

Engineering *Tomorrow's* Electronics



# SHOW GUIDE

**CONFERENCE:**  
October 8 – 11

**EXHIBITION:**  
Wednesday, October 9

**Santa Clara Convention Center, CA**

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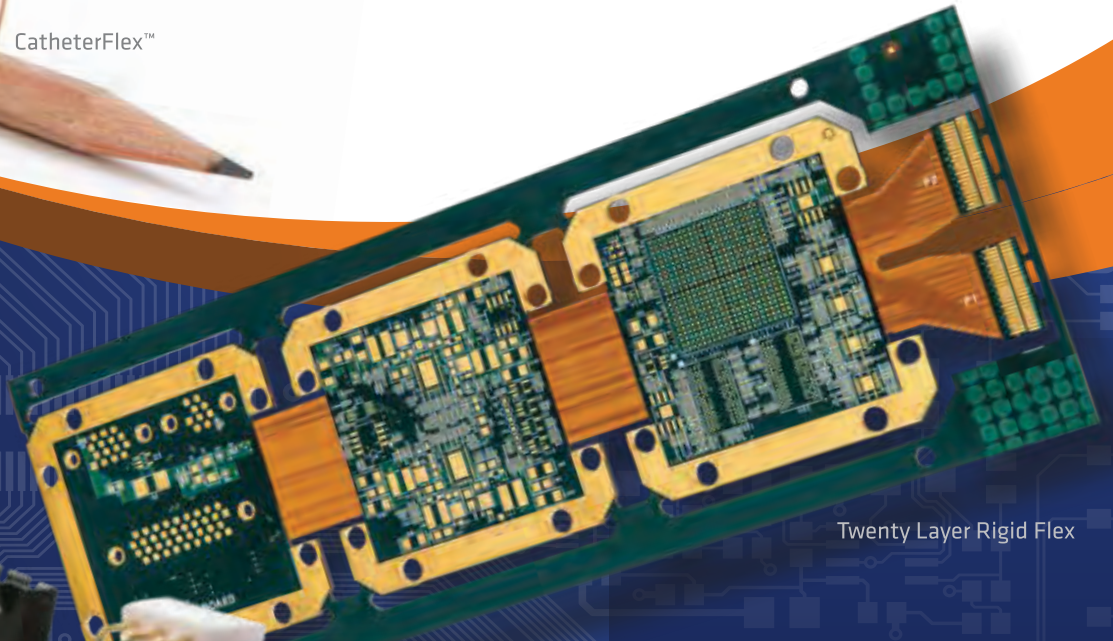
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- AdvancedPCB Design Services **Booth 113**

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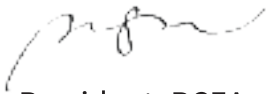
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# FROM THE CONFERENCE CHAIR



Mike Buetow



President, PCEA  
PCB East Conference Chair

Ultra-high-density interconnects are more smoke than fire right now, but they won't be that way for long. Driven by high-density BGAs and RF products, UHDI is finding its way into the mainstream.

I am reminded – to a degree – of the chaos surrounding UHDI's (slightly) larger cousin, high-density interconnects, which hit widespread production in the late 1990s (although the original concept dates much earlier).

At that time, many Western fabricators balked at investing in HDI technology, instead focusing on high-layer-count boards. In retrospect, a major industry inflection point was missed.

Experts today say that when lines and spaces reach less than 25 microns, UHDI is needed. That's really small, of course. But while conventional technology will continue to have a long runway, I predict those who master UHDI will be better-positioned to take advantage of the smaller, thinner, lighter products consumers of all stripes demand.

A special free panel at PCB West this year will outline the basic various ways UHDI processing takes place, and help designers and design engineers understand how their decisions might affect yield. Be sure to check it out!

Another can't miss is our keynote. Charles Pfeil, architect of two CAD platforms, offers his detailed take on how to overcome the resistance to using artificial intelligence in PCB design. As a followup, a panel on AI in electronics will tackle some of the more pressing issues facing industry today.

We invite all our attendees to join us for these and several other free sessions on October 9, and to take in the more than 100 leading electronics design, fabrication and assembly companies on hand during the one-day exhibition.

Thanks for stopping by!  
Mike Buetow

P.S. For continued learning after the show, check our YouTube channel (@pcea-official).

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# SCHEDULE-AT-A-GLANCE

## TUESDAY, OCTOBER 8

REGISTRATION: 7:30 a.m. – 6:00 p.m.

TIME	TITLE	SPEAKER
10:00 a.m. to 12:00 p.m.	AC/DC? DC to AC? Power Integrity and Decoupling Primer for PCB Designers – A Practical Introduction	Ralf Bruening, Zuken
10:00 a.m. to 3:00 p.m.	Boot Camp – Science-Based Power Supply Design, Part 1	Daniel Beeker, NXP Semiconductor
10:00 a.m. to 3:00 p.m.	Part Placement Choices and Consequences	Susy Webb, DesignScience
10:00 a.m. to 3:00 p.m.	Circuit Grounding to Control Noise and EMI	Rick Hartley, RHartley Enterprises
10:00 a.m. to 3:00 p.m.	Signal Integrity in Thin PCB Materials and IC Substrates	Zachariah Peterson, Northwest Engineering Solutions
10:00 a.m. to 3:00 p.m.	Design for “X”	John Watson, Altium

Lunch-N-Learn: 12:00 p.m. – 1:00 p.m.

Sponsored by Polar Instruments (Tuesday conference attendees and speakers only)

1:30 p.m. to 2:30 p.m.	PCB DfM (A Comedy Routine Depicting a Typical Dialog between a PCB Designer and Fabricator)	Stephen Chavez, Siemens, and Gerry Partida, Summit Interconnect
3:00 p.m. to 4:00 p.m.	Printed Circuit Engineering Association Annual Meeting	Chairman: Stephen Chavez, Siemens
4:00 p.m. to 5:00 p.m.	Harnessing the Power of AI in PCB Design: Addressing Challenges and Unlocking Opportunities	David Wiens, Siemens
4:00 p.m. to 5:00 p.m.	How to Protect Your IP When Working with Your Manufacturing Partners	Hemant Shah, IPC-2581 Consortium, and Bob Miklosey, Aegis Software
4:00 p.m. to 5:00 p.m.	Propagation Delay Analysis by Employing Various PCB Manufacturing Process	Jaeho Choi, Samsung Electronics
4:00 p.m. to 5:00 p.m.	Toward Optimal Surface Finishing of PCBs: Sustainable Solution for Automated and Optimized Cu Balancing and Cu Electroplating Step	Agnieszka Franczak, Elsycy NV
4:00 p.m. to 5:00 p.m.	Best Practices for HDI and Sub-Lamination Structures: Overcoming Challenges for Optimal Yield and Performance	Gerry Partida, Summit Interconnect

## WEDNESDAY, OCTOBER 9

REGISTRATION: 7:30 a.m. – 6:00 p.m.

10:00 a.m. to 12:00 p.m.	Avoiding Assembly Pitfalls – DFA/DfM Lessons for First PCB Runs	Keven Coates, OnwardAir
10:00 a.m. to 12:00 p.m.	Differential Pair Design for 112 Gbps and Faster Systems	Zachariah Peterson, Northwest Engineering Solutions
10:00 a.m. to 12:00 p.m.	PCB Thermal Design: Quenching the Blaze	Ethan Pierce, Pierce Design, and Tomas Chester, Chester Electronic Design
10:00 a.m. to 3:00 p.m.	Boot Camp – Science-Based Power Supply Design, Part 2	Daniel Beeker, NXP Semiconductor

LUNCH ON EXHIBIT FLOOR: 12:00 p.m. – 1:00 p.m.

