



world innovation summit for education
مؤتمر القمة العالمي للابتكار في التعليم

DOHA QATAR
NOV 09
16-18

P R O G R A M M E

an initiative of



الأساسية
Qatar Foundation



PROGRAMME

DOHA QATAR

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When we established the Qatar Foundation over ten years ago, it was with the goal of promoting excellence in education, science and community development, specifically in our own region. Very quickly, however, we realized that our project could not be national, or even regional, but had to take on international proportions. The challenges posed by globalization can only be met with a truly global educational vision, based on the firm belief in the right of all to education, and the responsibility of the international community to ensure that education is the cornerstone of just and sustainable development. At the Qatar Foundation, we believe in the power of education to prepare our youth for the profound cultural changes that result from globalization and pave the way towards a peaceful future, distinguished by dialogue, confidence, tolerance and understanding.

To pursue this vision, we are pleased to welcome you to the launch of our latest initiative - WISE, or the World Innovation Summit for Education. WISE is based on the practical awareness that the challenges in education are no longer bound by countries' political boundaries and, therefore, its mandate is international. WISE recognizes that the challenges facing the world community have never been greater - that we need innovative solutions not achieved by traditional approaches alone. WISE asserts that the desire to innovate is, in fact, an innate human need to shape and improve our environment. All of our projects, including WISE, are humanistic and innovative at their very core because we believe to be human is to be innovative.

WISE promises to become a global event – a reference in the educational field. I thank all of you for joining us at this launch of WISE and am assured you will find it to be a practical venue to nurture innovative ideas and apply solutions to educational challenges.

By sharing in the WISE vision you will reaffirm our trust that we can build a better world through education.



Photo by Mahar Attar/HHO PL

Her Highness Sheikha Mozah Bint Nasser Al Missned



*"Your input throughout
will be the life force of
our discussions, from
which we shall all learn
and benefit."*



Dr. Abdulla bin Ali Al-Thani,
Chairman of WISE
Vice President - Education,
Qatar Foundation

I am proud to welcome you to this inaugural 2009 World Innovation Summit for Education (WISE) in Doha, and I thank you warmly for accepting our invitation.

You, our participants, are among the world's pre-eminent experts, decision-makers and opinion leaders in the spheres of education, politics, media, culture and the arts, representing international institutions, NGOs, grassroots movements and the private sector. Your collective wisdom and experience constitute the bedrock on which this unique three-day event will be built.

In the course of the Summit, we shall address the main theme of "Global Education: Working Together for Sustainable Development". I hope we shall have frank and insightful debates in which we shall generate new ideas, share best practices and initiate experimental programmes across the whole educational spectrum. Your input throughout will be the life force of our discussions, from which we shall all learn and benefit.

Since its establishment in 1995, Qatar Foundation has been preparing for the future by investing in education, scientific research and a variety of cultural and community development initiatives. It supports, leads and guides a community of centres which are dedicated to achieving excellence in these key areas, and which already constitutes a major force for human development in the region. This year's WISE is a first engagement in the global dialogue on education. It is, perhaps, our most far-reaching initiative yet and its success depends on you, our distinguished participants.

Continued

Qatar Foundation decided to launch WISE because of society's pressing need for access to high-quality education which, alone, can equip future generations to face the uncertainties of an era marked by globalisation and rapid change. Education will play a decisive role in shaping tomorrow's world - a world of critical challenges, from conflict to climate change, from major shifts in economic balance to escalating populations, to other issues yet unforeseen.

However, the world of education must also adapt to a new reality in which established learning models and the traditional relationships between education and society are themselves being questioned. This is best done by harnessing the talents of the most creative minds. WISE, with its annual Summit, will be a platform and a network for innovative thinking about the paramount issues of the 21st century which will work to bring about appropriate change. Its global, multi-disciplinary and multi-cultural membership will be a considerable strength.

Around the central theme of the Summit are three sub-themes - **Pluralism**, **Sustainability** and **Innovation**.

Pluralism is high on the agenda of civilised society. Education plays a vital role in fostering mutual respect and understanding, and in creating dynamic societies which are open to dialogue and discovering innovative solutions. Pluralism within education is critical if there are to be opportunities for all individuals and groups to learn, achieve personal academic and economic success, and contribute to the wider development of society.

“WISE, with its annual Summit, will be a platform and a network for innovative thinking about the paramount issues of the 21st century.”

The second theme of Sustainability relates to the need to guarantee the maintenance of educational systems. Sustainable education models are a vital precondition for an economically, socially and environmentally sustainable world.

The third theme of WISE – Innovation – has a fundamental role to play in developing and supporting learning which remains relevant. The digital revolution and the meteoric development of Information and Communication Technologies (ICT) and the information society are fast generating novel learning and teaching methods, extending access to resources, and calling into question the role and methodology of formal education.

Lastly, the WISE Awards will acknowledge six innovative projects that have shown measurable impact in the field of education under the three conference sub-themes. We look forward greatly to your company at the Awards Ceremony Gala Dinner on 17 November.

I should like to extend special thanks to our partners in the WISE initiative: Agence universitaire de la Francophonie (AUF); the Association of Commonwealth Universities (ACU); the Institute of International Education (IIE); the International Association of University Presidents (IAUP); and the RAND Corporation. Without their unswerving commitment and support this event would not have been possible.

WISE also owes a debt of gratitude to its sponsors: Qatar Petroleum, ExxonMobil and Microsoft.

Dr. Abdulla bin Ali Al-Thani
Chairman of WISE
Vice-President - Education, Qatar Foundation



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1 • PROGRAMME

- 3-Day WISE Programme “At a Glance”
- Full Programme: Plenary and Breakout Sessions
- Biographies: Speakers and Moderators



3-Day WISE Programme

"At a Glance"

Monday 16 November 2009

Welcome

9.30-10.30	▶	Opening Plenary Session: "Global Education: Working Together for Sustainable Achievements"	
10.30-11.00	▷	Coffee Break	
11.00-12.30	▶	Breakout Sessions: Global Education	
		Globalisation of Education: Preparing Students for a Global Economy and Society	Bridging Global Inequalities
		Higher Education for a Sustainable World	Funding Education in the 21 st Century: Who Pays for the Education of the Global Citizens?
12.30-14.00	▷	Lunch Break	
14.00-15.30	▶	Breakout Sessions: National Policies	
		Every Child Matters	Civil Rights and Minorities in Education
		A Fully Integrated Education Policy	Technology and E-Learning
15.30-16.00	▷	Coffee Break	
16.00-17.30	▶	Plenary Session: Pluralism	

■ Pluralism
 ■ Sustainability
 ■ Innovation

Tuesday 17 November 2009

9.00-10.30	▶	Plenary Session: Sustainability
10.30-11.00	▷	Coffee Break
11.00-12.30	▶	Breakout Sessions: Selected Priorities
		<div>Women's Education</div> <div>Education and Community Development</div> <div>Sustaining Education in Critical Circumstances, Conflict Zones, and Poverty</div> <div>Special Needs Education</div>
12.30-14.00	▷	Lunch Break
14.00-15.00	▶	Mid-Conference Plenary Session
15.00-16.30	▶	Breakout Sessions: Solutions
		<div>Managing International Mobility</div> <div>Education and Governance for Trust and Sustainability</div> <div>Accreditation and Quality</div> <div>Increasing Access Through Technology</div>
19.30-22.00	▶	Gala Dinner and WISE Awards Ceremony

Wednesday 18 November 2009

9.00-10.30	▶	Plenary Session: Innovation
10.30-11.00	▷	Coffee Break
11.00-12.30	▶	Breakout Sessions: Tomorrow's Education
		Smart Infrastructures
		Innovation and New Pedagogical Trends
		Future Scenarios
12.30-14.00	▷	Lunch Break
14.00-15.30	▶	Closing Plenary Session
		== Innovation



Full Programme

Plenary and Breakout Sessions

Monday, 16 November 2009

Welcome

9.30-10.30



Opening Plenary Session :
 “Global Education : Working Together for Sustainable Achievements”

Official welcome by Her Highness **Sheikha Mozah Bint Nasser Al Missned**,
 Chairperson of Qatar Foundation

Keynote speaker

A prominent figure

Moderator

Ms **Nima ABU-WARDEH**, journalist and broadcaster, presenter of BBC World’s Middle East Business Report

10.30-11.00



Coffee Break

Monday, 16 November 2009

11.00-12.30

Breakout Sessions: Global Education

Pluralism

Globalisation of Education: Preparing Students for a Global Economy and Society

Globalisation is affecting all aspects of our lives. We should understand how globalisation is changing education systems today, and how best to prepare our young people to learn and succeed in a globalised world. It is vital to understand the issues associated with education's response to globalisation.

Speakers

Dr **Christian BODE**, Secretary General, German Academic Exchange Service (DAAD)

Prof. **B.V.R. CHOWDARI**, Executive Director, India Research Initiatives and GEM⁴, National University of Singapore

Ms **Vivien STEWART**, Vice-President for Education, Asia Society

Moderator

Prof. **John TARRANT**, Secretary General, Association of Commonwealth Universities (ACU)

Pluralism

Bridging Global Inequalities

We share responsibility for our world and must work together towards a positive future. Only by understanding and addressing global inequalities in education can we meet that responsibility. The need for equality of access – geographically, socially, economically, culturally and ethnically – on a worldwide scale is a crucial necessity.

Speakers

Mr **David ARNOLD**, President, The American University in Cairo

Mr **Ian WHITMAN**, Head of the Programme for Co-operation with Non Member Economies, Directorate for Education, OECD

Ms **Katy WEBLEY**, Head of Education, Save the Children

Moderator

Prof. **Bernard CERQUIGLINI**, Rector, Agence universitaire de la Francophonie (AUF)

Sustainability

Higher Education for a Sustainable World

The world is changing rapidly and an important issue is how we should prepare our young people with the skills and confidence to embrace and make the best of the challenges they will face. Higher Education can make a significant contribution to global sustainability notably through research, thereby supporting public understanding and policy development.

Speakers

Prof. **Lawrence HADDAD**, Director, Institute of Development Studies, University of Sussex

Dr. **Bonaventure MVÉ-ONDO**, Vice-Rector - Partnerships, Agence universitaire de la Francophonie (AUF)

Prof. **John PERKINS**, Provost, Masdar Institute of Science and Technology

Moderator

Mr **Garrick UTLEY**, President, Neil D. Levin Graduate Institute of International Relations and Commerce, The State University of New York

Sustainability

Funding Education in the 21st Century: Who Pays for the Education of the Global Citizens?

Across the world there are many different funding models for education. Some are based on public or private sources and others combine the two. This session examines the range of national and local funding models, as well as the global resources accessible to schools and universities, and the challenges they present.

Speakers

Ms **Svava BJARNASON**, Senior Education Specialist, International Finance Corporation

Mr **Marcel CROCHET**, Honorary Rector, Université Catholique de Louvain

Prof. **Ian YOUNG**, Vice-Chancellor and President, Swinburne University of Technology

Moderator

Mr **Julian JOHNSON**, Senior Vice-President, Sponsors for Educational Opportunity (SEO)

Monday, 16 November 2009

12.30-14.00	▶ Lunch Break
14.00-15.30	▶ Breakout Sessions: National Policies

Pluralism

Every Child Matters

Increasing and diversifying access to education by providing equal opportunities and critical tools for all is a crucial issue. The life challenges that each child faces are different. Education is not simply a standard product delivered whatever the individual learner's needs. It needs to take into account factors such as health, welfare and learning capability.

Speakers

Ms **Michele CAHILL**, Vice-President, National Programs and Program Director, Urban Education, Carnegie Corporation

Mr **Robert HUGHES**, President, New Visions for Public Schools

Mr **Øystein JOHANNESSEN**, Deputy Director General, Norwegian Ministry of Education and Research, seconded to the OED's Center for Educational Research and Innovation (CERI)

Moderator

Dr **Patti McGill PETERSON**, Senior Associate at the Institute for Higher Education Policy (IHEP)

Pluralism

Civil Rights and Minorities in Education

Ethnic and social minority groups face inequalities and challenges across the globe, while striving to maintain their traditions and culture. Educational curricula need to be tailored to each group's specific heritage and traditions while still providing the tools required to succeed in the larger community. They should also be a way of fostering respect for all different groups, celebrating diversity and increasing equality, regardless of ethnicity, culture or race.

