

International EMBnet-RIBio Conference 2009

"Bioinformatics for High Throughput Technologies and the Interface of Bioinformatics and Systems Biology"



Lucia Lopez-Bojorquez, Cesar Bonavides-Martinez



Cristina Bojorquez, Julio Collado-Vides

Center for Genomic Sciences (CCG),
Universidad Nacional Autónoma de México,
Cuernavaca, Morelos, Mexico
<http://www.ccg.unam.mx>

The International EMBnet-RIBio Conference 2009, "Bioinformatics for High Throughput Technologies and the Interface of Bioinformatics and Systems Biology" was successfully held in Puerto Morelos, in the heart of the Mexican Caribbean, from October 26th to 29th. The meeting was jointly organized and sponsored by the Center for Genomic Sciences (CCG), the Coordination of Scientific Research (CTIC) and the Institute of Biotechnology (IBt) of UNAM, as well as the EMBnet International Organization, RIBio (the Iberoamerican network for bioinformatics) and the International Society for Computational Biology (ISCB). Some of the principal events during the reunion were:

1. The foundation of the Iberoamerican Society for Bioinformatics (Sociedad Iberoamericana de Bioinformática, SolBio), within the RIBio Annual General Meeting.



Fig 1. Cancun workshop organisers.

2. The EMBnet Annual General Meeting (AGM) which, for the very first time, took place outside of the European Continent. This, together with the SolBio meeting, brought together scientists of Bioinformatics from the 5 continents. It should be mentioned that this is the second time of such a joint conference after the one in Malaga a couple of years ago.
3. The Keynote lecture, "Systems Biology of Cancer Cells", presented by Dr. Chris Sander, Head of the Computational Biology Center of the Memorial Sloan-Kettering Cancer Center, recognized founder of bioinformatics as well as a founder of the EMBnet organization.
4. The EMBnet Internal Meeting, attended by several node managers from all the member countries, where in addition to internal issues, they emphasized the EMBnet interest in defining collaborations worldwide with regional societies and scientific organizations.

Participation

A total of 64 participants from 23 countries attended this joint international conference.

The conference started with the foundation of the Iberoamerican SolBio. Its mission is to promote the interaction and collaboration of Iberoamerican scientists in the area of Information Technology applied to Life Sciences, as well as to coordinate actions to improve the quality of research, education and outreach in Bioinformatics all along Latin America, Spain and Portugal. The Society started with 38 members from more than 10 countries. During the meeting, Dr. Julio Collado-Vides (Mexico), and Dr. Javier de las Rivas Sanz (Spain), were elected as President and Vice President. On the other hand,

Dr. Edgar Vallejo (Mexico) and Dr. Martha Bunster (Argentina) accepted to be part of the Executive Board as Treasurer and Secretary, respectively. The Society is composed by researchers, post-doctoral fellows and Ph.D. students. Jorge Hernán Valdés, from Chile, and Alejandra Medina, from Mexico, accepted to be representatives of the student members.

The meeting ran for nearly three days, covering all topics of bioinformatics, although the major topics of the conference were those of Bioinformatics for High Throughput Technologies and the Interface of Bioinformatics and Systems Biology. Oral presentations summarized different efforts aiming at implementing bioinformatic tools responding to the challenge of managing and analyzing the enormous amounts of data coming from the next Generation Sequencing technologies, as well as on the integration of biological functional and evolutionary data and the implementation of different strategies to model the dynamics of biological networks. Also, applications and uses of tools for new technologies in education and research were discussed during the scientific sessions.

The highlight of this year's EMBnet business session was the consolidation of the list of countries that belong to the Net. The node managers of each country gave their annual report. Also, the possible venues for future AGMs were discussed, and Erik Bongcam was recognized as EMBnet's outgoing director.

The keynote speaker, Dr. Chris Sander, started his speech by talking about the origins of what we know today as EMBnet, and how its growth has been parallel to the development of Computational Biology, a discipline that nowadays occupies an essential position in Life Sciences. Then, he gave an overview of 20 years of research in the field of cancer from a Systems Biology perspective, as well as novel genes and pathways involved in cancer as a complex disease. He also talked about the characterization of dynamics, structure and interactions of the networks involved in cancer. His lecture was wrapped up by emphasizing on the importance of the integration of all this information with biological data as the main goal of all these years of conjoined efforts.

The **"Bioinformatics and Systems Biology, integrative workshop"** was presented by Matthieu Defrance, Alejandra Medina and Santiago



Fig 2. Dr. Chris Sander delivering the keynote speech.

Sandoval, from the Center for Genomic Sciences, UNAM. It consisted in an introduction to the possible connections between Bioinformatics and Systems Biology applied to regulatory networks.

The workshop was divided into three parts, covering: i) an introduction to formal methodologies to model the dynamics of gene regulation networks, ii) examples of links between models in Systems Biology and bioinformatics approaches and iii) a presentation of bioinformatics methodologies that can be used to study regulatory interactions. More than 40 people attended the workshop.

There were 39 abstracts accepted to be presented as posters, covering a wide variety of topics related to the main subjects that were discussed during the conference. 25 submissions were from the Americas, 3 from Asia, 7 from Europe and 4 from Africa.

Travel fellowships that covered registration to the event, ground services and air transportation were awarded to 17 recipients among doctoral students, postdoctoral fellows and researchers from the countries of Mexico, Argentina, Chile, Peru, Nigeria, United Kingdom and the USA.

Submissions

A total of 52 abstracts from 19 different countries were received of which:

- 13 were accepted as oral presentations;
- 39 were accepted as posters.

Conclusion

The EMBnet-RIBio International Conference 2009 achieved several new benchmarks. For the first time, the EMBnet AGM took place outside of Europe, which definitely is a remarkable turning point, since taking it out of the European

Continent emphasized its international nature. In fact, there is an active interest of the EMBNet organization to expand and organize its international character via the affiliation of regional organizations such as SolBio, as well as the African and Asian-Pacific corresponding organizations, among others. Moreover, the creation, of the Iberoamerican Society for Bioinformatics represents an important step and an opportunity to organize and strengthen the community of bioinformaticians and their students all over Latin America and the Iberian Peninsula.

The joint meeting allowed an important number of students from the American Continent to attend and participate in the scientific sessions, as well as getting in touch with specialists from all over the world.

We were all positively surprised by the unexpected summary that Chris Sander shared with us on the very initial grant application in his hands, of what became the EMBNet organization. He then presented his integrative and novel bioinformatics approaches to the study of the complexity of cancer.

The conference was not only exciting in its scientific content, but also included a half day tour to all EMBnet delegates to Xcaret, the most popular eco-archaeological park in the Mayan Riviera. The attendees could enjoy the traditional Xcaret at night dinner show, one of the main attractions in the whole Yucatan Peninsula. On the evening of the 28th, the conference ended with the traditional ethno-party with the colors of the Mexican tradition of the day of the Dead, and dinner with live Mexican music.

We look forward to seeing all delegates again, as well as new ones, at the next EMBnet AGM, whose venue and schedule is set to be announced soon.

Acknowledgements and funding

We acknowledge the support provided by UNAM (CTIC, CCG and IBt) for the overall conference, to EMBNet to support specific delegates, and from the ISCB to support graduate students affiliated to this society.
