

# 3<sup>rd</sup> Global Grand Challenges Summit

July 18, 19 and 20, 2017

Hosted by

The National Academy of Engineering US

The Royal Academy of Engineering UK

The Chinese Academy of Engineering PRC

## ONLINE AGENDA

### Tuesday, July 18

#### Pre-Summit Events

9:00 AM – 8:00 PM

#### **Registration Open for the GGCS**

*George Washington University*

*21<sup>st</sup> and H St NW*

*Marvin Center, 3<sup>rd</sup> Floor, Grand Ballroom*

8:00 AM – 5:00 PM

#### **Student Day Business Model Competition**

*NAS Building, 21<sup>st</sup> and Constitution Ave NW*

*(teams selected by prior competition; competitors/mentors can pick up their registration materials at the NAS building on Monday)*

*Observers Welcome - See Student Day Agenda*

2:50 – 6:00 PM

#### **“How to Change the World” Student Event**

*(Pre-registration now closed)*

*National Academy of Sciences Building, Washington, DC*

ALL DAY

#### **FIRST Global Robotics Competition**

*DAR Constitution Hall, 17<sup>th</sup> and D St NW*

*Observers Welcome. Visit: <http://first.global>*

7:00 – 9:00 PM

#### **Summit Opening Reception**

*University Yard Tent, George Washington University*

*21<sup>st</sup> and H St NW*

### Wednesday, July 19

#### Global Grand Challenges Summit

*George Washington University*

7:00 – 8:15 AM

Breakfast

*University Yard Tent, 21<sup>st</sup> and H St NW*

8:20 – 8:30 AM

#### **General Welcome and Introductions of Academy Speakers**

*Lisner Auditorium, 21<sup>st</sup> and H St NW*

**Gordon England**, National Academy of Engineering Chair

- 8:30 – 9:00 AM**      **Academy Welcoming Remarks**  
                                  **Zhou Ji**, The Chinese Academy of Engineering  
                                  **David Tomlinson**, The Royal Academy of Engineering  
                                  **C. Dan Mote, Jr.**, The National Academy of Engineering
- Keynote Addresses**  
*Lisner Auditorium*  
**Moderator: Ali Velshi**, Chief Business Correspondent, NBC News and Anchor of MSNBC Live
- 9:00 – 9:45 AM**      **Keynote: Rajiv Shah**, President, Rockefeller Foundation
- 9:45 – 10:30 AM**      **Keynote: Deng Zhonghan (John)**, Co-founder, Chairman and CEO of Vimicro
- 10:30 – 11:10 AM**      **Break**  
                                  *University Yard Tent*
- 11:10 – 11:55 AM**      **Keynote: Alec Broers**, Member, UK House of Lords; Member, Original Grand Challenges Committee
- 11:55 AM – 1:35 PM**      **Lunch and Student Poster Session**  
                                  *University Yard Tent*
- 1:45 – 3:05 PM**      **1<sup>st</sup> Workshop: Virtual Reality and Artificial Intelligence**  
                                  *Lisner Auditorium*  
**Moderator: Ali Velshi**  
                                  *Virtual Reality: After Half a Century, It's Finally Here - But This is Only the Beginning*  
**Michael Abrash**, Chief Scientist, Oculus VR  
                                  *Advances in Deep Learning Research for Building Intelligent Computer Systems*  
**Jeffrey Dean**, Google Senior Fellow, Google
- 3:05 – 3:45 PM**      Afternoon Break  
                                  *University Yard Tent*
- 3:45 – 5:05 PM**      **2<sup>nd</sup> Workshop: Engineering and Healthcare**  
                                  *Lisner Auditorium*  
**Moderator: Ali Velshi**  
                                  *Engineering Biomaterials for Human Health*  
**Molly Stevens**, Professor, Imperial College  
                                  *The Engineering Challenge of Anti-Microbial Resistance*  
**Sally Davies**, Chief Medical Officer, United Kingdom

**5:05 – 5:45 PM**                    **Grand Challenges Scholars Program**  
**Moderator:** Thomas Katsouleas, Provost, University of Virginia  
**Student Speakers from the Grand Challenges Scholars Program:**  
Ellen Chisa, Harvard University  
Kushal Seetharam, Massachusetts Institute of Technology  
Aaron Gordon, Clemson University  
Amara Uyanna, University of Texas, Austin

