

LIFE SCIENCES' CHALLENGING ROLE IN OUR EXPANDING CITIES

MARCH 8-11, 2009 - LYON, FRANCE

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BIOVISION CALLS FOR SOLUTIONS

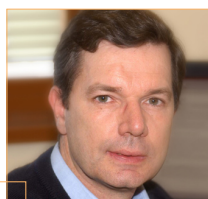
BioVision invites all those interested in Life Sciences to visit www.biovisionsolutions.org. Here you can find Life Sciences Solutions, and participate in the important quest for specific Solutions to future world challenges with your own ideas.

THE SCIENTISTS OF THE FUTURE

The BioVision.Nxt programme will bring together 100 specially selected young people who will take BioVision and Life Sciences to the next generation. For details about BioVision.Nxt and to register for BioVision 2009, go to www.biovision.org

MEET THE EXPERTS

URBAN EPIDEMICS



Dr Guenaël Rodier, Director of International Health Regulations Coordination at the World Health Organization, will participate in the session «Managing Urban Epidemics» March 9.

The Office for National Epidemic Preparedness and Response (World Health Office, Lyon), in collaboration with the world competitive cluster Lyonbiopôle, held an international consultation, "Cities and public health crises" on 29-30 October 2008 in Lyon, France. Its purpose was to develop WHO guidelines for public health and municipal authorities. It was part of the preparation of the BioVision 2009 session entitled "Life in the City: Managing urban epidemics". Fifty international experts identified and addressed the specific challenges posed by public health emergencies that occur in urban settings, particularly in large and megacities. Dr Guenaël Rodier, Director of International Health Regulations Coordination at the World Health Organization, reflects on the main points.

What is the debate today?

Epidemics and pandemics can place sudden and intense demands on health systems. They expose existing weaknesses in these systems and, in addition to their morbidity and mortality, can disrupt economic activity and development.

Often the megacities rely on national preparedness plans, since they have none of their own, despite controlling large resources – security, hospital and medical facilities, emergency services, communications – and often having more resources than governments. But there remains a lack of coordination. This is especially true of communications where large cities contain people of disparate languages and cultures are often overlooked in the communication of outbreak management and relief. Outbreak responses need to trace contacts and gather data. This is difficult in the cities where a person will not know whom they have infected on public transport, for example, or where investigators may face harassment or where collaboration between relevant agencies is not the norm.

“The world requires a global system that can rapidly identify and contain public health emergencies and reduce unneeded panic and disruption of trade, travel and society in general.”

What are the solutions?

The WHO would like to see more timely and enhanced epidemic intelligence, real-time exchange of situational reports and other data for decision-making, enhanced information management and risk communications, risk analysis and decision support, action planning and coordination of response activities, and technical partnerships to support international health security.

What is the added value of BioVision according to you?

Unique to BioVision is the participation of major city mayors, which brings a much needed political aspect to the debate and moves it beyond the realm of the technical experts.

BioVision is organized with the support of:

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HEALTH AND DISEASE IN GLOBAL CITIES



Professor Victor Rodwin from New York University will participate in the session «Aging in the Big City» March 9.

Will global or world cities evolve into socially infected breeding grounds for the rapid transmission of disease? Or can they become critical spatial entities for the protection and promotion of population health? The inhabitants of these cities are increasingly vulnerable to infectious disease, particularly those that may spread rapidly across global city networks. In an age when infectious disease are on the increase as witnessed by epidemics such as SARS and avian flu, current debate focuses on such issues as whether global cities can take effective measures to protect themselves against emerging threats to population health or will they be increasingly viewed as risky places in which to live?

These are among some of the issues investigated recently by Professor Victor G. Rodwin in a comparative analysis of four global cities (New York, London, Paris and Tokyo). “Despite the vast medical, financial, cultural and learning resources of these cities they still confront onerous health risks for at least four problems” said Professor Rodwin («Health and Disease in Global Cities: A Neglected Dimension of National Health Policy»).

These problems will challenge any big city to develop a solid public health infrastructure.

These are the return of infectious diseases such as drug resistant TB and the emergence of new threats such as AIDS, SARS, terrorism, including bioterrorism; barriers in access to health care services for ethnic minorities and/or the poor and rising inequalities among social groups.

