

TRANSCRIPTOME 2000: From Functional Genomics to Systems Biology

Paris 6-9 November 2000 - Pasteur Institute

Official Web Site URL: <http://www.vjf.cnrs.fr/transcriptome/>

Presentation

We invite you to come to Paris on the occasion of TRANSCRIPTOME 2000, an international scientific conference which will be held at the Pasteur Institute from November 6 to 9. This conference is part of a series of conferences and coordination workshops initiated by the founders of the IMAGE Consortium (Charles Auffray, Greg Lennon, Mihael Polymeropoulos, Bento Soares) with active support from the DOE (Marvin Stodolsky) and numerous public and private organizations. TRANSCRIPTOME 2000 follows the conference organized last year in Japan by Nobuo Nomura and Michio Oishi at the Kazusa DNA Research Institute.

Speakers from all over the world will discuss and debate the most recent advances in the emerging field of functional genomics, the study of biological systems based on global knowledge of genomes, transcriptomes and proteomes.

Transcription of DNA into RNA followed by translation of messenger RNA into proteins are the fundamental mechanisms underlying the functioning of living organisms. The discovery of reverse transcription of mRNA into DNA allowed the development of cDNA cloning, one of the fundamental techniques of genetic engineering described for the first time 25 years ago. Some of the pioneers who contributed to the elucidation of these mechanisms will present an historic overview of this great endeavour and their vision of the future.

Over the past decade, large-scale systematic sequencing of cDNA libraries has provided an initial description of the transcriptome, the entire set of gene transcripts of man and several animal and plant organisms. Speakers will discuss progress in full-length cDNA cloning and quality control in large-scale sequencing programs. They will also address the challenges of clustering the information collected to help genome annotation at the time when the complete or working draft of genome sequences are becoming available.

Differential hybridization using arrays of cDNA clones is as old as cDNA cloning. Recent advances in materials, optics, electronics, robotics, chemistry, genetic engineering and informatics have permitted the development of integrated platforms allowing the parallel study of tens of thousands of transcripts in a variety of normal and pathological conditions. Speakers will discuss the challenges in quality assessment, formatting, comparing and validating the large amount of data collected using various platforms, the need for a public repository of cDNA array and *in situ* hybridization data, and similar problems which are arising in the study of proteomes, the entire sets of proteins which are governing the functioning of cells, organs and organisms.

The emergence of functional genomics represents a transition from mostly analytical, hypothesis-driven research to a complementary global, exploratory mode that will ultimately bridge understanding of chemistry and physiology by integrating knowledge of the fine details of all molecular structures and mechanisms together with their natural or pathological variations. Speakers will illustrate the impact of this trend in the study of the biology of the immune, muscular and nervous systems, and that of cancer and cardiovascular diseases.

Advances in genome research provide everyday a deeper insight into the mechanisms of life, thereby promising to change our vision of the world and of ourselves, and to speed the understanding and treatment of diseases. Public outreach programs and intense media coverage are triggering both growing public awareness and concern. There is a need for both open, universal dissemination of genomics knowledge and for promotion of innovation through mechanisms ensuring the sustainable development of new diagnostics, drugs and treatments. Listen to international experts on the ethical, legal, economic and social issues.

Charles Auffray, CNRS, Villejuif, France
Bento Soares, University of Iowa, Iowa City, USA
Sumio Sugano, University of Tokyo, Tokyo, Japan

Preliminary Agenda

Organizing committee

President : Charles Auffray, CNRS, Villejuif, France
Bento Soares, University of Iowa, Iowa City, USA
Sumio Sugano, University of Tokyo, Tokyo, Japan

Opening session - 6 November pm

Welcome address

Jacqueline Godet, CNRS, Paris, France, **Confirmed**
Philippe Kourilsky, Pasteur Institute, Paris, France, **Confirmed**
Federico Mayor, Fundacion para una Cultura de Paz, Madrid, Spain, **Confirmed**

