

Orange County Chapter
Lunch 'n Learn Meeting Topics
2003-2017

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July 19, 2017 *xx in attendance* (meeting #59)

Topic #1: Embedded Thin Film Resistors

An update on current Applications and Design

Speaker #1: Bruce Mahler Vice President **Ohmega Technologies, Inc.**

Topic #2: Improving Power Delivery Networks (PDNs) Using Polyimide-based Thin Laminates

What PCB Designers need to know about Buried Capacitance

Speaker #2: Jin-Hyun Hwang Applications Development Engineer **DuPont**

April 19, 2017 *61 in attendance* (meeting #58)

Topic #1: High Speed DDR4 Memory Design and Power Integrity Analysis

What designers need to know to achieve the best performance with DDR4

Speaker: Cuong Nguyen Field Applications Engineering Manager **EDA Direct**

Topic #2: Better PCB Design using the Fabricator's View

What designers need to know about DFM verification and its impact on your design

Speaker: Ammar Abusham Senior Applications Engineer **Mentor Graphics**

February 8, 2017 *43 in attendance* (meeting #57)

Topic: Advanced PCB Laminate Material Selection

What a designer needs to know about choosing the right material for your design

Speaker #1: Michael Gay Director, High Performance Products **Isola Laminate Group**

Sept 1, 2016 *75 in attendance* (meeting #56)

Topic: Flex and Rigid Flex Overview and Design Considerations

What a designer needs to know in order to excel at this technology

Speaker: John Stine VP of Operations at **KCA Electronics – Anaheim**

June 15, 2016 *72 in attendance* (meeting #55)

Printed Circuit Board Cost Adders

A discussion of factors that drive PCB cost which should be considered early in the design phase to save your company \$\$\$.

Speaker: **Julie Ellis** *Field Applications Engineer* **TTM Technologies, Inc.**

March 2016 **56 in attendance** (meeting #54)

Layout Designers – Successful Power Distribution Design

A simple method to optimize your power and ground

Speaker: **Jeff Loyer** *Signal and Power Integrity Product Manager* **Altium**

Nov 2015 **89 in attendance**

PCB Routing Guidelines for Signal Integrity and Power Integrity, too
Recommendations to improve high speed performance of any design at any datarate

Speaker: **Chris Heard** *Signal Integrity Engineering Consultant* **CSH Consulting, LLC**

June 2015 **94 in attendance**

Topic #1

Anti-Pad Optimization on Via-in-Pad Structures

A case study on the Signal Integrity effects of anti-pad clearance and back-drill stub removal

Speaker: **Matt Isaacs** - *Technical Director of the SerDes Device Verification Team* - **Broadcom Corp**

Topic #2

PCB Enabling Technologies

Learn the challenges and solutions of printed circuit board designs and fabrication driven by component miniaturization

Speaker: **Julie Ellis** - *Field Applications Engineer* - **TTM**

March 2015 **77 in attendance**

Topic: PCB Design Optimization Starts in the CAD Library

Never build another CAD library part from scratch, again...!

Speaker: **Tom Hausherr, CID+** *President of PCB Libraries, Inc.*

October 2014 **63 in attendance**

Topic: Embedded Passives

Learn the benefits of designing with internal resistors and capacitors

Presentation: **Designing with TCR[®] Thin-Film Embedded Resistor Foil**

Speaker: **David Burgess**, President of **Ticer Technologies**

Presentation: **Embedded Capacitance and Improved Power Delivery**

Speaker: **Bob Carter**, Dir. of Business Development & Technology at **Oak-Mitsui Technologies**

June 2014 55 in attendance

Topic: **Routing Solutions**

Strategies, Tools and Techniques for Speeding up your Connections

Presentation by:

Terri Kleekamp, CID - Applications Engineering Manager at **Mentor Graphics**

John Carney - Staff Application Engineer at **Cadence**

Yan Killy, CID - Technical Marketing Engineer for **PADS**

March 2014 72 in attendance

Topic: **eSurface**

A new look at additive PCB processing for increasing circuit density and decreasing fab costs

Presentation by: **Alex Richardson**, VP Strategic Operations at **eSurface**

Topic: **SPEED MATTERS**

Shrink the turnaround time in fab by utilizing Z-axis conductive via paste technology

