

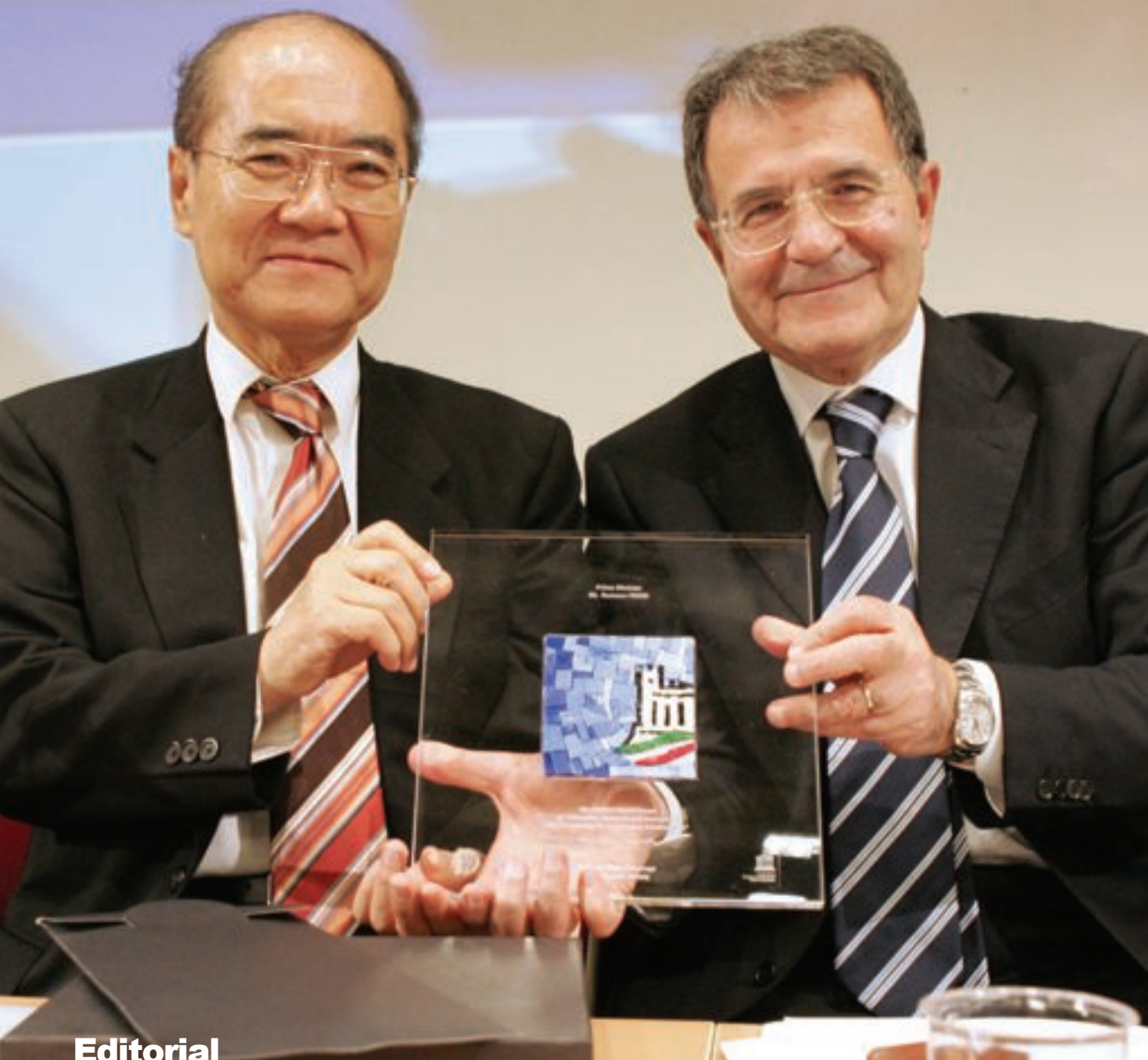


# G8-UNESCO World Forum

*Education, Research and Innovation: New Partnership for Sustainable Development*

web: [g8forum.ictp.it](http://g8forum.ictp.it)

Forum Newsletter - Thursday 10 May 2007 - No. 1



## Editorial

by K. R. Sreenivasan, Abdul Salam Research Professor and Director, ICTP

The Forum originated from discussions that took place at the 2006 G8 Summit at St. Petersburg, and intends to focus on the three components of the so-called "Triangle of Knowledge" – education, scientific research and technological innovation – and their mutual dependence, with particular attention paid to developing countries and sustainable development. UNESCO is a partner in the Forum within the framework of the Decade of Education for Sustainable Development (2005-14), for which it is the lead agency within the UN system. Its involvement has

expanded the international character of the Forum, and made it truly international in scope.

