



FIFTH WORLD CONFERENCE ON  
**THE FUTURE OF SCIENCE™**



*The DNA Revolution*

VENICE, SEPTEMBER 20-22, 2009

**Fifth World Conference on The Future of Science**  
***The DNA Revolution***  
**Fondazione Cini, Venice, September 20-22, 2009**

*in collaboration with Italian Association for Cancer Research*

The discovery of the structure of DNA made more than fifty years ago and the realization that its apparent simplicity encoded the genetic information that determines the nature of all living organisms, has created a true revolution in our understanding of biology, medicine and societal interactions, whose impact on essentially every aspect of life continues and expands to this day. While the complete sequencing of the genomes of multiple organisms, from human to bacterial, has revealed exciting new information on our genetic make-up and the mechanism of disease, leading to what has been called the post-genomic era, the function and purpose of much of DNA remains to be discovered.

The conference will assess the impact that the “DNA Revolution” has had and will continue to have on science, technology and the quality of human life. It will focus on the significance and contribution of the most recent genetic research to our understanding of evolution, natural selection, health and disease, on how the knowledge of DNA has dramatically changed the practice of medicine, agriculture and the management of biological resources, and on the bioethical issues raised by such discoveries. Major topics to be discussed will be Genes and Genomes Evolution, the impact of recombinant DNA on biotechnology and pharmaceuticals, the genetics of human diseases, gene therapy, molecular cancer genetics.

**PRESIDENT** Umberto Veronesi – **VICE PRESIDENT** Kathleen Kennedy Townsend – **SECRETARY GENERAL** Chiara Tonelli

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## *The Dna Revolution*

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CONFERENCE PROGRAM, May 20, 2009

Sunday, September 20 – Fondazione Cini		
<i>Opening</i>		
DNA Revolution - Genomes Project	- James Watson  - Renato Dulbecco	- 1962 Nobel Prize in Medicine ( <i>message</i> )  - 1975 Nobel Prize in Medicine ( <i>message</i> )
Synthetic life	Craig Venter	Chairman and President J. Craig Venter Institute, USA
Human evolution between nature and culture	Luigi Luca Cavalli-Sforza	Professor of Genetics emeritus, Stanford University, USA
Economy and DNA Revolution	Jeffrey Sachs	Director The Earth Institute, Columbia University, USA ( <i>invited</i> )

<b>Monday, September 21 – Fondazione Cini</b>		
<i>Genomic evolution</i>		
<b>Introduction</b>	Edoardo Boncinelli	Professor of Biology and Genetics, University Vita-Salute, Milan, Italy
<b>What we've learned so far from Genome Projects</b>	Peer Bork	Joint Unit Coordinator and Senior Scientist EMBL, Heidelberg, Germany <i>(invited)</i>
<b>Racial catalogs and human biological diversity</b>	Guido Barbujani	Professor of Genetics, Department of Biology and Evolution, University of Ferrara, Italy
<i>Recombinant DNA and Biotechnology</i>		
<b>Genomes from the Sea</b>	Chris Bowler	Ecole Normale Supérieure, Paris, France
<b>The diversity of the microbial world: a challenge for the future</b>	Enrica Galli	Department of Biomolecular Sciences and Biotechnology, University of Milan, Italy
<b>Crop Plant Genomics for Food Security</b>	Michael Bevan	Deputy Director John Innes Centre, Norwich, UK
<i>Stem cell genetics and epigenetics</i>		
<b>Stem cells: replacement therapy</b>	Giulio Cossu	Division of Regenerative Medicine, San Raffaele Scientific Institute; Department of Biology, University of Milan, Italy
<i>Bioethics</i>		
<ul style="list-style-type: none"> <li>- <b>Bioethics and the Future of Science</b></li> <li>- <i>Title to be defined</i></li> <li>- <i>Title to be defined</i></li> </ul>	<ul style="list-style-type: none"> <li>- <b>John Harris</b></li> <li>- <b>Amedeo Santosuosso</b></li> <li>- <b>Marcelo Sanchez Sorondo</b></li> </ul>	<ul style="list-style-type: none"> <li>- Professor of Bioethics Institute for Science, Ethics and Innovation, School of Law, University of Manchester, UK</li> <li>- Judge Court of Appeal of Milano; President Interdepartmental Research Center ECLSC, University of Pavia, Italy</li> <li>- Chancellor, Pontifical Academy of Sciences, Vatican</li> </ul>
<b>Panel discussion</b>		

<b>Tuesday, September 22– Fondazione Cini</b>		
<b><i>The genetics of human health and disease</i></b>		
<b>The Future of DNA Technology: transforming the material world</b>	<b>William Haseltine</b>	President of the William A Haseltine Foundation for Medical Sciences and the Arts, USA
<b>Human genetic diseases</b>	<b>Andrea Ballabio</b>	Scientific Director Telethon Institute of Genetics and Medicine, Napoli, Italy <i>(invited)</i>
<b>Gene therapy</b>	<b>Claudio Bordignon</b>	C.E.O. Molmed S.p.a., Italy
<b>Next Generation Microbial Genomics: The Human Microbiome Project</b>	<b>George M.Weinstock</b>	The Genome Center at Washington University St. Louis, Missouri, USA
<b>Biotechnology - virus, bacteria and pathogens</b>	<b>Tadatsugu Taniguchi</b>	Department of Immunology, Graduate School of Medicine and Faculty of Medicine, Tokyo, Japan <i>(invited)</i>
<b><i>Cancer genetics</i></b>		
<b><i>AIRC Symposium</i></b>		
<b>Introduction - Thirty years of molecular genetics of cancer</b>	<b>Umberto Veronesi</b>	Scientific Director European Institute of Oncology, Milan, Italy
<b>Common genetic variants, risk, and applications in cancer</b>	<b>Bruce Ponder</b>	Cancer Research UK Cambridge Research Institute, Li Ka Shing Centre, UK
<b>Gene profiling</b>	<b>David Livingston</b>	Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA, USA
<b>Cancer stem cells</b>	<b>Dominique Bonnet</b>	Haematopoietic Stem Cell Laboratory, London Research Institute, UK
<b>Targeted therapy</b>	<b>Yosef Yarden</b>	The Weizmann Institute of Science, Rehovot, Israel