Conference Overview by Subject

■ Beginner ■ Intermediate ■ Advanced

TITLE	SPEAKER	LEVEL
ASSEMBLY PROCESS		
The Printed Board Process for Beginners	Gary Ferrari, Eptac	■ ■ ■
Design for Manufacturing (DfM), a Foundation for Cost-Reduction Efforts	Gary Ferrari, Eptac	■ ■ ■
Accelerate NPI with Efficient Handoff to Manufacturing with IPC-2581	Hemant Shah, IPC-2581 Consortium, and Dana Korf, Korf Consultancy	■ ■ ■
Secure Data Exchange Between Design and Manufacturing	Michael Ford, Aegis Software, and Hemant Shah, IPC-2581 Consortium	■ ■ ■
Flexible and Rigid-Flex Circuit Design Principles	Vern Solberg, Solberg Technical Consulting	■ ■
PCB Design for Implementing 3-D and High-Density Semiconductor Package Technologies	Vern Solberg, Solberg Technical Consulting	■ ■ ■
PCB Part Shortages Solutions	Shane Shuffield and Sebastian Weber, Advanced Assembly	■
BUSINESS/MARKETS		
Accelerate NPI with Efficient Handoff to Manufacturing with IPC-2581	Hemant Shah, IPC-2581 Consortium, and Dana Korf, Korf Consultancy	■ ■ ■
Secure Data Exchange Between Design and Manufacturing	Michael Ford, Aegis Software, and Hemant Shah, IPC-2581 Consortium	■ ■ ■
Software-First PCBA for Mitigating Risks: Achieving First-Time Right	Ryan Saul, Tempo Automation	■
COMPONENTS/PACKAGING		
Design for Manufacturing (DfM), a Foundation for Cost-Reduction Efforts	Gary Ferrari, Eptac	■ ■ ■
An Intuitive Approach to Understanding Basic High-Speed Layout	Keven Coates, Fluidity Technologies	■
Heat Management for SMD, LED, and Systems 1W to 50W	Keven Coates, Fluidity Technologies	■ ■
Flexible and Rigid-Flex Circuit Design Principles	Vern Solberg, Solberg Technical Consulting	■ ■
PCB Design for Implementing 3-D and High-Density Semiconductor Package Technologies	Vern Solberg, Solberg Technical Consulting	■ ■ ■
Improving Circuit Design and Layout for Accessibility and Success	Tomas Chester, Chester Electronic Design	■ ■
PCB Part Shortages Solutions	Shane Shuffield and Sebastian Weber, Advanced Assembly	■
DESIGN SOFTWARE		
PCB Antennas 101	Ben Jordan, Autodesk	■ ■
Secure Data Exchange Between Design and Manufacturing	Michael Ford, Aegis Software, and Hemant Shah, IPC-2581 Consortium	■ ■ ■
PCB Stackup Design and Materials Selection	Bill Hargin, Z-zero	■ ■ ■
Software-First PCBA for Mitigating Risks: Achieving First-Time Right	Ryan Saul, Tempo Automation	■