Trieste is the logical place to hold the event because of the city's unmatched efforts on behalf of science in developing countries – a role that the city has played for more than four decades beginning with the Abdus Salam International Centre for Theoretical Physics and, more recently, through other international institutions such as TWAS – the academy of sciences for

CONTINUED ON PAGE 3



## Roberto Dipiazza *Mayor of Trieste*

**T**he city of Trieste welcomes the International Forum on research and development with the awareness that it is being host to an event of outstanding scientific importance. Issues such as innovation and sustainable development are strictly connected to the dynamics of global economy, which cannot but take into consideration the importance of environmental protection. It is out of question that due attention must be paid to the climatic changes affecting our planet, and that solid scientific analysis should be followed by corresponding political decisions to be shared by international representative bodies. Along this path, which is certainly not going to be an easy one, events such as the present G8 in Trieste can undoubtedly play a fundamental role.

On the basis of these considerations, the Municipality of Trieste offered its complete cooperation in the organization of this event. Today, however, Trieste plays also the role of

capital for an area, in the very heart of New Europe, which is regaining its strategic importance with the disappearance of national borders. The construction of major infrastructures that will connect Italy to Eastern Countries added to the image of the city. Moreover, the city succeeded in improving its urbanistic profile, thus adding to its tourist appeal, which is already in full growth. Another point of excellence is represented by the local scientific institutions, namely the Science Park Area, the International Physics Centre and the University, and we firmly believe that these three institutions shall contribute significantly to the development perspectives and prestige of Trieste.

On behalf of the whole city, I would like to welcome all participants to the Forum, hoping that Trieste shall be a significant starting point for research activities on ecologically sustainable production systems.

## Maria Teresa Bassa Poropat *President of the Province of Trieste*

**I**t is with great pride that the province of Trieste welcomes the G8-Unesco world forum on education, innovation and research. It is indeed not by mere chance that the eight major industrialised countries have chosen our area to discuss the complex challenges needed to achieve sustainable development.

For a long time Trieste has believed in and invested in the possible connections between the components of the so-called "triangle of knowledge". The city has developed considerable expertise and competence in the development of technological transfer and scientific research, not only with its own resources but also with both private and public research bodies. Therefore, promoting Trieste as a world centre of sustainable development means recognising a role which it has had for a long time and legitimising a natural as well as consolidated commitment in the field of international cooperation. It is because of this and for this obvious vocation that the Ministry for the Environment and the Protection of the Area and the Sea has chosen Trieste as the headquarters for ASIA ("Agenzia per lo sviluppo internazionale dell'ambiente" (Agency for the International development of

the Environment). The agency has been working for only a few days, consolidating the image of the city as an ambassador for Italy in the field of innovation and research. The province of Trieste intends to promote the activity of those who have contributed and are contributing to reinforce this vocation. We undertake to continue cooperation and dialogue on such important topics as the environment and renewable energy, for which our skills as an intermediary are increasingly important in order to ensure sustainable development to the area.



### **G8-UNESCO World Forum Trieste 10-12 May 2007**

*No. 1, Thursday 10 May 2007*

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*Video of the Forum online on [www.rvnet.eu](http://www.rvnet.eu)*





# Romano Prodi

*President of the Council of the Ministers of Italy*

## A plurality of voices Highlights from the official speech

It is my wish that the G8-UNESCO World Forum on Education, Innovation and Research: New Partnership for Sustainable Development, by giving the floor to a plurality of voices, will help in formulating operational ways to promote peaceful, democratic and hospitable *societies of shared knowledge*.

The group of the most industrialized countries, the G8, is aware that this is the horizon to face, even though not immediately conducive to prompt actions and initiatives: knowledge is driving our societies towards the future, and this is happening through diverging and inter-crossing paths around the globe. Our responsibility is to understand the increasing complexity of societies, to detect the potential of opportunities and to find ways to tackle the risks and share the benefits. And this can only be accomplished through new forms of partnership.