Drawing on his World Cities Project which he co-directs with Professor Michael K Gusmano at the International Longevity Center-USA, Rodwin asserts that comparative surveillance of health status and access to health care, as well as careful monitoring of disease outbreaks in large cities, is an important function of our global public health infrastructure. The capacity to assess risk in strategic urban locations will increasingly become recognised as an important component of national health policy.

“BioVision provides a unique opportunity for all stakeholders to debate how global cities are addressing these risks and how they may learn from their respective failures and successes. An important key to the development of enhanced protection for global cities is to begin systematic comparative analyses of how cities address these risks”.

MISSING BIODIVERSITY TARGET PUTS PEOPLE AT RISK - WWF



BioVision is proud to announce the participation of Guillermo Castilleja, Executive Director, Conservation, WWF International in the session “Ignored Aspects of Biodiversity” March 10.

Future generations face hunger, thirst, disease and disaster if we carry on trashing the environment, warned WWF International in its ‘2010 and Beyond: Rising to the Biodiversity Challenge’ report. This report contains the latest Living Planet index – the internationally agreed way to measure progress towards the global target of reducing biodiversity loss by 2010 – and which reveals a continuing decline in biodiversity.

Food, clean water, medicines and protection from natural hazards are important ingredients in maintaining our security and quality of life. If they are to be maintained then the species, natural habitats and ecosystems that support them need to be protected. In 2002 the world’s governments set themselves a target to reduce the rate of biodiversity loss by 2010 but WWF’s report shows that they are clearly not on track.

CONFIRMED SPEAKERS

Non-exhaustive list as of December 8

Plenary Sessions

Michel Barnier

Minister of Agriculture and Fisheries, France

Michèle Barzach

President, GSK Foundation, France

Christian Béchon

Chairman and CEO, LFB, France

Werner Cautreels

CEO, Solvay Pharmaceuticals, Belgium

Alice Dautry

Director, Pasteur Institute, France

Peter C. Doherty

Nobel Laureate, Medicine 1996, Australia

Roch Doliveux

CEO and Chairman of the Executive Committee, UCB, Belgium

Amir Dossal

Executive Director, UN Office for Partnerships, USA

François Gros

Permanent Honorary Secretary, Académie des Sciences, France

Roger Guillemin

Nobel Laureate, Medicine 1977, USA

Kiyoshi Kurokawa

Science Advisor to the Cabinet of Japan

Jean-Marie Lehn

Nobel Laureate, Chemistry 1987, France

Federico Mayor

President, Foundation for a Culture of Peace, Spain

Alain Mérioux

President, Mérioux Alliance, France

Koji Omi

Founder and Chairman, Science and Technology in Society Forum, Japan

Rajendra Pachauri

Chairman, Intergovernmental Panel on Climate Change, India

Valérie Pécresse

Minister of Higher Education and Research, France

Wayne Pisano

President and CEO, Sanofi Pasteur, France

Richard J. Roberts

Nobel Laureate, Medicine 1996, UK

Saskia Sassen

Professor, Columbia University, USA

André Syrota

General Director, INSERM, France

M.S. Swaminathan

Chairman, MS Swaminathan Research Foundation, India

Anna Tibaijuka

Under Secretary General, UN & Executive Director, UN Habitat, Kenya

Feike Sijbesma

CEO, DSM, The Netherlands

Abdel Azim Mussa Wazir

Governor of Cairo, Egypt

Daniel Zajfman

President, Weizmann Institute, Israel

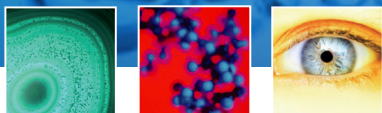
Elias Zerhouni

Director, National Institutes of Health (NIH), USA

Patrick Aebischer

President, EPFL, Switzerland

Full list of confirmed speakers available at www.biovision.org



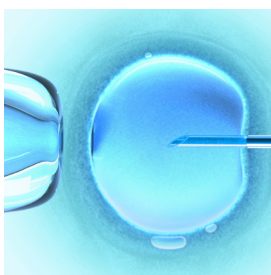
Biodiversity underpins the health of the planet and has a direct impact on all our lives. Put simply, reduced biodiversity means millions of people face a future where food supplies are more vulnerable to pests and disease and where water is in irregular or short supply.