Speakers

Mrs **Hélé BEJI**, Chairwoman, International College of Tunis

Prof. **Jacques FREMONT**, Provost and Vice-Rector - Academic Affairs, Université de Montréal

Dr **Michael L. LOMAX**, President and CEO, United Negro College Fund (UNCF)

Moderator

Dr **Barham MADAÍN A.**, President, International Association of University Presidents (IAUP)

Sustainability

A Fully Integrated Education Policy

We need a broadly based policy encompassing all levels and types of education – including skills-based and vocational training – that provides clear progression routes for students and supports lifelong education.

Speakers

Rt Hon. **Charles CLARKE**, Member of Parliament for Norwich South, United Kingdom

Mr **Joseph PARÉ**, Officier de l'Ordre National, Minister of Secondary Education, Higher Education and Scientific Research of Burkina Faso

Mr **Kenneth T. VEHRKENS**, Dean, Petrocelli College, Fairleigh Dickinson University

Moderator

Prof. Emeritus **Ingrid MOSES**, Chancellor, University of Canberra

Innovation

Technology and E-Learning

Technology is enabling new ways of supporting learning through, for example, simulations, the impact of multimedia in stimulating awareness and technological tools to synthesise and utilise knowledge. It encourages learners to manage, assess and draw lessons from their own performance and progress. Moreover, it reinforces the idea that learning is not necessarily confined to timetables and the classroom or training centre but can be self-initiated, opening up new and engaging channels into society.

Speakers

Prof. C. **Sydney BURRUS**, Maxfield-Oshman Professor Emeritus of Electrical and Computer Engineering, and Senior Strategist of the Connexions Project, Rice University

Mr **Gary E. KNELL**, President and CEO, Sesame Workshop

Prof. **Bob MOON**, Professor of Education, The Open University

Moderator

Mr **Philippe CLERC**, Director, Department of Competitive Intelligence, Innovation and Information Technologies, Assembly of the French Chambers of commerce and Industry (AFCl)

Monday, 16 November 2009

15.30-16.00



Coffee Break

16.00-17.30



Plenary Session: Pluralism

The sharing of knowledge, ideas and values is the noblest way to transcend barriers. As such, global education is potentially an immensely powerful tool, helping people from all nations develop dynamic societies, open to dialogue and innovative solutions for tomorrow.

The foremost challenges are to work together towards greater mutual respect and understanding, promote increased access and equality throughout the world and prepare students for their role as global citizens.

In response to these challenges, WISE aims to address several major concerns: for example, inclusiveness, respect for gender equity and cultural diversity, and the internationalisation of content and delivery to prepare students for a global economy and society.

Keynote Speakers

Hon. **Ruth DREIFUSS**, Chancellor, University for Peace, former President of the Swiss Confederation (1999)

Dr **Allan GOODMAN**, President and CEO, Institute of International Education (IIE)

Prof. **Georges HADDAD**, Director, Division of Higher Education, UNESCO

Dr **Claudie HAIGNERÉ**, President, Cité des Sciences et de l'Industrie, former Minister Delegate in charge of Research and New Technologies of France

Mrs **Naledi PANDOR**, MP, Minister of Science and Technology, former Minister of Education of South Africa

Moderator

Mr **Mike BAKER**, Education broadcaster, journalist and author



Tuesday, 17 November 2009

9.00-10.30



Plenary Session: Sustainability

In the context of education, sustainability encompasses two complementary dimensions. Firstly, the pressing need to guarantee the sustainability of educational systems across the globe. This demands adequate funding, proper governance, suitable accreditation and mechanisms to protect equality, ranging across all levels of public and private education, with clear progression routes from one level to another. Secondly, the role of education in formulating a globally sustainable culture. In the context of rapidly increasing population numbers, a new sustainable and global paradigm must not only be developed but also taught and disseminated around the world.

Keynote speakers

Mr **Kiyotaka AKASAKA**, Under-Secretary-General for Communications and Public Information, United Nations

Prof. **Sheikha Abdulla AL-MISNAD**, President, Qatar University

Dr **Ahmed DEWIDAR**, Senior Education Advisor and Monitor, Canadian International Development Agency (CIDA)

Mr **Gerhard SCHRÖDER**, Chancellor of Germany (1998-2005)

Moderator

Mr **Mike BAKER**, Education broadcaster, journalist and author

10.30-11.00



Coffee Break

11.00-12.30 ▶

Breakout Sessions: Selected Priorities

Pluralism**Women's Education**

Traditions can act as a barrier to equality in education. Denial of access can have significant implications for health, development and economic success. Gender inequality takes many forms, such as restricted access to education and socio-economic advancement for women. The issues associated with this phenomenon need to be considered, as do the steps taken by different societies in addressing them.

Speakers

Dr **Jane T. BENBOW**, Chief of Party, Education Reform Project in Egypt (EQUIP 1), and Senior Research Director, American Institutes for Research (AIR)

Ms **Lorie D. JACKSON**, Director, Women's Economic Opportunity Initiative, ExxonMobil

Dr **Serra KIRDAR**, Director, Muthabara Foundation

Moderator

Prof. **John TARRANT**, Secretary General, Association of Commonwealth Universities (ACU)

Sustainability**Education and Community Development**

Schools, colleges and universities can make an important contribution not only to education for individuals but also to building and sustaining the communities in which they are based. Thus education can help support community cohesion through generating respect and understanding, and its institutions may contribute significantly to the community economy. Conversely, educational establishments can benefit substantially from the skills, knowledge and experience of the community.

Speakers

Prof. **Eberhard BECKER**, Rector Emeritus, TU Dortmund University

Dr **Iman BIBARS**, Vice-President, Ashoka, and Regional Director, Ashoka Arab World

Dr **Susan J. BODILLY**, Director, RAND Education, and Senior Social Scientist

Moderator

Dr **Barham MADAÍN A.**, President, International Association of University Presidents (IAUP)

Tuesday, 17 November 2009

11.00-12.30

Breakout Sessions: Selected Priorities (continued)

Sustainability

Sustaining Education in Critical Circumstances, Conflict Zones, and Poverty

Education is a powerful but underestimated tool that acts as a catalyst in resolving cultural crises and reducing poverty, thus shaping a better future for humanity. As such, it contributes significantly to conflict mitigation, conflict resolution and peacemaking. Developing relevant education models and securing lasting human, technical and financial resources in such unstable contexts and fragile environments are key challenges the international community should face.

Speakers

Ms **Allison ANDERSON**, Director, Inter-Agency Network for Education in Emergencies (INEE)

Prof. **Sultan BARAKAT**, Director, Post-war Reconstruction and Development Unit (PRDU), University of York

Ambassador **Kenton KEITH**, Senior Vice-President, Meridian International Centre

Moderator

Mr **Ramu DAMODARAN**, Deputy Director for Partnerships and Public Engagement, Outreach Division, Department of Public Information, United Nations

Innovation

Special Needs Education

The challenges of supporting learners with special needs have meant that some of the best and most innovative practice in education has developed in this sector. Mainstream education has much to learn from special needs education both pedagogically and technologically.

Speakers

Prof. **Lizbeth GOODMAN**, Founder and Director, SMARTlab Digital Media Institute

Dr **Filiz POLAT**, Associate Professor in Inclusive and Special Education and Honorary Director of the Centre for Advancement in Special Education (CASE), University of Hong Kong

Additional speaker to be confirmed

Moderator

Mr **David L. WHEELER**, Managing Editor, *The Chronicle of Higher Education*

12.30-14.00



Lunch Break

14.00-15.00



Mid-Conference Plenary Session

A midway Plenary Session, bringing together selected keynote speakers from each thematic Plenary session, to take stock of the progress of debates so far.

Moderator

Ms **Nima ABU-WARDEH**, journalist and broadcaster, presenter of BBC World’s Middle East Business Report

15.00-16.30 ▶

Breakout Sessions: Solutions

Pluralism

Managing International Mobility

The international mobility of staff and students has numerous benefits for individuals and communities, but there are also pitfalls to avoid. It can, for example, exacerbate inequalities between nations by attracting the most talented individuals to leave for better opportunities elsewhere. There is a difficult balance to be struck between the rights of individuals to improve themselves and the national interest of governments in both home and host countries.

Speakers

Dr **Joan DASSIN**, Executive Director, International Fellowships Program of the Ford Foundation

Dr **Diana DAVIES**, Associate Provost for International Initiatives, Princeton University

Ambassador **Cheick Sidi DIARRA**, Under-Secretary-General, and High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States, United Nations

Moderator

Ms **Mary E. KIRK**, Vice-President – Student Exchange, Institute of International Education (IIE)

Sustainability

Education and Governance for Trust and Sustainability

Maintaining and developing public trust in the quality and good governance of education is critical in a rapidly changing world. As education responds to and anticipates change, economic imperatives lead to more sustainable approaches in managing education policies and institutions. Elaborating new visions and involving stakeholders of all kinds from local communities and the public or private sector - all investing in innovative models and managing ever-increasing financial resources - generate greater expectations and obligations in terms of efficiency, transparency and accountability.

Speakers

Dr **Mimi BAER**, Senior Educational Consultant, former Executive Director of the California Association of Independent Schools

Mr **Steve MOSS**, Strategic Director, Partnerships For Schools

Prof. **Michael SHATTOCK**, Visiting Professor, Institute of Education, University of London

Moderator

Sir **Graeme DAVIES**, Vice-Chancellor and President, University of London

Sustainability

Accreditation and Quality

Quality and accreditation each play an important role in establishing the value and veracity of education and its opportunities. They are also critical in helping employers and the wider community make judgements and decisions. It can be argued that they are more important than ever before, given our unprecedented access to information and opportunities provided through the Internet. Yet it is also true that quality and accreditation have very possibly never faced greater challenges as a result of the pace at which our world is changing.

Speakers

Dr **Jef VAN DER PERRE**, Special Advisor, International Association of University Presidents (IAUP)

Prof. **Luc WEBER**, Rector Emeritus, University of Geneva, and President of the Glion Colloquium

Mr **Peter WILLIAMS**, former Chief Executive, Quality Assurance Agency For Higher Education (QAA)

Moderator

Prof. Emeritus **Ingrid MOSES**, Chancellor, University of Canberra

Innovation

Increasing Access Through Technology

Technology has historically been used to increase access to knowledge and education in underserved areas. Today, many people, countries, organisations and schools are turning to the Internet to reach populations that would otherwise not have this access, or at least the breadth of access that Internet technology is providing. Developments in the field of cloud computing could further the use of the Internet in remote education.

Speakers

Prof. Emeritus **Tan Sri Gajaraj DHANARAJAN**, Vice-Chancellor and CEO, Wawasan Open University

Dr **Paul KIM**, Chief Technology Officer, Stanford University School of Education

Dr **Buhle MBAMBO-THATA**, Executive Director, Library Services, University of South Africa

Moderator

Mr **Adrian BLIGHT**, Director, Imagine Education

19.30-22.00

GALA DINNER AND WISE AWARDS CEREMONY

Wednesday, 18 November 2009

9.00-10.30



Plenary Session: Innovation

The fast-paced development of the information society and the widespread distribution of ICT are calling into question how education should be organised and implemented. On the one hand, it generates new methods of teaching and learning, and offers new opportunities to address broad challenges: for instance that of facilitating access to high-quality and diversified education for millions of individuals who would otherwise have been excluded. On the other hand, it raises new challenges, such as how to enable students to transform the large amounts of information available into fully assimilated knowledge.

All over the globe, education stakeholders are seeking the best ways to adapt existing educational systems and methods to this constantly evolving environment. “Innovation” in the broadest sense of the word, beyond technology alone, is more than ever essential. New ideas, methods and practices must be developed and put in place to respond to the changes, anticipate future trends and seize opportunities as they arise.

