

Welcome to WCM-MSM2002

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Workshop on Compact Modeling

***The 5th International Conference on
Modeling and Simulation of Microsystems***

San Juan, Puerto Rico, USA
April 23 – 25, 2002

Acknowledgments and Credits

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- **All the invited speakers** — your active participation, time and efforts in preparation of your presentation, taking your time, and making the long trip
- **MSM organizers**
Matthew Laudon, Bart Romanowicz, Sarah Wenning
- **Participation of contributed papers and audience**
- **Organizer: initiation and coordination**

List of Invited Speakers

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Narain Arora, Simplex Solutions, USA
Peter Bendix, LSI Logic, USA
Britt Brooks, Texas Instruments, USA
Matthias Bucher, National Technical
University of Athens, Greece
Mansun Chan, Hong Kong University of
Science and Technology, Hong Kong
Jamal Deen, McMaster University, Canada
Michael Duane, Applied Materials, USA
ChristianENZ, Swiss Center for Electronics
and Microtechnology, Switzerland
Jerry Fossum, University of Florida, USA
Daniel Foty, Gilgamesh Associates, USA
Samuel Fung, IBM, USA
Gennady Goldenblatt, Pennsylvania State
University, USA

Dirk Klaassen, Philips Research
Laboratories, The Netherlands
Kwiro Lee, KAIST, Korea
Serge Luryi, SUNY at Stony Brook, USA
Marco Mastrapasqua, Agere Systems,
USA
Colin McAndrew, Motorola, USA
Mitiko Miura-Mattausch, Hiroshima
University, Japan
Andrea Pacelli, SUNY at Stony Brook, USA
Roberto Suaya, Mentor Graphics, France
Josef Watts, IBM, USA
Xisheng Zhang, Celestry Design
Technologies, USA
Xing Zhou, Nanyang Technological
University, Singapore

Evening Panel Session

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Moderator: Narain Arora, *Simplex Solutions, USA*

Panelists:

Peter Bendix, *LSI Logic, USA*

Britt Brooks, *Texas Instruments, USA*

Mansun Chan, *Hong Kong University of Science and Technology, Hong Kong*

ChristianENZ, *Swiss Center for Electronics and Microtechnology, Switzerland*

Daniel Foty, *Gilgamesh Associates, USA*

Gennady Gildenblat, *Pennsylvania State University, USA*

Dirk Klaassen, *Philips Research Laboratories, The Netherlands*

Mitiko Miura-Mattausch, *Hiroshima University, Japan*

Agenda

A) 19:00 – 19:45: Panel presentation on *Trends and Needs in Compact Models in the SOC Era*

- B) 19:45 – 20:30:** Panel discussion on
1. Compact model standardization vs. diversity
 2. Compact model quality: definitions and priorities
 3. Compact model applications in circuit design and technology development
 4. Compact model parameter extraction vs. optimization
 5. Compact model predictability and scalability
 6. RF/parasitic/interconnect models vs. intrinsic transistor compact models
 7. Compact model accuracy and efficiency tradeoff
 8. Physically based vs. largely empirical compact models

