

Monthly CREW Update: October 2011

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

1. Our CREW seminar series continued with a presentation by Dr. Shawn Sheng of NREL who talked about “Wind Turbine Drivetrain Condition Monitoring.” Dr. Sheng presented an overview of the global wind market, which clearly showed the need for improved condition monitoring (CM), e.g., gearboxes do not always achieve their 20-year design lifetime, and their premature failure thus increase cost of energy. Dr. Sheng highlighted the DOE/NREL program called Gearbox Reliability Collaborative (GRC), an overarching practical and analytical project, which is intended to provide improvements in gearbox design practices and analytical CM tools. Before concluding his talk, Dr. Sheng also presented an educative video showing the particular challenges in the installation of an off-shore wind turbine.

2. The next CREW seminar will take place on November 11, 11am-12pm with Larry Flowers of AWEA who will discuss about “Wind Energy: Colorado \$4B+ Opportunity”. Please join us then!

The last seminar for the Fall semester will take place on Dec. 9, 11am-12pm with Yuji Yatomi of Mitsubishi. The CREW seminars take place in room ECCS 1B14 (CAETE studio) at the CU Engineering Center. The CREW seminars will also be broadcasted live.

3. Vestas has two competitions to announce:

1) The first one is Winnovation 2012. This is a global competition targeting engineering and business students around the world. In this, Vestas will fly selected students to their technology headquarter in Denmark for a final in February next year. To qualify for the final, the students must come up with a solution for one of three cases, which are: (a) Supply Chain management: Lead time reduction, (b) Power plant/Electrical engineering: Wind Energy & Micro-grids in non-OECD nations and (c) Quality in Production: Securing Product Quality through Testing. For more information, please visit the Vestas webpage: <http://www.vestas.com/en/jobs/events/winnovation-2012.aspx> For questions, please contact winnovation@universum.se Submission deadline is November 18, 2011.

2) The second competition is only going to be between two universities. Texas A&M have already signed up for the first spot and Vestas is now looking at either CU or CSM to take the other position (depending on who shows an interest in participating). In this competition, a group of students will be given a design challenge to make the design of an air-born wind turbine. The two chosen groups will thus be given \$5000 by Vestas to make a prototype of their design (it is up to the universities if they want to give the groups more than the \$5000 that Vestas is offering.) This competition is not to start before January 2012 as Vestas would like the faculty to be able to incorporate it in design classes, etc.

Please contact Thomas Jeppesen thdje@vestas.com and cc me bocquet@colorado.edu if you are interested in participating and/or have any questions about the competition. Thank you. The deadline to sign up is: 'as soon as possible'.

4. The Global Engineering team at Cengage Learning, a leading publisher of engineering textbooks, is looking for participants for a publisher-led focus group on the subject of sustainable energy, and the teaching materials needed to teach the course in engineering schools. Your knowledge and insight would be greatly appreciated and play a vital role in developing an ideal and effective text for courses in sustainable energy.

The focus group will be held at the upcoming ASME 2011 International Mechanical Engineering Congress and Exposition in Denver, CO, on Tuesday, November 15, 2011, at 9:00 a.m. It will be a roundtable, discussion-format meeting held in a meeting room at the Hyatt Regency Denver and Colorado Convention Center. We will be asking questions about the teaching and learning issues surrounding sustainable energy. We want your expert opinion in order to help us create the best teaching materials. A continental breakfast will be served and you will receive an honorarium for your participation. If interested, please contact Joanne Woods: Joanne.Woods@contractor.cengage.com

5. Call for Papers: contributions are invited for a special issue of the IEEE Transactions on Control Systems Technology, devoted to the topic of control applications in wind energy. The objective of this special issue is to illustrate the potential of control engineering, in its broader sense, to advance the state of the art of wind energy, by producing significant improvements in many aspects of this field. For more info:

http://crew.colorado.edu/Newsroom/News/CallForPapers_IEEE_TCST_June17-11.pdf

The deadline for paper submission will be December 15, 2011.

6. The World Renewable Energy Forum (WREF) will be hosted in Denver, May 13-20, 2012. NREL will be working closely with the World Renewable Energy Congress to support WREF 2012, and the three Colorado universities will also be deeply involved. Even though the abstracts are not due until December 2011, the 1st announcement for Call for Abstract has been published. Please click here for more information:

http://crew.colorado.edu/Newsroom/News/CallForAbstracts_WorldRenewableEnergyForum-2012.doc

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

- a. New NREL Postdoctoral Position: the Director's Fellowship. The fellowship is being sponsored by the laboratory. This is a new opportunity that has been championed by the Fellows Council. One or two new fellowships each year will be sponsored. The NREL Director's Fellowships are designed to attract the next generation of exceptionally qualified scientists and engineers with outstanding talent and credentials in renewable energy research and related disciplines.

Candidates must be a recent PhD graduate (within 3 years of completion), and demonstrate a promising career of leadership and research. More information is available on the NREL website at:

http://www.nrel.gov/rpp/directors_fellowship.html

This position will be highly sought after and very competitive. It would be great to garner one of these fellowships to support an innovative research effort in wind or marine energy to address an important topic that the programs are not currently interested in.

- b. Penn State University is in an immediate need of a talented postdoctoral researcher who would like to join a team of students and professors to develop a state-of-the-art High Performance Computing (HPC) wind turbine "facility." This is an exciting program that will put the researcher in a leadership position with strong collaborations at government labs, with industry partners and with colleagues at other universities. For more information on the position, please visit: <http://crew.colorado.edu/Jobs>
- c. Vestas Wind Systems has several career opportunities to offer: Converter Control Engineer, Control Systems Engineer, Product Transition Engineer, Specialist Performance and Trading Optimization PDA, System Architect, Wind Park Control Engineer, and Sensor Design and Electronics Engineer. For more information on all the above positions, please visit: <http://crew.colorado.edu/Jobs>
For more information about Vestas Wind Systems, please go to www.vestas.com
- d. The University of Minnesota has an open position in the renewable energy area created to span the interests of the Mechanical Engineering Department and the Saint Anthony Falls Laboratory. Since wind energy involves both ME and SAFL, wind power candidates would be ideal for this position. Please see the position description here: <http://www.me.umn.edu/search/index.shtml>
- e. DNV Renewables (USA) Inc. is seeking a Head of Section (HoS) who will lead a team in providing wind related due diligence and consulting services to clients. The primary activities for the HoS will include overall management of the unit including employee management; project and resource management; quality; safety; marketing, sales, and customer service activities in coordination with Customer Service Managers and Business Development Leaders; financial management; and reporting. For more information about the position, please go to: <https://dnvna.tms.hrdepartment.com/jobs/497/Head-of-Section-Wind-Due-Diligence-and-ConsultingSeattle-WA>
- f. *Outreach opportunity* Boulder Valley's seven high schools offer a class for seniors who are highly interested in science. The purpose of this class is to provide an opportunity for students to pursue independent scientific research. This program called the Science Research Seminar Program does not need to take a ton

of your time as many students can do their own research at their prospective high schools, only contacting you for advice in procedure design and analysis of data. For more information on the program, please visit: <http://bvsd.org/researchseminar/Pages/mentoring.aspx> And/or contact Kristin Donley at kristin.donley@bvsd.org

- g. The National Renewable Energy Laboratory (NREL) in Golden and Boulder, CO is looking to hire several senior-level engineers and post-docs who will be working in the wind turbine modeling group at NREL. Interested applicants should go to http://www.nrel.gov/employment/job_openings.html, select “Search Openings”, and search for positions in Center Office Number “5000”.

Happy Halloween!