Conference Overview by Subject

■ Beginner ■ Intermediate ■ Advanced

TITLE	SPEAKER	LEVEL
DFF/DFM/DFA/DFT		
Power Delivery System Design	Lee Ritchey, Speeding Edge	■ ■ ■
The Printed Board Process for Beginners	Gary Ferrari, Eptac	■ ■ ■
Design for Manufacturing (DfM), a Foundation for Cost-Reduction Efforts	Gary Ferrari, Eptac	■ ■ ■
Secure Data Exchange Between Design and Manufacturing	Michael Ford, Aegis Software, and Hemant Shah, IPC-2581 Consortium	■ ■ ■
Accelerate NPI with Efficient Handoff to Manufacturing with IPC-2581	Hemant Shah, IPC-2581 Consortium, and Dana Korf, Korf Consultancy	
Design for Solvability, Performance and Manufacturing	Michael Creeden, Insulectro	■
PCB Design for Implementing 3-D and High-Density Semiconductor Package Technologies	Vern Solberg, Solberg Technical Consulting	■ ■ ■
Software-First PCBA for Mitigating Risks: Achieving First-Time Right	Ryan Saul, Tempo Automation	■
Ask the Flexperts with Lessons Learned	Mark Finstad, Flexible Circuit Technologies and Nick Koop, TTM Technologies	■ ■
The 21 Most Common Design Errors Caught by Fabrication (and How to Prevent Them)	Ray Fugitt, DownStream Technologies, and David Hoover, TTM	■ ■ ■
PC Board Design for Optimum Fabrication and Assembly	Rick Hartley, RHartley Enterprises	■ ■
PCB Part Shortages Solutions	Shane Shuffield and Sebastian Weber, Advanced Assembly	■
EMI/EMC		
PCB Antennas 101	Ben Jordan, Autodesk	■ ■
An Intuitive Approach to Understanding Basic High-Speed Layout	Keven Coates, Fluidity Technologies	■
From DC to AC – Power Integrity and Decoupling Primer for PCB Designers	Ralf Bruening, Zuken	■ ■
Design for Solvability, Performance and Manufacturing	Michael Creeden, Insulectro	■
Electromagnetic Fields for Normal Folks: Show Me the Pictures and Hold the Equations, Please!	Daniel Beeker, NXP Semiconductor	■
Effective PCB Design: Techniques to Improve Performance	Daniel Beeker, NXP Semiconductor	■
Novel Power Distribution System Design	Daniel Beeker, NXP Semiconductor	■
PCB Design Techniques to Improve ESD Robustness	Daniel Beeker, NXP Semiconductor	■
Feeding the Beast: Consumption-based PCB Design	Daniel Beeker, NXP Semiconductor	■
Routing and Termination to Control Signal Integrity	Rick Hartley, RHartley Enterprises	■ ■
Signal Attenuation in Very High-Speed Circuits	Rick Hartley, RHartley Enterprises	■ ■
Differential Pair Routing for SI and EMI Control	Rick Hartley, RHartley Enterprises	■ ■ ■
PCB Layout of Switch Mode Power Supplies	Rick Hartley, RHartley Enterprises	■ ■
PC Board Design of Power Distribution and Decoupling	Rick Hartley, RHartley Enterprises	■ ■
Circuit Grounding to Control Noise and EMI	Rick Hartley, RHartley Enterprises	■ ■

Conference Overview by Subject

■ Beginner ■ Intermediate ■ Advanced

TITLE	SPEAKER	LEVEL
FABRICATION PROCESSES		
The Printed Board Process for Beginners	Gary Ferrari, Eptac	■ ■ ■
Design for Manufacturing (DfM), a Foundation for Cost-Reduction Efforts	Gary Ferrari, Eptac	■ ■ ■
Accelerate NPI with Efficient Handoff to Manufacturing with IPC-2581	Hemant Shah, IPC-2581 Consortium, and Dana Korf, Korf Consultancy	■ ■ ■
The Basics of PCB Fabrication (101)	Paul Cooke, AGC	■ ■
PCB 102 - Advanced Process Engineering Defects	Paul Cooke, AGC	■ ■
PCB Stackup Design and Materials Selection	Bill Hargin, Z-zero	■ ■ ■
Flexible and Rigid-Flex Circuit Design Principles	Vern Solberg, Solberg Technical Consulting	■ ■
PCB Design for Implementing 3-D and High-Density Semiconductor Package Technologies	Vern Solberg, Solberg Technical Consulting	■ ■ ■
Improving Circuit Design and Layout for Accessibility and Success	Tomas Chester, Chester Electronic Design	■ ■
The 21 Most Common Design Errors Caught by Fabrication (and How to Prevent Them)	Ray Fugitt, DownStream Technologies, and David Hoover, TTM	■ ■ ■
PC Board Design for Optimum Fabrication and Assembly	Rick Hartley, RHartley Enterprises	■ ■
PCB Stackup Design	Lee Ritchey, Speeding Edge	■ ■ ■
Getting to 56 Gb/S	Lee Ritchey, Speeding Edge	■ ■ ■
FLEX CIRCUITS		
Flexible and Rigid-Flex Circuit Design Principles	Vern Solberg, Solberg Technical Consulting	■ ■
Ask the Flexperts with Lessons Learned	Mark Finstad, Flexible Circuit Technologies, and Nick Koop, TTM Technologies	■ ■
PCB Stackup Design and Materials Selection	Bill Hargin, Z-zero	
HIGH-SPEED		
From DC to AC – Power Integrity and Decoupling Primer for PCB Designers	Ralf Bruening, Zuken	■ ■
The Printed Board Process for Beginners	Gary Ferrari, Eptac	■ ■ ■
Design and Analysis of a High-Performance PCB Interposer for 100G PAM4 Validation	Xiao Ming Gao, Intel	■ ■
An Intuitive Approach to Understanding Basic High-Speed Layout	Keven Coates, Fluidity Technologies	■
PCB Design for Engineers	Susy Webb, Design Science	■ ■
Placement Choices and Consequences	Susy Webb, Design Science	■
Designing the Signal Return Path	Susy Webb, Design Science	■
The Basics of PCB Fabrication (101)	Paul Cooke, AGC	■ ■
PCB 102 - Advanced Process Engineering Defects	Paul Cooke, AGC	■ ■
Design for Solvability, Performance and Manufacturing	Michael Creeden, Insulectro	■
PCB Stackup Design and Materials Selection	Bill Hargin, Z-zero	■ ■ ■