Presentation by: **Jim Ryan**, Product Manager at **Insulectro**

August 2013 40 in attendance

Design Roadmap for Success Now and for the Future

How your choice of components drive design, materials and manufacturing

Presentation by: **Greg Halvorson**, President & CTO of **Streamline Circuits**

April 2013 83 in attendance

Highly Reliable HDI

What a designer needs to know about making the transition to higher density designs

Presentation by: **Don Carron, CID** Director of Technology - **Advanced Circuits**

January 2013 60 in attendance

PCB Design for low voltage/high current DC-DC Switching Regulators

What a designer needs to know about

October 2012 *65 in attendance*

BGA Challenges Update

How deal with the impact of finer pitch, diff pairs, and new packages

Presentation by: **Charles Pfeil**, Engineering Director at Mentor Graphics

August 2012 *55 in attendance*

1st Topic:

Advances to copper foil technology are set to change the Design Paradigm

Learn why “Thin is In” for High Speed PCBs & IC-Packaging Applications

Presented by: **Rocky Hilburn** Product Manager at **Insulectro** – Lake Forest, CA

2nd Topic:

Creating “Any Layer” Via Interconnects with Sintering Pastes in Multilayer Structures

Learn how Paste microvias are a cost-effective and reliable alternative

Presented by: **Ken Holcomb** VP of Engineering at **Ormet Circuits, Inc.** – San Diego, CA

May 2012 *66 in attendance*

High Density Interconnect (HDI) Structures

How proper planning can help a designer make HDI cost-effective

Presentation by **Gary Ferrari, CID+** Director of Technical Support, **FTG Circuits**

February 2012 *67 in attendance*

PCB Design Guidelines: From the Basics to Micro Vias and Stacked Micro Vias

Basic Design guidelines and more, including when and where to use micro vias and stacked micro vias

Presentation by: **Gil White**, Sr. Technologist, **DDi Corp.**

October 2011 *66 in attendance*

CAD to CAM - The Design to Manufacturing Interface

What you need to know about the PCB fabricators engineering process

Presented by: **Gerry Partida**, Eng. **Marcel Electronics Int'l** (Fabricator)

Design to Manufacturing - A Manufacturers Perspective

A roadmap to eliminating roadblocks on the path to reliable assembly
Presented by: **Richard Fitzgerald**, COO - **Qual-Pro Corp.** (Assembler)

June 2011 *49 in attendance*

Design Solutions for Thermal Management and High Density Structures

New concepts that PCB designers need to learn to aid in solving reliability issues

1. PCB Design for Thermal Management

Presented by: **Gil White**, Sr. Technologist, **DDi Corp.**

2. New Substrate for Next Generation HDI Designs

Presented by: **Jim Ryan**, VP of Business Development, **Integral Technology**
Chris Hunrath, VP of Technology, **Integral Technology**

March 2011 *36 in attendance*

Achieving Signal & Timing Requirements for a DDR2 Based System

What Designers need to know about Double-Data-Rate synchronous DRAM memory

Presentation by: **Bruce Caryl**, Application Engineer with Mentor Graphics

Nov 2010 *54 in attendance*

Increase Your Productivity – Today!

Techniques, Tips and Ideas for Achieving Greater Design Productivity from your Tools

Presentation by: **Michael Goode**, **CID** – Sr. Field Applications Engineer – Cadence

Sept 2010 *46 in attendance*

Using Embedded Capacitance for Increased Performance and Reliability

What Designers need to know about embedded capacitance materials

Presentation by: **Joel S. Peiffer**, 3M Electronic Solutions

June 2010 *58 in attendance*

Field trip to tour Nelco's Laminate manufacturing plant

March 2010 *101 in attendance*

BGA Breakout & Routing Techniques

Effective Design Methods for Very Large BGAs

Presentation by: **Charles Pfiel**, Engineering Director at Mentor Graphics

Nov 2009 *57 in attendance*

Achieving MCAD and ECAD integration

Exploring solutions for bridging the gap between 3D Mechanical and PCB design

Presentation by: **Samuel Sattel, CID** - Field Applications Engineer – **Altium**
Larry Santellan – Sr. PCB Designer – **Alcon**
Mario Escalante - Mechanical Designer – **Alcon**

Sept 2009 57 in attendance

Solutions for Effective Soldermask and Via Fill

Everything that designers and EE's need to know about if, when and how to fill your vias

