

# **“Impact of METROLOGY on TCAD”**

**September 8, 2008**

**Organizers: Takahisa Eimori**

Semiconductor Leading Edge Technologies (Selete)

## **SCOPE** *in Homepage*

This workshop is targeted to appropriate measurements that are inevitable to **guarantee validity of TCAD** and **develop advance models**.

Impact of metrology on TCAD is one of key issues for **modeling of aggressively scaled-down semiconductor devices**.

This workshop is intended to provide overview and discussion concerning metrology by invited speakers who are leading experts in the field.

# SCOPE *in detail*

## Aggressively scaled-down world

### ■ Can not *make* What can not be *seen!*

- 1.To utilize the ultimate characteristics  
of materials and process
- 2.To introduce new materials and structures

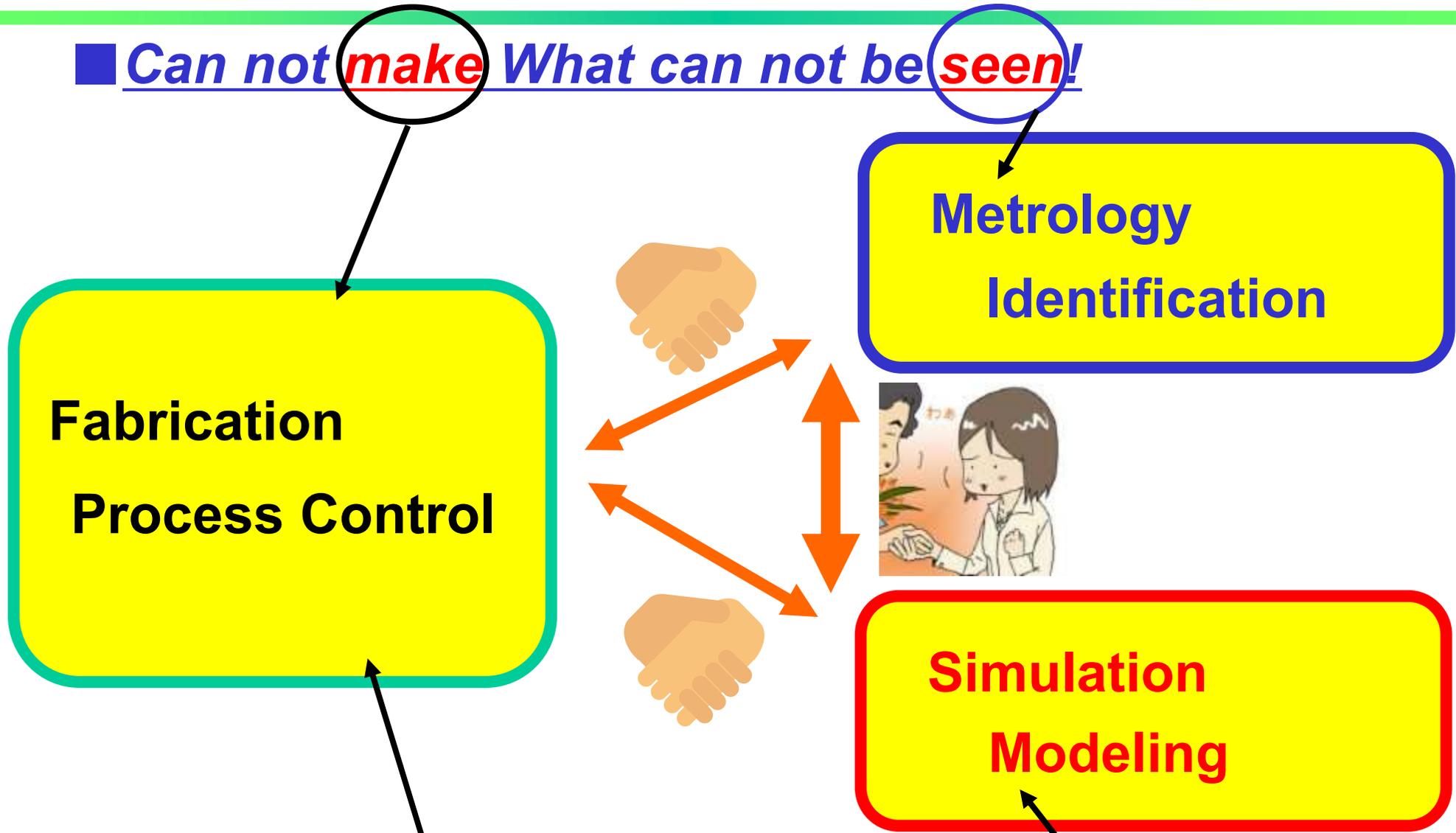
### ■ Can not *control* What can not be *understood!*

- 1.To control the ultimate characteristics  
of new materials and process
- 2.To control the variability  
especially for local & random components

*not in virtual reality  
but in Real world*

# SCOPE *in detail*

■ Can not **make** What can not be **seen!**



■ Can not **control** What can not be **understood!**

# Today's MENU

## Key spices

10:40 N. Ikarashi(NEC)

Electron holography characterization of shallow junctions for 45-nm node and beyond

11:25 Y. Shimizu(Keio Univ.)

CMOS Process Monitoring Using Silicon Isotopes

12:10~13:00 Lunch

13:00 H. Aono(Renesas Tech.)

A study of NBTI for SRAM Load pMOS by On-The-Fly measurements.

13:45 A. Teramoto(Tohoku Univ.)

Statistical evaluation of RTS by newly developed array TEG

14:30 K. Ouchi(Toshiba)

Accurately measured specific contact resistivity for 22-nmnode silicides

15:15 K. Tatsumura(Toshiba)

Additional Mobility Components associated with MetalGate/High-k Dielectric Stacks in scaled MOSFETs down to sub-1.0nm EOT

16:00 T. Tanaka(Fujitsu)

Layout variation analysis of MOSFETs: Compact modeling and its application to circuit simulation

16:45 S.N. Takeda(NAIST)

Measurement of Si Sub band Dispersion by ARPES: Towards Experimental Determination of the Effective Mass in Strained-Si.

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***ENJOY the dishes  
in our Shop!***

***Takahisa Eimori***