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October 1996

Rock River Valley Section

Established 1947

Event

Sense

The Institute of Electrical and Electronic Engineers, Inc.

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# RRV Section & Computer Society Chapter Meeting

## Engineering the Reliability of Software

**When** October 24, 1996

assured?

the leader of the team which drafted the SRE "Best Current Practice," adopted

**Where** Rock Valley College, Technology Center, Room 117. Enter from Mulford, just north of Springbrook Rd.

Reliability doesn't just happen. It must be analyzed, planned and managed during the development of products.

used within AT&T to support the application of SRE. He has made many

### Agenda

6:00 PM Social Hour/Tours  
6:30 PM Dinner - Buffet  
7:30 PM Presentation

We have learned this in the hardware products we produced for which we have the well established discipline of Reliability Engineering. We are

Dr. Everett has implemented a set of software tools which have been used within AT&T to support the application of SRE. He has made many

**Speaker** Dr. William W. Everett, Software Processing & Reliability Engineering, AT&T Bell Labs, and CS Distinguished Speaker

relearning this for the software we produce and have the emerging discipline of Software Reliability Engineering (SRE). This discipline can

Dr. Everett is a member of the IEEE Computer Society, SIAM, and is an Associate Editor-In-Chief of IEEE Software Magazine. He received a

**Program** In a typical day, we use many different tools to get us to work, help us work, help us cook, keep us entertained and informed, and make our environments more comfortable. So many of the products that we take for granted today contain software controlled processors. From microwave ovens to the many systems in our automobiles. From the airplanes we fly on business to the thermostats that keep our homes and offices comfortable. Many of these systems are safety critical, yet we take it for granted that these systems are reliable enough. Thus, we need not spend our precious time worrying about whether our car will suddenly start anti-lock braking when it shouldn't, or our thermostats won't enter a state where they command the furnace or air-conditioning 'full on'. How can we rest

trace its beginnings to the mid-seventies. Applying these modeling and analysis techniques to planning and managing the reliability of software

Software Magazine. He received a Ph.D. degree in Applied Mathematics from the California Institute of Technology and an engineering degree from the Colorado School of Mines.

is leading to the emerging engineering discipline of SRE. This presentation

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outlines what the AT&T SRE "Best Current Practice" is, covering the entire life-cycle of software product development, and associating a set of SRE activities that need to be carried

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out in each phase of the life-cycle. The practice defines where and how measurement, modeling and analysis techniques are used to support the

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planning, managing and tracking of software reliability. This presentation also highlights which areas of the practice are mature and which are

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evolving.

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**Biography** Dr. Everett is a distinguished member of technical staff in the Software Technology Center at AT&T Bell Laboratories. He has over 20 years experience in software development and engineering. He is

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## Letter From The Chair

Gold newsletters, historical anecdotes in each issue of the *Event Sense*, the Jubilee dinner in March, these are just some of the ways we will be commemorating the 50 year anniversary of the RRVS. The RRVS Executive Committee counts it a privilege to serve the needs of the section membership. Our aim is to build upon value provided in the past 50 years, with high quality speakers and current, hot topics of interest to EE professionals; with interesting tours such as to the new Motorola plant in Harvard in April; with the development of meaningful content at the RRVS website such as providing links to all of the educational facilities in the surrounding area, links to the student branch, information about the section, the chapters and the people who make them up and the calendar of programs for which members are in store, as well as early newsletter availability. With the high quality meeting facilities, frequent use of Distinguished Speaker Lecturers, increased relevant technical focus with the recent formation of 3 chapters, the excellent food at the dinners, the lack of cost barriers for dinner/meeting attendance, door prize attendance incentive, no cost steak picnic/elections meal, the RRVS Executive Committee is striving to bring value to section members.

As we begin to move forward into our second 50 years of serving the electrical and electronics engineers in the Northern Illinois and Southern Wisconsin area, I thank you for your IEEE membership and giving the RRVS a chance to serve your needs. Please provide your feedback and ideas on the types of services and programs if you have

a professional need we are not currently meeting. I encourage each of you to get involved. The section needs active, interested volunteer members to advance the value to our members. You may address e-mail to me at [b.parro@ieee.org](mailto:b.parro@ieee.org). I look forward to hearing from you.

Regards,

Bob Parro  
RRVS Chair

## New RRVS Secretary

The RRVS Executive Committee (EC) accepted Mark Harris' resignation as section secretary in September. During its regular October meeting, the EC elected Matt Zimmer as Mark's replacement. On behalf of the entire EC, we thank Mark for many years of service to the section and wish him well as he moves into a demanding leadership position in the IAS. The EC extends to Matt appreciation for his willingness to take on the duties of secretary.

