

## LIFE SCIENCES' CHALLENGING ROLE IN OUR EXPANDING CITIES

MARCH 8-11, 2009 - LYON, FRANCE

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### NEWS

- More than 75 renowned speakers have already confirmed their participation in BioVision 2009.

A non exhaustive list of speakers is presented in the following pages!

- Registrations will be available from October 31!

To register, go to [www.biovision.org](http://www.biovision.org)

- The upcoming pre-conferences:

#### Cities And Public Health Crises

Date and Venue: Lyon, France - October 29 and 30  
Pre-conference host partners: Lyonbiopole and WHO.

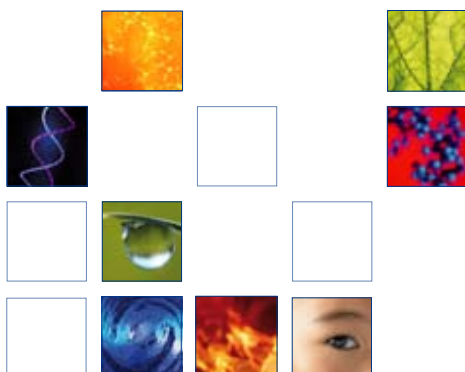


#### RNA On Borders Of Biology

Date and Venue: Paris, France - November 6  
Pre-conference host partner: Académie des Sciences.



Programmes of the pre-conferences are available at [www.biovision.org](http://www.biovision.org)



### EDITORIAL

#### SHAPE OUR SCIENTIFIC FUTURE

Since 1999, BioVision has established itself as the leading international platform for presenting and debating the important contributions of Life Sciences to tomorrow's world.

Top level representatives from the science and industry communities, government, civil society and multilateral organizations have openly addressed the benefits, risks and limitations of the latest advances in life sciences research that promise to make a difference to our future. Similarly, thousands of delegates from all over the globe have joined the debate with Nobel Prize winners, ministers, industry leaders and NGOs representatives to listen to and argue life sciences solutions to humanity's formidable challenges.

In 2009, BioVision will pursue its unique and widely acclaimed mission with a continued commitment to encourage innovative discussion in more than 20 topical sessions. These sessions will focus on "Life Sciences' challenging role in our expanding cities", covering pertinent areas such as food supply, infectious diseases, waste solutions and water supply. BioVision 2009 will also explore some of the most active, innovative and promising developments in Life Sciences including RNA, Stem Cells, Biorobotics and many more.

More than ever before, the development of humanity is confronted with daunting challenges, and further progress is urgently required in the search for human welfare. Scientific knowledge and technology have a key role to play in overcoming those challenges and in providing sustainable solutions. Life Sciences are at the centre of this effort. Not only do we need them for better health protection, but they are also becoming more and more essential for feeding a growing world population, preserving and exploring the resources of a threatened biodiversity, discovering renewable and cleaner sources of energy, inventing recyclable materials and reducing our increasing levels of waste.

Taking place in the heart of a French city and region with a pioneering tradition in the domain of Life Sciences research and industry, BioVision is a Forum for those who want to shape our scientific future in a responsible way.

It is my pleasure and honour to invite you to join its Sixth Edition.

**Dr Ph. Desmarescaux,**

Chairman, Executive Committee, BioVision

BioVision is organized with the support of:

**GRAND LYON**  
communauté urbaine

**Rhône Alpes**  
Région

**RHÔNE**  
LE DÉPARTEMENT

**VILLE DE LYON**

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## WHAT HAPPENED AT BIOVISION 2007?

A record number of world leaders, gathered in Lyon, France, from March 11-14 2007 to discuss the role of Life Sciences in achieving the Millennium Development Goals (MDGs). Four key drivers for change were identified:

- First, the need for truly integrated approaches to problem solving across the three domains were identified as critical to driving effective change because of increasing interdependency (health, food, nutrition and the environment).
- Second, without deeper partnership and broader engagement among private and public sector players, scientists, NGOs, opinion leaders and members of industry change cannot be generated.
- Third, it is important that political audiences whether they are at local, regional, national or international levels understand the problems and get involved.
- Adequate funding and long-term financing solutions must be put in place to fund programmes.