# SCHEDULE-AT-A-GLANCE

## WEDNESDAY, OCTOBER 9 - CONTINUED

TIME	TITLE	SPEAKER
1:30 p.m. to 2:30 p.m.	Precision in Design: A Course on Strategic Design PCB Assembly	Tomas Chester, Chester Electronic Design
1:30 p.m. to 3:30 p.m.	A Case Study on the Performance and Reliability of New Low-Cost and Sustainable PCB Materials for Immersion-Cooling Computer Systems	Dan Liu, Alibaba Group, and Wayne Wang, Shennan Circuits
1:30 p.m. to 3:30 p.m.	Routing and Termination of Lines to Control Signal Integrity	Rick Hartley, RHartley Enterprises

**RECEPTION ON EXHIBIT FLOOR: 5:00 p.m. – 6:00 p.m.**  
Sponsored by Cofactr and EMA Design Automation

## WEDNESDAY FREE SESSIONS

9:00 a.m. to 10:00 a.m.	Panel: Engineering Knowledge Gaps	Moderator: Stephen Chavez, Siemens
9:00 a.m. to 10:00 a.m.	Panel: UHDI: From Design to Manufacturing	Moderator: Geoffrey Hazelett Panelists: Michael Gleason, GreenSource Meredith Labeau, Calumet Electronics Anaya Vardya, ASC Sunstone Circuits Jay Vyas, SigmaTron International
10:00 a.m. to 11:00 a.m.	AI and PCB Design: Where are We and Where are We Going?	Matthew Leary, Newgrange Design
10:00 a.m. to 11:00 a.m.	“Copper Pours” on PCB Signal Layers	Rick Hartley, RHartley Enterprises
11:00 a.m. to 12:00 p.m.	Keynote: AI Roadmap for PCB Layout: New Opportunities for PCB Designers	Charles Pfeil

**LUNCH ON EXHIBIT FLOOR: 12:00 p.m. – 1:00 p.m.**

1:30 p.m. to 2:30 p.m.	PCB Cost Drivers	Ramon Roche, NCAB Group
1:30 p.m. to 3:30 p.m.	The Most Common Issue Seen in Incoming Designs in PCB Fabrication	Mike Tucker, Millennium Circuits, and Ray Fugitt, DownStream Technologies
2:30 p.m. to 3:30 p.m.	Nuke the Netlist	Terry Hoffman, Cisco Systems, and Dana Korf, Nano Dimension
4:00 p.m. to 5:00 p.m.	PCB and Circularity	Ramon Roche, NCAB Group
4:00 p.m. to 5:00 p.m.	Panel: AI in Electronics	Moderator: Phil Marcoux Panelists: Tomide Adesanmi, Circuit Mind Matthew Leary, Newgrange Design Kyle Miller, Ph.D., Zuken Timon Ruban, Luminovo

**RECEPTION ON EXHIBIT FLOOR: 5:00 p.m. – 6:00 p.m.**  
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# SCHEDULE-AT-A-GLANCE

## THURSDAY, OCTOBER 10

REGISTRATION: 9:00 a.m. – 5:00 p.m.

TIME	TITLE	SPEAKER
9:00 a.m. to 6:00 p.m.	How PCB Design Affects Fabrication	Paul Cooke, AGC
9:00 a.m. to 6:00 p.m.	PCB Design for Engineers	Susy Webb, DesignScience
10:00 a.m. to 12:00 p.m.	Signal Attenuation in Very High-Speed Circuits	Rick Hartley, RHartley Enterprises
10:00 a.m. to 3:00 p.m.	Introduction to Signal Integrity/High Speed PCB Layout	Keven Coates, OnwardAir
10:00 a.m. to 3:00 p.m.	The Basics of Rigid Flex Design	John Watson, Altium
10:00 a.m. to 5:00 p.m.	Power Delivery System (PDS) Design	Lee Ritchey, Speeding Edge

LUNCH-N-LEARN: 12:00 p.m. – 1:00 p.m.

Sponsored by ASC Sunstone Circuits and Screaming Circuits  
(Thursday conference attendees and speakers only)

1:30 p.m. to 3:30 p.m.	DDR5 Through the Eyes of the Designer	Terrie Duffy and Charlene McCauley, McCauley Design Group
4:00 p.m. to 6:00 p.m.	Designing for Reliability: Design Choices have Cleanliness Consequences	Caleb Buck, Nidec Aerospace
4:00 p.m. to 6:00 p.m.	Ask the Flexperts with Lessons Learned	Mark Finstad, Flexible Circuit Technologies, and Nick Koop, TTM Technologies
4:00 p.m. to 6:00 p.m.	Avoiding PCB Respins, Reducing Cost and Time to Market	Syed Ubaid Ali Warsi, Wavetroniks
4:00 p.m. to 6:00 p.m.	System Mechanical Design to Control EMI	Rick Hartley, RHartley Enterprises

## FRIDAY, OCTOBER 11

REGISTRATION: 9:00 a.m. – 4:00 p.m.

10:00 a.m. to 12:00 p.m.	Analog Measurements - Sensor Selection, Interfacing, and PCB Design Examples	Ben Voigt and Nathan Christensen, Sparx Engineering
10:00 a.m. to 12:00 p.m.	PCB Stackups & Impedances	Ryan Miller, NCAB Group
10:00 a.m. to 12:00 p.m.	Designing Complex PCBs	Stephen Chavez, Siemens
10:00 a.m. to 12:00 p.m.	Improving Circuit Design and Layout: Strategies for Enhanced Accessibility and Success	Tomas Chester, Chester Electronic Design
10:00 a.m. to 12:00 p.m.	Noise, SI, and EMI in Cables and Connectors	Keven Coates, OnwardAir

LUNCH-N-LEARN: 12:00 p.m. – 1:00 p.m.

(Friday conference attendees and speakers only)

1:30 p.m. to 3:30 p.m.	PCB Embedded Inductor Technology	Paul Yang, JOVE PCB
1:30 p.m. to 3:30 p.m.	Launching Electronics with Confidence: A Guide to Successful Design Release	Syed Ubaid Ali Warsi, Wavetroniks
1:30 p.m. to 5:00 p.m.	Designing Boards with Today's BGAs	Susy Webb, DesignScience
1:30 p.m. to 5:00 p.m.	PC Board Design for Optimum Manufacturability	Rick Hartley, RHartley Enterprises



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AllSpice.io	206	IBE Electronics Inc.	512	Rogers Corporation	201
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ASC Sunstone Circuits	607	IPC-2581 Consortium	412	SEP Co., Ltd.	514
Bay Area Circuits	300	Ironwood Electronics	311	Siemens	405
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Cicor Group	419	Leader Tech Inc.	417	Sunshine Global Circuits	212
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For 24 years, Depthtech has been innovating process chemicals in the photo image transfer step of PCB fabrication, from leading the charge to add vat cleaning SOPs to top fabs to now revolutionizing the way top fabs think about how photoresist residue forms. Depthtech joins PCB West to present a new patented technology, DCCT.

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greg@directpcb.com | directpcb.com

At DirectPCB, our team has revolutionized the art of purchasing printed circuit boards, empowering buyers with strategies that slash costs by up to 25%. Our mission is to demystify the complexities of PCB sourcing, like navigating tariffs and getting required technologies, ensuring clients benefit from both domestic and international manufacturing efficiencies.



