

## OctoberBest 2009 Program Sessions

Rev. 7/22/2009 9:20 a7/p7

### **Track: Business Issues**

#### ◆ **Working Effectively with China**

**Abstract:**

Learn insights about a culture that's counterintuitive to U.S. Americans and walk away with tips on how to build trust and relationships that will make a difference for your business.

**Speaker:**

Founder and president of TsaiComms LLC, Lillian A. Tsai is an award winning, 25-year high tech marketing and communications coach, trainer and sought after speaker on culture and business in China and Malaysia. Born and raised in Malaysia, she has worked in Europe, Asia and the U.S. and brings a plethora of professional and personal experiences to a diverse set of clients, such as ESCO, Intel, Logitech, Nike, TriQuint Semiconductor, and Tektronix.

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#### ◆ **Quick and Dirty Lean: Applying Lean in Small Companies**

**Abstract:**

Using real-world examples, this presentation explodes the myth that Lean doesn't apply or is too expensive or won't work in small companies. You will learn:

- The true foundations of Lean which are universally applicable
- How to apply Lean successfully in a small company.
- How to get 80% of the benefits for 20% of the cost and effort
- How to start getting long-lasting results

**Who should attend:**

Managers, executives, engineers, and professionals from small companies, or any company that is not receiving the full benefits that Lean offers.

**Speaker:**

Gary Langenwalter has spent more than 30 years helping manufacturers thrive (including 20 years with Lean). He is data-driven, and passionate about people. He has earned an MTS

from Boston University, an MBA in Management from Michigan State, and a BA in Industrial Management from the U of O. He has consulted with organizations in almost all manufacturing sectors, ranging in size from the US Navy Supply Corps to a 10-person company. He is founding partner of Sustainability Partners International, headquartered here in Portland. He is a frequent speaker, from keynoting international conferences to after-dinner speeches in professional and civic organizations. He has written 4 courses for the AICPA and the AMA, 2 technical reference books, and *The Squeeze*, a business novel on sustainability. He is a member of SME, AME, and APICS.

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◆ **How to Minimize the Pain and Maximize the Gain When Introducing New Products**

**Abstract:**

Getting new products off the screen and successfully introduced into the marketplace is difficult at best. Most engineers haven't the faintest idea how to go about capitalizing on their good work. Because it's a lot easier to come up with a new widget that solves a problem than it is to develop a business strategy focused on ferreting out resources and creating profitable business models while retaining a reasonable equity position.

This presentation will provide strategies, tools, processes and resources to help you accomplish the task.

**Speaker:**

Terry Pennington is a practicing marketing professional with 40+ years of experience in developing and directing the sales and marketing efforts of firms of all sizes. His electronics and computer industry marketing background can be perused at [www.businessmarketingimpact.com](http://www.businessmarketingimpact.com) under the website's Experience Section.

Terry has been a management and marketing consultant to business, service, higher education, trade schools, and organizations since 1966. He was a Professor in the Marketing Department of the School of Business Administration and Economics at California State University, Fullerton from 1980 through 1984.

He is a respected author, guest columnist and public speaker—his published works have included White Papers and How To articles in business and trade journals, marketing publications, a variety of industry news letters and Chamber of Commerce news letters.

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## **Track: Hardware**

- **Enhanced Standard User Interfaces for FPGA and Embedded Processor Debugging and Application Evaluations**

### **Abstract:**

Many fine software tools exist for FPGA and embedded system debugging and evaluation. However, a hard-wired debugging/evaluation tool, using reconfigurable buttons and potentiometers, along with diagnostic software or diagnostic HDL code, offers a number of benefits such as longevity, multiple debug platforms, a real touch-feel sense, and, for an FPGA, the easy ability of a user to create custom test instrumentation within an FPGA.

### **Speaker:**

Joe Tabor has always kept up with digital and embedded processor designs, even though his career began with analog IC and PCB design, and he promotes his analog skills over all others. Joe has been an independent consultant for seventeen years, helping to create, improve or evaluate numerous products. Prior to this, he was employed for eight years by three companies in Oregon and California. Joe has recently enjoyed developing FPGA's, as the complexity is now sufficient to create highly functional digital architectures with high bit resolutions.

