
September 2002

Rock River Valley Section

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Event



Sense

The Institute of Electrical and Electronic Engineers, Inc.

PELS, IAS Chapters Meeting

Power Electronics for Improving Power Quality

When September 5, 2002

Where Rock Valley College, Technology Center, Room 117. I90 to Riverside Blvd., exit and go west to Mulford Rd. Go south to first light, turn east into RVC. Follow road to left to last building.

Agenda

6:00 PM	Social
6:30 PM	Dinner
7:30 PM	Presentation

Program This presentation deals with the-state-of-the-art power electronics technology in Japan, focusing on power electronics for improving power quality. A 20-MVA STATCOM or active filter for flicker compensation of an arc furnace has been developed and put into practical use in Japan. The power circuit is based on a voltage-source inverter using 4.5-kV 3-kA IEGTs (Injection-Enhanced Gate Transistors). The IEGTs can be considered as advanced IGBTs (Insulated-Gate Bipolar Transistors). The system configuration of the 20-MVA STATCOM will be presented. Much attention is paid to a low-cost hybrid filter for harmonic compensation of a three-phase diode rectifier. The hybrid filter is characterized by having no transformer between a passive filter and an active filter. The circuit configuration, control method, performance and implementations will be discussed in detail.

Speaker Prof. Hirofumi Akagi received the B.S. degree from the Nagoya Institute of Technology in 1974,

and the M.S. and Ph.D. degrees from the Tokyo Institute of Technology in 1976 and 1979, respectively, all in electrical engineering. From 1991 to 1999, he was a full professor in the department of electrical engineering at the Okayama University. From March to August of 1996, he was a visiting professor at the University of Wisconsin-Madison and then the Massachusetts Institute of Technology. Since January 2000, he has been a full professor in the department of electrical and electronics engineering at the Tokyo Institute of Technology.

His research interests include ac motor drives, high-frequency resonant-inverters for induction heating and corona discharge treatment processes, and utility applications of power electronics such as active filters and FACTS devices. He has published over 130 peer-reviewed journal papers, including 50 IEEE Transactions papers and an invited IEEE Proceedings paper in the field of power electronics and motor drives. He has received nine IEEE prize paper awards, including the IEEE IAS Transactions first prize paper award for 1991, and the IEEE PELS Transactions first prize paper award for 1998. He was elected as an IEEE Fellow in 1996, and a Distinguished Lecturer of both IEEE IAS and PELS societies for 1998-1999. He is a recipient of the IEEE William E. Newell Power Electronics

Award in 2001.

Door Prizes

Sponsored by RRVS.

Meal/Reservations

There will be a meat selection and a vegetarian selection for the meal associated with this meeting. Please reserve your space and/or dinner selection by calling Alkesh at 815-394-2487 or sending him an email (alkesh.patel@hs.utc.com) by Tuesday, Sept 3, at noon. Please include the following information: your name, phone number, email address, and IEEE member number. Dinner is \$2 for student members, \$5 for members, \$13 for non-members.

Note

The meeting is open to the general public. You need not be an IEEE member. Guests are welcome. However, please call to enable us to make appropriate arrangements.

Chicago/Rockford IEEE Consultants Network Meeting

"The IEEE Chicago/Rockford Consulting Network will host its annual social gathering for members and their families on Sunday, September 22. A 90-minute Chicago Architectural Foundation River Cruise on the Chicago River in downtown Chicago is planned for the main event.

This is just an alert message. Complete logistics and time line details, especially since advance ticket purchase for the cruise is recommended (but not required) are available. Alternative and/or adjunct activities will also be noted, in case of weather-related or ticket purchase problems. The complete information package will be available to you before the end of August.

We cordially invite you to join the Network's "fall into Fall" with a Chicago River cruise

All Electronic Delivery of the RRVS Newsletter

The RRVS Newsletter is now available online. Members who would like to have a copy emailed to them, please send an email request to b.parro@ieee.org. Email notification of availability of the newsletter at the section website (see page 1, upper right corner) will be sent to all members with whom we have a valid email address on file. Please

IEEE Dues Rate Change For 2003

The IEEE Board of Directors voted in June to increase dues and assessments for the 2003 membership year. The rate for higher-grade members will increase to US\$110 plus Regional Assessments. Student dues will rise to US\$30 for Regions 1-7 and US\$25 for Regions 8-10. (A subscription to "IEEE Potentials" magazine is included in membership for students in Regions 1-7, accounting for the difference.) This is the first increase in Student dues since 1993, and only the second increase in higher-grade dues since 1996.

In addition, the Board raised the IEEE-USA assessment to US\$33 and revised the reduced-dues program for recent graduates. The now one-year program offers individuals a 50 percent discount off full member dues the first year after graduation.

At a special meeting on 2 August, the IEEE Board of Directors voted to revise the Affiliate fee for 2003 to US\$49. The Board also voted to set the Affiliate fee to 50 percent of full IEEE dues for the 2004 membership year and beyond.

After 15 August, the new 2003 dues rates will go into effect and all applications received at IEEE will be processed for the 2003 dues year. Adobe PDF versions of the 2003 Member and Student Member applications will be available online as of 16 August for downloading, printing and photocopying. The online 2003 IEEE applications will be available as of 1 September for applicants paying by credit card. The online applications may be found at <http://www.ieee.org>, select the link for "Membership."

May Picnic/Election Recap

All individuals running for elected offices ran uncontested and were voted into office for the calendar year 2003 by voice vote. Voting was unanimous.

Another great picnic was held with great weather, excellent food, and good fellowship with other engineers.

Oct Meeting Preview

Our very own RRVS Executive Committee member Prof. Joe Entman will provide section members with an overview of Programmer Logic Controller (PLC) past and current technology.

Submissions to *Event Sense*

Send articles and job ads to the *Event Sense* editor, Bob Parro, via e-mail (preferred), or fax. Job ads will run for two consecutive months. Contact the *Event Sense* editor if the ad needs to run longer. Please make submissions by the twenty-fifth of the month. All submissions are subject to editing for style, clarity, and space considerations.

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*Messages for student officers can be left at the NIU Dept of
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(815) 753-9974 or e-mail at sb.niu@ieee.org*

***The Rock River Valley Section gratefully acknowledges the following
companies and university for supporting Section Officers:***

Hamilton Sundstrand • Northern Illinois University • BP Technologies



Rock River Valley Section
Established 1947

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Electronic IEEE Membership Application

www.ieee.org/join.html

Calendar

September Section Meeting September 5

Prof. Hirofumi Akagi will discuss Power Electronics for Improving Power Quality

October Section Meeting October 24

Prof Joe Entminan will provide an overview of Programmer Logic Controller Past and Current Technology



Joint Computer/
Control Systems
Society Chapter
Established 1995



Industry
Applications
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Power
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Inside This Issue

- September Section Meeting Notice 1
- May RRVS Meeting Recap2
- Chicago/Rockford Consultants Network Meeting2
- All Electronic Delivery of the RRVS Newsletter2
- October RRVS Meeting Preview 2
- RRVS Website & Officer Contact Information 3
- Calendar4