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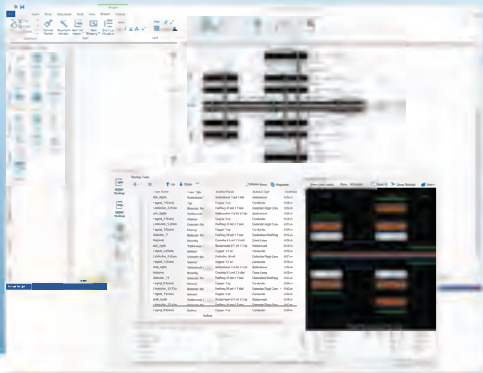
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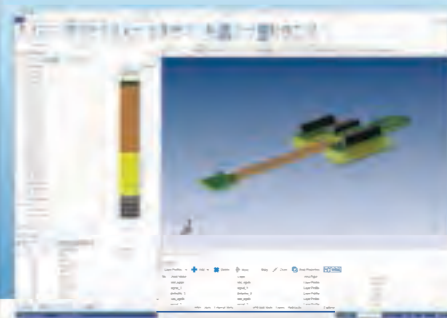
CAM350®

DownStream's CAM350 and BluePrint-PCB support importation and visualization of PCB designs containing Flex, Rigid Flex or Embedded components. Visualize designs in both 2D and 3D, and easily document complex Flex or Rigid-Flex Stack-Ups for submission to PCB Fabricators.

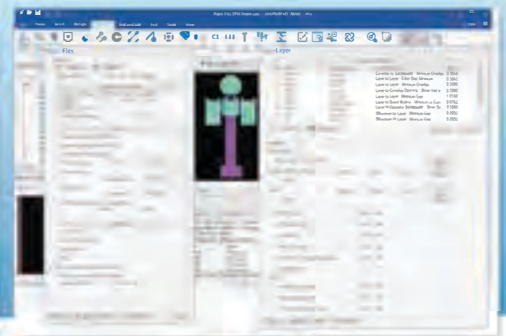
- Import and Visualize Flex, Rigid-Flex and Embedded Component Designs
- 3D Visualization to Validate PCB Construction and Component Assembly
- Manage Variable Stackup Zones for Rigid-Flex Designs
- Easily Create Custom Flex or Rigid-Flex Fabrication and Assembly Documentation
- Use DFM analysis to analyze a flex or rigid-flex design for potential fabrication or bend related defects



Use Stack Up Visualizer and Blueprint's Rigid-Flex Stackup template to easily manage and document rigid-flex stackups.



A rigid-flex design in 3D. Shown with layers spread out to improve visualization of the layer stackup.



Use Rigid-Flex and Inter-layer DFM analysis to analyze flex and rigid-flex designs.



DownStream  
Technologies

For more information visit [downstreamtech.com](http://downstreamtech.com) or call (508) 970-0670

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## DownStream Technologies, Inc.

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(508) 970-0670  
[joec@downstreamtech.com](mailto:joec@downstreamtech.com) | [downstreamtech.com](http://downstreamtech.com)



DownStream helps optimize and automate the PCB release process. Our integrated manufacturing data preparation platform helps transition PCB designs into physical PCBs, faster and without compromise. DownStream's solutions are the de facto standard. Our tools create the deliverables required for a complete PCB manufacturing and assembly release package. CAM350 verifies and optimizes data and BluePrint PCB produces comprehensive electronic drawings.



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+41432661100  
[info@dyconex.com](mailto:info@dyconex.com) | [dyconex.com](http://dyconex.com)

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Anaheim, California 92805  
(833) 366-1609  
[contact.us@element.com](mailto:contact.us@element.com) | [element.com](http://element.com)

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+815017465212  
[saito@elephantech.co.jp](mailto:saito@elephantech.co.jp) | [elephantech.co.jp/en/](http://elephantech.co.jp/en/)

Elephantech Inc. has developed an innovative electronics manufacturing process using metal inkjet printing technology that is both sustainable and cost-effective. Using this technology, Elephantech has achieved the world's first mass production of inkjet printed circuit boards with a 75% reduction in carbon footprint, 70% reduction in copper usage, and 95% reduction in water usage.



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#236  
Santa Rosa, California 95401  
(707) 237-2794  
[olia@elgris.com](mailto:olia@elgris.com) | [elgris.com](http://elgris.com)



Elgris Technologies, Inc. is the leading provider of schematic and layout interoperability and visualization tools and services since 2005. We provide solutions to translate, restore, integrate schematics/libraries/layouts between multiple EDA/PCB systems. E-studio Pro supports tens of schematic translation flows including EDIF. E-studio For Test - reverse-engineering tool that generates intelligent schematics from PCB netlists or Gerbers. E-station - cross-probing tool.

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(510) 668-1118  
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EM Solutions is an electronics manufacturing company in San Jose, specializing in turnkey printed circuit board assembly. We offer mid- to large-sized production runs and high-quality, quickturn NPI/prototype builds (one to five days). Our strengths lie in quality, pricing, customer service, and incorporating mid-production changes. We are committed to helping engineers streamline their engineering and manufacturing processes.



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EMA Design Automation is a leader in product development solutions ranging from electrical CAD tools, data management and PLM systems, services, training, and technical support. EMA is a Cadence Channel Partner, serving all of North America, focusing on the manufacturing industry. We are an authorized training center and offer in-house, onsite, and remote options.

## ESTECO North America

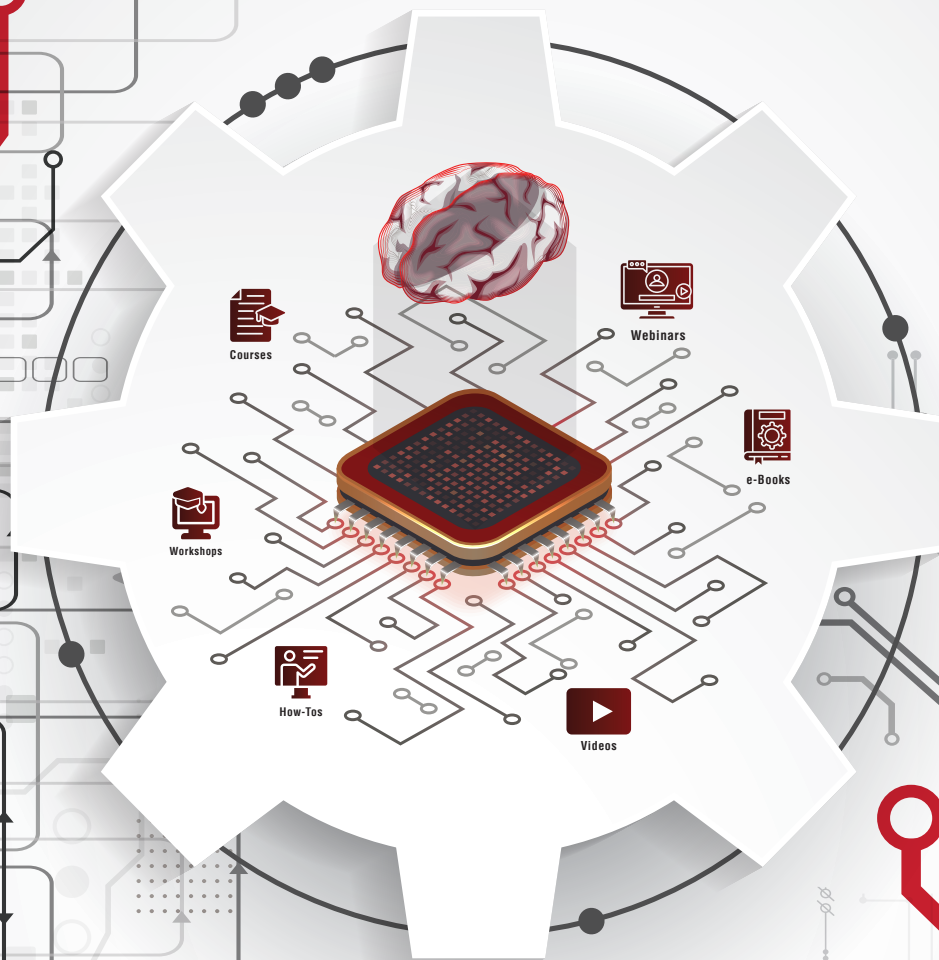
Booth #515  
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davidweatherford@ftgcorp.com | ftgcorp.com

FTG Circuits is an operating unit of FTG Corporation that comprises PCB manufacturing locations in Toronto, ON; Chatsworth, CA; Fredericksburg, VA; and Tianjin, PRC. FTG Circuits is a leading provider of complex PCBs for HDI, thermal management, RF, flex and rigid-flex applications. FTG Circuits sites are AS9100, NadCap, ITAR/EAR or CGP certified.