Italy, in the context of the European Union, is engaged in the Lisbon Strategy to enhance growth and competitiveness through the integration of knowledge and innovation, while assuring long-term environmental and social sustainability. In line with the Bologna Process, we are joining forces towards the creation of a European space for research and education, aiming not to homogenization, but to cooperation among the extraordinary cultural, linguistic and historic diversities of European peoples. But neither the G8 countries nor Europe can act as an exclusive club or an isolated citadel.

There is a wealth of ideas, experiences and positive attitudes to share among different geographical regions, among different development models, when industrialized countries, emerging countries and developing countries (and one may even question the present validity of these categories) choose the way of dialogue, with a friendly and open mind.

Collaboration and partnership should also be the new modality of relations among different sectors of society. Politicians require, as never before, support from sciences and research. Choices and decisions in critical sectors - environment, health, sustainable development, food security, biotechnologies, bioethics - need to be supported by information based on rigorous scientific, economic and social analysis.

This will lead to a new role for academia, which, though maintaining all its intellectual and ethical independency, cannot work in isolation. New economy is based on intangible capital, where knowledge, ideas, information management, flexibility and ability in facing risks and changes are the main assets.

The exchange of experiences and of creative energies among governments and institutions, universities and research centres, and the private sector should become a constant attitude and exercise. This entails the ability of innovation in industry and the ability of academia to understand the needs of the new economy and the issues of evolving societies. The profile of the new partnerships should be



excellence. It may seem a paradox, but the common aim must be enhancing and diffusing quality, and looking at excellence as an achievable goal. Modern information and communication technologies may act as powerful tools to help the spreading of quality, by creating virtual centres of excellence. Just think of the benefits that would derive from the possibility for a small primary school in a remote area to connect to the most prestigious universities. Such opportunities may only be identified when awareness and a positive attitude are spread among all components of society and every single citizen has the feeling of being a player in the game. The mobilization of talents, with a special eye on youth, although not limited to them, is at the heart of our common efforts: no targets in economy as well as in civilization may be reached without such mobilization.

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## The G8-UNESCO World Forum in Trieste: what it is and what it is not

*the developing world – the International Centre for Genetic Engineering and Biotechnology and the International Centre for Science and High Technology.*

*The Forum is a platform for expressing diverse viewpoints from representatives of governments, universities, research institutes, UN agencies and other international organizations, industries and the private sector on its main theme; and for developing and presenting initiatives that deserve further support to reduce technological gaps in the world. It is neither a political event nor a scientific conference.*

*A possible outcome of the meeting will be the identification of existing initiatives deserving support, or the development of new ones, for addressing technological divides among nations, especially in enabling technologies such as information and communication, nanoscience and technology and bioengineering. The Forum might launch a network of*

*Centres of Excellence for Sustainable Development. Such centres will necessarily be small in number and possibly located both in industrialized and developing nations; they would enhance the information transfer processes by involving people from knowledge and industry sectors, policy makers and the public at large. We may try to implement new programs through ICTP and other organizations if we can identify them clearly enough and find support for them.*

*Sub-Saharan Africa will receive particular attention through the special session devoted to science, technology and innovation in Africa. Several ministers of science and technology from the region will speak. The G8 countries may act as the catalyst for generating sustained interest of various bodies, both public and private, and for supporting specific programs and projects of medium and long term relevance to Africa.*