**6:00 – 8:00 PM**                    **All GGCS Attendees Reception**  
*Institute of Peace, 2301 Constitution Ave. NW, Washington, DC*

**7:00 – 9:00 PM**                    **Sponsors Dinner, by Invitation**

**8:00 – 10:00 PM**                    **Student-Sponsor Networking Social Event**  
*GWU Marvin Center, 3<sup>rd</sup> Floor, 21<sup>st</sup> and H St*

**Thursday, July 20**

**7:00 – 8:00 AM**                    Breakfast  
*University Yard Tent*

**8:15 – 8:25 AM**                    **Welcome**  
**Wes Bush**, Chairman, CEO and President, Northrop Grumman

**8:25 – 9:45 AM**                    **3<sup>rd</sup> Workshop: Sustainability**  
*Lisner Auditorium*  
**Moderator:** Ali Velshi, Chief Business Correspondent, NBC News and Anchor of MSNBC Live  
*The Increasing Risks of the Global Climate Change and Sustainable Governance*  
**Ding Yihui**, Senior Advisor, China Meteorological Administration  
*Urbanization: Its Global Challenges and the New China Solutions*  
**Wu Zhiqiang**, Vice President, Tongji University

**9:45 – 10:15 AM**                    Morning Break  
*University Yard Tent*

**10:20 – 11:40 AM**                    **4<sup>th</sup> Workshop: Reverse Engineer the Brain**  
*Lisner Auditorium*  
**Moderator:** Ali Velshi  
*Understanding the Circuit Elements That Make Up a Brain*  
**Christof Koch**, President and Chief Scientific Officer, Allen Institute for Brain Science  
*Miniaturized and Minimally-Invasive Interfaces to the Brain*

**Rikky Muller**, Professor, UC Berkeley and Co-founder at Cortera Neurotechnologies, Inc.

**11:40 AM – 12:25 PM**    **A discussion with Martha Lane Fox**, Entrepreneur, Member, UK House of Lords

**Moderator: Ali Velshi**

**12:25 – 1:45 PM**    **Lunch and Brain Storming Session**

*University Yard Tent*

Small Group Discussions, Participants Choose Preferred Topics During Registration

**1:55– 3:15 PM**    **Education/Public Engagement**

*Lisner Auditorium*

**Moderator: Ali Velshi**, Chief Business Correspondent, NBC News and Anchor of MSNBC Live

*Education Panel – The Global STEM Challenges Program at Edison High School*

**Education Panelists:**

**Scott Settar**, Program Manager, Technology and Engineering Education and STEAM Integration, Fairfax County Public Schools, Virginia

**Pamela Brumfield**, Principal, Thomas A. Edison High School, Alexandria Virginia

**Katherine Shirey**, Senior Fellow, Knowles Science Teaching Foundation

**Francis Reyes**, Global STEM Challenges Student, Edison High School, Alexandria Virginia

*Public Engagement Panel – Raising Awareness in After-School Activities, Entertainment, and Public Policy*

**Public Engagement Panelists:**

**Deanne Bell**, Founder and CEO of Future Engineers, Host of CNBC's "Make Me a Millionaire Inventor"

**Dean Kamen**, Inventor, Entrepreneur, Founder of FIRST Robotics

**Tim Kaine**, U.S. Senator (D-VA)

**3:15 – 3:45 PM**    **Next Steps: Brainstorming Wrap-up**

**Moderator: Richard Miller**, President, Olin College

**Panelists:**

**Yannis Yortsos**, Dean of Engineering, USC

**Thomas Katsouleas**, Provost, UVA

**3:45 – 4:15 PM**    **GGCS Student Awards**

**Moderators: Yannis Yortsos**, USC

**Rod Makoske**, Senior Vice President Corporate Engineering, Technology and Operations, Lockheed Martin  
Student Day Competition Winners  
Poster Winners

**4:15 – 4:35 PM**

**Summit Closing Remarks**

**C. Dan Mote, Jr.**, National Academy of Engineering

**Friday, July 21**

**Post Summit Event**

**9:00 AM - Noon**

**“How to Change the World” Student Event**

*(Pre-registration, now closed)*

*National Academy of Sciences Building, Washington, DC*