Presentation by: **Terry Regan** – Field Applications Engineer – **Coretec, Inc**

June 2009 52 in attendance

Boundary-Scan Test Fundamentals Including Design and Layout Considerations

TRACK 1 - Implementing boundary-scan into your printed circuit board designs

Presentation by: **Ryan Jones** – Senior Technical Marketing Engineer – Corelis, Inc

TRACK 2 - A Contract Manufacture's view on the benefits of design for testability

Presentation by: **Kam Mahdi** – CEO - Probe Manufacturing, Inc

March 2009 95 in attendance

Topic: Advanced Laminate Materials

PCB laminate solutions for today's and tomorrow's challenging designs

Presentation by: **Silvio Bertling, Technologist at Neltec R&D** (Nelco)

Special presentation by Dr. Henry Samueli, CTO and Co-founder of Broadcom

What future challenges and technology will be coming to the PCB Board environment..?

Jan 2009 87 in attendance

Topic: Routing Strategies

A Panel Discussion Focusing on Concepts for Efficiently Routing your Design

Dec 2008 35 in attendance

Event: Field trip to Qual-Pro (Contract Manufacturing facility)

Sept 2008 73 in attendance

Topic: DDR Memory Design

Everything that designers and EE's need to know about high-speed memory layout

Presentation by: **Griff Derryberry** - Applications Engineer with Zuken USA Inc
(sponsored by Zuken @ the DoubleTree hotel)

July 2008 22 in attendance

All day WORKSHOP: **Hands-On Design of Advanced HDI BGA Technologies**

Instructor - **Happy Holden**, Mentor Graphics

July 2008

Event: **Field trip event to fab houses**

Learning about processes to support HDI designs

DDI 44 in attendance

MEI 17 in attendance

May 2008 70 in attendance (2 sessions)

Topic: **Rigid/Flex Interconnect Technology**

What a designer needs to know about this advanced interconnect solution

Presentation by: **Bob Sheldon**, Director of Engineering – **Pioneer Circuits, Inc.**

Feb 2008 62 in attendance

Topic: **Controlled Impedance and High Speed Technology**

Practical PCB Layout Tips for High Speed and Controlled Impedance Designs

Presentation by: **Gil White**, **Dynamic Details Inc.**

Dec 2007 65 in attendance (2 sessions)

Topic: **Understanding Impedance Modeling for PCB Layout**

Practical approach to successful stack-ups that PCB Designers can apply today!

Presentation by: **Martyn Gaudion**, **Polar Instruments LTD**

Sept 2007 39 in attendance (2 sessions)

Topic: **Solving Component Placement Challenges**

How to gain productivity with new automated tools

Presentation by: **Thomas J. Garcia** Sr. Technical Sales Engineer – DesignAdvance, Inc

July 2007 56 in attendance (2 sessions)

Topic: **HDI Applied Technology**

How a designer can adopt and adapt to advanced interconnect strategies

Presentation by: **Kip Anderson** Principal Sales Application Engineer – TTM Technologies

May 2007 60 in attendance (2 sessions)

Topic: **Solving the Metric Pitch BGA Dilemma**

How to get back "on grid"

Presentation by: **Tom Hausherr, CID+** Director of Technology – PCB Libraries, inc.

Feb 2007 **54 in attendance**

Topic: Strategies for the designer to select the correct MicroVia
Is it now time to consider MicroVias as a viable solution for your design?

Presentation by: **Gil White** - Technical Marketing – Dynamic Details, Inc.

Dec 2006 **69 in attendance (2 sessions)**

Topic: Integrating High Density Interconnect (HDI) Technology into Today's PCB Designs
Everything the designer needs to know about microvias

Presentation by: **David Hoover** - Sr. Field Application Engineer, Multek Technology, Inc.

Sept 2006 - **86 in attendance (2 sessions)**

Topic: Minimizing EMI & Noise Coupling Among Circuit Regions In Circuit Boards
Valuable concepts that PCB Designers can use immediately for layout topologies

Presentation by: **W. Michael King** - Systems Design Advisor (www.systems-emc.com)

June 2006 – **64 in attendance**

Topic: Conquering Thermal Challenges on Printed Circuit Boards
Techniques and solutions for reducing thermal issues on your PCB designs

Presentation by: **Sherman Ikemoto**, Business Development Manager - **Flomerics**
Don Roy, Executive Vice President – **ThermalWorks**

May 2006 – **53 in attendance**

Topic: The CAD Library in the Design Environment
What's new in CAD library management?