Among WWF's recommended solutions are:

- develop joint implementation plans between environment, agriculture, food, water, finance, and health in order to take urgent action to reduce the rate of biodiversity loss by 2010
- live up to their commitment to put in place effective protected area systems, with the full and effective participation of indigenous and local communities and promoting equity and benefit sharing
- adopt a target to achieve zero net annual deforestation by 2020 and initiate collaboration between the CBD and the United Nations Framework Convention on Climate Change to reduce green house gas emissions from deforestation and degradation

WHAT WILL BE DISCUSSED AT BIOVISION 2009?

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



■ The state of stem cell research: even more promising? - Monday March 9 - 2.00pm

Stem cell research is making headlines. How far away is the promised regenerative medicine?

The isolation of adult and embryonic stem cells and the study of their differentiation mechanisms have opened the doors to a new branch of regenerative medicine. Based on the idea of reconstituting dysfunctional body parts, instead of simply eliminating the cause of their dysfunction or of replacing them

through transplant, stem cell research remains one of the most active and promising fields in Life Sciences. Indeed, important results make their way to the media almost every week.

One of the most remarkable recent breakthroughs is the parallel demonstration in 2007, by the teams of S. Yamanaka and A. Thompson, that some adult cells could be returned to an undifferentiated state similar to that of embryonic ones through their genetic reprogramming by the technique known as gene insertion.

The goal of this session is to review the most important progress in basic research accomplished since the 2007 edition of BioVision in the different areas of this fast-growing field, and to assess their significance for the development of regenerative medicine, as well as to explore their potential for other domains, such as cellular toxicology.

Their implications for the ethical dimension of stem cell research will also be discussed. To what extent, in particular, could the Yamanaka and Thompson discovery of the Induced Pluripotent Stem cells (iPS) circumvent the moral and legal difficulties linked to embryonic stem cells, such as human therapeutic cloning, manipulation and destruction of embryo or oocyte donation for non reproductive purposes? Is scientific progress itself clearing up ethical quandaries?

■ The Unresolved Issue of Malaria - Monday March 9 - 3.30pm

Malaria exacts an enormous toll on lives, medical costs, school absenteeism and in lost work days. The costs of malaria in terms of strains on the health system are enormous: in endemic countries, more than 3 out of 10 hospital beds are occupied by victims of the disease. The direct and indirect costs of malaria have been estimated to be 1%-5% of sub-Saharan Africa's Gross Domestic Product, amounting to about USD 12 billion annually.

CONFIRMED SPEAKERS

Non-exhaustive list as of December 8

Thematic sessions

Asit Biswas

President, Third World Center for Water Management (TWCWM), Mexico

Peter Boyle

Director, International Agency for Research on Cancer (IARC-WHO), France

Philippe Busquin

Member of the European Parliament, Former European Commissioner for Research, Belgium

Robert Butler

President and CEO, International Longevity Center, USA

Michael Casler

Professor, US Department of Agriculture, Agricultural Research Service, USA

Guillermo Castilleja

Executive Director of Conservation, WWF International, Switzerland

Sandra Cointreau

Solid Waste Management Advisor, The World Bank, USA

Ahmed Djoghla

Executive Secretary, Convention on Biological Diversity, Canada

Vincent Deubel

Director, Institut Pasteur of Shanghai - Chinese Academy of Sciences

Nathalie Ernout

Vice President, Action contre la Faim, France

Christophe Fournier

General Director, Médecins Sans Frontières International, France

David L. Heymann

Assistant Director General, World Health Organization, Switzerland

Pascal Housset

Chief Executive Officer, Bayer Environmental Science, France

Michel Kazatchkine

Director, The Global Fund, Switzerland

Jaime Lerner

Former Mayor of Curitiba and Architect, Brazil

Alan J. Lewis

President and CEO, Novocell, USA

Bernd Montag

CEO Imaging, Siemens AG, Germany

Jérôme Pérrière

President and CEO, DOW AgroSciences, USA

Thierry Philip

Director, Centre Régional de Lutte Contre le Cancer Léon Bérard, France

Bruno Rousset

President, April Group, France

Ismael Serageldin

Director, Library of Alexandria, Egypt

Gordon Sheperd

Director International Policy, WWF International, Switzerland

Annie Sugrue

Coordinator, Citizens United for Renewable Energy and Sustainability (CURES), South Africa