Keynote speakers

Dr **Tidu MAINI**, Executive Chairman, Qatar Science and Technology Park (QSTP)

Prof. **Sugata MITRA**, Professor of Education, Newcastle University

Mr **Biz STONE**, Co-Founder of Twitter

Mr **Alex WONG**, Senior Director, World Economic Forum, Head of the Center for Global Industries, Head of the Global Education Initiative

Moderator

To be confirmed

10.30-11.00



Coffee Break

11.00-12.30 ▶

Breakout Sessions: Tomorrow's Education

Innovation

Smart Infrastructures

Many technological tools are developing into critical components for learning and connectivity. These range from mobile devices, cell phones and personal computers linked to global positioning systems to learning platforms that provide structure and content to support teaching and learning. Integrating these components into a coherent and learner-friendly interactive environment is a priority for the future.

Speakers

Dr **Barbara KURSHAN**, Executive Director, Curriki

Mr **Anthony SALCITO**, Vice-President, Worldwide Education, Microsoft Corporation

Mr **Mehool SANGHRAJKA**, Managing Director, CBC Commonwealth Academy and CEO, Learning Possibilities

Moderator

Dr **Pedro HEPP K.**, former National Coordinator for ICT in Education, Ministry of Education in Chile

Innovation

Innovation and New Pedagogical Trends

Innovations in technology are creating new tools and ways of engaging young minds in learning. Web 2.0 technology, in particular, is changing views of pedagogy and learning by developing life skills and the learner's ability to create and build, rather than solely consume, content. Changes in pedagogy are also introducing new and promising methods of academic assessment for knowledge and skills.

Speakers

Prof. **Daniel ANDLER**, Professor, Université Paris-Sorbonne, Institut universitaire de France

Mr **Randall FIELDING**, Chairman, Fielding Nair International, LLC

Prof. **Stephen HEPPELL**, CEO, Heppell.net

Moderator

Mr **Adrian BLIGHT**, Director, Imagine Education

11.00-12.30

Breakout Sessions: Tomorrow's Education (continued)

Innovation Future Scenarios

Future scenarios should reflect likely changes in technology, society, the environment and the economy, along with their repercussions on education. They should thereby allow us to identify the most favourable alternative prospective educational models and actively promote their implementation.

Speakers

Dr **Ángel CABRERA**, President, Thunderbird School of Global Management

Dr **Karen A. HOLBROOK**, Vice-President for Research and Innovation, University of South Florida

Dr **Larry JOHNSON**, CEO, The New Media Consortium - sparking innovative learning and creativity

Moderator

Dr **Madeleine GREEN**, Vice-President, International Initiatives, American Council on Education (ACE)

12.30-14.00

Lunch Break

14.00-15.30

Closing Plenary Session

Moderator

Ms **Nima ABU-WARDEH**, journalist and broadcaster, presenter of BBC World's Middle East Business Report

THE DOHA DEBATES







2 • WISE AWARDS

- Awards Presentation
- Laureates
- Biographies: International Jury

WISE Awards

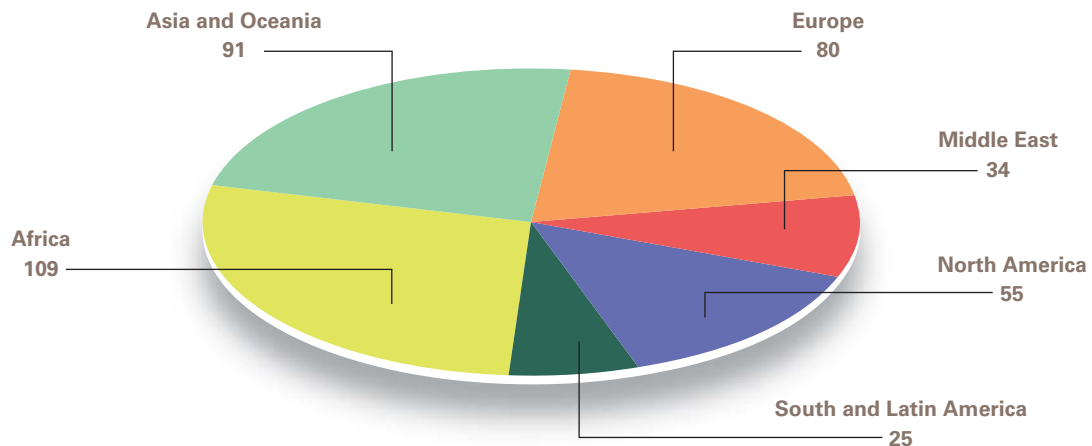
Innovative Education Practice Awards

In this inaugural year, WISE Awards 2009 set out to showcase and reward exceptional and original projects and achievements of the 21st century that demonstrate a real and positive impact on each of the three sub-themes of the WISE Summit: **Pluralism, **Sustainability** and **Innovation** in education.**

Applications were invited from individuals or teams from all educational sectors, stipulating which of the three thematic categories they were applying under.

Projects were required to meet seven general criteria: creativity, financial viability, scalability and replicability, clarity of proposal, multi-disciplinarity, partnership and participation, and dissemination. In addition, three specific criteria were used to judge applications under each of the three WISE prize categories: for Pluralism, equality of access, diversity, respect and understanding; for Sustainability, governance and accreditation structures, quality control structures, contribution to global societies; for Innovation, access to learning, innovation in practice, the ability to address a diversity of challenges.

The response to the call for applications was truly impressive. A total of 588 were received by the 15 July 2009 deadline from throughout the world, 394 of which were deemed valid (103 for Pluralism, 68 for Sustainability and 223 for Innovation). The following pie chart shows the number of projects submitted by continent:



The submissions covered a broad range of thematic areas:

For Pluralism: projects about innovative activities in existing schools or universities, projects to support existing schools or create one or several new schools or universities in under-equipped regions or to address specific public needs, projects to create a new educational offer to be implemented in a formal or informal context, in specific countries or regions and addressing specific needs.

For Sustainability: sustainable environmental development, community development and the insertion of deprived groups through vocational training, new institutional arrangements and governance, the quality of education and pedagogy, student insertion and employment, and education for sustainable development.

For Innovation: online learning or blended learning, community development, the use of technology to improve learning, teacher training and professional development, university management and reform, university department and career reform, whole school reform and new learning models, international collaborative projects and forums, online resources and portals, and so on.

The potential beneficiaries of these projects also ranged far and wide, from teachers to healthcare workers, disadvantaged children to women in poor communities, adults in general, the disabled and school dropouts, to name but a few.

A Pre-Jury of 15 educational experts (5 for each category) reviewed the applications submitted and selected 48 finalists (16 for each category), announced on 31 August 2009. Next, **a high-profile International Jury** convened to select the 6 laureates (2 for each category) for the WISE Awards 2009. The Chairman of the Jury was Dr Abdulla bin Ali Al-Thani, Vice-President of Education, Qatar Foundation, and Chairman of WISE. The Vice-Chairman was Dr Ahmad Hasnah, Associate Vice-President for Higher Education, Qatar Foundation, and Vice-Chairman of WISE. Aside from the Chairman and Vice-Chairman, the Jury consisted of nine of the world's leading experts in Pluralism, Sustainability and Innovation in education – three members per theme. (For biographies of the International Jury members, see page 88.) From the outset, the outstanding profile of the International Jury was seen as a solid guarantee of quality with regard to the final selection.

The six winners were announced on 30 September 2009. Each will receive a Prize Award of \$20,000 at the WISE Gala Dinner in Doha on 17 November 2009. The Prizes are intended to celebrate and reward concrete achievements and help sponsor innovative education-related projects to foster cross-cultural collaboration. Laureates will also have the opportunity to showcase their projects during the WISE Forum.

The huge response to the call for applications, and the quality and variety of projects reviewed, mark an auspicious start to this first WISE Awards initiative and a strong pledge of commitment to championing boldly innovative educational ideas and transforming them into pioneering real-world solutions.

Laureates for the Pluralism theme



Sheetal MEHTA

Project Nanhi Kali, India

Sheetal Mehta is the Trustee and Executive Director of K. C. Mahindra Education Trust (KCMET) and leads Project Nanhi Kali, the Trust's flagship project.

In India, girls are still considered a liability and an economic burden on the family, remaining educationally backward compared to boys. Launched by KCMET in 1996 with the objective of providing education to underprivileged girl children in India, since 2005 Nanhi Kali has been jointly managed with Naandi Foundation, an NGO of repute, to ensure that the needy girls get ten years of continuous and quality education. It is now reaching out to 52,000 girl children (from 1,700 in 2002) in urban, rural and remote tribal areas across eight states of India.

Project Nanhi Kali identifies girls at risk of dropping out of government schools and creates special sponsorship for them, working with 25 NGO implementation partners at grassroots level to provide academic and material support. The academic support takes the form of a pedagogically innovative and entertaining class before or after school hours to bridge gaps in learning. The material kit includes uniforms, school bags, shoes and socks. Sponsors – be they individuals, groups or corporations – support a girl child's education for at least a year. They receive a profile of the girl along with her photograph, followed by regular progress reports, so that they can track the performance of the girl in both academic and extra-curricular activities. The Nanhi Kali team also works with the parents and community to sensitise them to gender equity.

Project Nanhi Kali has increased enrolment and attendance of girl children in schools, reduced dropout rates and improved learning levels. Its goal is to provide education to 100,000 underprivileged girls by the end of 2009.

For more information, go to: **www.nanhikali.org**

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Meet Sheetal Mehta and discover Project Nanhi Kali at the WISE Awards Corner during the forum.



Vicky COLBERT

Escuela Nueva, Colombia

Mrs Vicky Colbert is co-author and founder of the Escuela Nueva model, world-recognised for its effectiveness in the improvement of the quality of basic education. It was initiated in 1975 in rural Colombia in response to problems of education, incomplete schooling, high dropout rates, high repetition, weak school-community relationships, low teacher morale, ineffective teacher training and the lack of children's learning materials. Since then, it has been adapted to urban and migrant populations and adopted by 16 countries, reaching over five million children.

Escuela Nueva – “New School” in Spanish - provides a cost-effective, replicable and scalable solution to improve quality basic education in low-income schools. Through its child-centred and collaborative learning approach, it transforms the traditional classroom and promotes entrepreneurial skills: learning to learn, lead processes, team work, decision-making. Bottom-up, it impacts the entire education system by involving all stakeholders; top-down, through influencing education policy.

Students learn in small groups using interactive, reusable modules, designed to promote dialogue, critical thinking and application of knowledge to family and community. Modules allow students to advance at their own pace. Children use learning corners with local materials, a small classroom library and are organised in school governments with committees and instruments promoting participation. Teacher training is experiential and teachers modify their role from transmitters of facts to facilitators and advisers of children. They support each other and promote positive attitudinal change through learning circles and local networks.

Escuela Nueva's boldly original approach has enormous potential for implementation worldwide.

For more information, go to: www.escuelanueva.org

Meet Vicky Colbert and discover Escuela Nueva at the WISE Awards Corner during the forum.

Laureates

for the Sustainability theme



Martin BURT

The Self-Sufficient School, Paraguay

Martin Burt is founder/CEO of Fundación Paraguaya, an NGO devoted to promoting entrepreneurship among the world's poor. He is also co-founder of Teach a Man to Fish, a global network that promotes "education that pays for itself"

At its San Francisco Agricultural School - a co-ed boarding farm/school for youth aged 15-19 in Cerrito, Paraguay - Fundación Paraguaya (FP) developed The Self-Sufficient School from 2003, a new model of technical/vocational education which provides high-quality, affordable education to chronically poor young people, without relying on government subsidies, long-term donor support or costly school fees that exclude the poor. The school turns young farmers into financially successful "rural entrepreneurs" by integrating the teaching of traditional high school subjects with the running of 17 small-scale, on-campus rural enterprises. Students gain technical and entrepreneurial skills, which are in demand in the local market, marketable across multiple sectors and valuable throughout entire careers. These enterprises also generate enough income to cover 100% of the school's operating costs, including depreciation - about US\$ 300,000 per year. The school's success is measured by the facts that 100% of school graduates are productively engaged within four months of graduation and the school has been 100% financially self-sufficient since 2007.