25 years of cDNA research

Chair : François Rougeon, Pasteur Institute, Paris, France
Invited speakers :
Sydney Brenner, The Molecular Sciences Institute, Berkeley, USA, **Confirmed**
François Gros, Académie des Sciences, Paris, France, **Confirmed**

cDNA cloning and sequencing - 7 November am

Chair : Bento Soares, University of Iowa, Iowa City, USA, **Confirmed**
Sumio Sugano, University of Tokyo, Tokyo, Japan, **Confirmed**
Invited speakers :
Sandra Clifton, Washington University, St Louis, USA, **Confirmed**
Omaha Ohara, Kazusa DNA Research Institute, Kisarazu, Japan, **Confirmed**
Andrew Simpson, Ludwig Institute for Cancer Research, Sao Paulo, Brazil, **Confirmed**
Robert Strausberg, NCI, Bethesda, USA, **Confirmed**
Debbie Villalon, Baylor College of Medicine, Houston, USA, **Confirmed**
Stefan Wiemann, DKFZ, Heidelberg, Germany, **Confirmed**

cDNA clustering and genome annotation - 7 November pm

Chair : Gert-Jan van Ommen, Leiden University, Leiden, The Netherlands, **Confirmed**
Winston Hide, SANBI, Capetown, South Africa, **Confirmed**
Invited speakers :
Peg Folta, DOE, Livermore, USA, **Confirmed**
Doron Lancet, Weizmann Institute, Rehovot, Israel, **Confirmed**
John Quackenbush, TIGR, Gaithersburg, USA, **Confirmed**
Patricia Rodriguez-Tome, EBI, Hinxton, UK, **Confirmed**
William Saurin, Genoscope, Evry, France, **Confirmed**
Lukas Wagner, NCBI, Bethesda, USA, **Confirmed**

Transcriptome analysis - 8 November am

Chair : Roger Bumgarner, University of Washington, Seattle, USA
Bertrand Jordan, CNRS/INSERM, Marseille, France, **Confirmed**
Invited speakers :
Alvis Brazma, EBI, Hinxton, UK, **Confirmed**
Mark Gerstein, Yale University, New Haven, USA, **Confirmed**

Shirley Horn-Saban, Weizmann Institute, Rehovot, Israel, **Confirmed**
Sandrine Imbeaud, CNRS, Villejuif, France, **Confirmed**
Kikuya Kato, Nara Institute of Science and Technology, Nara, Japan, **Confirmed**
Catherine Nguyen, CNRS/INSERM, Marseille, France
Nicolat Pollet, DKFZ, Heidelberg, Germany, **Confirmed**

Proteome and Systems Biology - 8 November pm

Chair : Margaret Buckingham, Pasteur Institute, Paris, France, **Confirmed**
Eric Davidson, Caltech, Pasadena, USA, **Confirmed**
Invited speakers :
Amos Bairoch, Swiss Institute of Bioinformatics, Geneva, Switzerland, **Confirmed**
Andrea Ballabio, TIGEM, Milano/Napoli, Italy, **Confirmed**
James B. Bassingthwaight, University of Washington, Seattle, USA, **Confirmed**
Julio Celis, University of Aarhus, Aarhus, Denmark, **Confirmed**
Holger Eickhoff, MPI, Berlin, Germany, **Confirmed**
Jacques Joyard, Genopole, CEA, Grenoble, France, **Confirmed**
Joakim Lundeberg, Royal Institute of Technology, Stockholm, Sweden, **Confirmed**

Applications to biology, biotechnology and medicine - 9 November am

Chair : Michel Caboche, Genoplante, INRA, Evry, France, **Confirmed**
Mihael Polymeropoulos, Novartis, Gaithersburg, USA, **Confirmed**
Invited speakers :
Eric Hoffmann, George Washington University, Washington, USA, **Confirmed**
Greg Lennon, Gene Logic, Gaithersburg, USA, **Confirmed**
Jacques Mallet, CNRS, Paris, France, **Confirmed**
Andres Metspalu, University of Tartu, Tartu, Estonia, **Confirmed**
Annemarie Poustka, DKFZ, Heidelberg, Germany, **Confirmed**
Claudio Schneider, CIB, Trieste, Italy, **Confirmed**
Jack Strominger, Harvard University, Cambridge, USA, **Confirmed**

Future perspectives - 9 November pm

Chair : Zhu Chen, Shanghai University, Shanghai, China, **Confirmed**
Invited speakers :
Pierre Corvol, Collège de France, Paris, France
David Cox, Stanford University, Stanford, USA
Yves Pommier, NCI, NIH, Bethesda, USA, **Confirmed**

Ethical, legal and social issues - 9 November pm

Chair : Rebecca Eisenberg, University of Michigan, Ann Arbor, USA, **Confirmed**
Noëlle Lenoir, Conseil Constitutionnel, Paris, France, **Confirmed**
Michel Serres, Académie Française, Paris, France, **Confirmed**
Joseph Straus, Max-Planck Institute for Foreign and International Patent, Munich, Germany, **Confirmed**

Closing address - 9 November pm

Bernard Pau, Institute of Biotechnology and Pharmacology, Montpellier, France, **Confirmed**
Marvin Stodolsky, DOE, Germantown, USA, **Confirmed**