

## Rocky Mountain AIChE News

January 2015

Volume 24 Number 4

### January Section Meeting: Utility-Scale Solar Power: Deployment Success and Integration Issues

The solar power sector has undergone enormous changes in the past few years, leading to unprecedented deployment of solar power systems. The cost for photovoltaic (PV) modules has dropped by about 80% due in large part to greater efficiency in manufacturing. Consequently, deployment of residential and commercial systems has grown, and for the first time utility-scale PV systems have entered the marketplace. Utility-scale plants remain the least expensive form of solar power and PV systems have undercut the cost of concentrating solar power (CSP) systems, traditionally the only utility-scale solar technology.

The success of PV in the marketplace challenges the historic concepts of how the power grid is perceived and run. High penetration of solar PV can depress the afternoon demand placed on other generators, suppress afternoon power prices, and cause steep increasing and decreasing power demands on the grid in the evening and morning, respectively. Dr. Turchi's presentation will review the astounding growth of the solar power sector and discuss the challenges and potential solutions to integrating a high penetration of solar power in the US grid.

Craig earned a B.S. in Chemical Engineering from Texas A&M University and a Ph. D. in Chemical Engineering from North Carolina State University.

Craig began his career with NREL in 1990 working in the Solar Industrial Program. During the 1990s he ran laboratory, pilot, and field tests, and managed

### January Section Meeting

- Topic:** Utility-Scale Solar Power: Deployment Success and Integration Issues
- Speaker:** Dr. Craig Turchi, Sr. Engineer in the National Renewable Energy Laboratory's Concentrating Solar Power (CSP) Program
- Date:** Tuesday, January 20
- Time:** 6:00 Check-in and Networking  
6:30 Dinner  
7:30 Presentation
- Location:** [Wrigley's Chicago Bar & Grill](#), 18200 W. Colfax Ave in Golden
- Cost:** Members: \$20  
(w/RSVP)\* Non-Members: \$25  
Students & Unemployed: \$10
- Menu:** Mexican Buffet: Full taco bar with ground beef & chicken and all the fixings, vegetarian cheese enchiladas, green chili with tortillas, cheesecake, water, tea, and soft drinks.

Please RSVP by **Friday, January 16** at [rockyaiche@yahoo.com](mailto:rockyaiche@yahoo.com) indicating your name, phone number, number of attendees and pay at the meeting. Or you may RSVP and pay online using [PayPal on our meeting link](#).