This year, UNESCO selected The Self-Sufficient School model as a "best practice in youth policies and programs" and over 20 institutions in Latin America and Africa have adopted the model or are preparing to do so. As this replication process proceeds, this "education that pays for itself" will enable very large numbers of youths worldwide to overcome chronic poverty.

For more information, go to: www.fundacionparaguaya.org.py

Meet Martin Burt and discover The Self-Sufficient School model at the WISE Awards Corner during the forum.



Joyce DONGOTEY-PADI

Widows Alliance Network (WANE) for Sustainable Economic Development, Ghana

Joyce Akumaa Dongotey-Padi is a Ghanaian women's rights leader, TV and radio broadcast journalist, actress and marriage counsellor. She is the Founder and Executive Director of Mama Zimbi Foundation (MZF), an NGO which launched the Widows Alliance Network (WANE) project in 2007 to emancipate Ghanaian widows from the social, cultural and economic deprivation brought about by the prejudices they face because of their status. Through WANE, 216 widow groupings have been formed in Ghana with membership swelling to 6,000 nationwide.

The project was introduced to equip widows in Ghana with the prerequisite employable skills, human rights education, reproductive health and social integration programmes to transform how Ghana's communities perceive and treat widows. WANE is implemented through skills training workshops; a national Widows Alliance Conference; business financing schemes to help widows generate income to support their children; and an education and rights protection project. As a result, widows' status, economic empowerment and rights have now improved throughout Ghana and widows have acted as agents of progress in their communities.

The MZF aims to set up a national widows vocational skills training centre. It is also establishing an Akumaa Children's Home (ACH) to cater for orphans in the communities where its widow clubs are based. Using its Adolescent Sexual and Reproductive Health (ASRH) project, girls in Ghana are educated on healthy and responsible living as they enter adulthood. The project offers opportunities for replicability in other geographical regions and for various subject matters such as the empowerment of physically challenged persons or populations in emergencies.

For more information, please go to: **www.akumaamamazimbi.com**

Meet Joyce Dongotey-Padi and discover WANE at the WISE Awards Corner during the forum.

Laureates

for the Innovation theme



Delio MORAIS

Distance Learning in the Amazon Forest, Brazil

Delio Morais is President of Hughes Brazil, managing the company that has 10,000 Hughes broadband satellite terminals in operation, among them 2,100 educational sites delivering interactive distance-learning applications to more than 200,000 students in 4,000 remote classrooms.

The Distance Learning in the Amazon Forest project was launched in 2007 by the Secretariat of Education and Learning Quality of Amazonas State. Amazonas is the largest state in Brazil with a population of 3.3 million inhabitants, half of whom live in the capital, Manaus. Ninety-two percent of its area is covered by the Amazon Forest and the rivers of the Amazon basin. The population from the hinterland of the state is spread out across small towns and villages, mostly accessible only by boat via rivers.

The project involves transmitting live classes of teachers via a two-way video-conference link to 25,000 students in 300 secondary schools and 700 classrooms, throughout the 62 county districts. A teacher is also located at each classroom to support local activities. The technology kit in each classroom comprises a satellite antenna linked to a satellite router, a radio transmitter, a computer, a printer, a webcam, a microphone, a VoIP phone, a no-break power supply, a 37" LCD television and Internet connection.

As a result of this initiative, Amazonas State has greatly increased the breadth of education, allowing effective, low-cost, large-scale and constant provision of high-quality secondary-level courses. The project is highly flexible and can be used for education projects at any level. It is spreading to other states in Brazil and the plan is now to transmit primary-level content.

For more information, go to Hughes USA: www.hughes.com

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Meet Delio Morais and discover the Distance Learning in the Amazon Forest project at the WISE Awards Corner during the forum.



Peter LEVY

Curriki, USA

Peter Levy directs Curriki's ongoing partnership arrangements with for-profit publishers, not-for-profit organisations and Ministries of Education. Curriki is an independent non-profit organisation that, since 2006, has been seeking to harness the power of technology and the global educator community to eliminate the educational divide that persists throughout the world.

The Curriki website provides users with the tools and services to develop, aggregate, evaluate and support Open Educational Resources (OER). It is a collaborative, international workspace that allows educators to work together or independently to individualise instruction and create and customise high-quality instructional materials, all at no charge.

Using Web 2.0 technology, the Curriki site offers nearly 90,000 registered members around the world three core sets of functionality. First, it helps them find individual learning resources and build collections of resources from the Curriki repository of open educational resources. This includes learning assets that cover a full range of subject areas for primary and secondary students and that can be tailored for specific educational technology, including interactive white boards. Second, it empowers teachers across the globe to share their best lessons or units of study. By contributing to the Curriki repository, they can find the resources they need, when they need them, all open and without cost. Third, it invites teachers to work together to create new curricular materials using the site's collaboration tools. Teachers everywhere can build connections around highly targeted communities of interest to create a broad array of new instructional materials.

Curriki is challenging the traditional publishing paradigm and changing the way educators teach and the way students learn.

For more information, go to: www.curriki.org

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Meet Peter Levy and discover the Curriki project at the WISE Awards Corner during the forum.

Biographies International Jury



Chairman of the WISE Awards 2009 International Jury

Dr. Abdulla bin Ali Al-Thani

Chairman, WISE

Vice-President of Education, Qatar Foundation

Dr. Al-Thani is the Vice-President of Education at Qatar Foundation. Previously he was a member of the teaching faculty at Qatar University and an Associate Engineer at RAND-Qatar Policy Institute.

Dr. Al-Thani holds a doctoral degree in Civil and Environmental Engineering from the University of Southampton and a Masters Degree from Colorado State University. While at the University of Southampton, Dr. Al-Thani worked closely with a research group that focused on sustainable management studies within the environmental sector, particularly landfills. The group was involved in numerical and mathematical modelling in addition to laboratory models. Dr. Al-Thani also served as a teaching assistant in the Civil Engineering Department at Qatar University throughout his graduate studies. In 2003, he became an Assistant Professor in Civil Engineering at Qatar University, teaching courses related to water resources and environmental engineering. He also represented his department on the College of Engineering's Industrial Relations Committee.

In 2004, Dr. Al-Thani was recruited by RAND-QPI to contribute to a number of research projects. While continuing to teach courses at the University, Dr. Al-Thani worked for RAND-QPI on Qatar University's reform initiative, assisting in establishing decentralised governance policies and procedures, modifying its practices with regard to stakeholder communication and faculty performance evaluation, and identifying leadership training and development activities for the University's academic and administrative leaders. During his time at RAND-QPI, Dr. Al-Thani also collaborated on an effort to develop recommendations for new initiatives that will foster quality and innovation at the national level in Qatar.

Qatar Foundation, where Dr. Al-Thani became the Vice-President of Education in 2005, is an organisation that is committed to preparing students to take leadership roles in an increasingly global society. In addition to providing opportunities for research and community service, Qatar Foundation supports elite educational institutions in offering a complete range of academic programmes, spanning from early childhood education to postgraduate studies. Six leading universities currently have branches in Qatar Foundation's Education City: Virginia Commonwealth University, Weill Cornell Medical College, Texas A&M University, Carnegie Mellon University, Georgetown University's Edmund A. Walsh School of Foreign Service and Northwestern University.

Alongside his passion for effecting sustainable social change through education, Dr. Al-Thani is a keen patron of the arts. In 2008 he established the al Markhiya Gallery in the revitalised Souq Waqif of central Doha. The gallery has a mission to promote the work of young Qatari and Arab artists and to encourage emerging artists in the region.

Dr. Al-Thani sits on a number of committees and boards and is a member of the Board of Trustees of Qatar University.



Vice-Chairman of the WISE Awards 2009 International Jury

Dr. Ahmad Hasnah

Vice-Chairman, WISE

Associate Vice-President for Higher Education, Qatar Foundation

Dr. Ahmad Hasnah, Associate Vice-President for Higher Education within the Education Division at Qatar Foundation, is Vice-Chairman of WISE.

As a member of the Academic Team at Qatar Foundation, Dr. Hasnah has been involved in developing the Education City Model and has fostered partner relationships with world-class educational and research institutions. The aim for Education City, which features state-of-the-art technology and facilities, is to be a hub for creating, sharing and finding practical uses of knowledge.

Since 2002, Dr. Hasnah has been a member of the Education Committee, where he participated in the planning and development of Education City, one of the largest projects at Qatar Foundation. He previously served as the Director of Academic Affairs in the Education Division from 2005-2007.

He was a key member in the negotiation team with Texas A&M University (TAMU), Carnegie Mellon University (CMU) and Georgetown University (GU) to establish branch campuses in Education City offering Engineering, Computer Sciences and Business as well as Foreign Service Programmes. He was also closely involved in the discussions that led to the agreement with Northwestern University, which now offers undergraduate programmes in Journalism, Media and Communications.

Dr. Hasnah represents Qatar Foundation in the Joint Advisory Boards of TAMU-Q, CMU-Q and VCU-Q (Virginia Commonwealth University in Qatar). He is a member of the Steering Committee of Qatar National Research Fund.

He is the Vice-Chair of the Financial Aid and Scholarship Committee and he also chairs Qatar Foundation's Study Abroad Education City Committee.

He is an Associate Professor in Computer Science at Qatar University and was the Head of Computer Science & Engineering Department, Qatar University, from 2003-2006.

He has over 40 referenced publications in prestigious journals and conferences, has chaired various conferences and workshops and has been the Co-Editor for *International Journal of Computing and Information Sciences* (IJCIS) Canada – ISSN 1708-0460.

Dr. Hasnah holds a PhD. in Computer Science (1996), from Illinois Institute of Technology, USA, and has completed a Masters Degree in Computer Science from the same university (1993). He graduated with a Bachelor of Science in Mathematics and Physics from Qatar University (1990).



Pluralism

Dr. Susan J. Bodilly

Director, RAND Education, and Senior Social Scientist

Susan Bodilly, PhD in Public Policy, has worked at RAND for more than 29 years. Her primary research interests and expertise lie in: K-12 school reform; resource allocation and its impact on reforms; formative evaluation; and implementation analysis. She has evaluated an array of K-12 improvement initiatives such as: the General Electric College Bound program; attempts by high schools to integrate academic and vocational education; attempts by the federal government to return Section Six schools on military bases to local control; and attempts by schools to implement Perkins legislation as evaluated under the National Assessment of Vocational Education. She played a leading role in the RAND evaluation of the New American Schools Initiative, has managed review panels for the National Board for Professional Teaching Standards, co-edited a book on scale-up issues in education and published an extensive literature review on the use of out-of-school-time. Her latest report analytically describes collaborative systems intended to support high-quality arts education experiences in six different cities. She is now leading an evaluation of the Ford Foundation's Collaborating for Educational Reform Initiative and an examination of five cities' attempts to improve out-of-school-time programming. Susan Bodilly has held management positions at RAND for the past ten years and is currently the Director of RAND Education.



Pluralism

Mr Nicholas Burnett

Assistant Director-General for Education, UNESCO

Nicholas Burnett is Assistant Director-General for Education at UNESCO. Appointed in September 2007, Mr Burnett brings to the position a very broad knowledge of education in developing and transition countries. He was previously director of UNESCO's flagship Education for All Global Monitoring Report, where he directed the following recent editions (2006: *Literacy for Life*; 2007: *Strong Foundations: Early Childhood Care and Education*; 2008: *Education for All by 2015: Will we make it?*).

From the United Kingdom, Mr Burnett has spent his entire career working on developing and transition countries, with a strong focus on Africa. At the World Bank (1983-2000), he was responsible for the organisation's global education sector strategy review and served as Human Development Sector Manager in West and Central Africa. Before joining the World Bank, he worked at the British Foreign and Commonwealth Office as an Economic Adviser on Africa and Latin America. From 2001 to 2004, he managed his own international consulting firm, specialising in human development and strategic management. Much of the firm's activity was in Eastern and Central Europe and Central Asia and included work with the World Bank and the Soros Foundation to set up the Roma Education Fund.