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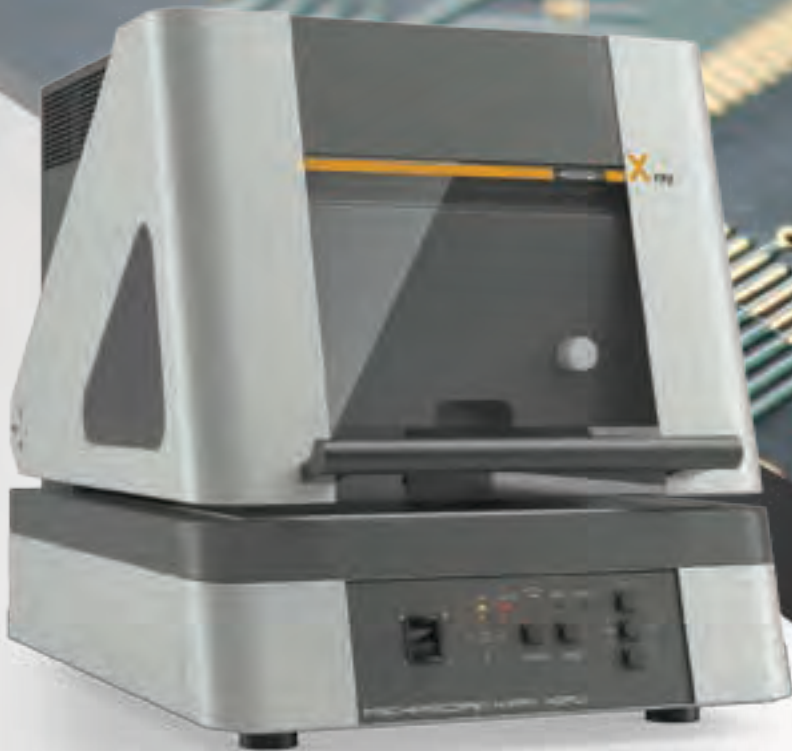
## GS Swiss PCB AG

Booth #219  
Faennring 8  
Kuessnacht, Schwyz 6403  
Switzerland  
+41418544812  
sales@gs-swiss.com | gs-swiss.com/en

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## IPC-2581 Consortium

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IPC-2581 Consortium is a group of PCB design and supply chain companies whose collective goal is to enable, facilitate and drive the use of IPC-2581 in the industry. It is devoted to accelerating the adoption of IPC-2581 as an open, neutrally maintained global standard to encourage innovation, improve efficiency and reduce costs.

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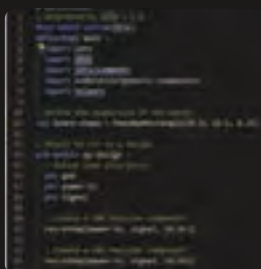


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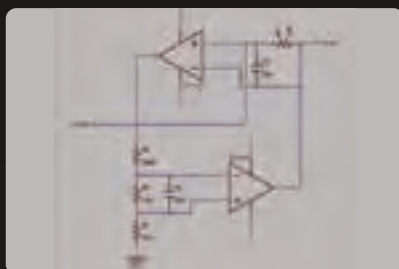
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and Re-use Methodology



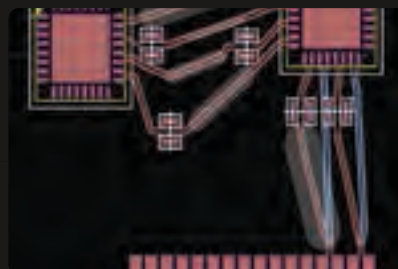
### Code Requirements

Requirements, constraints, stack-ups, and component models are expressed in a Python-like domain specific language which describes components, connectivity, and board(s).



### Schematic

Automatically generated schematics are derived from the code to match and are correct by construction. Users can easily make aesthetic tweaks in the GUI to tailor to their preference.



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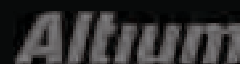
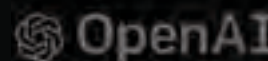
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MFS Technology is the innovation leader and pioneer in FPC, PCB and rigid-flex. Having more than 30 years of superior design, flexible manufacturing and excellent quality, MFS provides diversified products and services to over 250 blue-chip MNCs. Headquartered in Singapore with manufacturing in China and Malaysia, MFS covers different segments; e.g. automotive, mobile, consumer, industrial, medical and data storage.

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## Notion Systems GmbH

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Germany  
+496202578770  
sales@notion-systems.com | notion-systems.com

Notion Systems is a leading supplier of industrial inkjet printing systems. The n.jet inkjet platform is used to produce printed circuit boards, OLED & QLED displays, sensors and high-quality 3-D parts. Notion Systems relies on decades of experience bringing precise inkjet systems to customers and scaling up digital printing processes for functional materials.

## Oak Mitsui Technologies LLC

Booth #203  
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sales@faradflex.com | oak-mitsuitechnologies.com

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## OKI Circuit Technology Co., Ltd.

Booth #605  
4-10-16, Shibaura  
Minato-ku, Tokyo 108-8551  
Japan  
+819071917790  
ogura334@oki.com | oki-otc.jp/en/

