

Center for Power Systems Studies  
Spring Meeting – Bismarck, ND  
COORDINATOR'S REPORT  
April 19, 2007

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To: Members of Center for Power Systems Studies  
Associate Members of Power Systems Studies  
All those in attendance at meeting

We are now at the close the Center for Power Systems Studies' 39<sup>th</sup> year of operation. The following is a summary of the last several months of activity within the department of Electrical Engineering and Computer Science that is related to the CPSS.

I. Teaching activities during spring 2007 term

a. Courses taught spring semester

Steve Hietpas

1. EE315 (3 cr) *Linear Controls*, 29 students.
2. EE434 (3 cr) *Power Systems Analysis*, 15 students.
3. EE434L (1 cr) *Power Systems Analysis Lab*, 15 students.

Mike Ropp -- Sabbatical

II. Scholarly/research activities

Steve Hietpas

1. Presented paper on motor drives at the NSF workshop on teaching Power Systems Analysis – Santa Fe, NM – February 2-4.
2. Served as a paper reviewer for IEEE Rural Electric Power Conference; the IEEE Transactions on Industrial Applications and the Transactions on Education; and the IET Electric Power Applications. Will be attending the Rural Electric Power Conference in Rapid City, SD (May 6-8)
3. Advised three new graduate students in the area of motor drives and power systems applications.
4. Presenting paper at the 2007 ASEE Conference and Convention in Honolulu, HI (June 22-27).

Mike Ropp

1. Presented five papers at the Fourth World Conference on Photovoltaic Energy Conversion (WCPEC-4) in May of 2006.
2. Completed our third PV in the Parks project, thanks in part to CPSS financial support. Nine SDSU EE students completed a design-build power systems project, specifying, designing, building and commissioning an 8-kW hybrid photovoltaic-LPG power system in Wrangell-St. Elias NP, near McCarthy, AK. During the facility's window of operation (May-September), 85 to 90% of its energy will be from PV. Feedback from the students and from the Park was highly positive. CPSS generously provided travel stipends for the students.
3. Served on the Board of the South Dakota Energy Infrastructure Authority.
4. Serving on faculty search committee to hire one more faculty to support the new PhD program.
5. Received an NSF-EPSCoR Research Infrastructure Improvements (RII) grant, in collaboration with investigators from SDSU, USD, and SDSMT. Statewide, we will receive ~\$8M over three years. SDSU's portion of that total will go largely to support the new PhD program (two of the new faculty hires are supported by this grant).
6. On May 31, Dr. Ropp will complete a 9-month sabbatical at Sandia National Laboratories. Topics: grid integration of renewable energy sources; computer models of grid-tied distributed energy

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resources; design and control of microgrids; power electronics for distributed energy resources; distributed control in power systems.

7. Completed a research project in support of the development of International Electrotechnical Commission standard IEC-62116, a proposed international standard for connecting PV systems to utility grids. This is an attempt to internationally harmonize such standards.
8. NSF-CAREER projects over the next four years.
9. Advised the 2006-2007 Senior Design Group

### III. Scholarship Activity

Freshmen level (less than approximately 50 credits completed)  
 Sophomore level (less than approximately 80 credits completed)  
 Junior level (less than approximately 110 credits completed)

#### Recipients for spring 07

Seniors	Juniors	Sophomore
Austin Hoekman*	Russel Halgerson	Corey Kramer
Trevor Howard	Derek Bryant	
Molly Houck	Braden Bills	
Lowell Dolney	Chris Graff	
Patrick Cisar		

\* Indicates recipient of the \$3000 Center for Power Systems Studies Scholarship for 2005-2006.

#### Recipients for fall 07

Seniors	Juniors	Sophomore
Lowell Dolney*	Corey Kramer	Todd Bockorny
Molly Houck	Chris Mouw	Tyler Wulf
Trevor Howard		Aric Lowe
		Seth McGill

\* Indicates recipient of the \$3000 Center for Power System Studies Scholarship for 2006-2007.

#### Recipients of EE Open Power Scholarships (or students interested in power)

Seniors	Juniors	Sophomore
Steve Grantz	Christopher Diede	Eric Boese
Matthew Tesch		Steven Cozine
		Kirby Wicks
		Joshua Cahill
		Derrick Galinat

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IV. Power Student Status (graduating fall 2006 and later)

<b>Student</b>	<b>Graduation Date</b>	<b>Place of Employment</b>
Jack Winter	Fall06	WAPA, Huron
Tanner Knecht	F06	ABB, Switzerland
Austin Hoekman	Spring07	Missouri River Energy Services
Curtis Greenfield	S07	possibly Interstates Power
Riley Hansum	S07	DLR, Minneapolis
Daniel Lewis-Coomes	S07	Interstates Engineering
Travis Haselhorst	S07	Still active on the interviewing circuit
Pat Cisar	Fall07	Black & Veatch in Kansas City
Lowell Dolney	F07	Otter Tail Power Company
Molly Houck	F07	WAPA, Watertown
Trevor Howard	F07	Brookings Municipal Utilities (waiting for confirmation)
Aaron Kleinsasser	Spring08	Daktronics
Chris Mouw	S08	SDSU-undergraduate research in photovoltaics
Derek Bryant	Fall08	Nebraska Public Power District
Chris Graff	F08	Cannon Technologies
Steve Grantz	F08	Monticello Nuclear Generating Plant
Matt Tesch	F08	Monticello Nuclear Generating Plant
Kirby Wicks	Spring09	Malloy Electric
Corey Kramer	S09	Sioux Valley Hospital
Seth McGill	S09	Daktronics

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Fall 2006 Graduates: 2 of 4 students took jobs in the power sector

Spring 2007 Graduates: 5 of 14 students have or are planning on taking jobs in the power sector

2006-2007 Graduates: 39% of the graduating seniors.

Since spring 2000 to present, approximately 42 of 182, or 23% of SDSU EE graduates, have either obtained or are pursuing a career in power. The trend of students taking power positions upon graduation has been on a steady increase for the last few years.

V. Summer Activity

Steve Hietpas

1. Supervise two graduate students on new power systems and motor drive designs
2. Supervise one undergraduate in the redesign of the CPSS website and work on the Who's Who in Power Database
3. Power Technology Tour (Aug. 13-17)
4. Program Coordinator for EE program in June and July
5. Attend and present at ASEE Conference in June.
6. Work with conference committee to initiate 2008 Regional Power Meeting

Michael Ropp

1. Return from sabbatical May 31, 2007
2. Wind Resource Assessment Network
3. Supervising eight graduate students on various projects
4. NSF- EPSCoR
5. NSF-CAREER

Respectfully submitted,

Steven M. Hietpas, Ph.D., P.E.  
Coordinator, Center for Power Systems Studies  
Professor of Electrical Engineering