Dr. Clayton Paul

Clayton R. Paul received the B.S. degree from The Citadel, Charleston, SC, in 1963, the M.S. degree, from Georgia Institute of Technology, Atlanta, GA, in 1964, and the Ph.D. degree, from Purdue University, Lafayette, IN, in 1970, all in Electrical Engineering. He is an Emeritus Professor of Electrical Engineering at the University of Kentucky where he was a member of the faculty in the Department of Electrical Engineering for 27 years retiring in 1998. He is currently the Sam Nunn Eminent Professor of Aerospace Systems Engineering and Professor of Electrical and Computer Engineering in the Department of Electrical and Computer Engineering at Mercer University in Macon, GA. He has published 120 papers and given 80 invited presentations on the results of his research in the Electromagnetic Compatibility (EMC) of electronic systems. He has also published 16 textbooks and Chapters in four handbooks. Dr. Paul is a Life Fellow of the Institute of Electrical and Electronics Engineers (IEEE) and is an Honorary Life Member of the IEEE EMC Society. He was awarded the IEEE Electromagnetics Award in 2005 and the IEEE Undergraduate Teaching Award in 2007.

Dr. Bruce Archambeault

Dr. Bruce Archambeault is an IBM Distinguished Engineer at IBM in Research Triangle Park, NC. Dr. Archambeault has authored or co-authored a number of papers in computational electromagnetics, mostly applied to real-world EMC applications. He is currently the IEEE EMC Society Technical Activities Chair, a past member of the Board of Directors for the IEEE EMC Society, and a past member of the Board of Directors for the Applied Computational Electromagnetics Society (ACES). He has served as a past IEEE EMC Society Distinguished Lecturer. He is the author of the book "PCB Design for Real-World EMI Control" and the lead author of the book titled "EMI/EMC Computational Modeling Handbook."

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SCV EMC 2009 Mini Symposium October 15-16

featuring

Dr. Clayton Paul

and

Dr. Bruce Archambeault

IEEE EMC SOCIETY

Santa Clara Valley

The Hilton Santa Clara
4949 Great America Pkwy
Santa Clara, CA 95054

Web site: www.scvemc.org

Day One: October 15

Proper PCB Design for Signal Integrity and EMC Control

by

Dr. Bruce Archambeault

Registration & Continental Breakfast: 7:00 AM

Morning Session: 8:00 AM – 12:00 PM

Introduction to General SI/EMC
What is Inductance?
-- Full Definition
-- *Partial inductance*
-- Incomplete Inductance
The Ground Myth
Where Does the Current Flow?
-- Plane discontinuities
-- Vias
-- Mother/Daughter Cards
Pseudo-Differential Nets
Return Current Spread
I/O Filter Design

Lunch: 12:00 PM – 1:00 PM

Afternoon Session: 1:00 PM – 5:00 PM

Power Integrity & Decoupling Power/Ground planes
-- Source of Noise
-- Board resonance issues
-- Decoupling capacitor values
-- Timely charge delivery
-- Decoupling capacitor connection inductance
-- Predicting Noise source levels
Mixed mode PCB design
--*RF, digital and analog*
Shielding
-- How does shielding really work?
SI and EMC issues for high speed differential cables
-- Skew
-- Rise/fall time mismatch
-- Weak link
Using Signal Integrity tools for EMC design
Other software tools for EMC design

NOTE: There will be a 30 minute mid-morning and mid-afternoon break scheduled each day.

Day Two: October 16

Use of PSPICE in Solving EMC Problems

by

Dr. Clayton Paul

Continental Breakfast/Exhibits Open: 7:30 AM

Morning Session: 8:00 AM – 11:30 AM

Part I Basic Skills and Concepts
(1) Wavelength and Electrical Dimensions
(2) Spectral Content of Digital Signals
(3) Transmission Lines and Signal Integrity

Part II Partial Inductance and Power Integrity
(1) Ground Bounce and Power Rail Collapse
(2) Loop Inductance
(3) What is Partial Inductance?
(4) Partial Inductances of Segments of a Current Loop
(5) Physical Meaning of Partial Inductance
(6) Uses of Partial Inductance

Lunch: 11:30 AM – 1:00 PM

Afternoon Session: 1:00 PM – 4:00 PM

Use of PSPICE in Solving EMC Problems: An Interactive Tutorial (bring your own laptop)

Book Discounts!

A limited number of books by the speakers will be available at a discount. Books must be purchased on the chapter's website by September 15 for pick up on site. The speakers will sign books during the reception!

Reception: 4:00 PM – 5:00 PM

There will be an exhibition by vendors of EMC design, test and measurement products and services. During the reception in the exhibit area, heavy appetizers and a hosted bar will be available. You are welcome to attend the reception only at NO CHARGE, provided a registration form is submitted in advance. Thus, if you can't join us for the entire day, drop by for the reception and exhibition to network with the speakers and attendees. You might even win a raffle prize!

NOTE: The registration fee includes one copy of the technical program (including P-Spice) on CD, continental breakfast, lunch, refreshment breaks, and the reception at the conclusion of the event. The organizing committee reserves the right to substitute speakers, restrict size, or to cancel the event and exhibition. In the event the organizing committee cancels this event, registration fees will be fully refunded. Individuals canceling their registration prior to September 15 will receive a full refund. No refunds will be made to individuals who cancel their registration after September 15. Substitutions are allowed. Attendance is limited. Registration will be confirmed on a first come, first served basis.

Registration Form

Registration Rates:	*Before 8/30*	*8/31-9/30*
❒ IEEE Member	$300	$350
❒ Non-Member	$350	$400
❒ Student/Un-Employed*	$75	$125

IEEE Membership Number:_____

$75 additional for registrations after 10/1/09

*Full time students only with valid student ID presented on site

Register Online at:
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