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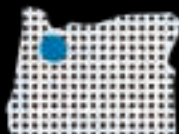
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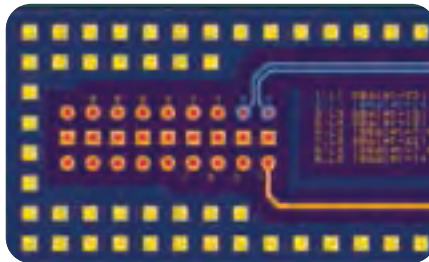
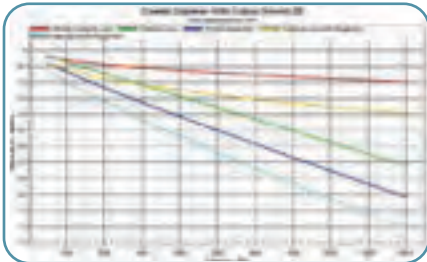
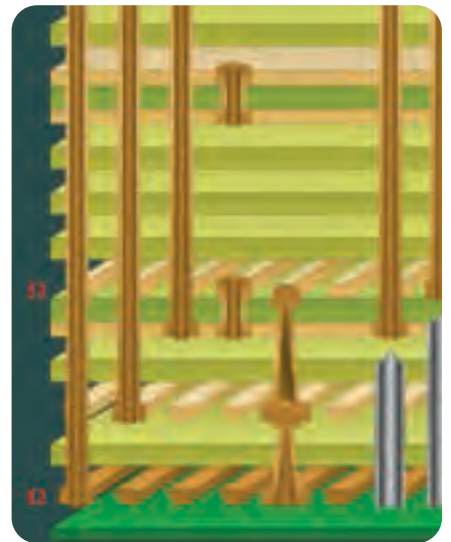
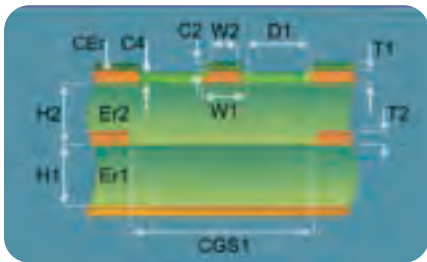
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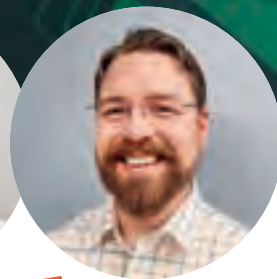
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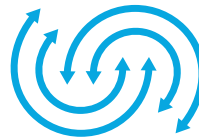
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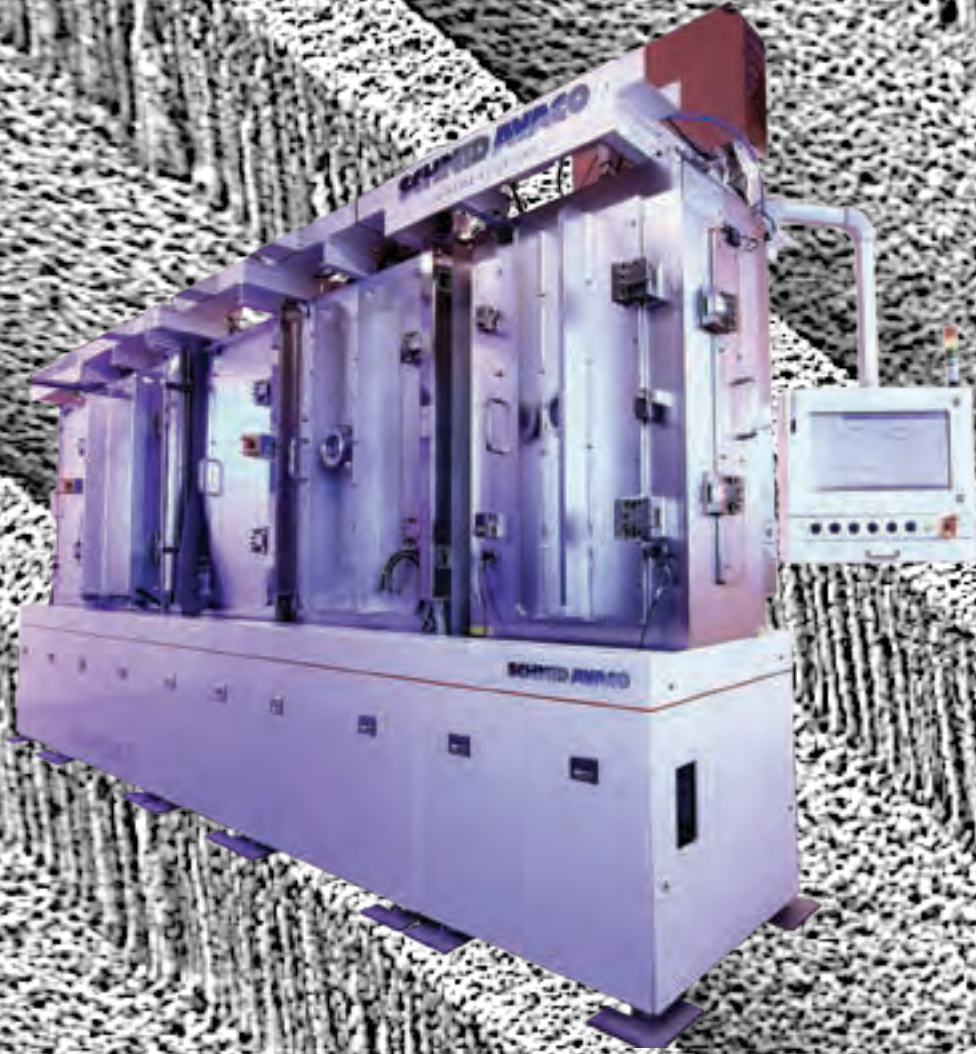
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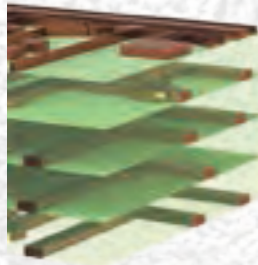


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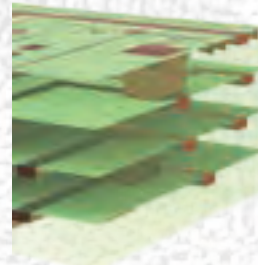
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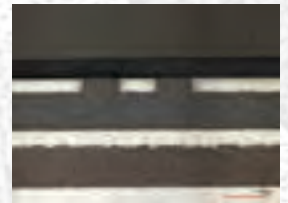
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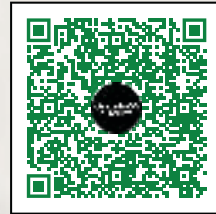
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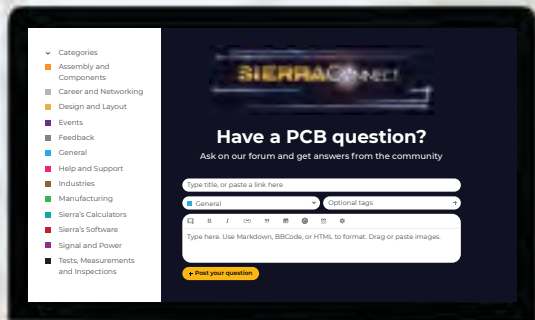
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# SPEAKER BIOS

**DANIEL BEEKER** is technical director at NXP Semiconductor, where he provides applications support and special function development tools and instrumentation for NXP Automotive customers worldwide. He has more than 43 years' experience in electronics system design and EMC. He also specializes in EMC and signal integrity design techniques for systems and PCBs. He has completed more than 200 PCB design evaluations for customers and internal NXP products. He teaches field-based design techniques at NXP and industry conferences worldwide, more than 100 sessions with more than 5,000 attendees since 2010. He is also involved with NXP IC package design and IC development tool teams to support improved EMC performance, working on more than 20 IC designs. His unique approach to EMC is the result of many years of collaboration with one of the fathers of the industry, Ralph Morrison.

**RALF BRUENING** is product manager and senior consultant at Zuken, a major EDA vendor. He holds a degree in computer science, electrical engineering and economics. He has more than 30 years of experience in electronics and EDA. He has longtime technical co-responsibility for the architecture of Zuken's high-speed design, signal integrity, power integrity and EMI solutions. He is an active member of the IBIS Open Forum. Bruening represents Zuken as industrial coordinator in a research project with 18 partners from academia and industry, funded by the German government, focused on how AI/ML technologies can be utilized efficiently in various stages of PCB design (his area is SI/PI analysis with emphasis on data generation and suited AI algorithms). Part of his responsibility is to help customers in implementing signal- and power-integrity analysis in their PCB design flows, and his group also performs SI/PI project consulting.

**CALEB BUCK** is an electrical engineer and PCB designer with 13 years' experience as a PCB designer and nine years designing Li-Ion battery systems for military, aviation and aerospace applications. He has spent the past six years focusing on how to increase PCB assembly reliability in harsh environments and in this work he has found PCB cleanliness to be of critical importance for mission-critical and life-critical systems.

**STEPHEN CHAVEZ, CPCD-I**, is a senior printed circuit engineer with three decades' experience. Chavez is recognized throughout the industry as a global subject matter expert in PCB design. He is currently a principal technical product marketing manager with Siemens. He coauthored and is an instructor of the PCEA Printed Circuit Engineering Professional curriculum and certification (CPCD). His focus is on continuous improvement for the PCB design profession by serving as chairman of the PCEA.

**TOMAS CHESTER, P.ENG., CPCD-I**, has over a decade of experience designing hardware products through all phases of its lifecycle. He has managed a variety of multifaceted, interdisciplinary projects, from simple interconnect interfaces to complex microprocessors. His creative designs utilize cutting-edge manufacturing techniques, while adhering to strict industry standards and specifications. Chester has extensive experience designing standalone single-sided circuit boards, as well as multi-board assemblies with mechanical integration. Chester is an instructor for Altium and the PCEA CPCD PCB engineering design courses. He has an engineering systems and computing degree from The University of Guelph.