Conference Overview by Subject

■ Beginner ■ Intermediate ■ Advanced

TITLE	SPEAKER	LEVEL
HIGH-SPEED CONTINUED		
Advancements in Prepreg Enabling New Applications for Millimeter-wave and High-Speed Digital	John Coonrod, Rogers Corp.	■ ■
Improving Circuit Design and Layout for Accessibility and Success	Tomas Chester, Chester Electronic Design	■ ■
Electromagnetic Fields for Normal Folks: Show Me the Pictures and Hold the Equations, Please!	Daniel Beeker, NXP Semiconductor	■
Effective PCB Design: Techniques to Improve Performance	Daniel Beeker, NXP Semiconductor	■
Novel Power Distribution System Design	Daniel Beeker, NXP Semiconductor	■
PCB Design Techniques to Improve ESD Robustness	Daniel Beeker, NXP Semiconductor	■
Feeding the Beast: Consumption-based PCB Design	Daniel Beeker, NXP Semiconductor	■
Software-First PCBA for Mitigating Risks: Achieving First-Time Right	Ryan Saul, Tempo Automation	■
Routing and Termination to Control Signal Integrity	Rick Hartley, RHartley Enterprises	■ ■
Signal Attenuation in Very High-Speed Circuits	Rick Hartley, RHartley Enterprises	■ ■
Differential Pair Routing for SI and EMI Control	Rick Hartley, RHartley Enterprises	■ ■ ■
RF and Mixed Signal PCB Layout	Rick Hartley, RHartley Enterprises	■ ■
PC Board Design of Power Distribution and Decoupling	Rick Hartley, RHartley Enterprises	■ ■
Circuit Grounding to Control Noise and EMI	Rick Hartley, RHartley Enterprises	■ ■
PCB Stackup Design	Lee Ritchey, Speeding Edge	■ ■ ■
Power Delivery System Design	Lee Ritchey, Speeding Edge	■ ■ ■
Getting to 56 Gb/S	Lee Ritchey, Speeding Edge	■ ■ ■
LAMINATES		
PCB Stackup Design and Materials Selection	Bill Hargin, Z-zero	■ ■ ■
Design for Manufacturing (DfM), a Foundation for Cost-Reduction Efforts	Gary Ferrari, Eptac	■ ■ ■
The Basics of PCB Fabrication (101)	Paul Cooke, AGC	■ ■
Advancements in Prepreg Enabling New Applications for Millimeter-wave and High-Speed Digital	John Coonrod, Rogers Corp.	■ ■
Flexible and Rigid-Flex Circuit Design Principles	Vern Solberg, Solberg Technical Consulting	■ ■
Ask the Flexperts with Lessons Learned	Mark Finstad, Flexible Circuit Technologies, and Nick Koop, TTM Technologies	■ ■
RF and Mixed Signal PCB Layout	Rick Hartley, RHartley Enterprises	■ ■
PCB Stackup Design	Lee Ritchey, Speeding Edge	■ ■ ■
Power Delivery System Design	Lee Ritchey, Speeding Edge	■ ■ ■
Getting to 56 Gb/S	Lee Ritchey, Speeding Edge	■ ■ ■