Presentation by: **Mike Creeden, CID+** - Owner, San Diego PCB Design
Jeff Mellquist, CID+ - VP Software Programming, PCB Libraries, Inc & developer of the IPC LP Calculator

Feb 2006 - **89 in attendance (2 sessions)**

Topic: Designing with Ball Grid Arrays
Everything the PCB Designer needs to know about BGAs

Presentation by: **Wayne Pulliam** of Advance Micro Devices (AMD)

Nov 2005 - **45 in attendance**

Topic: Embedded Capacitors in PCBs
Solving density challenges by "thinking inside the box"

Presentation by: **John Adresakis**, VP of Strategic Technology - **OAK-Mitsui Technologies** - Hoosick Falls, NY

Sept 2005 - **29 in attendance**

Topic: Automating PCB Documentation
A revolutionary way to improve documentation and reduce time by up to 80%

Presentation by:

David Wagner, Sr. Field Applications Engineer – ECADware – Escondido, CA

July 2005 - 53 in attendance

Embedded Resistors

May 2005 82 in attendance (2 sessions)

Topic: High-Speed Interconnect Design - Secrets Revealed

What a designer needs to know about Signal Integrity and High Speed routing techniques

Presentation by:

Robert Cutler, Consultant in Interconnection Technology - Malibu, CA

Robert Jardon, President – Jardon Engineering, Tustin, CA

March 2005 – 63 in attendance

Topic: PCB Laminate Materials

Lead-Free? Halogen Free? High Speed? What the designer needs to know

Presentation by:

Fred Scheer, Director of Technical Services- Nelco

Cesar Santiago, Applications Development Mgr - Rogers Corp.

January 2005 - 49 in attendance

Topic: Final Surface Finishes for the PCB

Everything the designer needs to know for making the correct choice

Presentation by:

Aaron Karoly, Applications Manager, Final Finish Technologies – MacDermid, Inc.

Kathy Palumbo, CEO – Production Analysis & Learning Services

Nov 2004 87 in attendance (2 sessions)

Topic: Via-in-Pad Technology

Design and fabrication techniques for increasing circuit routing density

Presentation by:

Gil White, Technical Marketing – Dynamic Details, Inc (PCB fabricator)

Javier Jimenez, President – Dynamic Engineering services (PCB design)

Sept 2004 - 48 in attendance

Topic: Engineering Review and PCB Design Validation

Concepts, procedures and software tools to insure you get your design right the first time!

Presented by:

Scott Montgomery, Mgr of Electronic Design Support – Boeing Integrated Defense Systems

Mark Scheetz, Sr. Applications Engineer – GoEngineer

June 2004 - 29 in attendance

Topic: **Circuit design solutions using Flexible and Rigid-flex interconnects**
Everything you always wanted to know about the use of flexible circuitry, but were afraid to ask!

Presented by:

Shawn Arnold - PCB Designer – High-Speed-Solutions & Design Inc.

Tom Dougherty – Flex-Link Products, Inc.

April 2004 - 53 in attendance

Topic: *An introduction to “The CAD Library of the Future”*

Presented by Tom Hausherr, CID+ and Jeff Mellquist CID+ of PCBLibraries.com

Jan 2004 - 61 in attendance

Topic: **CAUTION – High Speed Zone Ahead!**
A discussion on Controlled Impedance - High-Speed Design Guidelines and Capabilities and Low Loss Materials (including Low Loss Substrates and High Frequency)

Presented by David Hoover - Sr. Field Applications Engineer, Multek, Inc.

Oct 2003 - 58 in attendance

Topic: **Fab drawings and data**
How the designer can help minimize the headaches of your PCB vendor.

Presented by

Gerry Partida – Engineering Manager of Marcel Electronics, Int'l (PCB fabricator)

Vern Wnek – Sr. PCB Designer, Broadcom Corp.

Aug 2003 - 58 in attendance

Topic: **Cause and Effect - How design "goofs" create big headaches for PCB Fabricators and Assemblers.**

Presented by

PCB Design engineer – **David Kendrick** (Broadcom)

Board Fab engineer - **Dave Hoover** (Multek)

Assembly process expert - **Kathy Palumbo** (Production Analysis & Learning Services)