

# SCHEDULE of Events

8:00 a.m.	<b>Registration</b>
8:45 a.m.	<b>Welcome</b> Peter Kilpatrick McCloskey Dean of Engineering University of Notre Dame
9:00 a.m.	<b>Opening Remarks</b> Pat Rabbitte Minister for Communications Energy & Natural Resources
9:15 a.m.	<b>Panel Session 1 — Next Generation Energy</b> MODERATOR: David Murphy, associate dean of entrepreneurship for the colleges of science and engineering and director of Engineering, Science, and Technology Entrepreneurship Excellence Masters Program at Notre Dame  Mazhar Bari Chief technology officer and co-founder Solarprint  Thomas C. Corke Clark Equipment Professor of Aerospace and Mechanical Engineering and founding director of the Center for Flow Physics and Control University of Notre Dame  Prashant Kamat Rev. John A. Zahm Professor of Science University of Notre Dame  Don MacElroy Professor of chemical engineering and principal investigator in the Advanced Biomimetic Materials for Solar Energy Conversion Cluster University College Dublin
10:15 a.m.	<b>Break</b>
10:30 a.m.	<b>Panel Session 2 — How Do We Get There?</b> MODERATOR: Rich Taylor, associate dean of science and professor of chemistry and biochemistry at Notre Dame  Thomas F. Degnan Jr. Manager, Leads Generation and Breakthrough ExxonMobil Research and Engineering Co.  Mike Hogan Senior advisor The Regulatory Assistance Project, US and Europe  Edward Maginn Professor and department chair of chemical and biomolecular engineering University of Notre Dame  David McAuley National delegate and contact point Sustainable Energy Authority of Ireland
11:45 a.m.	<b>Closing Remarks</b> Mark Ferguson Director General Science Foundation of Ireland
12:15-12:45 p.m.	<b>Hot Buffet Lunch</b>
1:00-1:30 p.m.	<b>Keynote Speaker</b> Charles F. Bolden Jr. Administrator National Aeronautics and Space Administration



## The Center for Sustainable Energy at Notre Dame (cSEND)

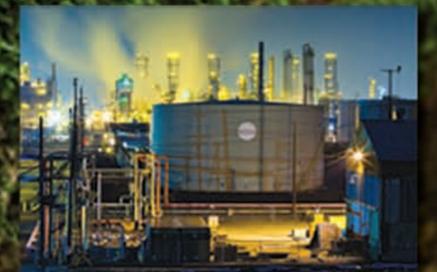
The mission of this University research center is to advance innovative energy-related research, education, and outreach programs to address the global challenge of creating a more sustainable energy future for all. cSEND is built upon the foundations laid by the Notre Dame Energy Center — a College of Engineering research center initiated in 2005 and the Sustainable Energy Initiative — a Strategic Research Investment funded by the University in 2010.

The center addresses the global challenges to create an affordable, sustainable energy future, which is a vital part of Notre Dame's mission to respect life, value God's creations, and advance social justice for all people.

[energy.nd.edu](http://energy.nd.edu)



# The Future of Energy: Dreams and Responsibilities



Thursday, August 30, 2012  
SCIENCE GALLERY · DUBLIN, IRELAND



## SPEAKER Biographies



“IN DREAMS BEGIN RESPONSIBILITIES.”

– William Butler Yeats

# The Future of Energy: Dreams and Responsibilities



### Opening Remarks

**Pat Rabbitte**  
Minister for Communications, Energy & Natural Resources  
A sitting Teachta Dála (TD) for Dublin South West, Pat Rabbitte was appointed Minister for Communications, Energy & Natural Resources in the Government for National Recovery in March 2011. He has also served as Leader of the Labour Party, Spokesperson on Justice, and continues to play an active role in the party.

### Session 1 – Next Generation Solar Energy

**Mazhar Bari**  
Chief technology officer and co-founder, Solarprint

A pioneer in third-generation photovoltaic technologies, Mazhar Bari is the co-founder and CTO of SolarPrint, a leader in the commercialization of dye sensitized solar cells. He obtained his Ph.D. from the University of Cambridge, B.Sc. (HONS) in experimental physics from University College Dublin (UCD), and M.B.A. from the UCD Michael Smurfit Graduate Business School. He holds several patents in new energy materials and devices. Bari has 20 years experience in nanotechnology commercialization.