C) 20:30 – 21:00:
Q/A session for the audience

Tutorial Sessions

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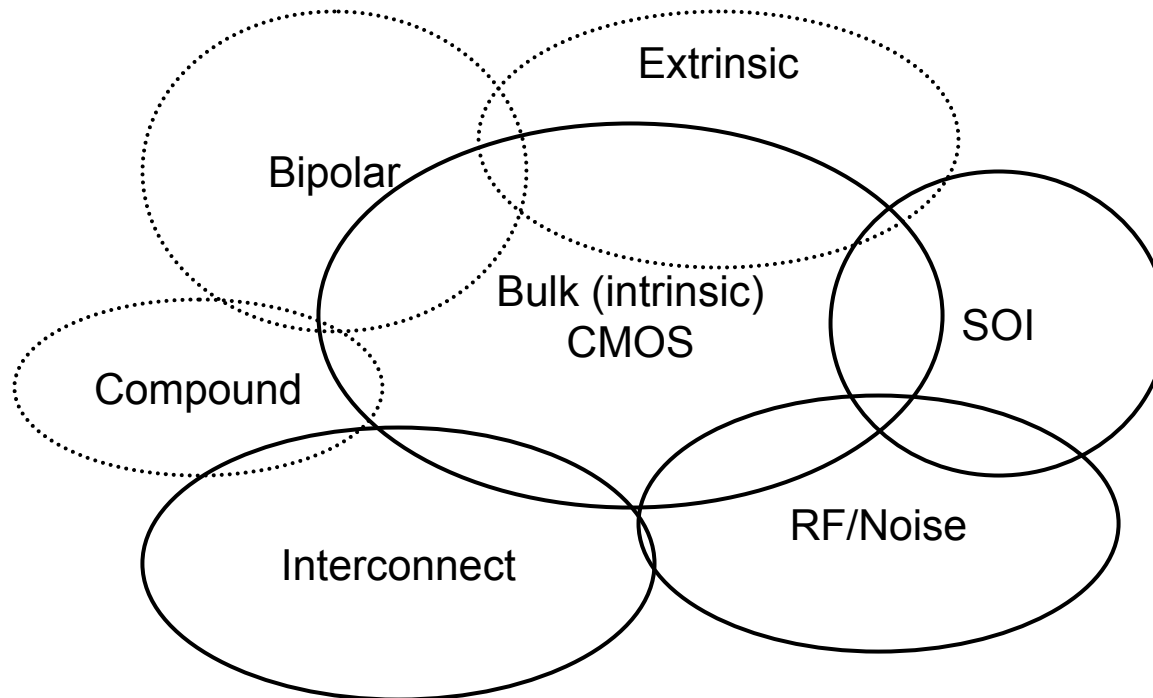
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- **Model Equations of the Self-Consistent Surface-Potential MOS-Model HiSIM**
Mitiko Miura-Mattausch, Hiroshima University, Japan
- **Submicron Circuit Design with BSIM3/4**
Mansun Chan, Hong Kong University of Science and Technology, Hong Kong
- **MOS Transistor Modeling for RF IC Design**
Christian Enz, Swiss Center for Electronics and Microtechnology, Switzerland
- **MOS Modeling, Design Quality, and Modern Analog Design**
Daniel Foty, Gilgamesh Associates, USA
- **An Introduction to MOS Model 11**
Dirk Klaassen, Philips Research Laboratories, The Netherlands

WCM – Topics

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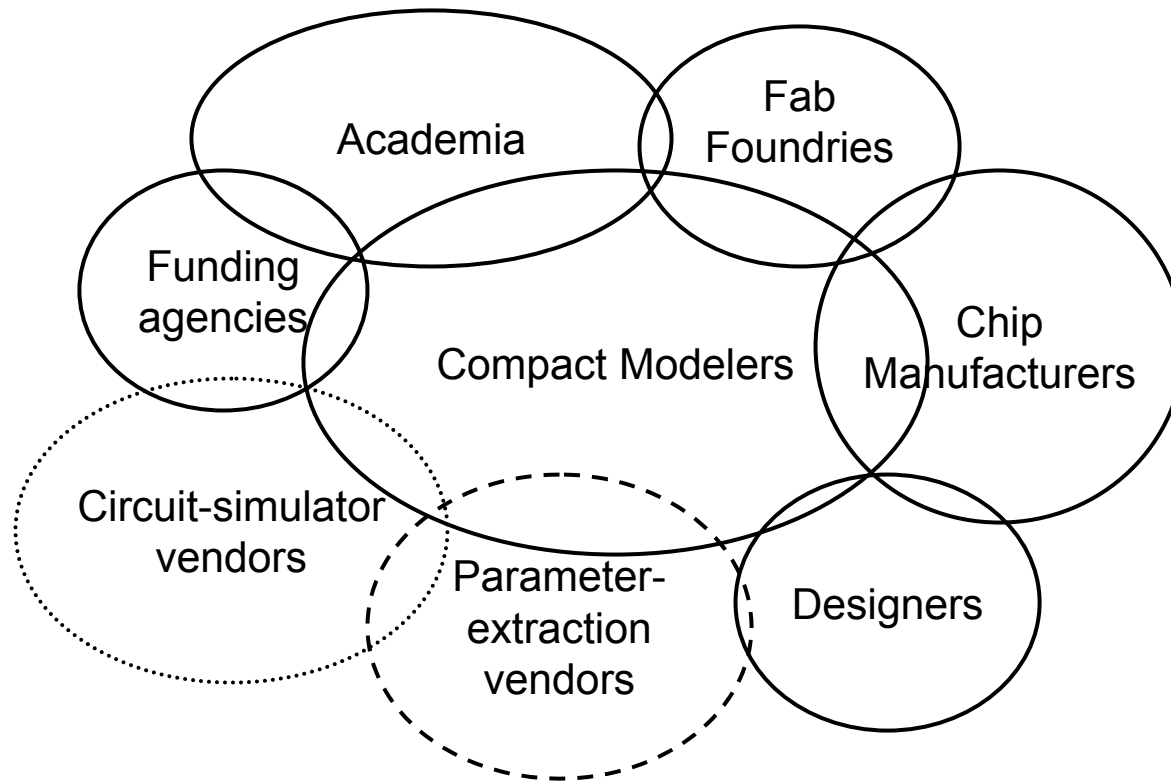
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WCM – Participation