Mr Burnett holds a BA (Hons) in Philosophy, Politics and Economics from Balliol College, Oxford University, and MA and PhD degrees from the School of Advanced International Studies at Johns Hopkins University, Washington, DC. He is the author and co-author of many publications and articles in education and economics. He is also a visiting Special Professor of International Education Policy at the University of Nottingham (UK).



Pluralism

Dr. Gordon Gee
President, The Ohio State University

E. Gordon Gee, among the most highly experienced and respected university presidents in the nation, returned to The Ohio State University after having served as Chancellor of Vanderbilt University for seven years. Previously, he was President of Brown University (1998-2000), The Ohio State University (1990-97), the University of Colorado (1985-90), and West Virginia University (1981-85).

Born in Vernal, Utah, Gee graduated from the University of Utah with an honors degree in history and earned his J.D. and Ed.D degrees from Columbia University. He clerked under Chief Judge David T. Lewis before being named a Judicial Fellow and Staff Assistant to the U.S. Supreme Court. Gee returned to Utah as an Associate Professor and Associate Dean in the J. Reuben Clark Law School at Brigham Young University, eventually becoming full Professor. In 1979 he was named Dean of the West Virginia University Law School, and in 1981 was appointed to that university's presidency.

Gee served as a Trustee for the Harry S. Truman Scholarship Foundation and as Chairman of the Kellogg Commission on the Future of State and Land Grant Universities. He is a member of the National Commission on Writing for America's Families, Schools, and Colleges. He also serves on the NCAA Presidential Taskforce on the Future of Intercollegiate Athletics. Gee is a member of the Board of Governors of the National Hospice Foundation and the Advisory Board of the Christopher Isherwood Foundation. He is also a member of the Business-Higher Education Forum.

Gee has received a number of honorary degrees, awards, and recognitions. He was a Mellon Fellow for the Aspen Institute for Humanistic Studies and a W.K. Kellogg Fellow. In 1994, he received the Distinguished Alumnus Award from the University of Utah as well as from Teachers College of Columbia University. He is the co-author of 11 books and the author of numerous papers and articles on law and education.





Sustainability

Dr. Amy Gutmann

President, The University of Pennsylvania - Christopher H. Browne Distinguished Professor of Political Science and Professor of Philosophy, Education and Communication

Inaugurated as the University of Pennsylvania's 8th President in 2004, Amy Gutmann is a renowned political philosopher. She is the Christopher H. Browne Distinguished Professor of Political Science in the School of Arts and Sciences, with secondary appointments in the Philosophy Department, the Graduate School of Education, and the Annenberg School for Communication. Dr. Gutmann's vision for Penn is known as The Penn Compact. She has made Penn more affordable to talented students from all backgrounds, while creating more opportunities for Penn students to explore the world and mobilizing faculty and students to integrate and apply knowledge toward solving pressing societal issues locally and globally.

Dr. Gutmann was formerly Provost of Princeton University, and the Laurance S. Rockefeller University Professor of Politics, the Founding Director of the University Center for Human Values, and Dean of the faculty, Academic Advisor to the President (1997-98). She received the President's Award for Distinguished Teaching. She serves on the Board of Directors of the Carnegie Corporation of New York, the Board of Directors of the Vanguard Corporation, the National Security Higher Education Advisory Board, the Executive Committee of the Greater Philadelphia Chamber of Commerce, and the Schuylkill River Development Corporation.

Dr. Gutmann has authored and edited 15 books and more than 100 articles, essays, and book chapters. Her most recent books include *Why Deliberative Democracy?* (with Dennis Thompson), *Identity in Democracy*, *Democratic Education*, *Democracy and Disagreement* (with Dennis Thompson), and *Color Conscious* (with K. Anthony Appiah). An eminent political scientist and philosopher, Dr. Gutmann's research focuses on ethics and public policy, deliberative democracy, and democratic education.

Education: B.A., magna cum laude, Harvard-Radcliffe College (1971); M.S., Political Science, London School of Economics (1972); Ph.D., Political Science, Harvard University (1976).



Sustainability

Dr. Patrick M. Callan

Founding President, National Center for Public Policy and Higher Education

Patrick M. Callan is President of the National Center for Public Policy and Higher Education. He has previously served as Executive Director of the California Higher Education Policy Center, the California Postsecondary Education Commission, the Washington State Council for Postsecondary Education, the Montana Commission on Postsecondary Education, and as Vice-President of the Education Commission of the States.

Mr. Callan is the author of many articles and papers on education, educational opportunity, public accountability, financing of higher education, and leadership. Callan is co-editor of *Public and Private Financing of Higher Education: Shaping Public Policy for the Future* (1997) and co-author of *Designing State Higher Education Systems For a New Century* (2001), a study of state organization and governance of higher education. In 2001, he collaborated with Gene Maeroff and Michael Usdan on *The Learning Connection, New Partnerships Between Schools and Colleges*, published by Teachers College Press. He has served as an advisor to blue ribbon commissions, state education and higher education boards, governors' offices, and legislative committees in many states.



Sustainability

Dr. Christian Bode

Secretary General, German Academic Exchange Service (DAAD)

Dr. Christian Bode has been Secretary General of the German Academic Exchange Service (DAAD) since 1990. He graduated in law from the University of Bonn (state examination, doctorate).

Previously, Dr. Bode was head of the Planning Group at the Federal Ministry of Education and Research, Secretary to the Administrative Board of the Nuclear Research Centre in Karlsruhe and, before joining DAAD, Secretary General of the Western German Rectors' Conference in Bonn.

Dr. Bode has published widely on all aspects of higher education policy, with a special focus on internationalisation. He is a member of several professional societies and administrative boards, e.g. the Board of Trustees of the German University in Cairo and the "Beirat der Kulturstiftung des Bundes".

He is Chairman of the "Vorstand für akademische Testentwicklung e.V. (TESTDAF)", Member of the Board of Trustees of the "Centre for Science-Management" and of the University Council Konstanz. In November 2005, Dr. Bode was elected Vice-President of the Academic Cooperation Association (ACA), Brussels.

Dr. Bode has been awarded several honorary degrees from universities all over the world (e.g. the UK, Vietnam, Sudan). Recent awards include the *Chevalier de l'Ordre National du Mérite* (France), the Officer of the Order of the British Empire and the Cassandra Pyle Award (USA).





Innovation

Prof. Zhou Qifeng
President, Beijing University

A native of Hunan Province, Professor Zhou Qifeng obtained his B.S. in Polymer Chemistry in 1970 from Peking University and started to work as a faculty member of Peking University in the same year. From 1978 to 1980, he studied at the Department of Chemistry of Peking University as a Master candidate. He then went to study in the Department of Polymer Science & Engineering of the University of Massachusetts Amherst in Massachusetts, USA, where he received a Master's degree in Science in September 1981 and a Ph.D. degree in February 1983.

Zhou Qifeng then returned to Peking University, teaching in the Chemistry Department. In 1986, he became Associate Professor and, in 1990, Full Professor, serving as the Chair of the Department of Polymer Science and Engineering until November 2008. In 1995, he became Executive Vice-Dean of the Graduate School of Peking University and Vice-Provost of Peking University until 2001 when he served joint appointments as the Director of the Ministry of Education's Graduate Students Affairs Office (then Director-General of the Division for Academic Degrees and Graduate Education), the Office of the Academic Degrees Committee of the State Council, the China Academic Degrees & Graduate Education Development Centre, the General Affairs Office of the 985 Project, as well as the Office of the Inter-Ministerial Coordination Group of the 211 Project.

In 2003, he was made a member of the Academic Degrees Committee of the State Council (a position he continues to hold), of which he was Deputy Secretary-General from June 2003 to July 2004. In 2004, he also became a Standing Committee Member and Vice-Chair of the Chemistry Division of the Chinese Academy of Sciences. From 2004 to 2008, he was the President of Jilin University and, in November 2008, was appointed President of Peking University. President Zhou has received many honours for both teaching and research. He has published many internationally acclaimed books and over 200 papers.





Innovation

Mr Mike Gibbons

CEO, Richard Rose Federation

Mike Gibbons' career in education and public services began in 1972, teaching English and Drama in a large comprehensive school in the West Midlands. In 2002, four headships later, he joined the Senior Civil Service as the founding Lead Director of The Innovation Unit. In 2006, Mike became The Innovation Unit's first Chief Executive when it subsequently became independent of government. In 2009, he was asked by the Minister for Schools to become the Chief Executive of The Richard Rose Federation in Carlisle after one of the Federation's academies was placed in "special measures" by Ofsted.

Mike has deep experience in school leadership. He now leads a federation of academies. Previously he led four large schools, three in the Midlands and the North and then became Principal and Chief Executive of a 3-18 International School in Brussels with students from 65 different countries. He is a founder member (and former Vice-Chair) of the Governing Council of the National College for School Leadership.

He speaks extensively in the UK and internationally on innovation and reform in education and public services and has worked with a wide range of agencies and organisations, both public and private. In December 2008, he was part of the Government's delegation to the International Education Leaders Dialogue in Melbourne. In 2007, he spoke on Innovation and Reform at the Public Services Summit that happens in tandem with The Nobel Peace Prize ceremonies.

He has four grown-up children all of whom attended state comprehensive schools and are graduates of British universities. His first wife, Judith, died of cancer in 2005. He married Lynne in July 2008. Lynne has three grown-up children by her first marriage, again all comprehensive-school educated and British graduates. Their children live in Guildford, Bangor, London, Edinburgh, Vancouver, Gothenburg and Boston!



Innovation

Dr. Anoop Gupta

Corporate Vice-President, Technology Policy and Strategy - Microsoft Corporation

As information technology becomes a core ingredient influencing all aspects of our life – health, education, communications, entertainment, energy, environment – appropriate government policy can be a strong catalyst for encouraging innovation and ensuring that new technologies and solutions are deployed to address key societal needs. As Corporate Vice-President of Technology Policy and Strategy at Microsoft Corporation (USA), Anoop Gupta guides Microsoft's engagement with governments and institutions around the world regarding Microsoft's vision of upcoming technology innovations and the combination of policies and regulations that might maximize their benefits for citizens. In this capacity, Gupta reports to - and works closely with - Craig Mundie, Microsoft's Chief Research and Strategy Officer.

From 2007-2009, Gupta served as the Corporate Vice-President of the Unlimited Potential Group and Education Products. Before assuming his current post in February 2007, Gupta served for four years as Corporate Vice-President of Microsoft's Unified Communications Group. Before leading the Unified Communications Group, Gupta was Technology Assistant to Bill Gates, Microsoft's Chairman. Before joining Microsoft in 1997, he was a Professor of Computer Science and Electrical Engineering at Stanford University for 11 years.

Gupta has published more than 100 papers in major conferences and journals, including several that have won awards. He has contributed to more than 50 patents. Before joining Stanford in 1987, he was on the research faculty at Carnegie Mellon University where he received his Ph.D. in computer science in 1986. He holds a Bachelor's degree in electrical engineering from the Indian Institute of Technology, Delhi, where he graduated, receiving the President's Gold Medal, in 1980.





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Qatar Foundation



“The sharing of knowledge, ideas and values is the noblest way to transcend barriers. In this sense, globalisation is the architect, which constructs academic bridges across cultural and geographical landscapes.”

Her Highness Sheikha Mozah Bint Nasser Al-Missned

Qatar Foundation for Education, Science and Community Development is a private, non-profit organisation that is helping to deliver Qatar’s vision for a long-term, sustainable economy by making Qatar a leader in innovative education and research.

Established in 1995 by His Highness Sheikh Hamad Bin Khalifa Al-Thani, Qatar Foundation supports centres of excellence that develop human capital through investment in innovative technology, state-of-the-art facilities and partnerships with elite organisations.

Her Highness Sheikha Mozah Bint Nasser Al-Missned is the Chairperson of Qatar Foundation and the driving force behind its initiatives. Her active engagement in education and social reform has helped to establish Qatar as the region’s leader in these areas.

