

THE LOG PERIODIC

www.scvemc.org Santa Clara Valley Chapter of IEEE Electromagnetic Compatibility Society

IEEE/EMC Society Meeting: Tuesday, March 9, 2010

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408-902-8252

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Jerry Ramie
408-263-6486

jramie@arctechnical.com

Membership:

Eriko Yamato

eriko@tech-dream.com

Nominating:

Hans Mellberg
408-507-9694

hans.mellberg@ieee.org

Webmaster:

Min Hua

minhua@ieee.org

Time: Social 5:30 p.m. Presentation 6:30 p.m.

Place: Applied Materials Bowers Cafeteria
3090 Bowers Ave., Santa Clara, CA 95051-0804

Subject: An Overview of Chip Level EMC Problems

Speaker: Dr. Sergiu Radu, Sun Microsystems, Inc.

Abstract:

The CPUs and the VLSI chips are the primary sources of electromagnetic noise in all electronic equipments. Reducing the electromagnetic noise at source level is usually the best and the most economical solution. The presentation discusses typical interference mechanisms associated with CPU/VLSI, as well as mitigation methods at die-level and package level. Among the aspects discussed are some power distribution issues, on-die decoupling, package capacitors, routing aspects, the impact of back-bias and forward-bias, and the impact of die-shrinks on the EMI performance of the VLSI chips.

Speaker Bio:



Dr. Sergiu Radu is currently Principal Engineer at Sun Microsystems, leading the EMC Design group in Menlo Park, California. His role at Sun includes the development and implementation of architectural frameworks for EMC Design through design guidelines and best practices, and to provide forward looking solutions, root cause analysis of significant EMC problems, design methodologies involving software simulations and better prediction techniques. Sergiu Radu received a M.S. and a Ph.D. in Electrical Engineering (Electronics) from Technical University of Iasi, Romania, and until 1996 he was an Associate Professor at the same university, involved in Electromagnetic Compatibility teaching and research. From 1996 until 1998 he was a Visiting Scholar, as part of the Electromagnetic Compatibility Laboratory, at the University of Missouri-Rolla, currently Missouri University of Science and Technology. In 1998 he joined the EMC Engineering group at Sun Microsystems. Sergiu holds seven US patents for EMI reduction techniques in electronic systems and has many papers published in research journals, symposia, and magazines. He is a reviewer for IEEE Transactions on EMC. He is also a Distinguished Lecturer for the IEEE EMC Society.

Food & Refreshments: Light Dinner and beverages will be served for a fee. Coffee, tea, and snacks are served free of charge.

$$\nabla \times \vec{E} = - \frac{\partial \vec{B}}{\partial t}$$

$$\nabla \times \vec{H} = \frac{\partial \vec{D}}{\partial t} + \vec{J}$$

$$\nabla \cdot \vec{D} = \rho$$

$$\nabla \cdot \vec{B} = 0$$

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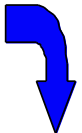
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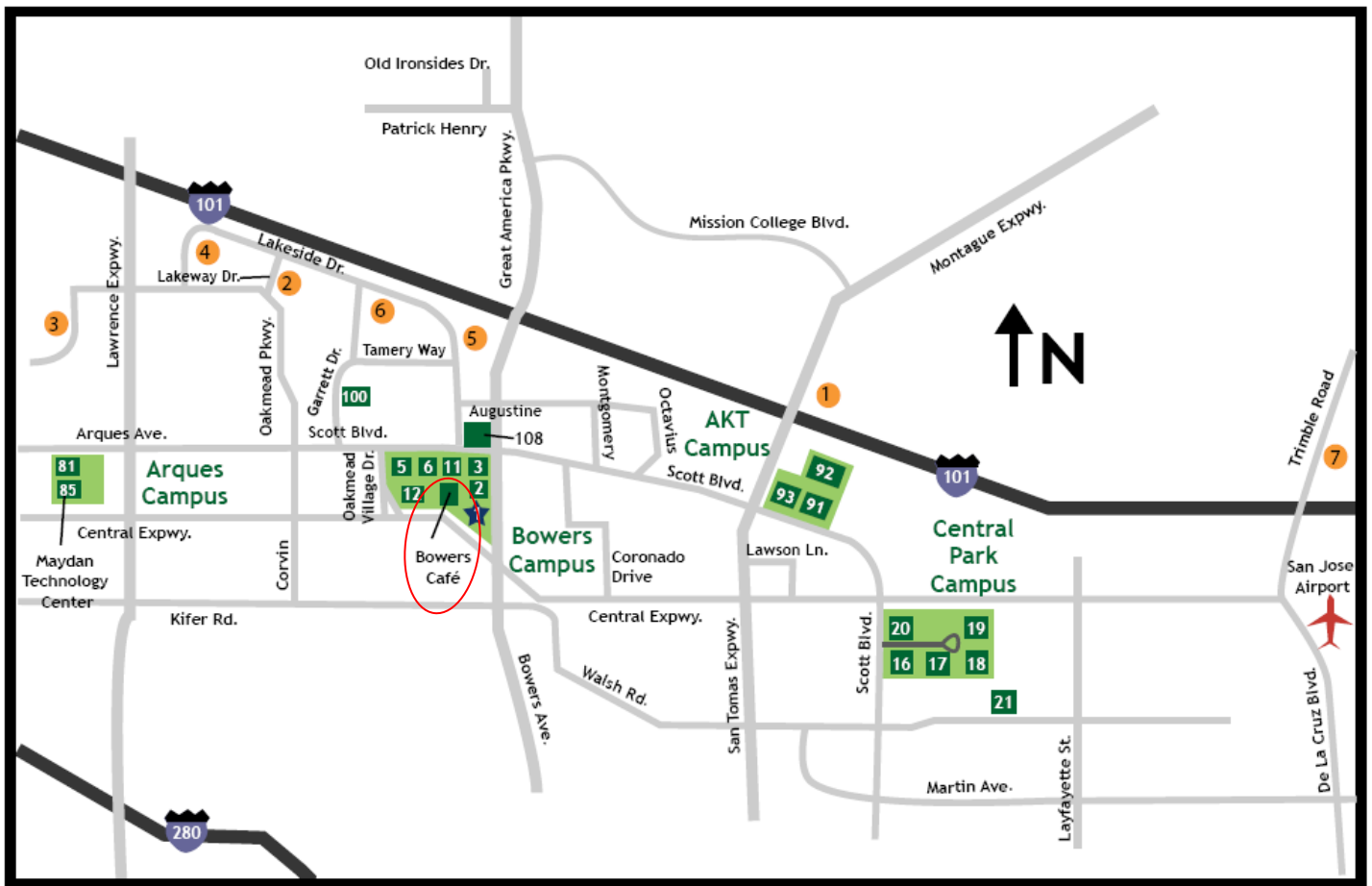
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Map: Applied Materials Bowers Café, 3090 Bowers Ave., Santa Clara, CA 95051



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- Applied Materials Location
- Hotel Location