

August 2016

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, EMC Society Meeting

SERVING IEEE MEMBERS OF NORTH CENTRAL ILLINOIS AND SOUTH CENTRAL WISCONSIN

**WHEN** Thursday, August 25, 2016

**WHERE**

Rock Valley College,  
Physical Education Center, Room 110  
(We will not be meeting in our usual room this month)  
Rockford, IL

**AGENDA**

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



**TOPIC**

**Wireless Connectivity, The IoT, and Transmitter Regulatory Compliance**

**SPEAKER**

**Steve Laya**  
Elite Electronics Engineering, Inc

There is a technology transformation happening right now and it's called the Internet of Things (**IoT**). The IoT is the web of sensors, machines, software, and wireless transmitters connected and networked over the Internet. The IoT will create an infrastructure of interconnected "things" and will provide limitless opportunities to collect data, enhance efficiency, and generally improve the lives of the people it serves.

In this presentation we will provide an overview of the wireless technology currently in place to enable the IoT We will outline some of the common radio protocols such as WiFi, Cellular, Zigbee and discuss how they are implemented either as modules or as integrated electronic systems. Finally, since wireless transmitters use the RF spectrum their operations are regulated by government spectrum agencies i.e. FCC. We will discuss the regulatory certification process for North America and Europe and step through the process manufacturers need to complete in order to get their hardware to market and connected to the IoT.

Mr. Laya is Elite's Sales and Marketing Manager. In addition to his technical sales and leadership responsibilities he also drives the development of new services for Elite. He is an internal auditor for the QA team and assists with the administration of Elite's ISO 17025 quality system and ISO 17065 certification systems. His specialized area of knowledge includes international compliance regulations for wireless devices and digital systems, reliability engineering, and HALT/HASS. He is a member of the IEEE EMC Society and the Society of Automotive Engineers. Mr. Laya received his engineering degree from the University of Illinois at Champaign-Urbana (1983).

**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://meetings.vtools.ieee.org/m/40794>

or by emailing Diane Sennebogen at [diane.brock@utas.utc.com](mailto:diane.brock@utas.utc.com) by Thursday, Aug 25, at 1 pm. Please include the following: name, phone number, email address, and IEEE member number. The meeting is open to the general public.

## Past Events

The EMC Chapter of Rock River Valley Section (RRVS) held a one-day EMC seminar on June 14, 2016 at Giovanni's Restaurant and Conference Center. This was the 5th seminar held by EMC Chapter.

Dr. Todd Hubing, Professor Emeritus of Electrical and Computer Engineering at Clemson University and President of LearnEMC, was the speaker. Dr. Hubing was an engineer at IBM for 7 years and a faculty member at the University of Missouri-Rolla for 17 years before joining Clemson University in 2006. At LearnEMC, he provides EMC instruction, consulting and design assistance to engineers working in the automotive, aerospace and consumer electronics industries.

The title of the seminar was “Electronic Circuit and Packaging Design to Meet System EMI Requirements the First Time.” The seminar was organized into four sessions targeting specific important aspects of the product design process. Attendees learned how to interpret and understand system EMI requirements, build effective computer models, design robust circuits and software, and make critical system-level and board-level design decisions.

The seminar was well attended with total number of attendees around 85 people. The seminar featured exhibits and demos from about 20 vendors across the US. Attendees had the opportunity to network with exhibitors during breaks, at lunch, and at the post-seminar social event. The attendees were from industries in Illinois, Wisconsin, Minnesota, Iowa, Indiana. We had a social hour at the conclusion of the seminar for attendees and exhibitors to mingle in a relaxed environment. The seminar feedback was very positive both in terms of speaker presentation and technical content.



Upcoming RRVs Meetings &  
Seminars at our Neighboring Sections

**SAVE THE DATE:**

Friday October 7, 2016  
IEEE Day Celebration & Annual Awards Banquet Dinner

RRVS presents its 2nd annual banquet in celebration of IEEE Day. More details to come in the September newsletter and on our website.

If you enjoyed the 2016 EMC Seminar or were not able to join us, Dr. Todd Hubing will be hosting two courses in September in Wisconsin. See details below and online at [LearnEMC.com](http://LearnEMC.com).

**LEARN  
EMC**

## Upcoming EMC Short Courses Stoughton, Wisconsin

**Fundamentals of Electromagnetic  
Compatibility**

*September 12-13, Stoughton, WI*

A 2-day course focusing on fundamental EMC concepts for circuit designers, board layout professionals, test engineers and anyone with an interest in ensuring that electronic systems meet applicable EMC requirements.

Visit [LearnEMC.com](http://LearnEMC.com) for details. The new LearnEMC facility near Madison, Wisconsin is designed specifically for EMC short courses and hands-on demos.

**Design for Guaranteed EMC  
Compliance**

*September 14-15, Stoughton, WI*

Learn to systematically ensure that your product design will meet EMC requirements, including conducted emissions, radiated emissions, radiated immunity, bulk current injection, electrical fast transients and electrostatic discharge.



Dr. Todd Hubing will present these two courses. For 25 years, his university courses, short courses, webinars and video courses have helped students and engineers design EMC-compliant products and systems. His unique approach to EMC education uses real applications to demonstrate important fundamental concepts.

Upcoming Seminars at our Neighboring Sections

**The Iowa-Illinois Section invites you to attend a full day seminar.**

**WHEN** September 9, 2016

**WHERE**

**Best Western Plus Steeple Gate Inn**

100 West 76th St  
Davenport, IA 52806

**AGENDA**

8am to 4pm

**TOPIC**

**480V Electrical Distribution System Design**

**SPEAKER**

**Thomas P. Smith, P.E**

This seminar is intended to introduce the attendees to the topic of 480V Electrical Distribution System Design, equipment, and practical application of 480v equipment within industrial applications.

This course will cover LV power system design practices, electrical distribution equipment and practical applications. Equipment types covered include: switchgear, switchboards, motor control centers, panel boards, disconnect switches, automatic transfer switches, bus duct. Protective device covered include: power circuit breaker, insulated case breakers, thermal magnetic circuit breakers and fuses. Several practical examples will be presented for review and discussion.

- Use of Bus Duct vs. Hard wiring equipment in an industrial setting
- Sizing ground conductors for equipment and services within an industrial setting
- Sizing feeds/services for machine installs
- Sizing cables for new services to equipment within an industrial setting
- Sizing feeds to motors up to 400hp 480v
- Brief discussion on when to use a 5kv or larger motor
- VFD applications on motors up to 400hp – benefits, why etc.
- Motor protection

For more information and to register visit their webpage:

[http://www.magnetmail.net/actions/email\\_web\\_version.cfm?  
recipient\\_id=2523026946&message\\_id=13378145&user\\_id=IEEE\\_MGAIM](http://www.magnetmail.net/actions/email_web_version.cfm?recipient_id=2523026946&message_id=13378145&user_id=IEEE_MGAIM)

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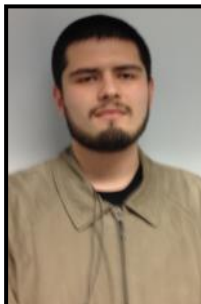
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**RRVS Calendar**

**August RRV Section Meeting** ..... **Aug 25**  
EMC Chapter, Physical Education Center, Rock Valley College, Rockford, IL

**September RRV Section Meeting** ..... **Sept 29**  
IAS Chapter, RVC at Rockford Airport, Rockford, IL

**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*

IEEE Rock River Valley Section is a member of...



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

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