Conference Overview by Subject

■ Beginner ■ Intermediate ■ Advanced

TITLE	SPEAKER	LEVEL
PCB DESIGN/LAYOUT/PLACEMENT		
The Printed Board Process for Beginners	Gary Ferrari, Eptac	■ ■ ■
Design for Manufacturing (DfM), a Foundation for Cost-Reduction Efforts	Gary Ferrari, Eptac	■ ■ ■
Accelerate NPI with Efficient Handoff to Manufacturing with IPC-2581	Hemant Shah, IPC-2581 Consortium, and Dana Korf, Korf Consultancy	■ ■ ■
PCB Antennas 101	Ben Jordan, Autodesk	■
Design and Analysis of a High-Performance PCB Interposer for 100G PAM4 Validation	Xiao Ming Gao, Intel	■ ■
An Intuitive Approach to Understanding Basic High-Speed Layout	Keven Coates, Fluidity Technologies	■
Heat Management for SMD, LED, and Systems 1W to 50W	Keven Coates, Fluidity Technologies	■ ■
PCB Design for Engineers	Susy Webb, Design Science	■
Placement Choices and Consequences	Susy Webb, Design Science	■
Designing the Signal Return Path	Susy Webb, Design Science	■
The Basics of PCB Fabrication (101)	Paul Cooke, AGC	■ ■
PCB 102 - Advanced Process Engineering Defects	Paul Cooke, AGC	■ ■
From DC to AC – Power Integrity and Decoupling Primer for PCB Designers	Ralf Bruening, Zuken	■ ■
Design for Solvability, Performance and Manufacturing	Michael Creeden, Insulectro	■
PCB Stackup Design and Materials Selection	Bill Hargin, Z-zero	■ ■ ■
Advancements in Prepreg Enabling New Applications for Millimeter-wave and High-Speed Digital	John Coonrod, Rogers Corp.	■ ■
Flexible and Rigid-Flex Circuit Design Principles	Vern Solberg, Solberg Technical Consulting	■ ■
PCB Design for Implementing 3-D and High-Density Semiconductor Package Technologies	Vern Solberg, Solberg Technical Consulting	■ ■ ■
Improving Circuit Design and Layout for Accessibility and Success	Tomas Chester, Chester Electronic Design	■ ■
Electromagnetic Fields for Normal Folks: Show Me the Pictures and Hold the Equations, Please!	Daniel Beeker, NXP Semiconductor	■
Effective PCB Design: Techniques to Improve Performance	Daniel Beeker, NXP Semiconductor	■
Novel Power Distribution System Design	Daniel Beeker, NXP Semiconductor	■
PCB Design Techniques to Improve ESD Robustness	Daniel Beeker, NXP Semiconductor	■
Feeding the Beast: Consumption-based PCB Design	Daniel Beeker, NXP Semiconductor	■
Software-First PCBA for Mitigating Risks: Achieving First-Time Right	Ryan Saul, Tempo Automation	■
Ask the Flexperts with Lessons Learned	Mark Finstad, Flexible Circuit Technologies and Nick Koop, TTM Technologies	■ ■
The 21 Most Common Design Errors Caught by Fabrication (and How to Prevent Them)	Ray Fugitt, DownStream Technologies, and David Hoover, TTM	■ ■ ■
Routing and Termination to Control Signal Integrity	Rick Hartley, RHartley Enterprises	■ ■

