
November 2000

Rock River Valley Section
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Event



Sense

The Institute of Electrical and Electronic Engineers, Inc.

RRV Section/NIU Student Branch Meeting Physics, Engineering and the Arts

When

November 30, 2000

Where

Northern Illinois University, DeKalb, IL; Engineering Building Auditorium, Room 101. Please call Don Zinger at 753-0540 if you need directions from outside DeKalb. Please see the map on page 2.

Parking will be allowed in the engineering parking lot behind the engineering building after 5:00 PM at no charge.

Agenda

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

Program

There have always been strong ties between science, technology, and the arts. Computer music, holography, digital recording, computer imaging, and digital photography are just a few of the applications of modern engineering and physics in the arts. At NIU we presently teach several courses in science and the arts, including Acoustics, Music, and Hearing and Physics for Visual Arts. We have written several books on these subjects, including *Science of Sound and*

Light Science which are used as textbooks in quite a few other universities as well as at NIU. Other courses in acoustics include Audio and Electroacoustics on the undergraduate level and Acoustics on the graduate level.

In this talk we will describe these courses as well as some of our current research in musical acoustics.

Speaker

Thomas Rossing is Distinguished Research Professor of Physics at Northern Illinois University. His research interests include musical acoustics, magnetic levitation, and physics education. He is the author of over 300 publications, including 14 books, 9 U. S., and 11 foreign patents. His textbooks *Science of Sound and Light Science* are widely used in courses on sound and light, both in physics and electrical engineering departments at universities around the world.

He is a Fellow of both the Acoustical Society of America and the American Association for the Advancement of Sci-

ence. He received the Silver Medal in Musical Acoustics from the Acoustical Society of America and the Robert Millikan Medal from the American Association of Physics Teachers. He is an Honorary Fellow of the Acoustical Society of India. His biography appears in *Who's Who in America*.

Door Prizes

Sponsored by RRVs

Meal

Dinner will be a Chinese buffet supplied by Yen Ching of DeKalb. Please make your dinner reservations by **calling Jennifer at 815-753-9974 by Tuesday Nov. 16.** (Please include email address in the information you provide Jennifer - thanks). The cost of the dinner is **\$2 for student IEEE members, \$5 for other IEEE members and \$10 for non-members.** Unemployed members may call one of the officers for special arrangements.

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.

January Meeting Preview

January's meeting will feature Louis Wozniak, Professor of Electrical Engineering at the University of Illinois, Urbana, discussing PID Tuning.

October Meeting Recap

Professor Giri Venkataramanan of the ECE Department of the University of Wisconsin-Madison and also Associate Director of the Wisconsin Electrical Machinery and Power Electronics Consortium (WEMPEC) talked about "An Integrated Architectural Framework for Power Conversion Systems", which is really an abstractive and philosophical topic to the power electronics circuit designers .

The 35 attendees in the meeting were mostly students of the power electronics course at Northern Illinois University. In his talk, Prof. Giri presented his idea of making a comparison between the architectures of the digital computer and power electronics systems. Since the digital system architecture has evolved significantly into the mature technology available today, Prof. Giri believes that power electronics systems needs to go through a similar process in order for a common framework to be developed. To achieve a flexible assembly, Prof. Giri introduced the "Bricks & Buses" concept as an alternative to present day application specific design of power converters. According to him, power electronic bricks can be built with different blocks such as the Power Switching Brick (PSB), Power Bus assembly, Voltage Stiffening Brick (VSB), Current Stiffening Brick (CSB), Power Control Brick (PCB), Sensor Device Brick (SDB), Control Bus Assembly (CB), Auxiliary Power Brick (APB), Housekeeping Power Bus (HPB), Auxiliary Utility Brick (AUB), Input Output Brick (IOB) and Power Processing Software (PPS). Together with his graduate students, Prof. Giri has built some prototype systems based on the Bricks & Buses approach. Results will be reported in the near future. Prof. Giri hopes that the speech topic will serve as a spark to further exploration in the direction of streamlining the engineering of power conversion systems.

Professor Giri Venkataramanan

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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Calendar

November Section Meeting **November 30**
Joint section/student branch meeting at NIU's Engineering Building

January Section Meeting **January 25**
Professor Louis Wozniak, U of Urbana will talk about PID Tuning



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Control Systems
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