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- **CPU Performance Enhancement through Event System**

### **Abstract:**

In many embedded systems applications, it is often required for the MCU to be interrupted from the "main" task and attend to an event such as to collect analog samples from sensors, increase/decrease the speed of a motor, receive & store communications from a serial port, etc. Most MCUs handle such asynchronous or synchronous events through interrupts. Interrupts, while highly effective, often 1) reduce overall CPU performance, and 2) typically can not offer a quick and/or guaranteed uniform response time. To overcome such drawbacks, new families of Atmel 8/32bit MCUs offer a feature called "Event Systems". Event Systems is used in conjunction with DMA (Direct Memory Access) to help the MCUs achieve their max performance potential, as well as offer a deterministic and uniform response time to internal or external "events".

The presentation will focus on application of Event Systems + DMA in Atmel MCUs. We will have a quick overview of Atmel Xmega (8 bit) and AV32 (32 bit) MCUs which offer the Event

System. The presentation will also include a short demo to illustrate the benefits as well as ease of implementation of Event Systems.

**Speaker:**

Bijan Kamran is an FAE with Atmel Corp, supporting embedded system development for Atmel 8 and 32 bit MCU families, as well as support for cap touch and wireless products. Previously, he has been an FAE with Future Electronics and Cypress Semiconductor. He has been an Engineering Manager, wireless engineer and taught courses in microcontrollers, programming, and networking at Seneca College (Toronto, Canada). He has a BSEE from Purdue University and MSEE from the University of Washington. He has two patents.

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- **ZigBee and the Smart Grid**

**Abstract:**

This presentation will provide an introduction to ZigBee and how the technology is being considered for use in the Smart Grid. Topics to be covered:

Overview of “green”:

- Difference/overlap of Green Building and Green Energy
- Smart Grid-components: Generation, Distribution, Management

ZigBee Protocol Overview

ZigBee Applications - How it is being utilized

ZigBee Chip Manufacturers - Sources for Zigbee

**Speaker:**

Dan Russell, President and CEO, Powermind

Dan Russell, former Vice President of Intel Corporation leads PowerMand, which provides a technology platform to monitor and control energy use for energy management OEMs, electric utilities, energy aggregators and renewable energy suppliers. They enable customers to cost-efficiently reduce peak demand electricity usage at small commercial sites and residences.

During his 21 years at Intel, he held positions spanning technical, marketing and sales, and ran several large business groups. Dan holds a B.S. in Electrical Engineering from the University of Idaho, and an M.B.A. from the W.P. Carey School of Business at Arizona State University.

**Contact:**  
Cipher Systems  
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## **Track: Green/Energy**

- ◆ **Energy Conservation: The cause and effect of using new lighting technologies**

**Abstract:**

The talk will center on the driving need to conserve our energy resources and how new lighting technologies and products are helping to achieve that goal. What are the external market drives allowing the customer in a recession to make a dollar driven decision. What is the latest in lighting technology and where are we headed.

**Speaker:**

Mike Gerard currently holds the position of President of Efficere Technologies a company solving high speed signal integrity issues and interconnect. Prior to Efficere Mike has worked in the Printed Circuit Board world and served as National Sales Manager. He helped found two Representative Sales firms ATMI and AESI in the Northwest. Both firms deal with differing aspects of lighting technology. Mike has worked in the Northwest market for over 30 years.

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- ◆ **Sustainable Practices at Work - Where to Begin?**

**Abstract:**

Current market conditions present a great opportunity to improve the quality and environmental impact of our existing buildings. In addition local and state governments are beginning to establish and in some cases mandate building performance and efficiency standards. Attendees will learn about best practices for achieving sustainability and operations savings goals in existing buildings and to be better prepared to address government regulated "sustainable" performance.

Throughout his extensive and diverse career, Ted Spear has effectively managed all aspects of facility, energy, landscaping, and housekeeping operations for buildings. He has been involved in building assessments, performing facility condition assessments and quality assurance inspections of new building systems. In that role, he has developed and improved planned, preventive, and predictive maintenance programs, established procedures and policies in compliance with regulatory requirements. As a Senior Consultant within the Building Management Solutions Team, Ted brings valuable hands-on experience working inside of

facilities to define policies and improve practices toward enhanced building performance and occupant well-being.

**Speaker:**

Ted Spear holds a Masters and Bachelors of Science degree in Mechanical Engineering from University of Washington and Santa Clara University respectively and is also a registered Professional Mechanical and Environmental Engineer in Oregon and Washington. Ted is an active member in the International Facility Management Association and Association of Professional Energy Managers.