Conference Overview by Subject

■ Beginner ■ Intermediate ■ Advanced

TITLE	SPEAKER	LEVEL
PCB DESIGN/LAYOUT/PLACEMENT CONTINUED		
Signal Attenuation in Very High-Speed Circuits	Rick Hartley, RHartley Enterprises	■ ■
Differential Pair Routing for SI and EMI Control	Rick Hartley, RHartley Enterprises	■ ■ ■
PCB Layout of Switch Mode Power Supplies	Rick Hartley, RHartley Enterprises	■ ■
RF and Mixed Signal PCB Layout	Rick Hartley, RHartley Enterprises	■ ■
PC Board Design of Power Distribution and Decoupling	Rick Hartley, RHartley Enterprises	■ ■
Circuit Grounding to Control Noise and EMI	Rick Hartley, RHartley Enterprises	■ ■
PC Board Design for Optimum Fabrication and Assembly	Rick Hartley, RHartley Enterprises	■ ■
PCB Stackup Design	Lee Ritchey, Speeding Edge	■ ■ ■
Power Delivery System Design	Lee Ritchey, Speeding Edge	■ ■ ■
Getting to 56 Gb/S	Lee Ritchey, Speeding Edge	■ ■ ■
PCB Part Shortages Solutions	Shane Shuffield and Sebastian Weber, Advanced Assembly	■
RF/MICROWAVE		
PCB Antennas 101	Ben Jordan, Autodesk	■ ■
The Basics of PCB Fabrication (101)	Paul Cooke, AGC	■ ■
PCB 102 - Advanced Process Engineering Defects	Paul Cooke, AGC	■ ■
Design for Solvability, Performance and Manufacturing	Michael Creeden, Insulectro	■
Advancements in Prepreg Enabling New Applications for Millimeter-wave and High-Speed Digital	John Coonrod, Rogers Corp.	■ ■
RF and Mixed Signal PCB Layout	Rick Hartley, RHartley Enterprises	■ ■
SI/PI		
Design and Analysis of a High-Performance PCB Interposer for 100G PAM4 Validation	Xiao Ming Gao, Intel	■ ■
An Intuitive Approach to Understanding Basic High-Speed Layout	Keven Coates, Fluidity Technologies	■
From DC to AC – Power Integrity and Decoupling Primer for PCB Designers	Ralf Bruening, Zuken	■ ■
Design for Solvability, Performance and Manufacturing	Michael Creeden, Insulectro	■
PCB Stackup Design and Materials Selection	Bill Hargin, Z-zero	■ ■ ■
Advancements in Prepreg Enabling New Applications for Millimeter-wave and High-Speed Digital	John Coonrod, Rogers Corp.	■ ■
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Novel Power Distribution System Design	Daniel Beeker, NXP Semiconductor	■
PCB Design Techniques to Improve ESD Robustness	Daniel Beeker, NXP Semiconductor	■
Feeding the Beast: Consumption-based PCB Design	Daniel Beeker, NXP Semiconductor	■
Routing and Termination to Control Signal Integrity	Rick Hartley, RHartley Enterprises	■ ■
Signal Attenuation in Very High-Speed Circuits	Rick Hartley, RHartley Enterprises	■ ■

Conference Overview by Subject

■ Beginner ■ Intermediate ■ Advanced

TITLE	SPEAKER	LEVEL
SI/PI CONTINUED		
Differential Pair Routing for SI and EMI Control	Rick Hartley, RHartley Enterprises	■ ■ ■
PCB Layout of Switch Mode Power Supplies	Rick Hartley, RHartley Enterprises	■ ■
RF and Mixed Signal PCB Layout	Rick Hartley, RHartley Enterprises	■ ■
PC Board Design of Power Distribution and Decoupling	Rick Hartley, RHartley Enterprises	■ ■
Circuit Grounding to Control Noise and EMI	Rick Hartley, RHartley Enterprises	■ ■
PCB Stackup Design	Lee Ritchey, Speeding Edge	■ ■ ■
Power Delivery System Design	Lee Ritchey, Speeding Edge	■ ■ ■
Getting to 56 Gb/S	Lee Ritchey, Speeding Edge	■ ■ ■
TEST		
The Printed Board Process for Beginners	Gary Ferrari, Eptac	■ ■ ■
Design for Manufacturing (DfM), a Foundation for Cost-Reduction Efforts	Gary Ferrari, Eptac	■ ■ ■
Accelerate NPI with Efficient Handoff to Manufacturing with IPC-2581	Hemant Shah, IPC-2581 Consortium, and Dana Korf, Korf Consultancy	■ ■ ■
Advancements in Prepreg Enabling New Applications for Millimeter-wave and High-Speed Digital	John Coonrod, Rogers Corp.	■ ■
THERMAL MANAGEMENT		
Heat Management for SMD, LED, and Systems 1W to 50W	Keven Coates, Fluidity Technologies	■ ■