Education

Education City is Qatar Foundation’s flagship project. Located on a 14 million square metre site on the western edge of Doha, it is home to a wide range of education and research initiatives. It also houses the branch campuses of some of the world’s leading universities.

Education City was designed to be a focal point for educational excellence in the region and a forum for collaboration. It offers a synergistic environment where its members can share facilities, cooperate on research projects and forge relationships with businesses and other organisations in the public and private sectors.

Each of the world-class universities at Education City has been carefully selected. The campuses are full-fledged branches of the parent university and the admissions standards, curricula and degrees granted are identical to those of the home institutions. Through these institutional partnerships, Qatar Foundation aims to make Education City an international leader in progressive education and cutting-edge research.

The first of the Education City branch campuses, **Virginia Commonwealth University School of the Arts in Qatar** (VCUQatar), opened in 1998. It was established to provide the highest level of design education and training for the citizens of Qatar, the Arabian Gulf region and beyond. The degree programmes combine contemporary approaches to design adapted to the cultures of the region. VCU is one of the leading research universities in the US and is renowned for its great school of art and design.



VCUQatar offers students the opportunity to earn a Master of Fine Arts in design studies or a Bachelor of Fine Arts degree in fashion design, graphic design, interior design and painting and printmaking. Its newly launched MFA in Design Studies is the first graduate programme in design in the Gulf region. The college nurtures creativity and innovation and prepares its graduates for leadership roles in the professional field of their choice (Website: www.qatar.vcu.edu).

Weill Cornell Medical College in Qatar (WCMC-Q) is the first American university to offer an MD degree outside of the US. Part of the Weill Cornell Medical College in New York, WCMC-Q opened at Education City in 2002, and it is preparing the next generation of physicians to take their place among the highly skilled workforce in Qatar and the region.



A member of the Ivy League, Weill Cornell belongs to an elite group of American universities renowned for their academic excellence. It is committed to top-quality patient care and research at the frontiers of biomedical science. WCMC-Q offers an integrated programme of pre-medical and medical studies, with an early introduction to patient care and opportunities for research experience (Website: www.qatar-weill.cornell.edu).

Since 2003, **Texas A&M University in Qatar** (TAMUQ) has offered Bachelor of Science degrees in chemical, electrical, mechanical and petroleum engineering at Education City. In addition to engineering courses, it provides instruction in science, mathematics, liberal arts and the humanities. Texas A&M programmes are renowned in the USA and the university is committed to training engineers who are equipped to lead the next generation in engineering discovery (Website: www.qatar.tamu.edu).



Carnegie Mellon University (CMU-Q) opened its first international branch campus in Qatar in 2004. Undergraduate students may choose from three of the university's most prestigious programmes: computer science, business administration and information systems. They also have the option to take part in a number of pre-college programmes. With more than a century of academic excellence and innovative research behind it, Carnegie Mellon University has a deserved reputation as a global leader in education with real-world applications. It is continuously top-ranked and respected worldwide (Website: www.qatar.cmu.edu).



Georgetown University School of Foreign Service in Qatar (SFS-Qatar) opened in 2005 and teaches a four-year degree programme leading to a Bachelor of Science in Foreign Service. SFS-Qatar builds on a 200-year old university tradition of educating men and women for leadership roles in the global arena. Students major in international politics, but the course of study includes economics, government, literature, philosophy and theology. It is designed to prepare graduates for leadership positions in a variety of fields in the public, private and not-for-profit sectors. (Website: www.qatar.sfs.georgetown.edu)



Northwestern University in Qatar (NU-Q) is the newest addition to Education City. The top-ranked journalism programme in the USA, it is also one of that country's leading private research and teaching universities. Since 2008, the Qatar branch campus has offered programmes in journalism and communications, and plans to offer a pre-college preparatory programme.



The NU-Q Journalism Programme, with concentrations including print, broadcast and multimedia, leads to a Bachelor of Science in Journalism degree awarded by Northwestern's Medill School of Journalism. The Communication Programme, with curricular offerings in communication theory, history, and industries and media technologies and practices, leads to a Bachelor of Science in Communication degree with a major in media industries and technologies awarded by Northwestern's School of Communication (Website: www.qatar.northwestern.edu).



Also located at Education City is the **Faculty of Islamic Studies**, an international centre for Islamic thinking and dialogue that is committed to enhancing research into Islamic culture. The faculty offers a General Diploma in Islamic studies and MA programmes in Islamic studies (with a specialisation in contemporary Fiqh), Islamic finance and public policy in Islam (Website: www.qfis.edu.qa).

The **Academic Bridge Program** (ABP) at Education City is a post-secondary school programme that helps students in the transition from high school to university. ABP was a pioneer in the region in providing a coeducational opportunity for young men and women. Its mission is to provide top graduates of high schools in Qatar and elsewhere in the region with the academic and personal skills needed for success in high-quality English-language university programmes, particularly the universities in Qatar Foundation's Education City. Many graduates of the ABP programme are now enrolled in these universities (Website: www.abp.edu.qa).



Founded in 1996, **Qatar Academy** offers a high-quality education for boys and girls from pre-school age to university entrance level. Its faculty and staff are dedicated to preparing students for further education and adult vocations through the pursuit of academic excellence. Its International Baccalaureate World School programme is accredited by the New England Association of Schools and Colleges and the Council of International Schools (Website: www.qataracademy.edu.qa).



Almost 2,500 students are currently studying at Education City and almost half of the university students are Qatari. The remainder come from throughout the Gulf region and around the world. In all, students, staff and faculty at Education City represent 45 different nationalities.

Science and Research

Science and research is a core pillar of the work of Qatar Foundation, a commitment that was affirmed in 2006 with the establishment of Qatar National Research Fund, which provides strategic funding to researchers at all levels in the public, private and academic sectors.

Research took a leap forward with the establishment of the Qatar Science & Technology Park (QSTP) in 2004. This state-of-the-art facility offers 45,000 square meters of office and laboratory space. It aims to fuel Qatar's knowledge economy by encouraging companies from around the world to develop and commercialise their technologies in Qatar, and by helping entrepreneurs to launch start-up technology businesses.

World brands such as EADS, ExxonMobil, GE, Microsoft, Rolls-Royce, Shell and Total are among the companies that have committed to research and development activities there. QSTP, for its part, is investing heavily in venture capital, seed funds, entrepreneurial training and business incubation programmes.

Another unique research partnership is Sidra Medical and Research Center, a specialty teaching hospital that is scheduled to open in 2011. Sidra will offer world-class clinical care, medical training and biomedical research and will be the primary teaching venue for Weill Cornell Medical College in Qatar. Sidra and Weill Cornell - together with Hamad Medical Corporation, Doha's public healthcare provider - will collaborate on innovative public health initiatives.

Qatar Foundation has also partnered with the RAND Corporation to create a non-profit organisation, the RAND-Qatar Policy Institute. RAND works to improve policy and decision making and address critical issues in the public and private sectors through in-depth, objective research and analysis.



Community Development

Qatar Foundation supports a range of community development work, including several exciting broadcasting ventures. *The Doha Debates* is a public forum for dialogue modelled on the Oxford Union debates and broadcast on the BBC. QatarDebate is a Qatar Foundation centre that aims to foster open discussion and debate among students in Qatar and across the Middle East. *Lakom Al Karar*, meaning “The Decision is Yours” in Arabic, is a nationally televised programme featuring discussions between young people and decision-makers in Qatar. Al Jazeera Children’s Channel is a pan-Arab youth television channel that aims to balance entertainment with education.

Other well-known community development initiatives include Reach Out To Asia (ROTA), a charity focussed on community development projects in Asia. It places particular emphasis on basic, quality primary education for children and adults.

Al Shaqab is a visionary new equestrian venue featuring world-class facilities and comprehensive educational resources. A unique concept in the equine world, its mission is to promote the highest standards in the breeding and showing of Arabian horses, as well as to provide innovative educational and competitive opportunities in all of the equestrian arts.

The newly established Qatar Philharmonic Orchestra was created in 2008 to enhance community and culture within Qatar and throughout the region and bring a message of peace to the world via the union of eastern and western music.

Other community organisations initiated by Qatar Foundation include the Doha International Institute for Family Studies and Development, the Qatar Diabetes Association, the Cultural Development Center and the Social Development Center.



Quick Facts

- **Qatar Foundation was founded by decree of His Highness Sheikh Hamad Bin Khalifa Al-Thani, Emir of the State of Qatar in 1995.**
- **Chaired by Her Highness Sheikha Mozah Bint Nasser Al-Missned.**
- **The first projects founded by Qatar Foundation were Qatar Academy and the Learning Center in 1996.**
- **Education City is Qatar Foundation's flagship project and covers over 14 million square metres.**
- **There are six world-renowned US university campuses at Education City:**
 - Virginia Commonwealth University in Qatar (opened 1998)
 - Weill Cornell Medical College in Qatar (opened 2002)
 - Texas A&M University at Qatar (opened 2003)
 - Carnegie Mellon University in Qatar (opened 2004)
 - Georgetown School of Foreign Service in Qatar (opened 2005)
 - Northwestern University in Qatar (opened 2008)
- **The Faculty of Islamic Studies began its first graduate level classes in the 2007-2008 academic year.**
- **2008 witnessed the first classes taught in the new Texas A&M at Qatar building and the first graduates from Weill Cornell Medical College in Qatar, Texas A&M at Qatar and Carnegie Mellon University in Qatar.**
- **There are almost 2,500 students studying at Education City.**

- 49% of university students at Education City are Qatari.
- Students, staff and faculty at Education City represent 45 different nationalities.
- Several new facilities are under construction, including Carnegie Mellon's new campus; the Qatar Science & Technology Park (QSTP); the Qatar National Convention Center; the Sidra Medical and Research Center; and a world-class equestrian centre, Al Shaqab.
- QSTP is a research and development hub and Qatar's first free trade zone. Tenants at this world-class facility include ExxonMobil, Shell, Total, Rolls-Royce, EADS and Microsoft.
- Al Jazeera Children's Channel is part of Qatar Foundation and is broadcast from Education City.
- The *Doha Debates*, a Qatar Foundation initiative, are filmed at Education City and broadcast worldwide by the BBC.
- Qatar Debate is a Qatar Foundation centre aiming to develop the standard of open discussion and debate among students in Qatar and across the Middle East.
- Another broadcasting venture is *Lakom Al Karar* ("The Decision is Yours") – a national televised discussion programme.
- Other Qatar Foundation centres include the Academic Bridge Program, Qatar Leadership Academy, the Social Development Center, Qatar Diabetes Association, Doha International Institute for the Family Studies and Development, and the Cultural Development Center.

For more information, visit www.qf.org.qa



Partners

Qatar Foundation has established partnerships with five international institutions involved in major education issues and has associated them closely with the WISE event. These Partners have collaborated with Qatar Foundation to conceive high-quality debates. Furthermore, they are helping to enhance this initiative through their international networks.





Agence universitaire de la Francophonie (AUF)

Agence universitaire de la Francophonie (AUF) is a multilateral association of approximately 700 tertiary education institutions in 81 countries spread throughout the world. AUF endeavours to contribute to development through respect for cultural variety and action guided by the tri-partite mission of the university: learning, research and service in the community.

With nine regional offices, AUF is present on every continent, with more than 420 agents stationed in 63 branch locations. Through its global reach, AUF has an enormous capacity to mobilise (particularly in the Southern Hemisphere) the expertise and resources of its networks and member institutions, especially in the following regions: Africa, America, Southeast Asia, Central and Eastern Europe, Western Europe and the Arabic world.

As a partner to institutions for higher education and research, AUF operates by means of several collaborative programmes, designed specifically to support research and education through (i) encouraging and facilitating scientific collaboration; (ii) training the future leaders of development; (iii) supporting research and excellence; and (iv) sharing international expertise.

AUF's extensive network has proved very valuable in working with universities and in providing support to higher education projects through the exchange of international expertise. Furthermore, AUF's capacity to mobilise its networks of knowledge transfer and exchange offers considerable promise in finding possible solutions to issues such as ICT in education, global sustainability conflict resolution, civil rights and minorities, university governance and education markets.



