

# Designing Electronic Powertrain Controls Symposium

## AGENDA – revised 4/21/2004

### DAY 1 – Tuesday, May 4, 2004

7:00 am **Bus leaves from Renaissance Austin Hotel for Conference Center**

7:30 am **Registration** – Motorola Parmer Conference Ctr. – Auditorium  
**Continental Breakfast**

8:30 am **Announcements**  
*Colette Wright*, SAE International  
**Welcome and Introductions**  
*Bernard J. Challen*, Shoreham Services

#### FUNDAMENTALS AND SYSTEM ELEMENTS

Chairperson – *Bernard J. Challen*, Shoreham Services

8:45 am **Keynote – “Managing Powertrain Control”**  
*Dennis Bogden*, General Motors Corp.

9:15 am **Modern Control Methods**  
*Lino Guzzella*, Federal Institute of Technology (ETH), Switzerland

10:00 am **Refreshment Break**

10:30 am **Engines – an introduction**  
*Bernard J. Challen*, Shoreham Services

11:00 am **Engine Modeling for Control Applications**  
*Iakovos Papadimitriou*, Gamma Technologies, Inc.

11:30 am **Embedded Estimator Design Process Examples**  
*Peter J. Maloney*, The MathWorks, Inc.

12:00 noon **Discussion Panel with Morning Presenters**

12:15 pm **Lunch and Vendors’ Table-top Exhibition**

#### DESIGN APPROACHES

Chairperson - *Bernard J. Challen*, Shoreham Services

1:30 pm **Distributed Powertrain Controller – Fact or Fiction?**  
*Kenneth P. Waichunas*, VaST Systems Technology

2:00 pm **Signal Delivery Analysis**  
*Dennis Bogden*, General Motors Corp.

2:30 pm **Common Engine Control Architectures**  
*Gunter Mueller*, Robert Bosch Corp.

3:00 pm **Refreshment Break**

3:30 pm **On-Board Diagnostics Requirements**  
*John Van Gilder*, GM Powertrain

4:15 pm **In-cylinder Ion Sensing Opportunities**  
*Yiqun Huang*, Southwest Research Inst.

4:45 pm **Discussion Panel with Afternoon Presenters**

5:15 – **Reception and Vendors’ Presentations**  
8:00 pm Chairperson – *Scott Lehman*, The MathWorks, Inc.

This reception will permit attendees to exchange views and also to listen to vendor presentations in the form of application examples and experiences.

8:00 pm **Bus returns to the Renaissance Austin Hotel**

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**DAY 2 - Wednesday, May 5, 2004**

- 7:30 am    **Bus leaves from Renaissance Austin Hotel for Conference Center**
- 8:00 am    **Continental Breakfast**
- 8:45 am    **Announcements**

**SILICON ENGINEERING**

Chairpersons – *Dennis Bogden*, General Motors Corp.  
*Patrick Leteinturier*, Infineon

- 9:00 am    **Motorola's Vision of Automotive Silicon**  
*Ron Stence*, Motorola SPS
- 9:45 am    **Infineon's Vision of Automotive Silicon**  
*Patrick Leteinturier*, Infineon
- 10:30 am    **Refreshment Break**
- 11:15 am    **Newest Developments for Sensing in Powertrain Controls**  
*Randy Frank*, Randy Frank & Associates, Ltd.
- 11:45 am    **Rapid System Development\***  
*Scott Anderson*, Ricardo Inc.
- 12:15 pm    **Discussion Panel with Morning Presenters**
- 12:30 pm    **Lunch** – Board bus to Motorola Fabrication Facility. Box lunches will be provided.

**PLANT TOUR**

- 1:45 –      **Plant Tour of Motorola Fabrication Facility, Oak Hill**
- 5:15 pm    - Welcome and Introductions by Motorola Sr. Executive  
              - Video: Basics of Silicon  
              - Tour MOS-11 Wafer Fabrication Facility  
              - Tour Product Analysis Lab  
              - Motorola demonstrations and tabletops

**DINNER**

- 5:30 pm    Board bus for the world-famous Salt Lick BBQ Restaurant - hospitality evening sponsored by Motorola.
- 9:30 pm    **Bus returns to the Renaissance Austin Hotel**

\* Copies of presentation to be made available onsite.

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**DAY 3 - Thursday, May 6, 2004**

7:30 am **Bus leaves from Renaissance Austin Hotel for Conference Center**

8:00 am **Continental Breakfast**

8:30 am **Announcements**

**IMPLEMENTATIONS AND CHALLENGES**

Chairperson – *Scott Lehman*, The MathWorks, Inc.

8:45 am **Keynote – “Future Vehicle Challenges”\***

*Robert E. Larson*, EPA

9:15 am **The Emissions Control Challenge for Heavy-Duty Diesel Engines**

*Magdi Khair*, Southwest Research Inst.

10:00 am **GM ATC Motor Controller Experience**

*Mark Selogie, Dan Kowalewski*, General Motors Corp.

10:30 am **Refreshment Break**

11:00 am **Development of a Virtual Vehicle Transmission Test Cell for Powertrain Control System Development and Testing\***

*Joe Steiber*, Southwest Research Inst.

11:30 am **Traction Control Systems for the Next Generation All Wheel Drive Vehicles\***

*Sankar K. Mohan, Eric Bansbach*, New Venture Gear, Inc.

12:00 noon **Discussion Panel with Morning Presenters**

12:15 pm **Lunch**

**IMPLEMENTATIONS – CASE STUDIES**

Chairperson – *Ron Stence*, Motorola SPS

1:30 pm **Signal Delivery Analysis (Case Study)**

*Larry Michaels, Dennis Bogden*, General Motors Corp.

(Prof. Myoung-ho Sunwoo's presentation, "Far East Industry Developments," originally scheduled for 1:30, has been withdrawn, due to a scheduling conflict.)

2:00 pm **New Software Tools\***

*Paul Neil*, AXEON Limited

2:30 pm **Symposium Achievements – a review and context**

*Bernard J. Challen*, Shoreham Services

2:45 pm **Symposium Concludes**

3:00 pm **Bus returns to the Renaissance Austin Hotel**

\* Copies of presentation to be made available onsite.