



Global Powertrain Congress

September 28-30, 2004

Dearborn, Michigan, USA

www.gpc-icpem.org

GPC 2004

FULL THROTTLE

The Only Global Conference & Exposition Dedicated
Exclusively To Total Powertrain Technology

PROGRAM



POWERTRAIN
INTERNATIONAL

DENSO

TIMKEN



GPC 2004 SCHEDULE AT A GLANCE

	Monday September 27, 2004	Tuesday September 28, 2004	Wednesday September 29, 2004	Thursday September 30, 2004
Registration	1:00pm-5:00pm	7:30am-5:00pm	8:00am-3:00pm	8:00am-1:00pm
Morning Concurrent Technical Sessions 8:30am-12:30pm		Powertrain Business Drivers <hr/> Session Chairman Michael Flynn, PhD Director, OSAT/U of M Walter Mc Manus, PhD Executive Director J.D.Power and Associates John Sanderson President & CEO Siemens Pedro Ferro Vice President & General Manager ArvinMeritor John Moulton President Robert Bosch Claude Mathieu President & CEO Mann+Hummel Mark Chernoby VP - Advance Vehicle Engineering DaimlerChrysler	Advanced Engine Design & Performance <hr/> Base Engine Session Chairman Heinz Lemberger Chief Engineer BMW Advanced Transmission/ Powertrain Design & Performance <hr/> Advanced Transmission/Simulation & Modeling Session Chairman Brian Wicke, PhD Principal Research Scientist General Motors	Advanced Propulsion & HEV <hr/> Advanced Propulsion Technology Enablers Session Chairman David Hermance Executive Engineer Tetsuhiro Ishikawa Group Manager Toyota Advanced Transmission <hr/> Novel Transmission II Session Chairman Denis Wieczorek Senior Manager DaimlerChrysler Joseph Scalisi Director NVG Advanced Manufacturing & Materials <hr/> Surface Engineering/Process Optimization Session Chairman Dan Williams Director Inductoheat
Luncheons		12:30pm-1:30pm	12:30pm-1:30pm	12:30pm-1:30pm
Afternoon Concurrent Technical Sessions 1:30pm-5:00pm Plenary Session 1:30pm-4:30pm		Keynote & Plenary Session <hr/> Session Chairman Bob Lee Vice President DaimlerChrysler Jonathan Hurden CEO Chris de Boer Director Alisdair Cairns, PhD Senior Engineer Cosworth Technology Hironichi Yanagihara, PhD Chief Technologist Toyota Evengelos Vaos, PhD Senior Partner Computational Cuntinuum Mechanics Ichiro Sataka, PhD General Manager Toyota Wayne Eckerle, PhD Executive Director Cummins Peter Pleus, PhD Executive Vice President INA-Schaeffler Patrick Hupperich, PhD Director FEV	Advanced Engine Design & Performance <hr/> Combustion, Emission & Performance Session Chairman Terry Gutermuth Director DaimlerChrysler Advanced Transmission <hr/> Novel Transmission I Session Chairman Mircea Gradu, PhD Director TIMKEN Advanced Manufacturing & Materials <hr/> Powertrain Materials & Processes Session Chairman David Roessler, PhD Business & Policy Manager (USCAR) General Motors	Advanced Propulsion & HEV <hr/> Advanced Power-Plants & Vehicles Session Chairman Herbert Kabza, PhD Professor University of Ulm Advanced Transmission/ Powertrain Design & Performance <hr/> Advanced Transmission/ Powertrain Controls Session Chairman Jean Belanger President Opal RT Advanced Manufacturing & Materials <hr/> Surface Engineering- Powertrain Systems Session Chairman Dan Williams Director Inductoheat
Product Showcase	Set-up 1:00pm-5:00pm	Set-up 8:00am-10:00am Open 11:00am-1:30pm 2:30pm-7:30pm	Open 11:00am-1:30pm 3:00pm-5:00pm	Open 11:00am-2:00pm Exhibit Teardown 2:00pm-6:00pm
Special Events		Chairman Bob Lee's Reception 6:00pm-7:30pm		

TUESDAY, SEPTEMBER 28

MORNING SESSION

PROGRAM BUSINESS DRIVERS

SESSION CHAIRMAN

Michael Flynn, PhD, Director • OSAT/University of Michigan

8:30 am to 12:30 pm, Grand Hall

8:30 am "Welcome & Introduction-Business Uncertainties on the Road to the Future"
Michael Flynn, PhD • University of Michigan

8:45 am "Powertrain Quality: What Drivers Want"
Walter Mc Manus, PhD • J.D. Power & Associates

9:15 am "The Advanced Gasoline Engine vs. the Future Diesel"
John Moulton • Robert Bosch