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◆ **Beyond BETC! Research and Development Tax Credits for Energy Efficiency Manufacturers, Integrators, and End Users**

**Abstract:**

This presentation will discuss the basics of innovation tax incentives, with focus on the relevance for Alternative Energy and efficiency projects, followed by Q+A.

Along with business energy tax credits, the latest stimulus bill provides further incentives for companies to invest in renewable energy and improve energy efficiency. Many manufacturing companies and engineering firms are unaware that another lucrative tax credit, the research and development (R&D) credit may also subsidize the cost of some of these investments.

Companies often fail to realize they are qualified for R&D credits if they engage in product design or process improvement activities. The definition of R&D, in the tax sense, is much broader than scientists and chemists in white coats. Most companies are surprised to find out that many of their daily activities qualify for the R&D Tax Credit.

**Speaker:**

Tony Hnyp manages the Pacific Northwest region for RnD Consultants, led by the nation's top specialists in the maximization and recovery of lucrative state and federal credits for engineering, manufacturing, design, software, and other industries. RnD Consultants work on-site with startups through middle market companies across the country. An engineering - based

tool kit is created around each company's unique situation, allowing companies to receive their allowable credits (typically tripling a company's credit amount) for the next 20+ years.

Mr. Hnyp began procuring federal and state incentive moneys in 1996, after the US manufacturer's representative firm he operated received a sizeable grant from the *Japanese* government in order to exhibit and sell US made products in Japan. In the following eight years Mr. Hnyp assisted his manufacturing clients in receiving over ten million dollars in federal and state research and export incentives. In 2005 he began procuring innovation tax incentives full time.

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## **Track: Systems/Software**

- **Designing electronics across the system hierarchy – virtual prototypes**

**Abstract:**

As design has moved from the sub-system level through to System and System-of-Systems, so the design problem changed! Factors including higher complexity, migration to more software content, outsourcing and ageing expertise across the workforce, and Supply Chains changing often require System Design houses to become System Integrators. Teams are now concerned about different mandatory content: requirements, traceability, executable specifications, DO-254, etc. Systems span many modules, physically distributed, logically distributed, and with changed content allocation. In this realm, Software and Hardware make the System, Requirements management is critical and interfacing/connectivity has new complexity. Virtual Prototypes take their place for requirement collaboration, for integration verification and to bring software, hardware and Mechatronics together. System Integration has become a nightmare!

**Speaker:**

Rick Pier has been with Mentor Graphics since 1995. Most recently he has been managing teams developing solutions for vehicle networking, design and verification. Previously he managed engineering groups developing board level signal integrity, timing analysis and EMI analysis applications. Before joining Mentor Graphics, Rick was a staff engineer at Siemens Medical Systems-Ultrasound Group, a hardware design engineer at Boeing High Technology Center, and a systems engineer at Singer - Link Flight Simulation Division and FLIR Systems, Rick holds a graduate degree in technical management from the University of Wisconsin-Madison, a master's degree in electrical engineering from the University of Washington and a bachelor's degree in electrical engineering from Marquette University.

Rick is an IEEE Senior Member.

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- ◆ **New Capabilities in Embedded CPU Design**

**Abstract:**

Product development tools have evolved over the past few years and astute product managers are asking the question “why are we designing an onboard computer when we could buy one?” Wouldn't you prefer that your team to focus on design challenges that differentiate your

product? The effective solution is to consider an embedded CPU design as a mezzanine board. Today powerful Atom & Multi-core CPUs are offered as bolt-ons that “plug & Play” right off the shelf, or can be ordered as a customized single board computer (SBC). PC/104 is adopted industry wide as a reliable, reconfigurable, rugged and low-cost solution that allows designers Simply select wide selection of stackable expansion cards & modules: SBCs, Digital I/O, Wireless Modules, Power Supplies, Memory, Ethernet, Frame Grabbers and more.

What’s new in embedded?

- Faster CPUs for compute intensive applications
- New smaller ECB form factors
- Faster wide and narrow bus like PCIe & SUMIT
- Improved digital media – flash, DOM, SSD
- And More!

Solve the problems before your project slips and the finger pointing starts!