**JAEHO CHOI** has been a memory module PCB design engineer at Samsung Electronics since 2012. Choi graduated from SIPI EMC Lab with a master's degree in 2021 from Sungkyunkwan University in Korea, and wrote a master's thesis on "Signal Integrity Enhancement in Dual-Strip Line by Employing Inhomogeneous Media Related by Crosstalk."

**NATHAN CHRISTENSEN** is an electrical engineer for high-reliability electronics at Sparx Engineering, focusing on PCB design and test, simulation analysis, and electrical requirements development. At Sparx he specializes in sensor networks and data communications for safety-critical systems including aerospace, industrial, oil & gas, and semiconductor equipment, as well as high volume consumer electronics. He holds a bachelor's in electrical engineering from New Mexico State University.

**KEVEN COATES'** career spans 31 years of embedded processor digital/analog systems, high-speed PCB layout/signal integrity, very-low-noise circuits, high-power circuits, thermal management, battery safety, battery management, and battery interface circuits for consumer, industrial and automotive designs. He's currently a senior electrical engineer at OnwardAir working on two-person electric vertical takeoff aircraft. He holds a bachelor's degree in engineering from Texas A&M University.



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# SPEAKER BIOS

**PAUL COOKE** has more than 30 years of experience in printed board (PWB) design and manufacturing. He has held senior positions in operations, quality, process engineering and field application engineering, at some of the top North American PCB manufacturers. He serves on a number of IPC technical committees and cochairs the task group for IPC-9121, Troubleshooting for Printed Circuit Boards. He is a member of the IPC Technical Program Committee. He has coauthored numerous technical papers and works with Tier 1 designers in the avionics and space industry to design and develop products that need to have extended life, focusing on PCB design and reliability. Cooke has provided design for manufacture (DfM) consulting services to the industry along with extensive training/educational presentations from PCB 101 through Enhanced Reliability. He is also the team leader on a number of HDPUG projects and a member of numerous projects.

**TERRIE DUFFY** is a senior printed circuit board designer at McCauley Design Group, and an adjunct professor at Austin Community College. She has a bachelor's in computer science from Texas A&M.

**MARK FINSTAD** is director of engineering at Flexible Circuit Technologies. He co-chairs the IPC-2223, Flexible Circuit Design standard, sits on IPC-6013, IPC-4202, IPC-4203 and IPC-4204 committees, and has over 35 years of experience designing and manufacturing flexible circuits for commercial, medical, and military/avionics applications. He has authored articles in numerous trade magazines, and currently coauthors the "Ask the Flexperts" column for PCD&F magazine with Nick Koop.

**AGNIESZKA FRANCAK, PH.D.**, is team member of Elyca, where she is responsible for the Surface Finishing Division related to the upfront assessment and optimization of the electrochemical surface finishing process performances. She has authored or coauthored scientific and industry-related papers, book chapters and industry standards; and is a conference speaker, participant of industrial R&D projects, and an enthusiast of surface finishing of additively manufactured components.

**RAY FUGITT** is technical sales manager at Downstream Technologies. He has 37 years' printed circuit board experience, 11 at Hadco in product and CAM engineering. In 2002, he joined DownStream in technical marketing and later, technical sales positions, where he supports and provides training for the BluePrint PCB and CAM350 products.

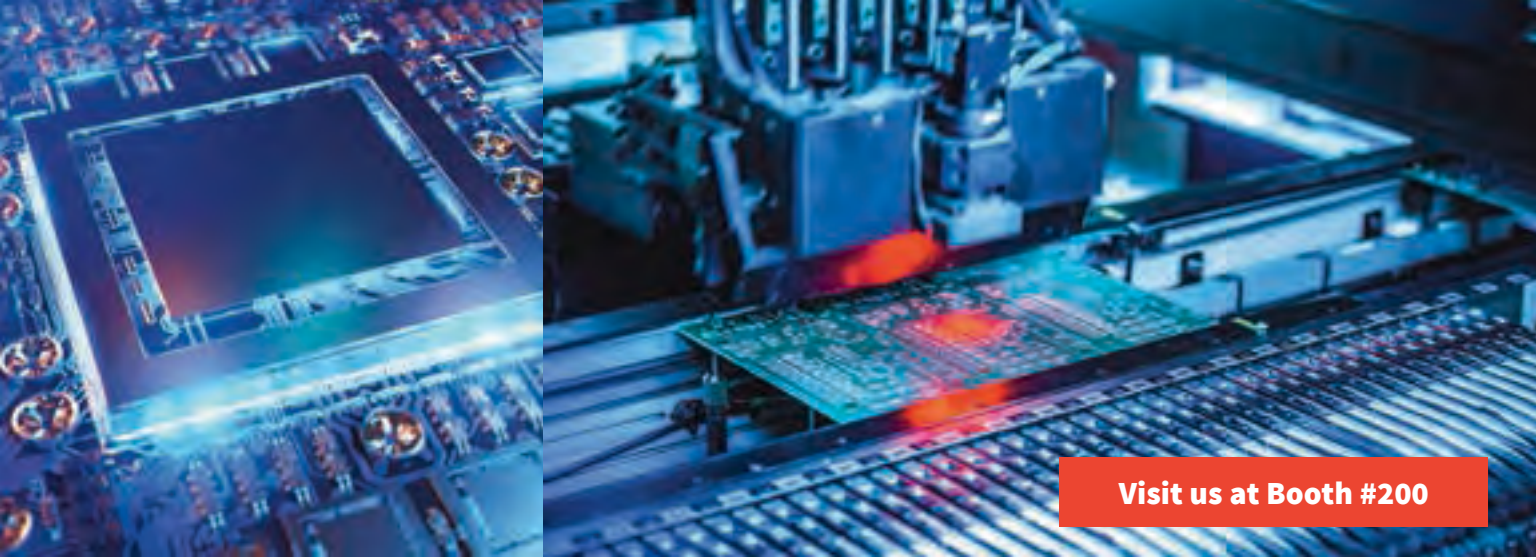
**RICK HARTLEY**, a retired senior principal engineer at L-3 Avionics Systems, is principal of RHartley Enterprises, through which he consults and teaches internationally. His focus is on correct design of circuits and PC boards to prevent and/or resolve EMI, noise and signal integrity problems. He has consulted with major corporations in the US and 14 other countries. His career has focused on computers, telecommunications and aircraft avionics, as well as medical, automotive and appliances. He has taught seminars at numerous conferences, including the IEEE EMC Symposium, PCB West, PCB East and others. He is on the board of directors of the Printed Circuit Engineering Association, a past member of the Editorial Review Board of *Printed Circuit Design* magazine and has written numerous technical papers and articles on methods to control noise, EMI and signal integrity.

**TERRY HOFFMAN** is a technical leader Product Operations at Cisco Systems. He is cochair of the IPC 2-16 Digital Model Exchange (DPMX) subcommittee. He is also the chair of the IPC-2581 Consortium technical committee.

**MICHAEL GLEASON** is the director of Product Development and Strategic Growth for GreenSource Fabrication in Charlestown, New Hampshire. His 18-year career in the PCB manufacturing industry has established him as a distinguished expert in electronics design and fabrication. He has held management and executive positions in operations, engineering and business development across multiple US fabricators supporting the needs of the DoD. Prior to joining GSF, Gleason spent five years at Draper, leading advanced initiatives in bleeding-edge PCB designs, UHDI, organic substrates, and substrate-like PCBs, notably advancing anti-tamper electronics packaging. Gleason's deep expertise and innovative leadership have been pivotal in driving GSF's technical roadmap. He studied mechanical engineering and has a B.S. in operations management from the University of New Hampshire.