\*Add \$5 for attending meeting without RSVP

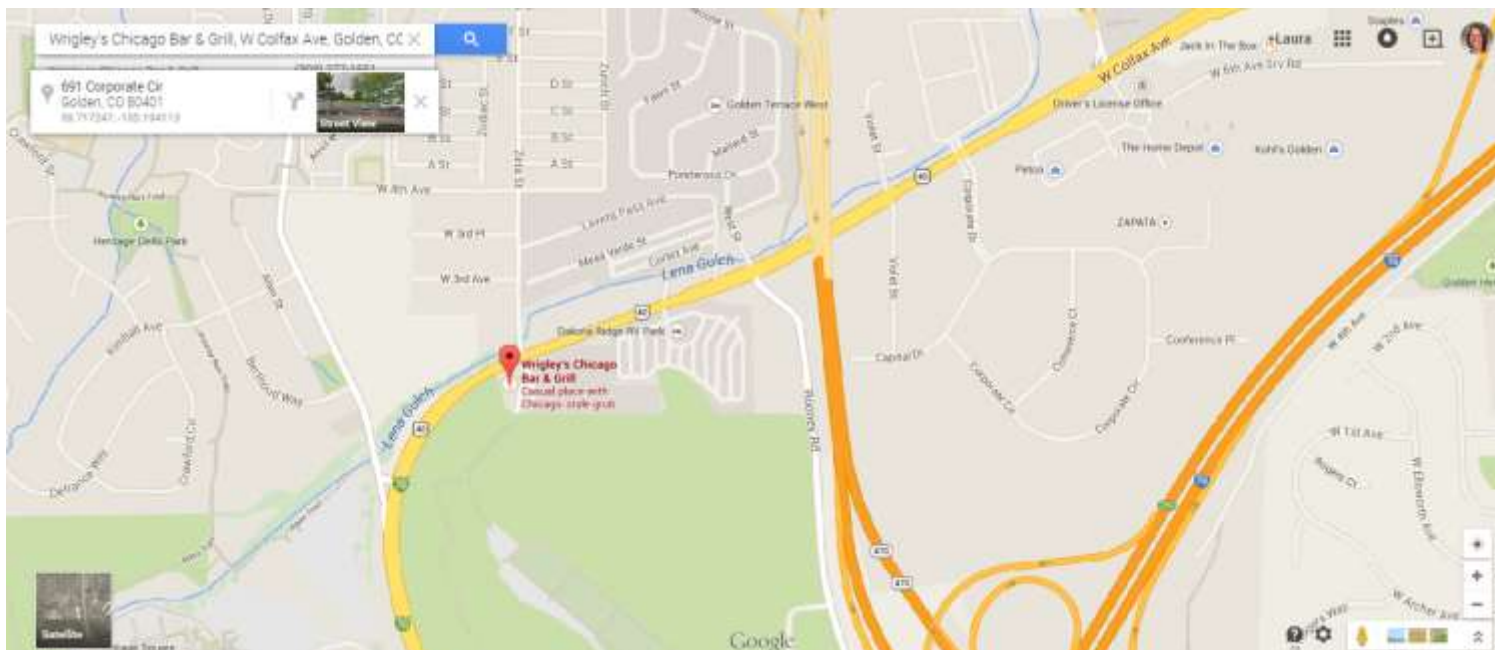
cooperative R&D agreements with industry partners. In 1996, he left NREL for the private sector, working first for equipment manufacturer Zentox Corporation and then with ADA Technologies, an R&D company in Littleton, CO.

He returned to NREL in 2008. Craig is a senior engineer and leads NREL's Concentrating Solar Power (CSP) systems analysis task and assists with the development and assessment of heat-transfer fluids and thermal-storage concepts. In addition to these roles, he oversees the assessment of advanced power cycle designs and the environmental impacts of utility-scale solar plants. In 2012 he co-authored the chapter on CSP technology in the Department of Energy's SunShot Vision Study.



*Craig Turchi, Senior Engineer,  
NREL's Concentrating Solar Power (CSP) Program*

**Meeting Location:** [Wrigley's Chicago Bar & Grill, 18200 W Colfax Ave, Golden, CO 80401-4845](#) From downtown Denver, take W. Colfax Ave (US 40 W) west. Drive about 11.5 miles to Wrigley's which will be on your left in Golden.



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## AIChE Meetings

2015

- Jan 11-14 5th Annual Int'l Conference on Biomolecular Engineering, Austin, TX
- Feb 9-11 AIChE CCPS Asia-Pacific Conference, Parmelia Hilton Perth
- March 1-4 4th Int'l Conference on Accelerating Biopharmaceutical Development Scottsdale, AZ
- Mar 9-10 NSF Workshop: Chemical Engineering Academia-Industry Alignment Arlington, VA
- April 17-19 Rocky Mountain Student Regional Conference Boulder, CO

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The objectives of AIChE are to advance chemical engineering in theory and practice, to maintain a high professional standard among its members, and to serve society, particularly where chemical, engineering can contribute to the public interest.

AIChE Rocky Mountain is a public non-profit 501(c)(3) organizations and thus any and all donations are tax deductible.

## Rocky Mountain AIChE News Publication Schedule

February 2015 issue

Articles due Wednesday, February 4

Publish on Friday, February 6

Meeting on Tuesday, February 17

## MEETING SCHEDULE

*The Rocky Mountain District of AIChE generally meets the third Tuesday of every month, September through November and January through May.*