Jeffrey D. Sachs, Director, United Nations MDG Project

### Record Attendance

BioVision 2007 was attended by 2,285 delegates (1,639 in 2005) representing 75 countries. The total number of participants including those participating in parallel events was 3,550.

241 journalists from 29 countries covered the event.

Full materials on the closing sessions, events announcements, the programme details, the Reporting Session and a list of Partners and Sponsors are available at: <http://www.biovision.org/bv2007.html>

## CONFIRMED SPEAKERS

As of September 30

### Plenary sessions

#### Michel Barnier

French Minister, Agriculture and Fisheries

#### Michèle Barzach

Director, GSK Foundation

#### Alice Dautry

Director, Institut Pasteur

#### Peter C. Doherty

Nobel Laureate, Medicine, 1996

#### Anna Tibaijuka

Executive Director, UN-Habitat

#### Amir Dossal

Executive Director, UN Office for Partnerships

#### François Gros

Permanent Honorary Secretary, Académie des Sciences

#### Jean-Marie Lehn

Nobel Laureate, Chemistry, 1987

#### Jaime Lerner

Former Mayor of Curitiba and Architect

#### Alain Mérieux

President, Fondation Mérieux

#### Koji Omi

Founder and Chairman of the Science and Technology in Society Forum

#### Rajendra Pachauri

Peace Nobel Laureate, 2007

#### Valérie Pécresse

French Minister, Higher Education and Research

#### Richard J. Roberts

Nobel Laureate, Medicine, 1996

#### Ismaël Serageldin

Director, Library of Alexandria

#### Feike Sijbesma

CEO, DSM

#### Abdel Azim Wazir

Governor, Cairo

#### Elias Zerhouni

Director, National Institutes of Health (NIH), USA

### Thematic sessions

#### Philippe Archinard

CEO, Transgène

#### Asit K. Biswas

President, Third World Center for Water Management, Mexico

#### Peter Boyle

Director, International Agency for Research on Cancer (IARC)

#### Tim Brooks

Director for Public Health Affairs, Health Protection Agency, UK

#### Philippe Busquin

Member of the European Parliament,  
Former European Commissioner for Research

#### Ek Sonn Chan

General Director, Phnom Penh Water Supply Authority (PPWSA)

#### Paul Corrigan

Director Strategy & Commissioning, National Health Service, London

#### Ahmed Djoghla

Executive Secretary, Convention on Biological Diversity

#### Ogobara Doumbo

Director, Malaria Research and Training Center

## WHAT WILL HAPPEN AT BIOVISION 2009?

75 renowned speakers have already confirmed their participation in Biovision 2009. Among them: Nobel Laureates, French Ministers, CEOs and many other international officials.

7 plenary sessions and 23 debate sessions will take place during these 4 days.

These sessions will be organized as follows:

### The Life Sciences & Urbanization Track

The 2009 Forum will address a major developmental issue: the transition towards a predominantly urban world population.

By 2050, the world population will have grown to 9 billion inhabitants of which 6.5 billion will be living in urban areas. These figures, further compounded by problems such as density, water shortages and lack of sanitation, call into question the very concept of a city. Indeed, cities as they existed in the past are no longer sustainable. They are desperate for solutions, many of which can be provided by Life Sciences and related technologies.

Fortunately, this rapid urbanization is already being picked up by prominent international, governmental and non governmental organizations. BioVision 2009 will join their efforts by addressing a neglected but crucial component: How can progress in the various Life Sciences ease this urban transition? How can life Sciences contribute to dealing with water and food supply, health safety, ecosystem degradation, atmospheric pollution or climate change?

### The Advances in Life Sciences Track

In addition to the topical sessions, BioVision takes pride in its ongoing commitment to presenting and discussing recent accomplishments in Life Sciences and related technologies including stem cells and RNA biology. Often neglected by the mainstream, scientific research continues to impact society and BioVision is the premier forum for discussing its important role.

Registration will be available from October 31! To register go to [www.biovision.org](http://www.biovision.org)

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## WHAT WILL BE DISCUSSED AT BIOVISION 2009?

Brief descriptions of four sessions planned for BioVision 2009 are given below. Other sessions will be presented in the next newsletter.