**Speaker:**

Bruce Virell is president of the Oregon Chapter of the Product Development Mangers association and a 20+ year product management veteran. He will introduce you to methods that have been developed, utilized and proven over the course of his 20+ year career. At companies like: GE, Tektronix, Mentor Graphics and others. He will share steps that are sure to help you deliver a superior product development plan.

**Contact:**

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◆ **Bringing A Medical Product To Market: Navigating The Regulatory Jungle**

**Abstract:**

"This presentation will delve into the details of government regulation covering medical device manufacturers, including both the FDA domestically, and CE marking for Canada, Europe and Australia. For the uninitiated, the regulation appears almost insurmountable, as it covers not only product technical issues, but many facets of the operation of the company itself. We will examine the rationale behind the regulation, and the processes for obtaining and maintaining certifications and compliance."

**Speaker:**

John Shaw, Ph.D. has served as the Quality System Manager for a small, local, medical company for most of the last ten years, helping the company gain and maintain its CE marking, and successfully pass its regular FDA and CE audits. In addition, he has managed their product R&D, and developed software and hardware in compliance with the regulatory mandated processes for product development.

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## **Track: Design/PCB**

- ◆ **Giant Steps Beyond Design for Manufacturing (2-hr Short Course)**

**Abstract:**

Design for Manufacturing is often used to describe a report after a design rule check (DRC) of the Gerber data. This session will cover a broad range of topics including: Materials (RoHS, Halogen-Free, etc.), Surface Finishes, HDI (filled vias & filled microvias, etc.), BGA padstacks, Embedded Capacitance, Impedance Control, and Reliability concerns. The attendee should learn how to improve yields, reliability, and availability while lowering costs by making decisions earlier in the design cycle.

**Speaker:**

Darren has been a Senior Field Applications Engineer for Multek Inc. supporting customers in the Northwest for 4 years. Prior to working for Multek, Darren was a Field Applications Engineer for Merix Corporation for over 11 years. Earlier he worked as a mechanical process engineer at the circuit board divisions of Tektronix supporting flexible circuits and microwave circuits for 2 years. He received his Bachelor of Science in Mechanical Engineering from Montana State University in 1992. He has given many industry presentations and seminars including some for EMA, SMTA, IPC, and the local chapter of the IPC Designer Council.

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- ◆ **CAM Files to PCB: What really happens to your files**

**Abstract:**

The presentation will start with what files a fabricator needs as a minimum for fabricating PCB's, then gets into what modifications are made at the CAM stage for processing and what this means to the customer. This talk will cover validating Impedances and the Importance of feedback to the customer about specific Effective Dk values; dielectric constants of cores and pre-pregs and press values of various types of pre-pregs; and RoHS considerations such as alternative surface finishes and what that means to solder-mask files for instance. There will also be a virtual tour showing step-by-step the Fabrication process as it relates to Prototron Circuits Inc. with a brief synopsis of what is going on in each step.

**Speaker:**

Mark Thompson is an Engineering support person for Prototron Circuits Inc. He has been in the PCB fabrication side of Electronics for over 30 years. The last 10 of which his focus has been on Signal integrity and customer assistance relative to fabrication issues. He is the vice president of the Local IPC designers council group and has recently started writing and doing audio columns for PCB-007 an on-line PCB resource.

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## IEEE Seminars

### IEEE01: A Program of Advanced Printed Circuit Design: Cost, Performance and Miniaturization

**Speakers:** Happy Holden, Senior PCB Technologist, Mentor Graphics  
Joe Fjelstad, founder and president, Verdant Electronics  
Chuck Bauer, Senior Managing Director, TechLead Corporation

**Date:** Wednesday, October 7, 2009

**Time:** 8:00 AM – 11:50 AM

**Location:** Tektronix Conference Center, 13975 SW Karl Braun Drive  
Beaverton OR 97077

**Cost:** \$75/\$99 (See Registration Section for complete pricing info)

**CEUs:** 0.3 CEUs (3 PDH) awarded upon completion

*"The IEEE has been approved as an Authorized Provider by the International Association for Continuing Education and Training (IACET). In obtaining this approval, the IEEE has demonstrated that it complies with the ANSI/IACET Standards which are widely recognized as standards of good practice internationally. As a result of their Authorized Provider membership status, IEEE is authorized to offer IACET CEUS for its programs that qualify under the ANSI/IACET Standards." IACET CEU Provider #1255*