**K. R. Sreenivasan**

Abdul Salam Research Professor and Director, ICTP

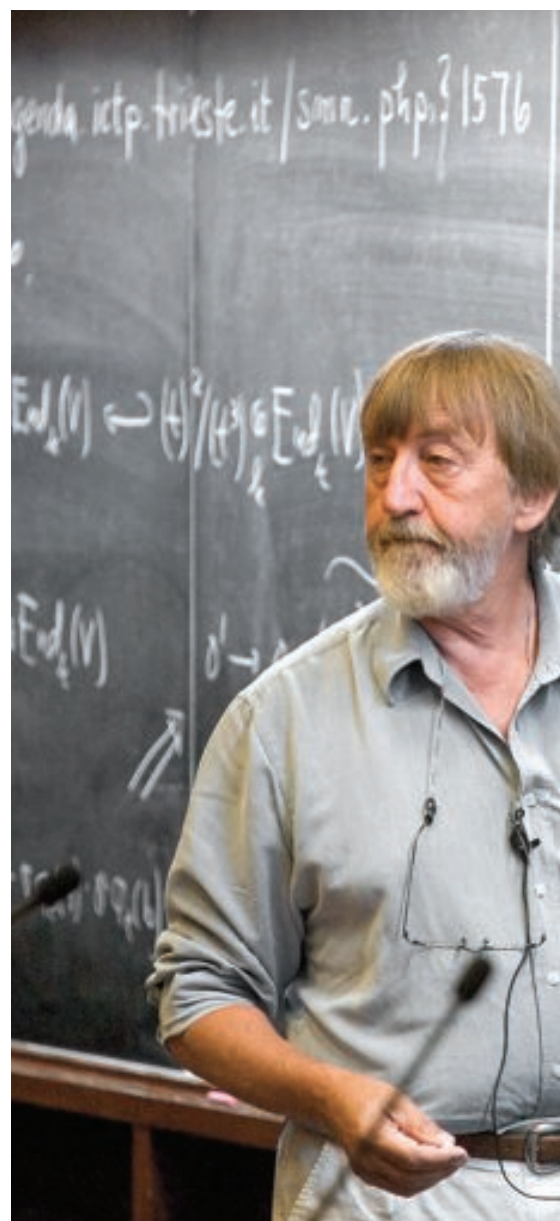


# Science Education Awareness Trieste's Experience

by **Claudio TUNIZ**, Assistant Director ICTP

Over the past 40 years, a series of scientific institutions, several of them within the United Nations system, have been established in Trieste and the Friuli Venezia Region. The institutions that make up what has come to be known as the "Trieste Science System", namely the "Abdus Salam" International Centre for Theoretical Physics ICTP, the International Centre for Genetic Engineering and Biotechnology, the International Centre for Science and High Technology and the Academy of Sciences for the Developing World are also dedicated to providing high-level training for scientists from developing countries. This innovative formula has proved to be highly successful, as the centres give scholars from developing countries the chance to work on leading-edge subjects with eminent European and American scientists. The Trieste Science System, therefore, allows the direct transfer of knowledge and culture, which benefits all concerned and is invaluable to the scholars who return to their countries to carry on their teaching and research activities. It all started as a follow up of the repeated requirements for increased efforts in building scientific capacity in developing countries in order to allow them to make the most of modern technologies and to base political decisions on the best available information. In the specific case of ICTP, the first UN centre established in Trieste in 1964 by Nobel Prize winner Abdus Salam and Professor

Paolo Budinich from the University of Trieste - the mission is twofold: on the one hand to promote advanced scientific research in physics and mathematics and their applications, and on the other hand to share this knowledge with developing countries. ICTP believes that enhancing the scientific level in developing countries is of paramount importance to reduce the gap between the "haves" and "have-nots" on the planet. The model of "scientist-to-scientist" interaction has shown its effectiveness in the last 42 years, as it has been involving more than 100,000 scientists, of whom more than 50% from the developing world. Moreover, during recent times ICTP has been considering not only support of basic sciences in developing countries, but it has opened a debate on the full triangle of knowledge - scientific research, industrial innovation and education - to identify better ways to integrate our efforts and be more effective. ICTP has even started teaching physicists in developing countries entrepreneurial and commercialisation skills, as these skills and attitudes are now considered vital in any educational programme. We believe that only with a critical mass of indigenous scientists will decision-makers in developing countries be able to make the right choices on issues concerning sustainable economic development and the achievement of the Millennium Development Goals.



## The Universities

**Pier Ugo Calzolari, Rector of the University of Bologna:** *"For centuries universities held the role of being the main sources of knowledge production, its conservation and its diffusion. Though the knowledge creation process, and, even more, the way of bringing knowledge into use, have profoundly changed today, universities are still located at the very heart of the building process of the knowledge society. New responsibilities have been added to the traditional missions of Universities. The push towards continuous innovation, which seems to be the main character of the knowledge society, requires that education and research be closely connected with the knowledge transfer process. For this reason, knowledge transfer has been recognized as one of the main missions of universities, at the same level of teaching and research, and then permanently included in the evaluation procedures. Teaching, research and exchange-transfer of knowledge will be perceived from now on as deeply interconnected fundamental missions of universities. Universities are now seriously reflecting on these new responsibilities. First of all, on their interactions with the new actors of the knowledge creation process, not only firms, but also foundations, public administrations, international organisations (the European Commission in Europe), consortia and professional associations."*