9:45 am BREAK

10:00 am "Complying with Future Emission Standards while Enhancing Gasoline and Diesel Engine Performance"
Pedro Ferro • ArvinMeritor

10:30 am "Electronics: Strengthening the Case for Gasoline Engines"
John Sanderson • Siemens

11:00 am "Keeping Ahead of the Curve-Innovation in Powertrain Components"
Claude Mathieu • MANN+HUMMEL

11:30 am "Making Powertrain Innovation Matter"
Mark Chernoby • MANN+HUMMEL

12:00 am Q & A - Panel Discussion

12:30 pm LUNCH

AFTERNOON SESSION

PLENARY SESSION

SESSION CHAIRMAN

Bob Lee, Vice President Powertrain • DaimlerChrysler

1:30 pm - 5:00 pm, Grand Hall

9:00 am "Welcome & Introduction-Powertrain Resource Stewardship-Initiatives for Optimization in Product and Process"
Bob Lee • DaimlerChrysler

9:30 am "Toward the Optimum Use of Crude Oil in Passenger Cars"
Jonathan Hurden, Chris de Boer, Alisdair Cairns, PhD
Cosworth Technology

10:00 am "Future Technology for New Engine Combustion Development"
Hiromichi Yanagihara, PhD • Toyota, Evengelos Vaos, PhD,
Computational Continuum Mechanics, Ichiro Sataka, PhD • Toyota

10:30 am BREAK

10:45 am "Combustion Design Tools and Processes to Minimize Engine-Out Emission in Light Duty Diesel Applications"
Wayne Eckerle, PhD • Cummins

11:15 am "Reduction of Fuel Consumption and Emissions by Modern Valvetrain Concepts"
Peter Pleus, PhD • INA-Schaeffler

11:15 am "Applications of the Six Sigma Process in a Concept to Production Engine"
Patrick Hupperich, PhD • FEV

11:15 am "Internal Combustion Engine...Value for Customers?"
Joy Greenway • Visteon

11:45 am Q & A Panel Discussion

12:15 pm GENERAL CHAIRMAN'S BOB LEE'S RECEPTION

EXHIBITOR (BOOTH NUMBER)

Ansoft Corporation (14) - DMG (36) - DSPACE (25) - Eagle Picher/Res Manufacturing (13)
EP NTZ Micro Filtration (7) - ESK Ceramics GmbH (38) - FAG Auto (23,24,28,29)
FANUC Robotics (11) - Federal Mogul (12) - Feintool Cincinnati (19) - FTE (4)
GT Technologies (10) - HiLite International (18) - INA (23,24,28,29) - Inductoheat (21)
Jatco (5) - KC Jones Plating (17) LuK (23,24,28,29) - NSK (26) - Permacel (15,16)
Powertrain International (22) PRECO Laser Systems (30) - Siemens VDO (20)
Stackpole Ltd. (8) - 3M (27) - Torotrak (35) Visteon (3) - Vyncolit (6) - Wacker Silicons (39)

WEDNESDAY, SEPTEMBER 29

MORNING SESSIONS

BASE ENGINE

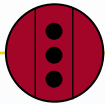
SESSION CHAIRMAN

Heinz Lemberger, Chief Engineer • BMW

PROGRAM CHAIRS

Afif Ahmed, PhD, Director • Renault
Terry Guteruth, Director • DaimlerChrysler
Akihiro Liyama, PhD, Senior Researcher • Nissan
Heinz Lemberger, Chief Engineer • BMW

8:30 am to 12:15 pm, Grand Hall Suite 1



ADVANCED ENGINE DESIGN & PERFORMANCE

- 8:30 am** *"The New High Performance Powertrain of the BMW X5"*
Andreas Mueller, Klaus Borgmann, Klaus Froehlich, Wolfgang Hall, Reinhard Hofmann, Theo Melcher, Christian Bock • BMW
- 9:00 am** *"The Performance of a High Compression Ratio, High Speed Supercharged Engine"*
Jamie Turner, Richard Pearson, PhD, Andrew Parrot • Lotus
- 9:30 am** *"Features & Development of the 5.7 L HEMI Engine Multi-Displacement System"*
Alan Falkowski • DaimlerChrysler
- 10:00 am** BREAK
- 10:15 am** *"Displacement on Demand on High Value, Overhead Valve Engines"*
Allen Rayl, William Albertson, Thomas Bolander, Jia-Shium Chen, PhD, James Hicks, Gregory Matthews, PhD, Mike McDonald, Sheldon Plaxton, PhD, Frederick Rozario • General Motors
- 10:45 am** *"Development of V6 Engine with Variable Cylinder Management"*
Katsumi Naguchi, Yasuaki Asaki, Masayuki Ichige, Makoto Segawa, Hideki Matsuoka • Honda
- 11:15 am** *"Modeling and Simulation of Fuel Control System"*
Lei Xia, PhD • Ansoft
- 11:45 am** Q & A - Panel Discussion
- 12:15 pm** SESSION ADJOURNED
- 12:30 pm** LUNCH