Soumya Swaminathan

Deputy Director, Tuberculosis Research Center Chennai, India

Jennifer Thomson

Interim Executive Director, African Agricultural Technology Foundation Programme, USA

Thierry Zylberberg

Executive Vice President, Healthcare Division, France Telecom Orange, France

■ Full list of confirmed speakers available at www.biovision.org



Previous attempts to eradicate the disease based on vector control and chemoprophylaxis/chemo therapy have had limited success, due to the emergence of drug-resistance in parasites and insecticide-resistance in the mosquito vectors. However, good prospects for malaria elimination are now emerging due to effective malaria control measures, such as long-lasting insecticide-impregnated bednets, indoor residual spraying and the development of artemisine-based combination therapies.

The development of malaria vaccines may provide new tools to eliminate and eradicate this disease. The production of a safe, effective and implementable malaria vaccine remains a difficult challenge, due to the complexity of the biology of the parasite. Yet there is hope that candidate vaccine antigens will be more readily identified due to the availability of the Plasmodium genome sequence databases. Several candidate vaccines already have entered clinical testing and some have shown promising results.

■ **Biofuels for the city - Tuesday March 10 - 5.30pm**

Transport now accounts for about 20% of global Green House Gas (GHG) emissions and this figure is growing faster than for any other sector. The growing transport sector has become the main driver for increasing global primary demand. Alternatives to reduce the dependence on oil and simultaneously reduce GHG emissions for transport are under development. Biofuels have the potential to address these two issues.

Current biofuels (first generation biofuels) like bioethanol and biodiesel are produced from the products of conventional food crops, but this production competes with their use as food and animal feed in some parts of the world. BioVision 2009 will offer an opportunity to clarify the advantages and limitations of these biofuels to supply the energy needs of city and other transportation systems.

This session will focus on the second and third generation of biofuels, presenting major efforts in research and development in both public and private sectors to achieve cost effective sustainable production of biofuels with as low a carbon footprint as possible.

The emphasis will be on the new types of experimental bioenergy that are currently emerging such as future second generation biofuels produced from a much broader range of feedstock including the entire biomass of dedicated energy crops (perennial grass, forestry, by-products from food and feed production...), and third generation biofuels derived from microorganisms like yeast, bacteria or microalgae producing lipides or biohydrogen. The scientific and technical innovations needed to produce the cheapest and most sustainable biofuels will be discussed, together with their advantages, the present state of research and scientific and technological obstacles to be overcome.

■ **WHAT WILL HAPPEN AT BIOVISION 2009?**

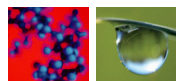
Nobel Laureates, French Ministers and CEOs are among those participating in BioVision 2009. Over the 4 days, discussions and debates will follow two main tracks: Life Sciences and Urbanization, and Advances in Life Sciences.

Density, water shortages and lack of sanitation are just some of the big problems our cities will be plagued with in the coming years, problems we must find solutions for. This is where BioVision comes in. BioVision's life Sciences & Urbanization debates will contest the challenges involved in the transition towards a predominantly urban world population.

The other track, Advances in Life Sciences, will investigate and question how recent accomplishments in Life Sciences and related technologies, can be of great help in the future. As we create more and more manmade problems in our environment, it will become necessary to create more innovative manmade solutions.

BioVision is the premier forum for discussing the important role Life Sciences play in dealing with the current and future challenges human society faces.

To register go to www.biovision.org



■ **MORE INFORMATION**

More information about the BioVision 2009 programme can be found at www.biovision.org

Now you can search for and post your own innovative Life Sciences solutions online, on the newly launched www.biovisionsolutions.org site.

■ **PROGRAMME PARTNERS**



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