## UNESCO: "Education for All"

**Mark Bray, Director of UNESCO's International Institute for Educational Planning (IIEP) in Paris:** *"This movement chiefly aims to serve the under-privileged who do not benefit from schooling. While many scientists will be looking for elitist programmes that generate new technologies and other innovations, it will also be important to remember the disadvantaged. UNESCO is dedicated to world peace, and one of the major factors which undermines peace is social inequality. Thus, the Education for All movement can contribute to creating a more stable world in which more people can benefit from the research, technologies and innovations of the elite."*



# “Bridging the Gap” in the Forum Context

by **Claudio TUNIZ**, Assistant Director ICTP



The purpose of the current G8 Unesco Forum is to examine the connections between knowledge and sustainable development, in a global context, involving both industrialized countries and developing countries. Business and higher education leaders from different countries will discuss how to leverage resources, ideas and expertise of the public and private sectors to foster innovation and meet the education and workforce needs of the 21st century. The discussions start from the basic assumption that the global innovation society is constructed by developing and integrating **education, research and innovation**, by investing fully in people, skills and research, and by supporting modernization of education systems to become more relevant to the needs of a global knowledge-based economy. The Forum will concretely foster an interdisciplinary approach to sustainable development promoting the level of integration among all disciplines, including natural and social sciences, recognizing the urgent need to reconcile ecological, economic and social concerns to improve the living conditions of people in all regions of the world. The examples are numerous and vary from the need for life-long learning processes to match longer life cycles to that of making full use of modern ICT technologies (computer GRID, Satellite and Web broadcasting) to enhance the information transfer processes

or to the need of new paradigms for societal integration and education in migratory processes (particularly taking advantage of the unifying aspects of science).

**The Forum organizers** strongly believe that education is the key for human progress as it helps to construct bridges among all societies, often characterised by different religions, beliefs and ideologies. Economic and social prosperity depends on the ability of countries to educate all individuals to be prepared to thrive in a rapidly changing world. In an innovative society people must be ready to embrace change. Moreover, education is essential to develop human capital and is an engine for economic growth. UNESCO, the World Bank and other international organizations are implementing the 'Education for All' programme with the aim of achieving universal primary and secondary education. The world community should also ensure the high quality of this education, especially in scientific disciplines. Existing education systems in many places are still disconnected from research and innovation. Obstacles in other sectors can reduce education opportunities. Developing countries should have a cross-sectoral approach investing in education and other sectors, such as infrastructure, health, nutrition etc.



## G8: “Education for Innovative Societies in the 21st Century”

A broad statement of intent that mentions the importance of Education was endorsed by the G8 leaders at the G8 2006 Summit held in St. Petersburg, Russia in July last year - “We will promote the global innovation society by developing and integrating all three elements of the knowledge triangle (education, research and innovation). We will do so “by investing fully in people, skills and research, and by supporting the modernization of education systems to become more relevant to the needs of a global knowledge-based society.”

## The EU perspective Scientific Collaboration across the globe

Janez Potocnik, EU Science and Research Commissioner: “We all know that the world is rapidly changing. In a sense, it is shrinking and becoming more interconnected. This new reality demands that we think differently about how we live and work. Most importantly, it demands closer cooperation among nations. The EU’s principal partners in scientific research have thus far come largely from developed countries—Australia, Canada, Japan and the United States. But that is rapidly changing. Indeed, we are witnessing a dramatic increase in the involvement of emerging economies such as China and India and a noticeable increase in the involvement of developing countries in general. The EU has also sought to build bridges for international scientific collaboration beyond the activities associated with the Research Framework Programmes. For example, later this year, the EU will put in place a European-wide system of “scientific visas”, which should greatly simplify entry procedures for scientists coming from abroad to study, participate in conferences, and work on joint projects with their colleagues in Europe. Such visas are designed to help European scientists forge long-term partnerships with colleagues from around the globe. The EU has made considerable progress in opening its borders to scientists from abroad over the past decade. But it must work even harder in the future to make science an integral part of its relationship with the rest of the world. The ultimate goal is for the EU to be seen as a truly global destination for science.”