**Thomas Corke**  
Clark Equipment Professor of Aerospace and Mechanical Engineering, University of Notre Dame

The founding director of Notre Dame’s Institute for Flow Physics and Control, Thomas Corke specializes in the study of fluid mechanics. His research interests are in the area of fluid mechanics, specifically related to hydrodynamic stability, transition of laminar flow to turbulent flow, aeroacoustics, applied turbulence control, unsteady flows, wind engineering and atmospheric diffusion, and wind tunnel design.

### Prashant Kamat

Rev. John A. Zahm Professor of Science, University of Notre Dame

Prashant Kamat’s research has made significant contributions in four areas: (1) photoinduced catalytic processes using semiconductor and metal nanoparticles, nanostructures, and nanocomposites; (2) development of light energy harvesting assemblies for next-generation solar cells; (3) utilization of carbon nanostructures as conducting scaffolds to collect and transport charge carriers in solar cells and fuel cells; and (4) environmental remediation using advanced oxidation processes and chemical sensors.



### Don MacElroy

Professor of Chemical Engineering and Director of the Advanced Biomimetic Materials for Solar Energy Conversion Cluster, University College Dublin

Don MacElroy’s research interests include non-equilibrium molecular phenomena in strongly inhomogeneous systems with particular emphasis on membrane separations technology (notably CO<sub>2</sub> capture), transport in polymer and biopolymer media (drug delivery and protein channels), adsorption (difficult gas separations and recovery) and studies of the influence of far infrared and microwave fields on the properties of polar materials (water, proteins, and solid-phase organic synthesis of low molecular pharmaceuticals). He also serves as lead investigator on research into the development of novel materials for conversion of solar energy into power, hydrogen, and low molecular weight fuels.



### Session 2 – How Do We Get There?

**Thomas F. Degnan Jr.**  
Manager, Leads Generation and Breakthrough, ExxonMobil Research and Engineering Co.

Thomas F. Degnan Jr. serves as manager of breakthrough and leads generation for Exxon Mobil Research and Development. In addition, he is the inventor or co-inventor listed on more than 100 issued United States patents. He was awarded the American Chemical Society Hero of Chemistry Award in 2007 and the American Institute of Chemical Engineering Chemical Reaction Engineering Award in 2010 for his contributions to industrial catalysis.



**Mike Hogan**  
Senior Advisor, The Regulatory Assistance Project, U.S. and Europe

Mike Hogan works with the Regulatory Assistance Project on matters relating to power industry decarbonization. Prior to that he was in The Hague where he directed the European Climate Foundation’s programs opposing the construction of unabated coal plants, supporting the commercialization of greenhouse gas abatement technology for fossil plants and accelerating the full decarbonization of the European power supply.

### Edward Maginn

Professor and Department Chair of Chemical and Biomolecular Engineering, University of Notre Dame

Edward Maginn’s research focuses on computational statistical thermodynamics, in which atomistic-level computational methods are developed and utilized to obtain a fundamental understanding of the link between the physical properties of materials and their chemical constitution. Much of his work is devoted to environmental and energy-related applications.



**David McAuley**  
National Delegate and Contact Point, The Sustainable Energy Authority of Ireland

David McAuley is the national delegate and contact point for the Energy theme under the EU FP7 Research program. He is also Ireland’s representative on a number of EU energy research committees and is responsible for monitoring Ireland’s energy research programs.

### Closing Remarks

**Mark Ferguson**  
Director General, Science Foundation of Ireland

Mark Ferguson’s wide-ranging research interests focus on cellular and molecular mechanisms in scarring and wound healing, developmental mechanisms in normal and cleft palate formation, and alligator and crocodile biology. He is the discoverer of scar free embryonic wound healing and temperature dependent sex determination in alligators and crocodiles. In addition he founded and funded the Manchester Biosciences Incubator, which has successfully mentored and housed a number of start-up companies.



### Keynote Speaker

**Charles F. Bolden Jr.**  
Administrator, National Aeronautics and Space Administration

Retired Marine Corps Maj. Gen. Charles Frank Bolden Jr., currently serves as the twelfth administrator of the National Aeronautics and Space Administration. His confirmation marked the beginning of his second stint with the nation’s space agency ... the first being 14 years as a member of NASA’s Astronaut Office, during which he traveled to orbit four times aboard the space shuttle between 1986 and 1994, commanding two of the missions. Prior to his nomination for the NASA administrator’s position, he was employed as the chief executive officer of JACKandPANTHER LLC, a small business enterprise providing leadership, military and aerospace consulting, and motivational speaking.



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