

## Control Division

### Technical Committee on Plant Modeling

#### Goal

Study and Develop a Unified Environment for multi-domain physical (plant) modeling for;

Automotive Machinery Electric Hydraulic  
Thermal Steel Chemical Process

#### Background and Motivation

◆ Plant Modeling is very important as a starting point for sophisticated control system design. Additionally, Plant Modeling must be studied with entire control system design fields such as calibration, verification and validation.

#### Our Strategy

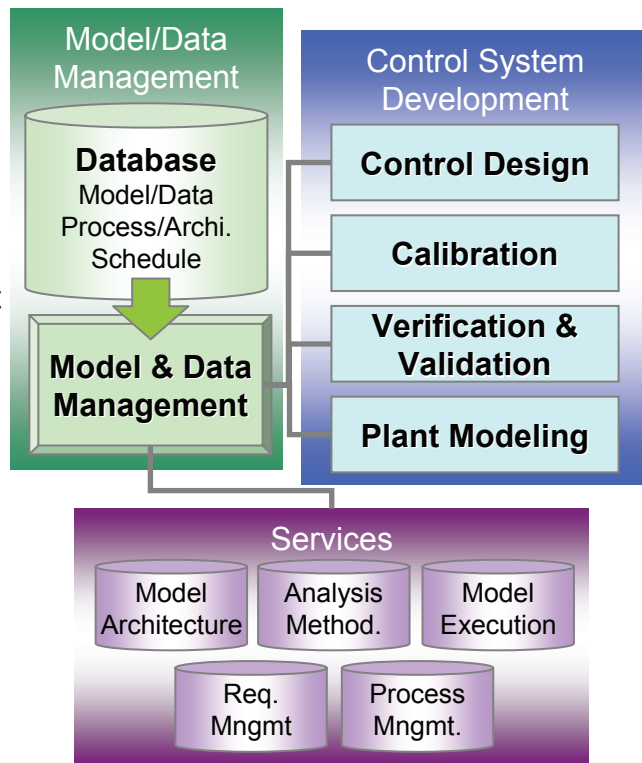
By collaborative research, we consider about follows;

- Unification of physical model and statistical model.
- Simplification methodology from complex model to simpler model.
- Unified algorithms of numeric computation and symbolic computation (computer algebra).
- Seamless and consistent collaboration between plant model, control system design, calibration, verification & validation and its effective maintenance.

#### Activity Plan

- ◆ The 1<sup>st</sup> Plant Modeling Open Forum : June 1<sup>st</sup>, 2009
- ◆ Symposium on Plant Modeling : TBA

Model-Based Development Framework



#### The 1<sup>st</sup> Plant Modeling Open Forum List of Speakers

##### Invited Talks:

A Nagashima (Former SICE President)  
S Hara (Tokyo Univ., SICE President)

Akira Ohata (Toyota Motor):

***Demands and issues of plant modeling for control system design in automotive***

Hiroyasu Shigemori (JFE Steel):

***An importance and demand of modeling in the steel industry***

Shuichi Adachi (Keio Univ):

***A role of system identification in plant modeling***

**Chair:** Nakano, K <nakano@ee.uec.ac.jp> (Univ. of Electro-Communications)

**Vice-Chair:** Morimoto, T <morimoto-takashi@fesys.co.jp> (Fuji Electric Systems, Co., Ltd.)

**Secretary:** Yamakita, K (TITECH), Yang, Z (Ibaraki Univ.), Watanabe, A (Nissan Motor), Yamaguchi, T (Cybernet Systems Co., Ltd.)

**Members:** Tatsuta, H (Nissan), Liu, K (Chiba Univ), Shigemori, H (JFE Steel), Iino, Y (Toshiba), Fujita, M (TITECH), Ohata, A (Toyota), Ohgai, H (Waseda Univ), Ohta, K (Kyoto Univ), Adachi, S (Keio Univ), Mizumoto, I (Kumamoto Univ), Shen, T (Sophia Univ), Shin, S (UEC), Matsumoto, K (Fuji Electric Systems), Yamaguchi, T (Ricoh), Miura, M (Yamatake), Mitsumoto, K (Toshiba), Takatsu, H (Yokogawa Elec.), Harada, S (Mazda), Hara, S (Univ. Tokyo), Anai, H (Fujitsu Lab/Kyushu Univ), Kanou, M (Kyoto Univ), Seki, H (TITECH), Oho, S (Hitachi)