"As WISE has the ambition to deal with the challenges of education for the 21st century through inter-cultural dialogue and academic excellence, the Agence universitaire de la Francophonie (AUF) has offered its expertise and its knowledge on the field to the Qatar foundation. AUF is delighted to join this Summit that will allow its members to share experiences and to exchange rich innovations and reflections with other partners."

Bernard Cerquiglini
Rector, Agence universitaire
de la Francophonie (AUF)

The Association
of Commonwealth
Universities

Association of Commonwealth Universities (ACU)

Established in 1913, the Association of Commonwealth Universities (ACU) is the oldest inter-university network in the world. Today ACU combines the expertise and reputation of over ninety years' experience with new and innovative programmes designed to meet the needs of universities in the 21st century.

Over 500 institutions in 37 countries are currently in membership and ACU is expanding to be fully representative of the range of public and private universities throughout the Commonwealth. ACU's universities share Commonwealth values, including freedom of expression, a common language and many similarities in organisation and management. The Association forms an extensive network to facilitate internationalisation and share problems, solutions and best practice across a variety of higher education environments. As higher education becomes ever more international, the benefits of membership of the ACU are now greater than at any time in its hundred-year history.



"The Association of Commonwealth Universities is delighted to be a partner in this exciting initiative. The demand for higher education is growing rapidly alongside a rising appreciation of its importance to both individuals and to national economies and societies. Our member universities are rising to the challenge in a great variety of innovative ways and the summit provides an excellent opportunity to share experiences and to benchmark performance against other education leaders."

Professor John Tarrant
Secretary General, The Association of
Commonwealth Universities (ACU)



Institute of International Education (IIE)

The Institute of International Education is among the world's largest and most experienced international exchange organisations.

An independent non-profit organisation established in 1919, IIE is dedicated to increasing the capacity of people to think and work on a global basis. The Institute's vision of "Opening Minds to the World" is based upon the belief that international educational exchange forms the strongest basis for fostering the mutual understanding necessary for worldwide peace and progress.

Through many years of experience, IIE has developed efficient systems and best practices to implement scholarship, exchange, and leadership development programs worldwide. IIE programmes are characterised by a commitment to excellence, diversity, and technological innovation; extensive networks within the higher education community in the United States and abroad; and a highly experienced staff combining strong programme management skills and detailed world area knowledge.

IIE implements more than 200 international exchange programmes benefiting over 18,000 men and women from 175 countries. Foremost is the world-renowned Fulbright Program, which IIE has administered on behalf of the U.S. Department of State since the programme's inception in 1946. The Institute also serves corporations, foundations and government agencies worldwide, making available testing and advising services, scholarships, information on opportunities for international study, emergency assistance to students and scholars, and the IIE Network membership programme that links colleges and universities around the globe.



"Thanks to the Qatar Foundation's vision and support, educators will now have their own Davos-like forum. The goal of WISE is to share scalable best practices so that more young people than ever will have access to the knowledge needed to improve the world we share."

Allan Goodman

President and CEO, Institute of International Education (IIE)



International Association of University Presidents (IAUP)

Founded in 1964, IAUP is the world's pre-eminent organisation of university chief executive officers (presidents, rectors and vice-chancellors). IAUP's mission includes providing a worldwide vision of higher education, sponsoring effective networking between university leaders and promoting peace and international understanding through education. IAUP was responsible for the Year of Peace initiative adopted by the United Nations and continues to co-sponsor a committee of the United Nations on conflict resolution and peace. IAUP holds NGO and ECOSOC status at the United Nations with formal consultation rights at UNESCO. It works closely with other organisations, such as the World Bank, to enhance educational opportunities and build higher educational capacity around the world.



"IAUP is an enthusiastic partner with the Qatar Foundation in launching this most important initiative. We agree with H.G. Wells, who wrote in 1920 that, 'Human History becomes more and more a race between education and catastrophe.' Whatever we do to promote the universal improvement of education from cradle to old age is effort well spent. IAUP applauds the Qatar Foundation for its global leadership."

J. Michael Adams

President-Elect, International Association of University Presidents (IAUP)



RAND Corporation

Since 1948, the RAND Corporation has operated as an independent non-profit organisation. RAND's mission is to help improve policy and decision-making through research and analysis. Of the approximately 1,600 people working at RAND, more than 950 are part of the research staff. RAND researchers represent nearly every academic field and profession, from engineering and behavioural science to education, medicine and economics. A wide range of sponsors commission RAND to conduct research that meets their needs, as well as fulfilling RAND's mission.

Since 1970, RAND has also operated an innovative and respected graduate school specialising in public policy analysis. The Pardee RAND Graduate School (PRGS) is the world's leading producer of Ph.D.'s in public policy analysis.

RAND's three principal U.S. locations are Santa Monica, California; Arlington, Virginia; and Pittsburgh, Pennsylvania. A fourth office is located in Boston, Massachusetts. The RAND Gulf States Policy Institute has offices in Jackson, Mississippi, and New Orleans, Louisiana. RAND Europe is located in Cambridge, UK, and Brussels, Belgium. The RAND-Qatar Policy Institute is in Doha, Qatar.



"RAND is pleased to partner with the Qatar Foundation to launch the WISE initiative. The WISE forum will provide a valuable international meeting place for leading policymakers, practitioners, and scholars. These participants will be able to interact with each other to recognise and promote innovations that hold the promise of meeting education challenges around the world."

Dr. James Thomson
RAND President
and Chief Executive Officer



MECHANICAL ENGINEERS' HANDBOOK



MARGRITH

TAMUQ REF TJ 151 M395 2006 V.3

KUTZ MECHANICAL ENGINEERS' HANDBOOK Manufacturing and Management

TAMUQ REF TJ 151 M395 2006 V.2 C.2

KUTZ MECHANICAL ENGINEERS' HANDBOOK Instrumentation, Systems, Controls, and MEMS

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Sponsors

ExxonMobil Corporation



ExxonMobil Corporation is the world's largest publicly traded integrated petroleum and natural gas company. We operate facilities and market products around the world, and explore for oil and natural gas on six continents. Meeting the world's growing energy needs requires an integrated set of solutions, and ExxonMobil is committed to accelerating gains in energy efficiency in our own operations, expanding all commercially viable energy sources, and developing technology to help mitigate the growth of emissions associated with energy use.

The Corporation has enjoyed a strategic partnership with the State of Qatar dating back to 1935. ExxonMobil Qatar Inc. (EMQI) is a subsidiary of ExxonMobil Corporation and is the interface point within Qatar for all ExxonMobil affiliated activities.

ExxonMobil affiliates participate in numerous gas-related projects in Qatar, including Ras Laffan Liquefied Natural Gas Company Limited (RL I, RL II, RL 3), Qatar Liquefied Gas Company Limited (QG I and QG II). Additionally, ExxonMobil affiliates participate in Al Khaleej Gas (AKG), which is currently producing, and Barzan, which is under development. ExxonMobil affiliates' participation in Qatar's LNG ventures ranges from 10% to 30% and is the only foreign shareholder in AKG and Barzan. ExxonMobil is also a participant in the Laffan Refinery through its affiliate, ExxonMobil Qatar Refinery Limited.

Qatar Petroleum and ExxonMobil Chemical Qatar Limited have signed a Heads of Agreement to progress studies for a world-scale petrochemical complex in Ras Laffan Industrial City. In addition, ExxonMobil Research Qatar Limited is an anchor tenant at the Qatar Science & Technology Park, conducting research in areas of common interest to the State of Qatar and ExxonMobil.

ExxonMobil embraces the Four Pillars of Qatar's National Vision 2030 of Human, Social, Economic and Environmental Development and strives to support the Pillars in our various partnerships within the State of Qatar.

EMQI recruits graduates from Qatar University and other local universities and colleges. Simultaneously, an ExxonMobil team identifies and hires potential Qatari national employees from universities around the world. Recruited employees are provided on-the-job training and formal training both at the local and international levels.

ExxonMobil affiliates also provide a wealth of resources to support projects in Qatar, including technology, operational best practices, financial strength and human resources. Besides maintaining the highest safety, health, environmental and ethical standards, ExxonMobil affiliate operations in Qatar support local communities and participate in a multitude of educational, social, cultural, sporting and economic activities.

ExxonMobil's partnerships with Qatar Petroleum will continue to play a key role in Qatar's rapid transformation into the world's largest supplier of reliable LNG.



Qatar Petroleum

State-owned Qatar Petroleum (QP) is responsible for all phases of the Qatari oil and gas industries both within the country and overseas. It was established as Qatar General Petroleum Company (QGPC) in July 1974 and renamed in January 2001. QP's Chairman, Abdullah Bin Hamad Al-Attiyah, is also the head of the Ministry of Energy and Industry and, since 2007, the Deputy Prime Minister of Qatar. It is presently the third largest oil company in the world by oil and gas reserves.

QP's varied administrative and production activities are carried out onshore in Doha, Dukhan, Mesaieed and Ras Laffan Industrial Cities. Its offshore areas include a number of drilling platforms and production stations, the North Gas Field and the major storage facility on Halul Island. QP's interests cover exploration and drilling, production, refining, transportation and storage, and extend to derivatives and by-products of the oil and gas industries.

The corporation's strategy for hydrocarbon exploration and new development is through Exploration and Production Sharing Agreements (EPSAs) and Development and Production Sharing Agreements (DPSAs). These have enhanced oil and gas reserves through new discoveries and the development of existing fields. QP is responsible for setting production levels in the various fields and ensuring that Qatar's exports remain within its OPEC quota.

QP produces crude oil, associated gas and condensates from two offshore fields in Qatari waters, Maydan Mahzam and Bul Hanine, with two oil and gas production stations. Qatar has huge reserves of natural gas in its North Field (discovered in 1971), the largest non-associated natural gas field in the world, with reserves estimated at around 900 trillion standard cubic feet. QP is active in the North Field, operating the North Field Alpha project and with a DPSA with ExxonMobil for Al Khaleej Gas Project (AKG). In recent years, QP has been involved in many new projects, including: the Dolphin Project to connect the natural gas networks of Oman, the UAE and Qatar with the first cross-border natural gas pipeline in the Arabian Gulf region; the construction of the Isola di Porto Levante LNG terminal off the coast of Italy; Qatargas 4, a large-scale LNG project in Ras Laffan; and the development of oil refineries in Panama and Tunisia.

QP's target production for 2012 is about 8.7 Tcf, nearly six times greater than 2005. The expected increase will fuel growing requirements of domestic industry, LNG export, exports through the Dolphin pipeline, and several gas-to-liquids projects.

Microsoft



Microsoft is proud to be a partner of the World Innovation Summit for Education because it addresses two subjects that are very dear to us: Innovation and Education.

We believe that Education is the cornerstone of economic opportunity, so any efforts to help young people realize their full potential must begin there. Microsoft is committed to helping improve the quality of teaching and learning, and helping people of all ages learn valuable new skills. We continue building on these efforts with a broad range of education solutions, targeted where the need is greatest, and focused on equipping schools, teachers and students with a comprehensive set of innovative educational tools.

Once a community has a strong education system, it is better able to develop its workforce and lay the groundwork for further economic growth. Opening the world of computing to other languages and cultures - and helping enable creative technology solutions that meet unique local and business needs - can translate directly into new opportunities for underserved communities around the world. Microsoft aims to foster local innovation through knowledge transfer - empowering individuals and businesses with technology skills and supporting a healthy local software ecosystem - as well as by providing tools and technologies that broaden access to technology, build local skills capacity and enable new businesses.

A strong technology infrastructure makes communities more appealing to local, regional and global businesses and investors and helps bolster economic growth and global competitiveness, as well as stimulating jobs and personal achievement. Through technology access programs and support for local software economies, Microsoft is committed to helping increase growth and economic development through effective use of technology, and supporting local hardware, software and services companies.

