

May 2018

Event

Rock River Valley Section  
[www.ieee.org/rrvs](http://www.ieee.org/rrvs)

Sense

The Institute of Electrical and Electronic Engineers, Inc.

IEEE RRV Section, Chicago-Rockford Consultants' Network  
*SERVING IEEE MEMBERS OF NORTH CENTRAL ILLINOIS AND SOUTH CENTRAL WISCONSIN*

**WHEN** Thursday, May 31, 2018

**WHERE**

Rock Valley College  
Woodward Technology Center  
Room: WTC1322  
3301 North Mulford Road  
Rockford, IL 61114

**AGENDA**

6:00 PM Networking  
6:30 PM Dinner  
7:15 PM Presentation



## The Engineers Behind the Curtain: Realizing the Client's Vision

**Rob Klein**

Xenon Digital Workshop, Inc.

This presentation will provide a brief glimpse into some of the adventures of a local member of the IEEE Rockford/Chicago Consultants Network. He will highlight some of his previous work history that helped prepare him to enter the world as an independent consultant. While proprietary client project info is not able to be discussed, sanitized case studies of past client engagement scenarios will be shared to highlight the kinds of design services he provides to help his clients achieve their product development goals.

Rob Klein is the owner of Xenon Digital Workshop, an engineering design services firm founded in 2006, which specializes in the development of embedded systems incorporating FPGA technology.

Offering a full range of capabilities that encompass the entire product development cycle from solidifying initial client concepts into detailed specifications, defining system architectures, determining key component selections, performing circuit analysis, producing schematic designs & PCB layouts, FPGA and embedded software design, full prototype testing, along with all the supporting documentation to allow for successful production releases and product maintenance.

With 22 years of proven embedded systems experience, Rob has held key design roles within product developments at leading communications, military, avionics, and industrial equipment manufacturers. He is a graduate of the University of Pittsburgh, BSEE, 1994.

**MEAL INFORMATION**

Dinner entrée will feature your choice of Vegetarian or Non-Vegetarian meals.

Members & Student Members: FREE,  
Non-members: \$10,  
Student non-members: \$5  
Presentation only: FREE

Please register online at

<https://events.vtools.ieee.org/m/172962>

or by emailing Diane Sennebogen at [diane.brock@utas.utc.com](mailto:diane.brock@utas.utc.com) by Thursday, May 31 at 1 pm. Please include the following: name, phone number, email address, and IEEE member number. The meeting is open to the general public.

# Circuit Board Design to Control EMI at the Source

## Rick Hartley

**June 12, 2018**

7:30AM—6:00PM  
Giovanni's Restaurant  
and Conference Center  
Rockford, IL

### Seminar Overview

#### Session 1

Grounding to Control Noise and EMI

#### Session 2

Power Distribution to Control SI and EMI

#### Session 3

Layout of Switch Mode Power Supplies

#### Session 4

PC Board Stack-ups to Improve Grounding and Power Delivery

### Seminar Registration

IEEE Members           \$125.00  
Non-IEEE Members   \$175.00  
Student/Life Members \$60.00

Group Rate (4 + from same corporation), please call.

Seminar Fee includes seminar attendance, a copy of the presentation material, and breakfast, lunch, and refreshments.

Registration help for payment:  
Adrian Vandergrift  
aevandergrift@ieee.org  
815-226-2518

This seminar will focus on the issues PCB designers and engineers need to know to prevent EMI, signal integrity, crosstalk and grounding problems in high-speed digital. Knowing how to design circuit boards to contain and control energy (fields) and knowing how to mitigate and control the effects of high-speed devices is the key to successful design of low noise circuits. The speaker will simply explain where energy truly resides in a PC board and how we need to design because of that to prevent problems. Specifically, the speaker will explain proper grounding, proper power distribution design, layout of switch mode power supply, and proper stackup to control noise and contain fields. For complete seminar outline refer to link below. Attendees will have the opportunity to network with EMC and Test Equipment vendors from across the U.S. Past seminars have featured up to 32 exhibitors!

**Rick Hartley**, recently retired senior principal engineer at L-3 Avionics Systems, is the principal of RHartley Enterprises, through which he consults and teaches internationally to resolve noise, signal integrity and EMI problems. Rick's focus is on correct design of PC boards to prevent and/or solve problems. He has consulted with major corporations in the US and 12 other countries. His design career focused on circuits and PC boards for computers, aircraft avionics and telecommunications. His consulting focuses on those same areas, as well as the automotive and appliance space. Rick has an engineering degree and 52 years of experience. He has dedicated the past 42 years to PC board and circuit development with emphasis on control of noise, in digital, analog and RF circuits. Rick has taught seminars at numerous conferences, including the IEEE EMC Symposium, PCB West, IPC Apex/Expo and others. He is a member of the executive board of the IPC Designers Council and past member of the Editorial Review Board of Printed Circuit Design Magazine. Rick has written numerous technical papers and articles on methods to control noise, EMI and signal integrity.