**Web:** <http://www.ieee-oregon.org/>

**IEEE Oregon Section CPMT and CAS Joint Chapter presents this special 1/2-day short course.**

**Registration/check-in starts at 7:30 am, with the seminar starting promptly at 8:00.**

This short course consists of these four Modules:

- Introduction to Advanced PWB Design – Happy Holden
- Signal and Power Integrity (SI/PI) Performance of Adv. PWBs – Happy Holden
- Flexible Circuit Structures, Design Practices and Performance Capabilities – Joe Fjelstad
- Leveraging PWB & Flex Circuit Technologies for Successful RF Module Packaging – Chuck Bauer

#### **Introduction To Advanced PWB Design (50 min)**

PWB wiring modeling, design rules, and BGA routing of PWB structures (blind, buried and microvias) will be examined and compared. The presentation will define how to select breakout patterns, circuit routing guidelines, manufacturing process features, microvia-HDI routing issues and techniques for widely accepted fine pitch and BGA components. 1.0 mm, 0.8 mm, 0.65 and 0.5 mm fine-pitch components are the focus of design rules and layer assignments, as well as FPGAs and ASICs to 3200 pins. Channel and boulevard routing techniques using blind vias will show how layers can be reduced by as much as 4X, with the associated cost reductions. Some HDI design techniques will emphasize the improved

electrical performance and signal integrity. The overview of HDI technology is particularly useful for those not familiar with this technology.

### **Signal and Power Integrity (SI/PI) Performance of Adv. PWBs (40 min)**

High Density Interconnects (HDI) and microvias have benefits for more than just high-density and fine-pitch BGAs. The high-frequency performance of HDI is superior to through-holes (TH) because of its lower inductance / capacitance and elimination of stubs. This presentation highlights the electrical performance benefits of HDI-microvias for not only improvements in signal integrity but reduction in power-supply impedance, resonances, current-density, decoupling capacitors and noise (power integrity). EMI/RFI improvements are also documented in examples for OEM tests.

### **Flexible Circuit Structures, Design Practices and Performance Capabilities (90 min)**

Flexible circuits are arguably the most versatile interconnection technology available but designing them requires some special knowledge to assure success. This portion of the presentation will review the design fundamentals of this important technology pointing out its special advantages and unique capabilities for making high speed interconnections. Included will be discussions on material selection, flex circuit constructions and alternative methods, balancing electronic and mechanical design needs, methods for facilitating assembly and novel methods for using flex circuits for advanced and high performance applications.

### **Leveraging PWB & Flex Circuit Technologies for Successful RF Module Packaging (30 min)**

This brief presentation provides an overview of strategies for using advanced interconnect technologies in combination with embedded component techniques to modularize RF applications, particularly for handheld products such as smart phones, GPS systems and wireless sensor networks. The authors survey technical, manufacturing and cost considerations as well as potential pitfalls for these approaches.

### **Who should attend the seminar:**

This short course is for engineers and technicians with some familiarization on how printed circuit boards are designed and fabricated. The contents are not basic but an associated HDI Handbook is available FREE from my BLOG, at:

[http://communities.mentor.com/mgcx/community/pcb/pcb\\_blogs/happy\\_holden](http://communities.mentor.com/mgcx/community/pcb/pcb_blogs/happy_holden)

### **Prerequisites:**

It would be beneficial if attendees were to read Chapters 3, 4 & 7 in the free HDI HANDBOOK

### **What you will learn:**

- *Introduction to Advanced Printed Wiring Boards (PWBs) and Microvias (HDIs)*
- *Benefits of High Density Interconnects (HDI), Designing blind and buried vias*
- *Applications of HDI (microvias), Stacked vias and Technical issues*
- *BGA Design Challenges, Board Stackup, Design Rules, Layout and Signal Integrity Improvements*
- *Microvia structures, Simplifying multilayers by reducing layers,*

### **Registration:**

The seminar will be held Wednesday, October 7 at the Tektronix Conference Center on the Tektronix Beaverton Campus, 14200 SW Karl Braun Drive, Beaverton, OR 97077. Registration/check-in starts at 7:30 AM, with the seminar starting promptly at 8:00. Refreshments will be provided. Lecture notes will be provided to all attendees. In addition, 0.3 CEU's (3 PDH) will be awarded upon completion of the seminar.