**NICK KOOP** is director of flex technology at TTM Technologies. He has developed and applied advanced PCB technologies to support a wide range of medical, military, and global security applications. He is vice chairman of the IPC Flexible Circuits Committee and co-chair for the IPC-6013 Qualification and Performance Specification for Flexible Printed Boards Subcommittee. Koop has over 35 years of experience in design, manufacture, and management in the flexible circuit industry. He coauthors the "Ask the Flexperts" column in PCD&F.

**DANA KORF** is senior consultant at Korf Consultancy focusing on design transfer improvements from PCB designers to fabricators. He is also the AME Standards Manager at Nano Dimension, chair of the IPC D-67 AME Standards subcommittee, and vice chair of the ASTM F42.06.07 Additive Manufacturing Electronics subcommittee.



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# SPEAKER BIOS

**MEREDITH BALLARD LABEAU** is the chief technology officer and on the strategic leadership team at Calumet Electronics. Labeau is the technical lead and manager of Calumet's Process Engineering and R&D teams. She also is a member of two international standards committees: IPC and the National Aerospace and Defense Contractors Accreditation Program (NADCAP), an IPC Board Member and plays a critical role in developing standards and PCB manufacturing quality and criteria for the electronics industry. Labeau was recently elected to serve as an inaugural member of the Industrial Advisory Committee for CHIPs for America, providing advice on science and technology needs of the nations' domestic microelectronics industry. Labeau received a Ph.D. from Michigan Technological University in environmental engineering focusing on the integrated assessment of anthropogenic, climate and policy induced changes on phosphorus export in the United States Laurentian Great Lakes watersheds. She also holds a masters' degree from Michigan Tech in environmental engineering for the performance and systems analysis of wastewater treatment systems and potable water in rural Bolivia.

**MATTHEW LEARY** has been designing PCBs full-time since 1996. He is a graduate of the University of Wisconsin-Madison with a degree in physics. He currently works at Newgrange Design, a Boston-area PCB design service bureau.

**DAN LIU** is a staff engineer at Alibaba. Prior to joining Alibaba in 2020, she worked at Intel for more than 10 years. She has been working on the research of cloud servers in immersion liquid cooling since 2017 and has issued conference publications at DesignCon, ECTC and other industry conferences.

**PHIL MARCOUX** has ventured into many areas during his long career in electronics including IC designer and product engineer,, author and lecturer, and ultimately CEO of three Silicon Valley-based companies. He was named "Father of SMT" by the IPC and cofounded the company that invented chip-scale packaging and chiplets. His newest venture is leading the PCEA task group writing the AI Roadmap and AI Bill of Rights for the Electronics Industry.

**CHARLENE MCCAULEY** has over 42 years' experience as a PCB and mechanical designer, 21 as the founder and manager of two design service bureaus. For the past 13 years, she has led McCauley Design Group, where she has served 50+ customers in the server, semiconductor, space, military aircraft, radar, satellite, medical, simulator, oil field industries. She has eight years' experience as an adjunct professor at Austin Community College teaching PCB design, electrical/electronic design, and technical drafting. She was employed at Dell for nine years as a senior PCB designer for the rack, tower, blade server, and storage systems, and now provides design services for Dell's Precision laptop and server systems. She also provides Allegro/OrCAD training for her customers' engineering departments.

**RYAN MILLER** is a field application engineer with NCAB Group, who also leads the NCAB Group US PCB Design program. His engineering career started at the factory direct level with a prototype domestic PCB fabricator. He has over a decade of experience in PCB manufacturing, DFM Analysis, and stackup design. His expertise provides clients with the insight and tools needed to have their designs in sync with the manufacturing process. Miller holds a bachelor's in electronics engineering technology from DeVry University. When away from the PCB world, Miller likes to spend time with his wife and daughter. In addition, he enjoys fly fishing and reading technical articles.

**GERRY PARTIDA** is vice president of technology for Summit Interconnect. He began his career in the printed circuit board industry in 1984 at Everett Charles Test Equipment and joined Optrotech/Orbotech in 1986. He was a member of the team that introduced CAM automation, net list compare, AOI/CAD reference to the PCB industry. His current position is focused on manufacturing cutting edge high-density interconnect, high-speed digital, flex/rigid-flex and RF/microwave PCBs for military and commercial applications. He is a subject matter expert on IPC-6012, and a member of the IPC-6012 and IPC-6018 review task groups. He recently has become a vice chair for IPC-6012/IPC-A-600 & IPC-V-TSL-MVIA Microvia Task Force.

**ZACHARIAH PETERSON** has an extensive technical background in academia and industry. He currently provides research, design, and marketing services to electronics companies. Prior to working in the PCB industry, he taught at Portland State University. His background in scientific research spans topics in nanoparticle lasers, electronic and optoelectronic semiconductor devices, environmental sensors, and stochastics. His work has been published in over a dozen peer-reviewed journals and conference proceedings, and he has written hundreds of technical blogs on PCB design for a number of companies. He currently works with other companies in the electronics industry providing design, research, and marketing services. He is a member of IEEE Photonics Society, IEEE Electronics Packaging Society, American Physical Society, and the Printed Circuit Engineering Association (PCEA). He previously served as a voting member on the INCITS Quantum Computing Technical Advisory Committee and he currently serves on the IEEE P3186 Working Group.



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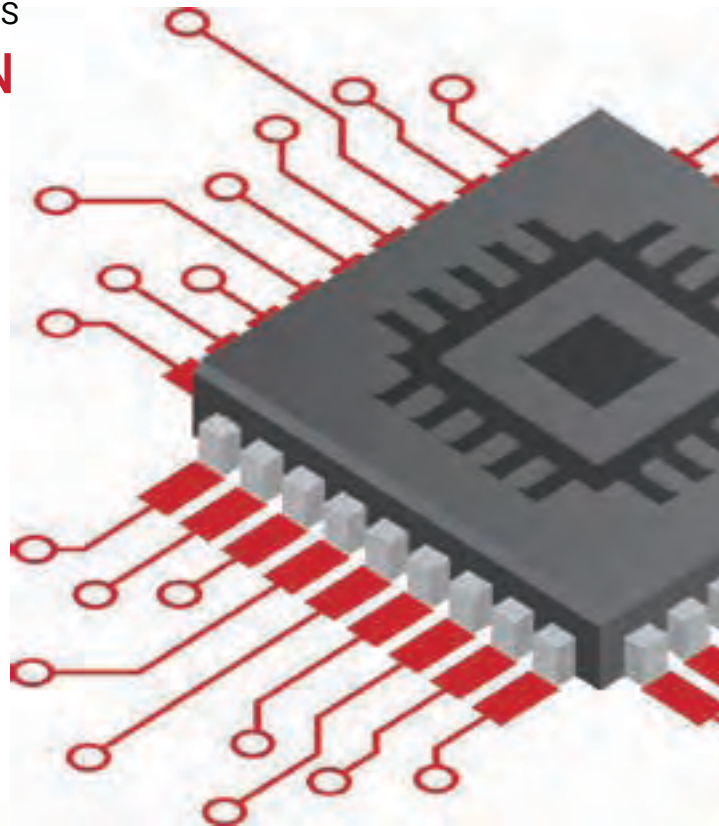
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# SPEAKER BIOS

Over his 50-year career in the PCB industry, **CHARLES PFEIL** has been a designer, owner of a service bureau, and had engineering management and product definition roles at Racal-Redac, ASI, Cadence, PADS, VeriBest, Mentor Graphics, and Altium. Most of his career was at Mentor Graphics, where he was a software architect focused on the advanced development of PCB design tools. He was the original product architect of Expedition PCB, and an inventor of Team PCB, XtremePCB, XtremeAR, and the Sketch Router. He is also the author of *BGA Breakouts* and *Routing and High-Speed Constraint Values and PCB Layout Methods*.