# Mosibudi Mangena

*Minister of Science and Technology of the Republic of South Africa*

## **What is in your view the added value of this Forum?**

The forum brings together two major players in the international education and innovation arena. The G8, being the group of most economically powerful nations, has the potential to tackle significant leadership issues on the world science and technology stage. UNESCO is an inclusive organisation that has experience in guiding policy development in the fields of education, science and culture. The joint perspective of these organisations should be able to provide a holistic view of the challenges and possible interventions for enabling shared prosperity through innovation-based growth and poverty reduction. In particular, they are both significant partners in implementing Africa's Consolidated Science and Technology Plan of Action. This forum is not an ordinary forum, but is a high level forum where there is S&T dialogue between the government and private sectors, science institutions, multilateral institutions such as UNESCO and universities in R&D and innovation for competitiveness.

For countries that are making an effort in providing an enabling environment for R&D, this is a platform to position themselves as preferred Research and Development destinations for the global private sector.

## **What is the role you foresee for your country in the field of sustainable development ?**

As a young democracy we have had the privilege of being welcomed into many education and innovation forums. Our country has many specific challenges. We also share many characteristics with other African countries. Our participation in such forums enables South Africa to benchmark its efforts internationally, identify areas of synergy with our Northern and Southern partners and identify concrete steps to enable development in our country and our region. We are also able to offer our knowledge and expertise in implementing some of our innovation strategies such as that in biotechnology, nanotechnology and space science, for which we have designed responses to our specific situational needs. In this sense, we are



an R&D partner on international science platforms, both in the public and private sector. (gp)

# Julian Hunt

*Professor of Climate Modelling at University College London*

## **What is the message you bring to this Forum?**

In my talk I shall be focusing on the effectiveness, economic advantages and political support for adopting integrated solutions to the technical and social problems of reducing environmental risks including those caused by climate change. It is vital that this meeting conveys to the G8 +5 meeting in Germany the determination of the educational and research communities world-wide to contribute to ideas and practical solutions for these potentially overwhelming problems. This will be a unique assembly of politicians, decision makers, specialist experts and NGOs from all over the world. Unlike other environmental conferences, this is held under the auspices of UNESCO and ITP, so that both intellectual and practical aspects can be considered together for dealing with the great challenge of climate change and environmental risk. This combination of approaches is necessary because we are not simply faced with a technical problem; it is much more serious because it is already affecting how people live, for example, whether they are the hottest, driest or wettest parts of the world; they also

need to think about their families and the future of the human race. I am now a grandfather and I think about this a lot.

## **How can scientists and international organizations improve their sustainable development projects ?**

As I have seen in my career as an industrial and government scientist,



academic, consultant and president of an environmental NGO, how all these kind of activities and disciplines through national, local and international organizations, contribute, firstly with information about environmental risk, secondly providing forecasts and warnings (which with mobile phone technology can be very focused – for example a fisherman of India getting storm warnings with automatic translations in 14 different languages or invalids at home in London receiving warnings about air pollution); thirdly with technology and social organization for reducing impacts of natural disasters or climate extremes such as the hot summer in 2003; fourthly to reduce the hazards themselves, the greatest being global warming. This requires international agreements, huge investments (for example for new carbon free power stations) as well as millions of individuals being encouraged and organized to make their own contributions (for example with energy conservation, etc). International organizations and governments are needed to explore the new technologies that will be essential to cut emissions by more than 50 % below current levels in the next 30 years. (gp)





## Supachai Panitchpakdi

### Secretary General of UNCTAD

#### How would you comment on the timeliness and relevance of the Forum in the worldwide context?

There is no question about the timeliness and relevance of the theme of this Forum. The central role played by technology in economic and social development is being increasingly acknowledged internationally, and at the highest level of the United Nations, as manifested in the outcome of the 2005 World Summit and the World Summit on the Information Society. We are now almost midway in the timeframe set for achieving most of the millennium development goals (MDGs). While some countries are on track to meet the MDGs, too many others are way behind. There is no doubt that scientific knowledge and innovation could jumpstart and sustain the development process. I see that the meeting will address many of the policy areas which have to be tackled to ensure that potential benefits from globalization of knowledge and technology touch a greater number of developing countries.