### Life Sciences and Urbanization Track

#### Managing Urban Epidemics – Monday March 9 – 9:00am to 12:30pm

**Reminder!** A pre-conference on “Cities and Public Health Crises” will be organized jointly by Lyonbiopole and WHO on October 29 and 30 in Lyon, France.

Unlike the big cities of the South, most megacities from the developed world have succeeded in providing health facilities to their inhabitants. However these big cities still face onerous health risks with the return of infectious diseases (e.g., tuberculosis) and the emergence of new ones – AIDS, SARS, and perhaps one day Influenza A (H5N1).



In the developing world, a number of social and economic factors contribute to the high rates of infectious diseases. Overcrowded and poor living conditions make those living in poverty especially vulnerable to communicable diseases such as tuberculosis and cholera.

The absence or shortage of potable water and proper sanitation, combined with a poor general environmental status are the main causes of the spread of cholera and diarrhoeal diseases. Typical at-risk areas include peri-urban slums, with no basic infrastructure is not available.

Limited access to health care and drugs means that otherwise treatable diseases such as malaria, and tuberculosis can be fatal for the poor.

Poor nutrition and weak immune systems are also key risk factors for major fatal conditions such as lower respiratory infections, tuberculosis and measles. Indoor air pollution from household use of biomass fuels is linked with acute respiratory infections in young children.

The BioVision 2009 session will address the plans to combat infection in both contexts.

#### Feeding the City – Monday March 9 – 2:00 to 5:00pm

During BioVision 2007, experts acknowledged that ensuring adequate food supply is a great challenge due to population growth and limited water and land resources that are available. They agreed that there is a crucial need to increase global food production.

In 2009, the “Food for All” session will deal with the specific aspects of food supply in large urban areas: if we do succeed in producing enough food to feed the world, will we be able to bring this food production to everybody’s plate?

Increasing local food production could be part of the solution, but how do we promote big enough food production areas close to large urban settings?

The issue of transportation is also of key importance. Storage and food conservation raise many problems. Can we find alternatives to the cold chain that cannot be properly carried out in some countries?

Another aspect of the problem is that, in many southern countries, the urban lifestyle causes a significant change of habits. The time previously dedicated to the preparation of meals is dramatically reducing. What new packaging and culinary preparations can be offered to customers?

Can Life Sciences provide any solutions to these problems?

## CONFIRMED SPEAKERS

As of september 30

#### Christophe Fournier

General Director, Medecins Sans Frontières International

#### Richard Frackowiak

Wellcome Trust Centre for Neuroimaging, University College London

#### Giuseppe Del Giudice

Global Head Transmission Medicine, Novartis Vaccine Research Center

#### Tim Hall

Acting Director: Biotechnologies, Agriculture and Food, DG Research, European Commission

#### David L. Heymann

Assistant Director, General for Health Security and Environment, WHO

#### Hiroshi Ishiguro

Professor, Osaka University

#### Philip James

Chairman, International Obesity Task Force

#### Marc Jeannerod

Professor, Institut des Sciences Cognitives

#### Michel Kazatchkine

Director, The Global Fund to fight AIDS, Tuberculosis and Malaria

#### Philippe Kourilsky

Professor, Collège de France

#### Christian Loucq

Director, PATH Malaria Vaccine Initiative

#### Jean-Claude Marian

CEO, ORPEA

#### John Mattick

Professor, Institute for Molecular BioSciences

#### Jeffrey McNeely

Chief Scientist, International Union for Conservation of Nature (IUCN)

#### Bernd Montag

CEO Imaging, Siemens AG

#### Twalib Ngoma

Director, Ocean Road Cancer Institute

#### Miguel Nicolelis

Professor, Duke University Medical Center

#### Jérôme Péribère

President and CEO, DOW AgroSciences

#### Marc Peschanski

Director, I-STEM

#### Thierry Philip

Director, Centre Régional de Lutte Contre le Cancer Léon Bérard

#### Robert Sebbag

Vice President Access to Medicines, Sanofi Aventis

#### K. Seetharam

Senior Water and Sanitation Advisor, Asian Development Bank

#### Soumya Swaminathan

Deputy Director, Tuberculosis Research Center Chennai

#### Cecilia Tortajada

President, International Water Resources Association

#### Umberto Veronesi

Founder, Fondation Umberto Veronesi

#### Jean Weissenbach

Director, Centre National de Sequençage

#### Eric Westhof

Director, Institut de biologie moléculaire et cellulaire

#### Shinya Yamanaka

Professor, Institute for Frontier Medical Sciences

Full list of confirmed speakers available at [www.biovision.org](http://www.biovision.org)