This is not just a point solution that is delivered to a community which is then left to its own devices. It is about creating long-lasting outcomes where success comes when that community is able not only to survive but to thrive on its own, with students and adults getting the education and training they need, local companies being formed and prospering, and jobs being created by and for the community.

In conclusion, we at Microsoft believe that people, in the 21st century and beyond, will realize their full potential by transforming education into enhanced innovation in local communities, enabling the creation of jobs and opportunities in a sustainable manner.





4 • INFORMATION ABOUT QATAR

Qatar

Geography

Qatar is a peninsula of 11,437 square kilometres located halfway down the west coast of the Arabian Gulf. The territory includes several islands, including Haloul, Sheraouh, Al Beshairiya, Al Safliya and Al Aaliya. The coastline covers 563 kilometres with shallow coastal waters in most areas, as there are many coves and inlets. The terrain is flat and rocky, covered with golden sand flats and dunes. There are some exceptional low-rising limestone outcrops in the north and northwest. With its natural beauty and plentiful resources such as petroleum, natural gas and fish, Qatar has become a popular place to live.

The Desert

Contrary to what one might expect, Qatar's desert landscape is rich in delicate plants and flowers that flourish with the arrival of the annual rains between October and April. In 2002, a UNESCO survey identified 371 species – mostly ephemerals, annuals, woody dwarf perennials, a few species of tree and perennial grasses. Among the trees is the Sidr tree, a sturdy, deep-rooted tree appreciated by humans and animals for its shelter and shade. The Sidr is the symbol of Qatar Foundation for Education, Science and Community Development (QF). The desert is also home to many animals, such as snakes, lizards – including the spiny-tailed Dhub Lizard, up to three feet long, which never drinks water, having special glands to help its body dispose of uric acid. There are also gerbils, Ethiopian hedgehogs – capable of devouring whole snakes – and the oryx, a large antelope with long straight horns. The Bedouins' traditional desert companions include the handsome Arabian horse – the oldest of all horse breeds – camels, falcons and salukis (sight-hunting hounds).

Demography

The most recent estimates put the population of Qatar at more than 1.5 million, nearly double the figure recorded in the 2004 census. While 50% of Qatar's inhabitants reside in Doha, the capital of Qatar, other major cities and employment centres include Al Khor, Mesaleed, Dukhan, Ras Laffan and Al Wakra.



Climate

Qatar has a moderate desert climate. Summers are hot, especially in coastal areas, with temperatures reaching as high as 55°C. However, during the winter season, from November to March, the climate is pleasantly mild, with low humidity, occasional scarce rainfall and average day temperatures of between 20° and 30° C, while nights can be rather cool at 10° to 15° C.

Language and Religion

The official language of Qatar is Arabic, but English is widely spoken and understood. Islam is the official religion of the country, and Shari'a (Islamic Law) is the principal source of legislation.

History

Archaeological evidence proves that Qatar was inhabited as early as 10,000-8,000 BC. In the middle of the 1st century AD, Pliny the Elder referred to the nomads of the area as the "Catharrei" – an apparent reference to their constant search for water. One of the earliest maps, The Map of Ptolemy in the 2nd century AD, shows the word "Catara" at the head of the bay. Islam swept through the entire Arabian region in the 7th century. Throughout medieval times, Qatar was mostly independent, experiencing a rich flow of ideas and races from Africa, South and Southeast Asia and the Malay archipelago. During the 16th century, Qataris aligned with the Turks to drive out the Portuguese. Subsequently, along with the entire Arabian Peninsula, they fell under the nominal rule of the Ottoman Empire for four successive centuries – with the real power and control remaining in the hands of the sheikhs and princes of local Arab tribes. In the 19th century, the British used Qatar as a stopping-off point en route for India. At this time, the Al Khalifa clan ruled the northern Qatari peninsula from the island of Bahrain. When Qatari rebels rose against the Al Khalifas, the latter sent a massive naval force to Al Wakrah, in violation of the 1820 Anglo-Bahraini Treaty. The British diplomatic response set in motion the forces that would lead to the emergence of the Al Thanis as the future ruling family and Qatar's status as an independent sovereign state, declared on 3 September 1971.

The Emir

Sheikh Hamad Bin Khalifa has made many significant contributions to his country in areas such as foreign relations, creating greater business and investment opportunities and the expansion of its hydrocarbon resources. The educational and cultural developments in Qatar are areas that are also of great interest to the Emir. His son, HH Sheikh Tamim Bin Hamad Al Thani, has been appointed Heir Apparent.

Qatar's National Flag

The national flag is maroon with a broad vertical white stripe at the pole, the two colours being separated with a nine-point serrated line which indicates Qatar as the ninth member of the "reconciled Emirates" of the Gulf, after the 1916 Qatar-British Treaty. The white colour signifies the internationally recognised symbol for peace. The maroon colour symbolises the blood shed during the several wars that Qatar has undergone, particularly in the second half of the 19th century. The flag's resemblance to the Bahrain flag is due to their shared past and intertwined history since the 1800s.





Qatar's Government

The Emir is the ruler of Qatar. He appoints the prime minister and ministers. The Council of Ministers (Cabinet), the supreme executive authority in the country, assists in implementing the general policies of the State. A 35-member Advisory Council debates economics, political and administrative matters referred to it by the Cabinet. The constitutional development of Qatar has kept pace with the rapid development and economic growth of the country. The first provisional constitution was issued in 1970 and amended in 1972 upon independence. In April 2003, an overwhelming 96.6% of Qatari voters said "yes" to a draft permanent constitution which became effective on 8 June 2005, transforming Qatar into a democracy and setting the tone for other Arab governments to make their own reforms, based on giving more political power to their citizens. In 1999, free elections were held to form a 29-member Central Municipal Council (CMC) for the first time in Qatar's history – and women were allowed to vote and run as candidates. CMC elections (held every four years) took place here on 1 April 2007. This election precedes broader parliamentary elections.

Economy

Qatar - with proven gas reserves of over 900 trillion standard cubic feet in its North Field and oil reserves of over 15.2 billion barrels - has one of the fastest growing economies and highest per capita incomes in the world. In just decades, the country has developed into a major global supplier of energy and is set to become the largest exporter of liquefied natural gas (LNG) in the world and a world leader in gas-to-liquids (GTL) production. By 2011, the North Field Development Project is aiming to produce 77 million tons of LNG. While developing its huge hydrocarbon reserves, Qatar has also diversified its economy, and emphasis is being placed on private-sector industrial development and tourism. Investment laws allow for up to 100% foreign investment in projects related to agriculture, industry, leisure, tourism, health, education and the exploitation of natural resources, energy or mining – subject to dispensation from the Ministry of Economy and Commerce. Together with Qatari partners, who hold a 51% interest, foreigners can invest in all sectors except banking, insurance, commercial agencies and real estate. The country's official currency is the Qatari Riyal (QR), which is divided into 100 Dirhams.

International Relations

Qatar's Ministry of Foreign Affairs strives to establish and develop close direct ties with all peace-loving countries and peoples of the world. It is keen to participate actively in efforts to deal with the concerns and challenges that the Gulf region encounters. Qatar was actively involved in the discussions leading to the foundation of the Gulf Cooperation Council (GCC) and has hosted a number of their Supreme Council Summit Meetings. Qatar has 40 diplomatic embassies and six consulates abroad, while over 50 foreign Diplomatic Missions are represented in Qatar. In February 2007, Qatar was nominated by the Asian Group at the United Nations for UN Human Rights Council membership. It is a member of: the United Nations (UN) and its subsidiary global organisations; the Organisation of Petroleum Exporting Countries (OPEC); the Organisation of Arab Oil Exporting Countries (OAPEC); the International Monetary Fund (IMF) and the World Bank; the World Trade Organisation (WTO); the World Intellectual Property Organisation (WIPO); the Organisation of Islamic Conference (OIC); and the Arab League.

Doha

Doha, in the Ad Dawhah municipality on the Arabian Gulf, is Qatar's capital city, the nation's economic and political hub and its principal port. The city hosted the first ministerial-level meeting of the Doha Development Round of World Trade Organisation negotiations and the 2006 Asian Games, the biggest Asian Games ever held. It is also home to the country's largest oil and gas companies, including Qatar Petroleum, QatarGas and RasGas.

Thanks to Sheikh Hamad Bin Khalifa's modernisation programme, Doha is experiencing rapid development, gradually moving away from its dependence on the oil and natural gas industries towards, for example, a new focus on education, with Qatar Foundation's creation of Education City, an area devoted to research and education, and the inaugural 2009 World Innovation Summit for Education (WISE).

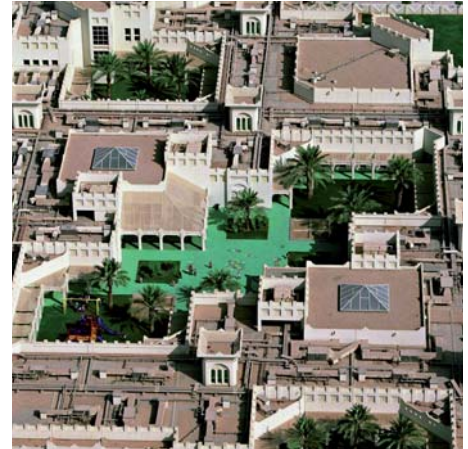
The city was founded in 1825 under the name Al-Bida. Its present name comes from the Arabic ad-dawha, "the big tree" – a reference to a prominent tree that must have stood on the site of the original fishing village. Doha was made Qatar's capital city under the British protectorate in 1916, and remained so after independence. The Moorish-style Alkout fortress, in the city centre, was built in 1880 in what was then the outskirts of Doha.

In the early 20th century, the economy was largely dependent on fishing and pearling. In the 1930s, the introduction of Japanese cultured pearls plunged the region into economic depression. However, Qatar's fortunes turned in the late 1930s, when abundant oil reserves were discovered. Today, the majority of the city's residents are expatriates, mostly from South Asian countries – India, Pakistan, the Philippines and Bangladesh – with large numbers from the Levant Arab countries, North Africa and East Asia. It is also home to expatriates from the United States, Canada, France, South Africa, the United Kingdom, Australia, and many other countries.

Among its important institutions are Government House, the University of Qatar and Qatar National Museum, housed in the Fariq Al Salatah Palace. Since 1996, Doha has been the headquarters and broadcasting centre for the Arabic satellite television news channel, Al Jazeera.

Prominent modern sites include the unusual 300-metre Aspire Tower, overlooking the Doha Sports City complex, and the handsome seven-kilometre palm-tree-lined Corniche, flanking the turquoise waters of the Gulf, a popular place to relax, stroll and take in the view.

Innovative new building projects are also under way, such as Dubai Towers – set to be the tallest skyscraper in Qatar at a height of 437 meters – and The Pearl-Qatar, an artificial island spanning nearly four million square metres, a residential estate available to foreign nationals for freehold ownership.



Information about Qatar

Museum of Islamic Art

Doha's magnificent Museum of Islamic Art, designed by Pritzker Prize laureate I. M. Pei, opened in late 2008. It is the first museum of its kind in the Arabian Gulf, with a total area of 35,500m². On an island of reclaimed land at the south end of Doha Bay, it seems to rise magically out of the waters – clad in Magny and Chamesson limestone from France and Jet Mist granite from the United States. It houses a splendid collection of artworks dating from the 7th to the 19th centuries, covering the whole range of Islamic art, including manuscripts, ceramics, metal, glass, ivory, textiles, wood and precious stones from three continents. Some of the highlights of the collection include a 9th-century earthenware bowl with an ornamental Kufic inscription from Iraq, a 10th-century cast bronze fountain head in the form of a doe or hind from Spain, a 984-986 AD cast bronze astrolabe by Hamid Ibn Al Khidr Al Khujandi made in Iran or Iraq, the Timrud Chessboard Garden silk carpet dated between the 14th to 16th centuries, probably from Samarkand, and a carved emerald amulet from India, circa 1696 AD. The Museum of Islamic Art is fast becoming a major attraction and also boasts an education wing, with facilities for students and research scholars.

Museum website:

<http://www.mia.org.qa>