#### Science and technology for

**development have always been an integral part of UNCTAD's work during the last decades. What about the future?**

Currently science and technology cuts across all UNCTAD's work programmes. One of the sub-themes to be addressed at the upcoming twelfth general conference of UNCTAD is even "harnessing knowledge for development". At the global level, UNCTAD helps developing countries participate effectively in international discussions on technology transfer and intellectual property, and to identify policy options for and best practices in successfully integrating developing countries into the world economy. UNCTAD is also the home of the Commission on Science and Technology for Development, which was established in 1992 to provide high-level advice to the General Assembly and ECOSOC through analysis and appropriate policy recommendations. It has recently been designated by ECOSOC as the focal point for UN system-wide follow-up to WSIS. In addition to our research and intergovernmental work, we have recently revived our programme on science, technology and innovation policy reviews (STIPs) for developing countries. UNCTAD was mandated in 1995 by ECOSOC to conduct STIP reviews, the main aim of which is to help developing countries and countries with economies in transition to evaluate the effectiveness of national science and technology policies and their impact on wealth creation, industrial

competitiveness and quality of life of citizens. The new focus of our STIPs is to help Governments, especially those in Africa, to formulate and implement science and technology policies that address their challenges in meeting the development goals. These reviews are carried out in collaboration with regional commissions, UNDP and NEPAD. We will continue to carry out a number of partnership projects that aim at scientific capacity-building and networking. These include the Connect Africa project, which was developed in partnership with the Centre for Information Technology of the State of Geneva. The first countries to benefit from this project was the Kingdom of Lesotho and Mali. In addition to computer hardware, Connect Africa has provided hands-on training to ICT engineers and technicians in these countries. UNCTAD recently set up, with the generous support of the Government of Italy, a project for a network of centres of excellence on science and technology in developing countries. The aim of this Network is to reverse the negative impact of brain drain, and promote South-South cooperation in research, especially in areas that are currently under-funded, such as health, environment and agriculture. The Network currently consists of 6 institutions, which have committed to providing training for scientists and engineers from other developing countries, especially African ones.

## Martin Perl

*1995 Nobel Laureate in Physics, Stanford Linear Accelerator Center Stanford University, US*

#### What is the message that you bring to the Forum?

My speech is focused on the importance of stimulating personal creativity in engineering and science. I will present therefore various proposals for improving creativity in engineering and science. Concretely, I have 9 proposals to help solve various problems. These proposals are somewhat contrary to present practice in undergraduate and graduate engineering and science. The idea is to reduce requirements for degrees in various fields, such as intermediate courses in electronics, solid state physics, atomic physics, sub-atomic physics, statistical mechanics. It is important to reduce stress on students, reduce competitiveness between students and remove the pressure to study 24/7. Students should have time

to relax and play and dream. Also it is important to reduce the length of courses and size of textbooks and to teach students to learn as they work or when they go into new work. One does not have to do extensive studying to move into new technical areas. Students can learn a subject or a technology as they need it and can learn quickly from colleagues or books, journals and websites.

**The title of your speech is "Stimulating Personal Creativity in Engineering and Science". Why is it so important to focus on imagination and innovation when talking about sustainable development?**

It can make all the difference and improve the surrounding reality. First of all, in order to get good ideas one must take account one's personality and temperament in choosing one's technical

field or science and interests in that field. Also, imagination is a crucial ability required to be creative in engineering and science, imagination within the constraints of known physical laws, experimentation, feasibility and practicality. Furthermore, in engineering and scientific work it is crucial to be able to visualize how the work could be accomplished. The intended work might be, for example, the invention of a mechanical or electronic device, it might be the synthesis of a complicated molecule, it might be the design of an experiment to evaluate the efficacy of a new drug, it might be the modelling of how proteins fold and unfold. And the list can continue....