	IEEE	Other
Registration Fee	\$75	\$99

### Speakers:

- **Happy Holden** is the Senior PCB Technologist for Mentor Graphic's System Design Division in Longmont, CO. He is responsible for advanced and next generation printed circuit technology consulting for Mentor's customers and MGC engineering. Prior to joining Mentor, he was the Advanced Technology Manager at Westwood Associates and Merix Corporations. He retired from Hewlett-Packard after over 28 years. Mr. Holden formally managed Hewlett-Packard's application organizations in Taiwan and Hong Kong. His prior assignments with HP had been as director of PCB R&D. He holds degrees in Chemical Engineering and Computer Science. He is a member of the IPC, SMTA, IMAPS and the IEEE. He was Editor, of "The HDI Handbook", available free online at [www.hdihandbook.com/](http://www.hdihandbook.com/)
- **Joseph Fjelstad**, founder and president of Verdant Electronics, is a 38 year veteran of the electronics interconnection and packaging industry and an international authority and innovator in the field. His innovations have yielded more than 220 U.S. and international patents issued or pending. He is author, co-author or editor of several books and is author of the widely read technology columns, "Flexible Thinking, Small Matters" and the "EI Files". Fjelstad is a Senior Member of the IEEE, a member of the IPC, SMTA, MEPTEC and a member of the Jisso International Council and IPC Electronic Interconnection Roadmap committees. He was Editor of *Flexible Circuit Technology - Third Edition*, available free online at [www.flexiblecircuittechnology.com](http://www.flexiblecircuittechnology.com).
- **Charles E. Bauer, Ph.D.** serves as Senior Managing Director of TechLead Corporation, a technology management company specializing in the electronics packaging, interconnection and assembly industry. Dr. Bauer lectures throughout the world on technology, business and market topics as well as serving on several corporate boards and international corporate, government and educational institution advisory councils. A Senior Member of IEEE, he remains active in the SMTA, JIEP, ASM and IMAPS as well. Dr. Bauer served on the Boards of both the SMTA and IMAPS and as President of IMAPS in 2001-2002. He currently serves as the International Development Chair for the SMTA. Awards received include Tektronix Technical Innovation Award, Fellow of IMAPS and the International Leadership Award from the SMTA.

### Contacts:

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Happy Holden

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## IEEE02: Rolling Your Own RTOS Workshop

**Speaker:** John Shaw, President, Shaw Technologies, Inc.

**Date:** Wednesday, October 7, 2009

**Time:** 8:00 AM – 11:50 AM

**Location:** Tektronix Conference Center, 13975 SW Karl Braun Drive  
Beaverton OR 97077

**Cost:** \$75/\$99 (See Registration Section for complete pricing info)

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**Web:** <http://www.ieee-oregon.org/>

**This is a half-day technical seminar sponsored by the IEEE Oregon Section.**

**Registration/check-in starts at 7:30 am, with the seminar starting promptly at 8:00.**

### **Abstract:**

Real Time Operating Systems provide essential services in many embedded systems. Often, a commercially available RTOS is used, but for many products this is expensive overkill. This workshop will explore the reasons why you might want to write your own, as well as the fundamental principles of RTOS design.

You will learn how to develop interrupt driven real-time systems and I/O drivers, and multi-threaded operations.

### **Who should attend:**

Anyone developing small embedded systems (no mass storage).

### **Prerequisite:**

Experience with embedded systems, microcontroller and/or microprocessor architectures.

### **What you will learn:**

You will learn how to develop interrupt driven real-time systems and I/O drivers, and multi-threaded operations.

### **Registration:**

The seminar will be held Wednesday, October 7 at the Tektronix Conference Center on the Tektronix Beaverton Campus, 14200 SW Karl Braun Drive, Beaverton, OR 97077.

Registration/check-in starts at 7:30 AM, with the seminar starting promptly at 8:00. Refreshments will be provided. Lecture notes will be provided to all attendees. In addition, 0.3 CEU's (3 PDH) will be awarded upon completion of the seminar.

	<b>IEEE</b>	<b>Other</b>
Registration Fee	\$75	\$99

**Speaker:**

**John Shaw** has been doing embedded systems work for over 40 years. After debugging a multi-tasking, multi-user OS for a hotel in 1972, he wrote his first embedded OS in 1973 for use in the Braniff Airlines Terminal baggage handling system at the Dallas Fort Worth International Airport. Subsequent embedded OS designs have included one for a communications card for the Tektronix 4010 Graphics Terminal (using an 8080 microprocessor), one for a retinal scanning security product (using a 68HC11 microprocessor), one for digital signal processing in a medical product (using an Analog Devices AD2101 Digital Signal Processor), and one for a high end Digital Signal Processing card (using a Power PC G4 processor) for Credence Systems.

