



The IEEE Electromagnetic Compatibility Society Singapore and IHPC
Presents:

EMI/EMC Modeling and Simulation for Real World Applications

Bruce Archambeault

Senior Technical Staff Member, IBM, Research Triangle Park, NC, USA. Member, TC9 of the IEEE EMC Society. Past Associate Editor, IEEE Transactions on EMC. author of "PCB Design for Real-World EMI Control" and lead author of "EMI/EMC Computational Modeling Handbook"

Location: Auditorium

Institute of High Performance Computing (IHPC)

1 Science Park Road,

#01-01 The Capricorn

Science Park II

Singapore 117528

Date: Thursday, Dec 12, 2002

Time: 2:00 to 4:00 pm

Admission: Free of Charge

Please fill in the registration form and send them in early to avoid disappointment. Limited seats are available.

Pre Registration Form to Ms Wendy Tan , email (wendy@ihpc.a-star.edu.sg)

or fax this response form to 64191280

Please print/write clearly in black for fax transmission.

1 Mr/Ms/ _____ (EMCS / IEEE / others) E-mail _____

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Chapter meeting of the EMC Society, Singapore

The Singapore IEEE EMC Society in conjunction with Institute of High Performance Computing (IHPC) is presenting our chapter meeting with Dr Bruce Archambeault to speak on the subject of developing models for computer simulation to evaluate EMC performance. This is a topic that focuses on the growing possibility of applying the computer as a tool to estimate and evaluate the electromagnetic performance of systems at what can be thought as an acceptable level to give some insights into what may create an EMC situation. This is an opportunity for chapter members to meet and get together. The technical talk will be useful for engineers dealing with the variety of software used to evaluate the EMC performance of a given design and construction. The purpose of this event is to offer some background on the modelling issues that may have an impact on the use of computers for electromagnetic simulation and to highlight recent advances in this field.

Outline:

In recent years increased emphasis has been placed on simulating the EMC behaviour of systems early in the design phase so that likely problems are anticipated and solutions can be sought. This offers significant cost and time savings. Yet, EMC problems are very challenging and the electromagnetic coupling mechanisms are difficult to predict using traditional analytical methods.

A number of computationally based techniques has been developed in recent years to overcome some of these difficulties and thus offer the designer, CAD tools of acceptable power some possibility of getting answers with uncertain degree of accuracy. In this talk, a survey of the development of computer based models for EMC, their strength and weaknesses and some desirable future developments will be described in view of real world applications.

It is hoped that at the end of the talk it will be clearer why there are so many different types of modelling techniques for computer based software as applied for EMC, how these may be in view of the real world.

About the speaker:

Dr Bruce Archambeault is a Senior Technical Staff Member at IBM in Research Triangle Park, NC, USA. He received his B.S.E.E degree from the University of New Hampshire in 1977 and his M.S.E.E degree from Northeastern University in 1981. He received his Ph. D. from the University of New Hampshire in 1997. His doctoral research was in the area of computational electromagnetics applied to real-world EMC problems.

In 1981 he joined Digital Equipment Corporation and through 1994 he had assignments ranging from EMC/TEMPEST product design and testing to developing computational electromagnetic EMC-related software tools. In 1994 he joined SETH Corporation where he continued to develop computational electromagnetic EMC-related software tools and used them as a consulting engineer in a variety of different industries. In 1997 he joined IBM in Raleigh, N.C. where he is the lead EMC engineer, responsible for EMC tool development and use on a variety of products. During his career in the U.S. Air Force he was responsible for in-house communications security and TEMPEST/EMC related research and development projects.

Bruce Archambeault is an active member of the EMC Society. He has organized "Introduction to EMC Modeling" and "EMC Modeling Applications" workshops, as well as special sessions on EMC Modeling at the EMC symposium for a number of years. He has provided modeling 'experiment' demonstrations at the 2001 EMC Symposium and has presented a number of papers at the symposium on modeling and other aspects of EMC design. He is an active member of the TC-9 subcommittee. He has served as a past Associate Editor for the IEEE Transactions on Electromagnetic Compatibility. 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".

URLs:

[website by TC9 on CEM modelling and validation](http://www.ewh.ieee.org/cmte/tc9/) < <http://www.ewh.ieee.org/cmte/tc9/> >

[EMI/EMC Computational Modeling Handbook Second Edition by Bruce Archambeault](http://www.calce.umd.edu/general/published/books/descriptions/emiemc.html)
< <http://www.calce.umd.edu/general/published/books/descriptions/emiemc.html> >