## Focus on the programme of Friday 11 May 2007

### 09:00-10:45 Innovation and Society

#### Chair

Ing. Giancarlo **MICHELLONE**  
President AREA Science Park  
**ITALY**

#### Keynote Speakers

Hon. Mr. Luigi **NICOLAIS**  
Minister for Reform and Innovation  
**ITALY**

Mr. Umberto **PAOLUCCI**  
Senior Chairman Microsoft Europe  
Middle East Africa  
Vice President Microsoft  
Corporation  
President Microsoft Italia  
**ITALY**

Dr. Mihail C. **ROCO**  
Senior Advisor for Nanotechnology  
The National Science Foundation  
**USA**

Dr. Robert **AYMAR**  
Director General CERN  
**GENEVA**

Dr. Bruno **LANVIN**  
Advisor, Global Information and  
Communication Technologies  
World Bank  
**WASHINGTON, D.C.**

### 10:45-11:15 Discussion and the Report of the Rapporteur

#### Rapporteur

Professor Goolam T. G.  
**MOHAMEDBHAI**  
President, International Association  
of Universities UNESCO  
**PARIS**

### 11:15-11:45 Coffee Break

### 11:45-12:45 Sustainable

### Development and Health

#### Chair

Professor Phyllis **PITT-MILLER**  
Dean, Faculty of Medical Sciences  
University of the West Indies  
St. AUGUSTINE  
**TRINIDAD AND TOBAGO**

#### Keynote speakers

Dr. Aristides **PATRINOS**  
President Synthetic Genomics, Inc.  
**USA**

Dr. Pratap C. **REDDY**  
Founder and Executive Chairman  
Apollo Hospitals Group  
**INDIA**

Dr. Giorgio **TAMBURLINI**  
Scientific Director  
Institute of Child Health IRCCS  
Burlo Garofolo  
**ITALY**

### 12:45-13:15 Discussion and Report of the Rapporteur

#### Rapporteur

Professor Nouria **LAKHDAR-GHAZAL**  
Neuroscience Unit and Group of  
Research on Biological Rhythms  
Faculty of Sciences

### MOROCCO

13:15-14:30 Lunch  
14:30-15:40 Sustainable  
Development and Energy

#### Chair

Dr. David **LINDLEY**, OBE, FREng,  
FRSA  
Director Ocean Power Delivery Ltd.  
**UK**

### 14:30-14:40 Welcome Remarks

Mr. Giovanni **MANFREDI**  
Minister Plenipotentiary and

Coordinator for Energy Issues  
Directorate General for Multilateral  
Economic and Financial Cooperation  
**ITALY**

#### Keynote speakers

Dr. Lawrence L. **KAZMERSKI**  
Director  
National Centre for Photovoltaics  
**USA**

Dr. Isao **YUKAWA**  
Advisor and Past-President  
Kyocera Solar Corporation  
**JAPAN**

Dr. Evgeny Pavlovich **VELIKHOV**  
President of Russian Research  
Centre Kurchatov Institute  
**RUSSIAN FEDERATION**

### 15:40-16:10 Discussion and the Report of the Rapporteur

#### Rapporteur

Professor Ali **SAYIGH**  
Chairman of WREC, Director  
General of WREN  
Editor-in-chief of Renewable Energy  
Journal  
**UK**

### 16:10-16:30 Coffee Break

### 16:30-18:15 Special Session on Research and Innovation: The Role of the Government (ROUND TABLE)

#### Chair

Professor Elaine **EL-KHAWAS**  
Graduate School of Education and  
Human Development  
The George Washington University  
**USA**

#### Keynote Speakers

Hon. Mr. Fabio **MUSSI**  
Minister of University and Research  
**ITALY**

Hon. Mr. Andrei Aleksandrovich  
**FURSENKO**  
Minister of Education and Science  
**RUSSIA**

Hon. Dr. Mosibudi **MANGENA**  
Minister of Science and Technology  
**SOUTH AFRICA**

Dr. Janez **POTOCNIK**  
European Commissioner for Science  
and Research  
European Commission  
**BRUSSELS**

Professor Carlo **RUBBIA**  
Nobel Laureate  
CERN  
**GENEVA**

Professor Martin L. **PERL**  
Nobel Laureate  
Stanford Linear Accelerator  
**USA**

### 18:15-18:45 Discussion and the Report of the Rapporteur

#### Rapporteur

Professor Miguel **NUSSBAUM VOEHL**  
Computer Science Department  
College of Engineering  
Catholic University of Chile  
**CHILE**

20:30 Ballet "Capriccio Italiano"  
(P.I. Tchaikovsky)  
Adriana Borriello (choreography)  
Ballet Company of the National  
Academy in Rome  
Rossetti Theatre (Trieste)  
Buffet dinner will follow  
Venue: Foyer of the Theatre  
Rossetti