**Contact:**

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## IEEE03: Beyond Lean: Creating the Ultimate Competitive Advantage

**Speaker:** Gary Langenwalter, Sustainability Partners Int'l

**Date:** Wednesday, October 7, 2009

**Time:** 8:00 AM – 11:50 AM

**Location:** Tektronix Conference Center, 13975 SW Karl Braun Drive  
Beaverton OR 97077

**Cost:** \$75/\$99 (See Registration Section for complete pricing info)

**CEUs:** 0.3 CEUs (3 PDH) awarded upon completion

*"The IEEE has been approved as an Authorized Provider by the International Association for Continuing Education and Training (IACET). In obtaining this approval, the IEEE has demonstrated that it complies with the ANSI/IACET Standards which are widely recognized as standards of good practice internationally. As a result of their Authorized Provider membership status, IEEE is authorized to offer IACET CEUS for its programs that qualify under the ANSI/IACET Standards." IACET CEU Provider #1255*



**Web:** <http://www.ieee-oregon.org/>

**This is a half-day technical seminar sponsored by the IEEE Oregon Section.**

**Registration/check-in starts at 7:30 am, with the seminar starting promptly at 8:00.**

### **Abstract:**

When a company extends Lean principles through the Triple Bottom Line, it gains a long-lasting competitive edge and produces twice the profits. And it attracts and retains the best talent, the best suppliers and customers. Based on examples from real companies, you will learn:

- How to position your organization to thrive in the future – using hard data about what's coming next
- How to extend Lean principles to gain competitive advantage
- The underlying reasons how and why the Triple Bottom Line works
- A proven path for implementation

Each attendee will also receive a 4-page assessment that they can use to determine their next steps.

### **Who should attend:**

Managers, executives, engineers and professionals who affect strategy, design or execution.

### **Prerequisite:**

No prerequisites; interest in making your organization more successful.

### **What you will learn:**

How to position your organization to thrive in the future; how to apply Lean principles for competitive advantage; understanding of the Triple Bottom Line principle; and how to assess your organization.

**Registration:**

The seminar will be held Wednesday, October 7 at the Tektronix Conference Center on the Tektronix Beaverton Campus, 14200 SW Karl Braun Drive, Beaverton, OR 97077. Registration/check-in starts at 7:30 AM, with the seminar starting promptly at 8:00. Refreshments will be provided. Lecture notes will be provided to all attendees. In addition, 0.3 CEU's (3 PDH) will be awarded upon completion of the seminar.

	<b>IEEE</b>	<b>Other</b>
Registration Fee	\$75	\$99

**Speaker:**

**Gary Langenwalter** has spent more than 30 years helping manufacturers thrive (including 20 years with Lean). He is data-driven, and passionate about people. He has earned an MTS from Boston University, an MBA in Management from Michigan State, and a BA in Industrial Management from the U of O. He has consulted with organizations in almost all manufacturing sectors, ranging in size from the US Navy Supply Corps to a 10-person company. He is founding partner of Sustainability Partners International, headquartered here in Portland. He is a frequent speaker, from keynoting international conferences to after-dinner speeches in professional and civic organizations. He has written 4 courses for the AICPA and the AMA, 2 technical reference books, and *The Squeeze*, a business novel on sustainability. He is a member of SME, AME, and APICS.

**Contact:**

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## ***Lunch Keynote –***

- ◆ **The Sun Rises Over the Silicon Forest**

**Speaker:**

Ben Santarris went to work at the Hillsboro headquarters of SolarWorld Industries America as public affairs manager in late 2008. He worked the previous eight years as a business journalist at The Oregonian, the last several years as business editor. He previously worked in various news editing and reporting roles in Bellingham, Wash., Seattle, Pennsylvania, Connecticut and Boston. He earned master's degrees in business administration at Western Washington University and print journalism at Boston University. He majored in French literature at Williams College in Massachusetts. Ben grew up near Corvallis. He now lives in Southwest Portland with his wife, Marietta, and two teen-age kids, Rochelle and Nino.