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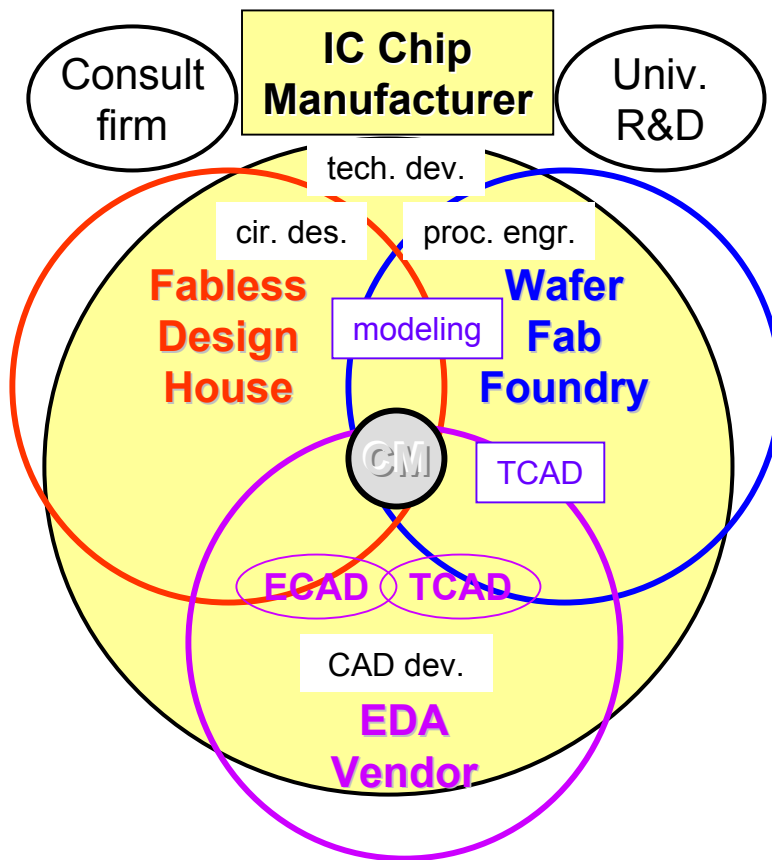
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How to get different walks of people to walk together on the same road?

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❑ Role of Compact Models (compact modeler's perspective)

- Model developers (*generators*)
- Circuit designers (*consumers*)
- Process engineers (*supporters*)
- Device physicists (*mentors*)
- Modeling group (*mediators*)
- TCAD group (*validators*)
- CAD vendors (*architects*)
- Consulting firms (*advisors*)
- Professors (*educators*)
- Students (*learners*)

❑ Role of CM Developers

- Hidden? - Center? - Nowhere?

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Thank you for your participation!

**Hope to see you all
next year in San Francisco**