Rockford, Illinois is located just over an hour's drive from Chicago's O'Hare airport. Direct bus service from Chicago/O'Hare airport is available. There are several hotels within few blocks of the Giovanni's Conference Center. For more information about things to see and do in Rockford, Visit <https://www.gorockford.com/>

Rockford, Illinois is located just over an hour's drive from Chicago's O'Hare airport. Direct bus service from Chicago/O'Hare airport is available. There are several hotels within few blocks of the Giovanni's Conference Center. For more information about things to see and do in Rockford, Visit <https://www.gorockford.com/>

This seminar will qualify for 7.2 Professional Development Hours (PDH).

Questions? Please contact:  
Jamal Shafii - Jamalshafii@ieee.org  
Phone: 608-658-6830  
Steve Davidson  
steve.davidson@ieee.org  
Phone: 815-218-8249

For more information and how to register, visit our website:  
<http://sites.ieee.org/rvssseminar/>

To Register Now: [Attendee Registration](#)

IEEE RRV Section, Elections  
*SERVING IEEE MEMBERS OF NORTH CENTRAL ILLINOIS AND SOUTH CENTRAL WISCONSIN*

## 2019 RRVS Executive Committee Election Candidates

<b>Position</b>	<b>Candidate</b>
Chair	Rakesh Vasudevan
Vice Chair	Terry Johnson
Secretary	Patrick Conner
Treasurer	Adrian Vandergrift
PELS Chapter Chair	Mark Harris
EMC Chapter Chair EMC Chapter Co-Chair	Jamal Shafii Steve Davidson
IAS Chapter Chair	Joe Etminan
Computer/Controls Chapter Chair	Alkesh Patel
Life Member Chair	Larry Wachowiak
Young Professionals Chair	Eduardo Vasquez
WIE Chair	Marjan Shirani

If you would like to run for an officer position, please contact Andrew Baker at [abaker@ieee.org](mailto:abaker@ieee.org) before May 28 to start the nomination process.

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## IEEE Rock River Valley Section 2018 Calendar of Events

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January 22: IEEE Chicago/Rockford Consultants' Network Meeting

January 25: RRVS Section Meeting

February 22: RRVS Section Meeting, Engineer's Week

February 24: [Discover Engineering at Discovery Center Museum](#)

March 29: RRVS Section Meeting

April 20 NIU Student Branch Networking Social at Northern Illinois University

April 26: RRVS Section Meeting,

May 21: Chicago-Rockford Consultants' Network meeting in Palatine, IL. [Link to info](#)

May 31: RRVS Section Meeting with Chicago-Rockford Consultants' Network

June 12: EMC Seminar.

June 28: RRVS Section Meeting, Annual Picnic and Officer Elections at Hamilton Sundstrand Park

August 30: RRVS Section Meeting

September 27: RRVS Section Meeting

October 25: RRVS Section Meeting

November 15: RRVS Section Meeting at NIU

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### Stay Connected, Join us on Social Media

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LinkedIn: <https://www.linkedin.com/groups/12087034>

IEEE Collabratec: <https://ieee-collabratec.ieee.org/>

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**Missed a meeting? Check out our Google Drive for previous presentations.**

IEEE RRVS Google Drive: <https://drive.google.com/a/ieee.org/>

1. Login with IEEE account
  2. On the left menu, click "Shared with me".
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# 2018 IEEE RRVS Executive Committee



**Rakesh Vasudevan**  
Chair  
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815-226-4299



**Terry Johnson**  
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815-394-2447



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Secretary



**Adrian Vandergrift**  
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**Marjan Shirani**  
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**Prof. Don Zinger**  
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**Eduardo Vasquez**  
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**Bob Parro**  
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**Gary Blank**  
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## Northern Illinois University IEEE Student Branch Officers



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Mohammedhus**  
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**RRVS Calendar**

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**Rock River Valley Section Chapters**

Industry Applications Society Chapter  
*Established 1992*

Joint Computer/Control Systems Society Chapter  
*Established 1995*

Power Electronics Society Chapter  
*Established 1996*

Electromagnetic Compatibility Society Chapter  
*Established 2007*

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

[UTC Aerospace Systems](#) • [Northern Illinois University](#) •  
[Rock Valley College](#) • [River North Solutions](#)