling of the NIH budget in five years. FASEB staffers keep tabs on the progress of budget negotiations, provide supporting information to Congress, and advocate for target budgets each year.

FASEB acts as a watchdog in science policy in Washington DC, responding to events and issues as need be. Some of the issues that were addressed recently include:

- Conservative members of congress proposed defunding specific NIH grants (mostly related to behavioral research in populations like homosexuals and prostitutes at high risk for sexually transmitted diseases).
- FASEB objected to the politically motivated replacement of two members of President Bush's Bioethics Commission with people more aligned with the administration's views.
- New management at the Veterans' Administration defunded grants whose investigators had been told were approved, and changed the grant evaluation process in a way that diminished the importance of peer review.
- FASEB has done a lot of advocacy and educational outreach around stem cell research, which the current US administration will not fund.
- FASEB participated in successful efforts to revise the Office of Financial Assets Control's ban on editorial services to authors from nations covered by its embargo (including Cuba, Libya and North Korea)
- Not-for-profit scientific publishers responded to calls for a wholesale move to the open access (author pays; reader gets immediate free access).

FASEB has active programs in educational outreach to the public and public policy

decision-makers. The Breakthroughs in Bioscience series is an example. FASEB also works on training and career opportunities for scientists. Of particular concern to FASEB are pay, benefits and quality of work for postdocs. Recently, FASEB cosponsored a meeting on this topic.

## **How ISCB interacts with FASEB**

The primary interaction with FASEB is via ISCB Board and Executive Committee members Barb Bryant and David Rocke, and Executive Officer BJ Morrison McKay. Bryant sits on the FASEB Board, Public Affairs Executive Committee and Science Policy Committee. She chairs FASEB's Corporate Relations Committee. Rocke sits on the Science Policy Committee and the Corporate Relations Committee. In these roles, they communicate ISCB's priorities and stands on issues. They feed information back to ISCB Board and the relevant committees for a given issue. ISCB members are encouraged to send their thoughts directly to Bryant and Rocke, and to consult the Public Affairs section of the ISCB website. FASEB activities and updates are available on the ISCB website at <a href="http://www.iscb.org/faseb.shtml">http://www.iscb.org/faseb.shtml</a>. Those interested in regular email updates and/or daily summaries of science policy issues in Washington DC should notify Barb Bryant.

As a fairly young society, ISCB also has the opportunity to benefit operationally from membership in FASEB. Our Executive Officer has access to management practices and expertise of the FASEB member societies, and we will participate in FASEB's five-year strategic planning session in June.



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	{CONTENTS} Volume 7, Issue 2	Events and Opportunities of Interest
	President's Letter	ISCB maintains a database of Events & Opportunities around the world. We welcome submissions of all bioinformatics related events, educational opportunities,
	ISMB/ECCB 2004	and news through our online self-posting forms. Just follow the links on the relevant pages below to submit your events and opportunities and ISCB will be happy to share it through our website.
<u>S</u> p	pecial Interest Groups	share it through our website.
	ISCB Student Council	<ul> <li>To see a listing of Conferences and Events go to <a href="https://www.iscb.org/events/event_board.php">https://www.iscb.org/events/event_board.php</a></li> </ul>
2004	Call for Nominations	To see a listing of Educational Degree and Certificate Programs go to
	PSB 2004	https://www.iscb.org/univ_programs/program_board.php
	RECOMB 2004	<ul> <li>To see important news and announcements from the bioinformatics community</li> </ul>
	<b>Introducing ASBCB</b>	go to <a href="https://www.iscb.org/news/news_board.php">https://www.iscb.org/news/news_board.php</a>

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