**Advances in Life Sciences Track**

**Biorobotics on the Move – Tuesday March 10 – 2:00 to 3:30pm**

Can you imagine a rhesus monkey walking on a treadmill somewhere in the United States East Coast and moving the legs of a human shaped robot on another treadmill in Japan through the mere transmission of its brain motor commands? Furthermore, can you imagine it continuing to move the legs after having stopped walking and by simply thinking about it? This science fiction like scenario has in fact been a scientific reality since January 2008, thanks to the collaborative efforts of North American and Japanese teams.



This is just one striking illustration among many others of the recent achievements of the fast growing field of biorobotics. This recent development in the area of robotics has started to populate many laboratories across the world, with new robots answering to strange names such as Genghis, Periplaneta computatrix, Cog, Brachiator, Psikharpax, etc.

Artificial Intelligence, a discipline dedicated to the invention of machines with similar capacities to those of humans and animals emerged in the 1950s, but was severed from mainstream biology, particularly the up and coming field of neuroscience. Its seminal ideas were inspired by information theory and logic, rather than the physiology of living organisms. However, faced with a number of difficulties, it underwent a major reorientation in the 1990's, leading to the emergence of the New Artificial Intelligence movement that opposes many of the basic tenets of what came to be renamed as Good Old Fashioned Artificial Intelligence.

Supporting a more bio-inspired or bionic research strategy, biorobotics is one of the most valuable developments of this new movement. Biorobotics is bringing a wealth of bio-inspired sensing, moving, evolving, controlling, learning devices, as well as hybrid creatures mixing biological and non biological elements, which are popularly known as cybernetic organisms or cyborgs. How much of a significant advance in the creation of artificial organisms do these new born robots represent? Which represent the most promising inventions? How close do they bring us to the hatching of a Robosapiens species?

After clarifying and assessing the state of the art of biorobotics, the session will shed light on its potential benefits for our future and analyse the various risks, social acceptance and ethics issues it raises.

**See the Brain Cure the Brain – Tuesday March 10 – 3:30 to 5:00pm**

Since the early 1970's, the development of new techniques to observe the brain (such as Computerised Tomography, structural and functional Magnetic Resonance Imaging, Positron Emission Tomography or Magnetoencephalography), as well as the perfection of older ones (such as Electroencephalography), have vastly expanded our knowledge of the most complex organ. These innovative techniques have given a new momentum to brain science and therapeutics by allowing us to better understand its anatomy and how it works.



The advent of cognitive neuroscience in particular, a discipline exploring the cerebral correlates of behavioural and psychological processes, can be considered as a direct outcome. The diagnosis, explanation and cure of cerebral pathologies such as cerebrovascular accidents, tumours, neurodegenerative diseases (Parkinson, Huntington, Alzheimer's diseases, etc.) or epilepsy are also undergoing substantial transformation. Mental illnesses such as depression, autism or schizophrenia, that have a severe impact on populations are also starting to benefit from this new access to the inner workings of the brain.

This session will analyse the most important scientific and therapeutic advances brought by this brain imaging revolution and explore their current limitations. How far have we really come in understanding the brain and curing brain related diseases, and how can we go even further? Is a new revolution in brain imaging techniques needed and is there one on the horizon? Will these techniques ever help crack the mystery of mental disorders, or are psychological therapies unattainable?

■ MORE INFORMATION ON [www.biovision.org](http://www.biovision.org)

You can find more information about the BioVision 2009 programme on our website.

Visit the site on a regular basis to find out what new speakers have been confirmed and to collect updated information on the debates that will take place from March 8 to 11 at BioVision 2009.

■ PROGRAMME PARTNERS



INSTITUT DE FRANCE  
Académie des sciences



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