



## *Monthly CREW Update*

*November 2012*

Here is an update on past and upcoming activities as well as opportunities:

### 1. LinkedIn group

CREW is on LinkedIn, so feel free to join us there as well. Various updates will be posted. The CREW LinkedIn page is:

[http://www.linkedin.com/groups/Center-Research-Education-in-Wind-4005766?gid=4005766&trk=hb\\_side\\_g](http://www.linkedin.com/groups/Center-Research-Education-in-Wind-4005766?gid=4005766&trk=hb_side_g)

The LinkedIn logo, consisting of the word 'LinkedIn' in a blue sans-serif font with a blue square containing a white lowercase 'i'.

### 2. Seminar series

On November 9, 2012, Wenzhong (David) Gao of Denver University (DU) gave a presentation entitled “Wind Energy Integration – Applications of energy storage systems and wind power fluctuation smoothing control.” Dr. Gao started his talk by presenting a number of technical challenges encountered when integrating wind energy into the grid. Dr. Gao showed a great graphical overview to explain the intricacy and impact of numerous variables on keeping real power and reactive power in balance, which means that both frequency and voltage need to be kept [ideally] constant. He further discussed some results addressing the control of wind integration, e.g., he presented a wind energy storage system capable of charging and discharging power, hence smoothing out the power fluctuations.

If you have missed the talk, you can view the recording on the CREW YouTube channel:

<http://www.youtube.com/watch?v=MLgJw04AF1M>

If you have missed any previous Fall 2012 seminars, you can view the recordings here:

<http://crew.colorado.edu/SeminarRecordings>

### 3. Seminar series

Please join us for our last monthly seminar, which will take place on CU campus (DLC Collaboratory room 1B50), at 11am-noon, on the following Fridays:

- December 7, 2012: **Jay Diffendorfer of Rocky Mountain Geographic Science Center, USGS** will present “Understanding and minimizing wind energy-environment interactions”

As in the past, the seminars will be broadcast live, and this semester we are using Adobe Connect. Please spread the words to interested parties and join us on those next seminars!

Should you have any suggestions for speakers or topics of discussion for the future seminar series, we would like to hear from you! Please contact Sid Suryanarayanan at [ssuryana at mail dot colostate dot edu](mailto:ssuryana@mail.colostate.edu) with your suggestions.

#### 4. CREW-sponsored senior Capstone competition during Spring 2013

Are you interested in Wind Energy, Forecasting, Mathematics, and Statistics?

Are you a graduate student?

CREW is sponsoring a forecasting competition for students at Colorado School of Mines (CSM), University of Colorado at Boulder (CU-Boulder) or Colorado State University (CSU). The course will be during the Spring semester 2013. For more information, please see: [http://crew.colorado.edu/CapstoneCompetition\\_Spring2013](http://crew.colorado.edu/CapstoneCompetition_Spring2013) . For questions, please contact Amanda Hering of CSM: [ahering at mines dot edu](mailto:ahering@mines.edu)

5. UMass Amherst was awarded an NSF IGERT in Offshore Wind Energy in August 2011. IGERT is an interdisciplinary training grant that will fund 24 PhD students over 5 years, in areas spanning engineering, environmental science, policy, and economics as they relate to offshore wind. We are now in the process of recruiting IGERT fellows for next fall, 2013 and beyond. Students must be a U.S. citizen or green card holder. While having a master's degree already is a plus, it is not a requirement. Experience in wind energy is a big plus, as is an interest in interdisciplinary research. We are also especially trying to attract underrepresented minorities and women applicants.

Interested students can find information on the application process in the link below. Students are also encouraged to contact faculty (listed on our website) that they would be interested in working with.

<https://windenergyigert.umass.edu/apply>

Deadline for Fall 2013 enrollment: February 1, 2013.



6. The **5<sup>th</sup> Annual Green Technologies Conference** announces "Rethink, Reimagine and Recreate Energy Technologies" on Thursday Apr 4, 2013 and Friday Apr 5, 2013 in Denver, Colorado.

\*\*\*Call for Papers is still open\*\*\*

Please visit: <http://sites.ieee.org/greentech2013/conference-program/call-for-papers/>

Some important dates are:

- Submission Deadline: Dec 15, 2012

- Notification Due: Dec 20-30, 2012

- Final Version Due: Jan 20, 2013

For example of topic areas of interest and much more information, please visit:

<http://www.wikicfp.com/cfp/servlet/event.showcfp?eventid=25046&copyownerid=41283>

For the latest information, please check the Green Technologies Conference website:

<http://www.ieeegreentech.org>

Abstract submission deadline: December 15, 2012.

7. NREL is holding its 2<sup>nd</sup> **workshop on Wind Energy Systems Engineering** on January 29-30, 2013 with some follow-on meetings planned for the 31<sup>st</sup> and 1<sup>st</sup>. The first workshop was held in December 2010 and brought together members from academia, the national laboratories and industry to look at how systems engineering is used and holds potential for support of wind energy system research, design and development. There has been a significant growth of interest in the area since that time, and NREL is excited about again bringing together various world experts in the area of systems engineering with particular applications to wind energy. Below is the save-the-date flier with general information about the event:

[http://crew.colorado.edu/Newsroom/Events/2013-Jan29\\_NREL-WindEnergySystemsEngineeringWorkshop.pdf](http://crew.colorado.edu/Newsroom/Events/2013-Jan29_NREL-WindEnergySystemsEngineeringWorkshop.pdf)

Formal registration instructions and information about poster abstract submission will be coming soon.



8. New Book Announcement: “Grid Integration and Dynamic Impact of Wind Energy” by Vijay Vittal and Raja Ayyanar, Arizona State University  
Springer Series in Power Electronics and Power Systems  
ISBN978-14419-9322-9 ISBN 978-1419-9323-6(e Book)

Wind based renewable energy generation has had a significant resurgence in the past decade. This is primarily due to advances in technology driven by the advent of variable speed wind turbine generators, which include doubly fed induction generator based wind turbines as well as full converter permanent magnet synchronous machine based wind turbines. This book presents an account of the salient aspects of the various wind turbine technologies, details of the associated power electronic converters and their controls, and a comprehensive discussion of the impact of wind turbine generators on system dynamic performance of the electric grid.

9. Please alert students, recent graduates, and colleagues to the following opportunity:

- a. Earth-related job search engine: EarthWorks is an extensive listing of physical science jobs. Numerous categories of interest: Renewable Energy, Electrical Engineering, Environmental Engineering, Climate/Atmospheric Science, etc. Please visit: <http://www.earthworks-jobs.com/>

I hope you all had a Happy Thanksgiving!

(If you wish to unsubscribe from our emailing list, please email Florence Bocquet at [hocquet at colorado dot edu](mailto:bocquet@colorado.edu))