**ETHAN PIERCE** is director of hardware engineering at Pierce Design, working with global customers to build and deploy IoT solutions. An electrical engineer by trade, he has spent his career building consumer, medical, and defense connected products at leading hardware companies to leading IoT platforms. His specialty is maintaining holistic design intent from concept to mass production, producing successful IoT deployments at scale.

**LEE RITCHEY** is president of Speeding Edge, a consulting company specializing in the design of high-performance PCBs and training of engineers and designers preparing to design high-performance PCBs. He has taught his signal integrity courses to more than 11,000 engineers and designers all over the world. He has participated in the design of more than 3,000 high-performance PCBs. He has been one of the speakers at PCB West since 1991.

**RAMON ROCHE** is a field application engineer for NCAB Group in the Southeast regional office. As a mechanical engineer, his career started in the industrial automation industry where he gained a breadth of knowledge in manufacturing process and equipment development. He brings experience supporting customers throughout the entire sales and production process. At NCAB, he specializes in sustainability and champions NCAB Group's aggressive approach to tackling these important issues.

**MIKE TUCKER** is director of engineering and technology at Millennium Circuits (MCL). He has over 27 years; technical experience in PCB manufacturing (rigid/rigid-flex/HDI/flex/MPCB). He has been responsible for the development and implementation of manufacturing processes and methodologies to drive the company's technology curve, capabilities, and competitiveness. He is an expert in front-end engineering, CAM tools, automation of CAM tooling, integration of CAM tools with MRP/ERP/shop-floor operations and software development of shop-floor software operations. He works closely with engineers, designers, program managers and OEMs to build mission critical parts from concept to prototype to production.

**BEN VOIGT** is an embedded engineer at Sparx Engineering. He has 23 years of experience co-developing hardware, embedded firmware and desktop software. His main interests are design and implementation of medical equipment, software reliability, real-time networking, and optimal signal recovery. Prior to Sparx, he worked for the Life Sciences Branch of NASA, working on EKG processing and integration of networked real-time systems. Voigt has a Ph.D. in electrical and systems engineering from the University of Pennsylvania and is a licensed professional engineer in Texas.

**JAY VYAS**, is director of engineering at SigmaTron International, where for more than a decade, he has been collaborating on cross-functional initiatives that drive technology evolution and improve manufacturing processes. His experience and expertise in PCBA DFX, wafer level chip scale packages (WLCSP) and multi-level stacked ball grid array (MLSBGA) modules, associated equipment/processes/tooling selection is complemented by a commitment to innovation in soldering technologies and testing processes. During his tenure at SigmaTron's Union City, CA, facility, he has developed robust processes and optimized facility layouts. He has a degree in mechanical engineering from Birla Vishwakarma Mahavidyalaya Engineering College, which is part of Sardar Patel University in India. He also holds an MBA from California State University-East Bay Campus.

**WAYNE WANG** is data center product director for R&D at Shennan Circuits, where he has worked for 13 years and leads a team to explore advanced PCB technology and support customers to provide solutions with PCB layout design, process control, reliability, cost and signal integrity. He has a bachelor's in detection guidance and control technology from Nanjing University of Aeronautics and Astronautics in 2011.

**SYED UBAID ALI WARSI** is a seasoned IPC CID senior PCB designer with 20 years of diverse experience. His journey encompasses guiding boards from the initial design phase through prototyping, board bring-up, EMC compliance, and finally to full-scale production. Specializing in high-speed PCB design and EMC compliance, he navigates cutting-edge technologies like Intel's Agilex and Stratix series, PCIe Gen3/4, 56Gbps PAM4, and 28Gbps NRZ interfaces. A notable HDI technology expert, Syed contributes to breakthroughs in 0.2mm CSP multi-lamination breakout boards. Beyond his individual accomplishments, his mentorship has shaped the next generation of PCB designers. Through his mentorship, several professionals are now thriving at renowned companies like Intel, Xilinx, R&D Altanova, Hitek Systems, among others. As owner of Wavetroniks, his commitment to excellence and innovation drives success in the dynamic field of PCB and hardware design, serving clients across North America.



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# SPEAKER BIOS

**JOHN WATSON** has a career spanning over 44 years in electronics, with 24 working in the PCB design/engineering field. He has worked with several top companies including Teledyne API, Emerson Computer Power, Legrand Corp., and served in the US Army in the military intelligence field. Presently, he works as a technical expert with Altium, where he trains and mentors new customers on Altium tools and the PCB process, working alongside companies to better their proficiency with ECAD tools and the overall quality of the PCB design process. Furthermore, Watson is a college professor at Palomar San Marcos, teaching basic and advanced PCB design. He is a highly sought-after author and writer for various blogs and white papers and author of two library and data management books.

**SUSY WEBB, CID**, is a senior PCB designer with 40 years of experience. Her career includes experience in coastal and oceanographic oil exploration and monitoring equipment, point-to-point microwave network systems, and CPCI and ATX computer motherboards. Webb is a regular speaker at PCB East and PCB West, and international design conferences, and consults for individual companies and PCEA chapters. Her presentations discuss practical implementation of complex engineering concepts into board layout and methods to improve the overall design and flow of printed circuit boards. She is CID certified, a former writer/columnist for PCD&F, a chapter writer for Clyde Coombs' Printed Circuits Handbook, and one of the judges for the annual TLA competition. Webb is also an active member of the PCEA Executive Board and education committee and is a member and past president of the Houston Chapter of the Designers Council.

**DAVID WIENS** has held various engineering, marketing and management positions within the EDA industry over the past 35+ years. His focus areas have included advanced packaging, high-speed design, routing technology and integrated systems design. He is currently the product manager for the Xpedition Enterprise portfolio of products for electronics systems design. He holds a bachelor's in computer science from the University of Kansas.

**PAUL YANG** is senior field applications engineer expert at JOVE PCB, a listed company in China, and has 20 years' experience in the PCB industry with of many kinds of PCB types in design, manufacturing and testing. He has deep insight in PCB laminates and other raw materials. Yang is also a 6 Sigma black belt.

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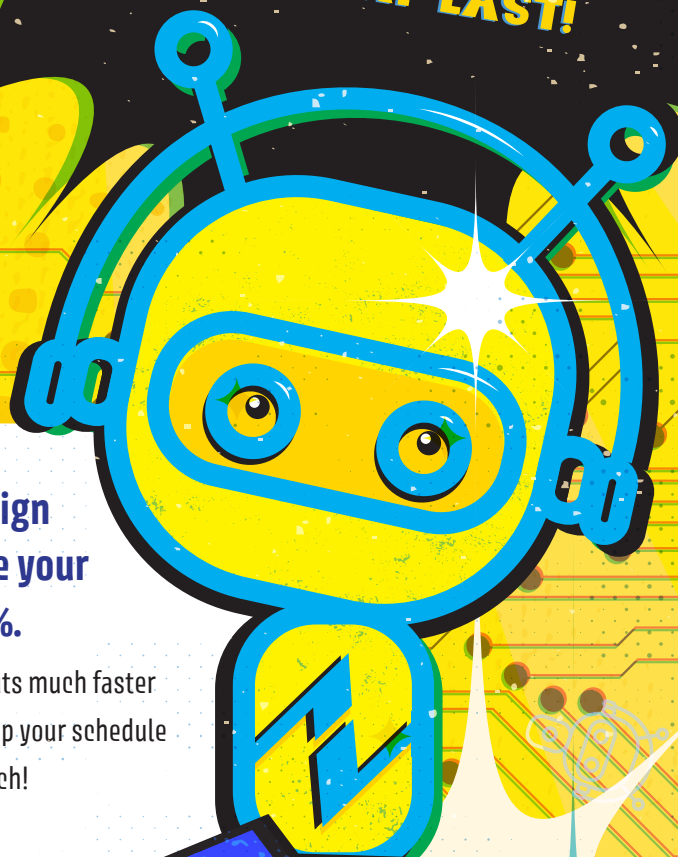
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