Chinese Academy of Engineering (CAE)
U.S. National Academy of Engineering (NAE)
Royal Academy of Engineering (RAEng)

Global Grand Challenges Summit
Tackling Global Challenges and Creating a Better Future

BEIJING, SEPTEMBER 15-16, 2015

PROGRAM

Tuesday, September 15

8.40am  Participants sign-in
9.00am  OPENING CEREMONY & PLENARY ADDRESSES
         Chair: ZHOU Ji, President of CAE
         9.04am  Address by NAE leadership
         9.08am  Address by RAE leadership
         9.12am  Address by US Ambassador
         9.16am  Address by UK Minister Counsellor
9.20am  PLENARY ADDRESSES
         9.20am  Jack Ma, Chairman of Alibaba
         9.40am  Charles O. Holliday, Chairman of NAE, Chairman of Royal Dutch Shell
         10.00am Andrew Chan FREng, Chairman of Arup Group Trusts
         10.20am Break
10.40am Short inspirational video clip
10.45am SESSION 1: SUSTAINABILITY
         Chair: CHEN Jining, Minister of the Ministry of Environmental Protection of China
         11.00am Same Challenges with Bigger Answers or a Different Question
                 Keith Clarke CBE, Chair, Tidal Lagoon Swansea Bay plc
                 Vice President, Institute of Civil Engineers
         11.15am Fitting on the Earth: Grand Challenges to Preserve the Habitability of the Planet
                 Robert Socolow, Co-Director, the Carbon Mitigation Initiative;
                 Director, Climate and Energy Challenge, Princeton
                 Environmental Institute
         11.30am Sustainable Management of Urban Water Resources
                 QIAN Yi, CAE Member
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11.45am 30-minute moderated discussion/response to audience questions
12.15pm Lunch

1.30pm Short inspirational video clip
**1.35pm SESSION 2: RESTORE AND IMPROVE URBAN INFRASTRUCTURE**
Chair: XU Kuangdi, Honorary Chairman of the Governing Board of CAE, CAE Member

1.50pm China’s Urban Infrastructure Challenges
PAN Yunhe, CAE Member

2.05pm Restore and Improve Urban Infrastructure
Dervilla Mitchell CBE FREng, Director of Arup

2.20pm Architecture Unplugged
Doris Sung, Principal DOSU Studio Architecture

2.35pm 30-minute moderated discussion/response to audience questions
3.05pm Break

3.25pm Short inspirational video clip
**3.30pm SESSION 3: HEALTH**
Chair: Roderic Pettigrew, Director of the National Institute of Biomedical Imaging and Bioengineering, US National Institutes of Health

3.45pm Informatics: the Frontier of Innovation in Health and Healthcare
Molly Coye, Chief Innovation Officer of the UCLA Health System

4.00pm From Wearables to Smart Implants – Towards Pervasive and Personalised Healthcare
Guang-Zhong Yang, Director of the Hamlyn Centre at Imperial College

4.15pm Health in the Aging World-What Should We Do?
WEN Yumei, CAE Member

4.30pm 30-minute moderated discussion/response to audience questions

**6.00pm-8.00pm Gala Reception & Dinner** (East Dining Hall, BCC)
Chair: FAN Daiming, Vice President of CAE

6.00pm-6.05pm Remarks by ZHOU Ji, President of CAE
6.05pm-6.10pm Remarks by WANG Yupu, Chairman of Sinopec Group
6.10pm-6.15pm Remarks by Keoki Jackson, CTO of Lockheed Martin
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6.40pm-7.00pm  Student Day Event Awarding Ceremony
   (Chair: Yannis Yortsos, Dean of the USC Viterbi School of Engineering)
8.00pm    End of reception

Wednesday, September 16

8.30am  Short inspirational video clip
8.35am  SESSION 4: JOY OF LIVING
   Chair: Wayne Clough, President Emeritus, Georgia Institute of Technology;
      Former Secretary, Smithsonian Institution
8.50am  XXXXXXXXX
   Will.i.am, global music artist (front man for The Black Eyed Peas),
      entrepreneur and philanthropist
9.05am  How to Combine the Old TCM Practice with Modern Technologies to Improve
      the Quality of Our Life?
   CHENG Jing, CAE Member
9.20am  The Potential of Consumer Virtual Reality
   Jack Cohen, RAEng Enterprise Fellow, University of Warwick
9.35am  30-minute moderated discussion/response to audience questions
10.05am Break
10.25am Short inspirational video clip
10.30am SESSION 5: ENERGY
   Chair: FU Chengyu, former Chairman of Sinopec Group
10.45am A New Industrial Revolution for a Sustainable Energy Future
   Arun Majumdar, Professor, Stanford University
11.00am XXXXXXXXX
   Alastair Borthwick RAEng, the Institute of Energy Systems in Edinburgh
11.15am The Reliability of Comprehensive Energy
   XUE Yusheng, CAE Member
11.30am 30-minute moderated discussion/response to audience questions
12.00pm Lunch
1.30pm  Short inspirational video clip
1.35pm  **SESSION 6: EDUCATION**
Chair: *Richard Miller, President of Olin College*

1.50pm  For a Better Future: China’s Engineer and Engineering Education
*Wu Qidi, former Vice Minister of the Ministry of Education of China*

2.05pm  Our Greatest Grand Challenge: Preparing the Next Generation for the Future
*Dean Kamen, Founder & President of DEKA Research & Development Corporation*

2.20pm  The Beginnings of Wisdom: Challenges in Engineering Education
*Helen Atkinson, Head of the Department of Engineering, University of Leicester*

2.35pm  30-minute moderated panel discussion/response to audience questions

3.05pm  Break

3.25pm  Short inspirational video clip

3.30pm  **SESSION 7: SECURITY AND RESILIENCE**
Chair: *Keoki Jackson, Chief Technology Officer, Lockheed Martin*

3.45pm  IoT Security
*Maire O’Neill, Director of Research for Data Security Systems at the Centre for Secure Information Technologies (CSIT), Queen’s University Belfast*

4.00pm  Climate Intervention: Possible Impacts on Global Security and Resilience
*Marcia McNutt, AAAS, Editor of Science magazine, Geophysicist*

4.15pm  Respond to Global Changes as a Community of Common Destiny
*DU Xiangwan, CAE Member*

4.30pm  30-minute moderated discussion/response to audience questions

Chair: *FAN Daiming, Vice President of CAE*

5.00pm  Student Day competition report
Chair: *Yannis Yortsos, Dean of the USC Viterbi School of Engineering*

5.25pm  Closing remarks
*ZHOU Ji, President of CAE*

5.30pm  Summit adjourns