



American Institute of Chemical Engineers



Student Night

Each year, AIChE-Pittsburgh Section hosts a Student Night of the four regional graduate and undergraduate Chemical Engineering programs: Carnegie Mellon University, University of Pittsburgh, West Virginia University and Youngstown State University. This is a good opportunity to network with future colleagues and professionals in your discipline.

When: Thursday, March 4th, 5:45 pm

Where: William Pitt Student Union,
University of Pittsburgh, Lower Lounge

Speaker: Di Gao, University of Pittsburgh

Topic: Nanotechnology: novel anti-icing and everyday examples

Agenda: 5:45-6:30 Registration

5:45-6:30 Poster Session

6:30– Dinner, Professor Di Gao's Presentation, Professional Promise Awards

Menu: Salad, Vegetable, Desert with choice of Entrée (pick one):
London Broil w 3 mushroom Demi Glaze,
Salmon with ginger soy sauce, or
Tuscan Polenta (Vegetarian)

Price: \$40 per person (Students, \$20; free with research poster)

Graduate and undergraduate students are invited to display posters that summarize their research. This is encouraged to introduce your research efforts to various attendees. Any chemical engineering technical research areas such as materials, energy, biotechnology, sustainability, coatings, and public policy are welcomed.

RSVP by March 1st, include: Name, University, Email, and Entrée selection.

**TO: Mr. Paul Brezovec, Chair; Phone: 814-269-2844, or brezovec@ctc.com
Or on-line at: <http://www.aichepgh.org/reg>**

If you choose to display a poster, identify the draft title of your poster in your RSVP. We will contact you for any special backing or mounting you may require.

CANCELLATIONS: If you must cancel your meeting reservation, please do so no later than 48 hours prior to the meeting, otherwise, you will be billed.

AIChE-Pittsburgh Section will present the 2010 Professional Promise Awards at the conclusion of this February Student Night program, which also features an invited talk by Di Gao on nanotechnology including everyday examples that are developed by chemical engineers in collaboration with other disciplines.

Superhydrophobic coatings: an example of how nano may solve big problems

Superhydrophobic coatings are often found on plant leaves and insect wings in nature. Water on these surfaces forms small beads and drips off rapidly. This interesting phenomenon has stimulated extensive research and commercialization effort to make artificial superhydrophobic coatings and to use them for self-cleaning, water-proof, anti-icing, anticorrosion, anti-fouling, and drag-reduction purposes. A key challenge in making superhydrophobic coatings is to tailor the morphology of the coatings in nanometer scales, which typically involves synthesis and employment of materials at nanometer dimensions. In this talk, both the fundamental mechanism and the commercialization progress of superhydrophobic coatings will be discussed, as an example of how materials in nanometer dimensions may solve big problems.

Di Gao, Ph.D.
William Kepler Whiteford Faculty Fellow,
Chemical and Petroleum Engineering, University of Pittsburgh

Professor Di Gao received his dual BS degrees in Chemical Engineering and Computer Science both from Tsinghua University, Beijing, China in 1999, and his PhD degree in chemical engineering from the University of California at Berkeley in 2004. He received the Faculty Early Career Development (CAREER) Award from National Science Foundation in 2008. He was the leader of the Pitt team that received the U.S. Environmental Protection Agency P3: People, Prosperity and the Planet for Sustainability Design Competition Award in 2008 and the AIChE Youth Council on Sustainable Science and Technology Award in 2009. He received the Advanced Materials Award from the Carnegie Science Center in 2010. His research has been highlighted by media and press including Chemical & Engineering News, Chemical Engineering Progress, Nature Nanotechnology, U.S. News & World Report, Science Daily, New England Cable News Network, China Daily, and U.S. Department of State website.



Dr. Gao's research focuses on the synthesis, assembly, and characterization of novel nanostructures, as well as the integration of these nanostructures into functional devices and systems for biomedical, environmental, and sustainable engineering applications. Dr. Gao's recent paper in the journal "Langmuir" is highlighted in the "Science & Technology Concentrates" section of Chemical & Engineering News (19 October, page 36). The C&EN article is titled "A Coating that Fights Ice."