## RRVS Forms New Chapter

On September 16, the RRVS' application for formation of the Power Electronics Society Chapter was officially approved by the Power Electronics Society. Caio Ferreira is the interim chair. The RRVS Executive Committee are pleased to be able to offer to the section membership this additional area of focus. Distinguished Visitor Program speakers and topics from this area are quite interesting and relevant to industry in this area, such as Dr. R.L. Steigerwald, GE R&D, and his topic "Advances in Distributed Power Systems for Electronic Equipment: Applications, Converters, and Components."

## September Meeting Recap

Dr. Joachim Holtz, a prominent professor from Wuppertal University, Germany, is the first international distinguished lecturer to be invited to a RRVS meeting. The relatively large Friday evening turnout was gratifying. Dr. Holtz lectured on a need for a clear and comprehensive description of the dynamic behavior of AC machines for their application in drive systems. First, he showed the limitations of the standard and well known methods of space vectors and Parks Transformation. Dr. Holtz' novel approach is based on complex state variables that relate the transient conditions to the propagation in space of distributed magnetic fields. The mathematical model developed accurately represented transient machine behavior that heretofore was not explained with the standard methods mentioned above. Dr Holtz' clear and straightforward style made his presentation easy to understand.

## November Meeting Preview

John Ghrist, a noted author and historian of radio broadcasting in Northern Illinois and Northwest Indiana, will discuss the history of radio. NOTE LOCATION: NIU

## 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.

**e-mail:** [b.parro@ieee.org](mailto:b.parro@ieee.org)  
**fax:** (815) 394-2497



### **RRVS Executive Committee**

(l-r) standing: Larry Wachowiak, Treasurer; Hassan Mansir, IAS Chair; Don Zinger, NIU Student Branch Counselor; Matt Zimmer, Secretary and IAS Vice Chair; Roger Caruana, Education Chair; seated: Caio Ferreira, Past Section Chair, Bob Parro, Section Chair; Bill Barber, Membership Chair; Mark Harris, Past Secretary; Paul Peterson, Awards Chair

***The Rock River Valley Section would like to give recognition to the following area companies and university for supporting Section Officers:***

***Sundstrand Corporation • 3C Computer Systems • William Barber & Associates • Northern Illinois University***

## **Rock River Valley Section of the IEEE 1996-1997**

[WWW: <http://www.ceet.niu.edu/orgs/rr-ieee/rrvs.htm>]

### **Elected Executive Committee**

Chair	Bob Parro	b.parro@ieee.org	(815) 394-2947
Past Chair	Caio Ferreira	c.ferreira@ieee.org	(815) 394-2903
Vice-Chair	Bill Barber	b.barber@ieee.org	(815) 235-4110
Secretary	Matt Zimmer	m.zimmer@ieee.org	(815) 394-3456
Treasurer	Larry Wachowiak	l.wachowiak@ieee.org	(815) 394-5676

### **Appointed Executive Committee Chairs**

IAS Chair	Hasan Mansir	h.manisr@ieee.org	(815) 226-6875
IAS Vice Chair	Matt Zimmer	m.zimmer@ieee.org	(815) 394-3456
Comp/CS Chapter Chair	Paul Peterson	paul.peterson@ieee.org	(815) 226-2584
Educational Activities	Roger Caruana	r.caruana@ieee.org	(815) 332-4606
Technical Activities	Roger Caruana	r.caruana@ieee.org	(815) 332-4606
Membership	Bill Barber	b.barber@ieee.org	(815) 235-4110
Awards	Paul Peterson	paul.peterson@ieee.org	(815) 226-2584
Publicity, Newsletter Editor	Bob Parro	b.parro@ieee.org	(815) 394-2947
Nominations	Matt Zimmer	m.zimmer@ieee.org	(815) 394-3456
RRVS Jubilee	Larry Wachowiak	l.wachowiak@ieee.org	(815) 394-5676

### **Northern Illinois University - Student Branch Officers**

St Br Counselor	Prof. Don Zinger	d.zinger@ieee.org	(815) 753-0706
St Br Chair	Jeff Ciarlette		
St Br Vice-Chair	Chris Stegh		
St Br Secretary	Rob Reeder		
St Br Treasurer	Ryan McMillin		

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



**Rock River Valley Section**  
*Established 1947*

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sinnfree@sinnfree.org

## Calendar

**October Section Meeting** ..... **Oct 24**  
Engineering the Reliability of Software, Dr. Everett, Computer Society Distinguished Speaker

**November Section Meeting** ..... **@ NIU College of Engineering, Nov 21**  
History of Radio



**IEEE**



Joint Computer/Control Systems  
Society Chapter  
*Established 1995*



Industry Applications  
Society Chapter  
*Established 1992*

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