ADVANCED TRANSMISSION / SIMULATION & MODELING

SESSION CHAIRMAN

Brian Wicke, PhD, Principal Research Scientist • General Motors

SESSION CO-CHAIRS

Jean Belanger, President • Opal RT
Tetsuhiro Ishikawa, Group Manager • Toyota
Frederic Matekunas, PhD, Principal Research Scientist • General Motors

8:30 am - 12:15 pm, Grand Hall Suite 2



ADVANCED TRANSMISSION DESIGN & PERFORMANCE

- 9:00 am** *"Support of Transmission Development by Advanced Methods & Tools"*
Robert Fischer, PhD, Hermann Pecnik, Wolfram Hasewend, PhD • AVL
- 9:30 am** *"Dual Mass Flywheel Performance Simulation Using Discrete Model of Arcspring"*
Taehyun Kim, Hyunsoo Kim, PhD • Sungkyunkwan University
- 10:00 am** *"Making Electronics Work"*
Ron Stence • Motorola
- 10:30 am** BREAK
- 10:45 am** *"A Case for (and Against) a Distributed Powertrain Coordination Control Architecture for Complex Systems"*
Gregory Ohl, Michael Prucka • DaimlerChrysler
- 11:15 am** *"New Trends in Calibration & Bypass for ECU Development"*
Thomas Prucha • dSPACE
Mark McFarland • Delphi
- 11:45 am** Q & A Panel Discussion
- 12:15 pm** SESSION ADJOURNED
- 12:30 pm** LUNCH

WEDNESDAY, SEPTEMBER 29

AFTERNOON SESSIONS

COMBUSTION, EMISSION & PERFORMANCE

SESSION CHAIRMAN

Terry Gutermuth, Director • DaimlerChrysler

PROGRAM CHAIRS

Afif Ahmed, PhD, Director • Renault
Terry Gutermuth, Director • DaimlerChrysler
Akihiro Liyama, PhD, Senior Researcher • Nissan
Heinz Lemberger, Chief Engineer • BMW

1:30 pm to 5:30 pm, Grand Hall Suite 1



ADVANCED ENGINE DESIGN & PERFORMANCE

- 1:30 pm** *"Intelligent Coolant Control"*
Rui Chen, PhD • Loughborough University
Jamie Turner, David Blundell • Lotus
- 2:00 pm** *"Development of an Intake Manifold with Fast Moving Flaps for Impulse Charging"*
Jan Bolda, Holger Findeisen, PhD,
Jochen Linhart • MANN + HUMMEL
- 2:30 pm** *"Secondary Air Injection with Innovative Plastic Turbo"*
Hedwig Katsivelos, Stephan Wild, PhD
MANN+HUMMEL
- 3:00 pm** BREAK
- 3:15 pm** *"NO_x reduction Strategies for U.S. HSDI Diesels"*
Ulrich Pfahl, PhD, Michael Weissbaeck,
Peter Herzog, PhD • AVL
- 3:45 pm** *"Reduction for Mechanical Friction Loss in the Belt Driven Starter -Generator Systems"*
Mohammed El-Mahmoud, PhD, Keming Liu,
Jerzy Otremba, Kyoyul Oh, PhD, Michael Neu
Gates
- 4:15 pm** *"Dual Flow Coupling Ignition"*
Michael Archimedes Ward, PhD
Combustion Electromagnetics
- 4:45 pm** *"PAVO - Platform Analysis, Visualization & Optimization"*
Karl Mueller, PhD, Friederich Graf,
Bjeorn Miener • Siemens VDO
- 5:15 pm** Q & A Panel Discussion
- 5:30 pm** SESSION ADJOURNED

NOVEL TRANSMISSIONS I

SESSION CHAIRMAN

Mircea Gradu, PhD, Director • TIMKEN

PROGRAM CHAIRS

Mircea Gradu, PhD, Director • TIMKEN
Joe Scalsi, Director • New Venture Gear
Denis Wiczorek, Senior Manager • DaimlerChrysler

1:30 pm to 5:00 pm, Grand Hall, Suite 2



ADVANCED TRANSMISSION DESIGN & PERFORMANCE

- 1:30 pm** *"The Powershift Gearbox- Elements of the Future"*
Jeff Hemphill, Patrick Lindemann
Philip George • LUK
- 2:00 pm** *"Development of Dual Clutch Transmission Simulator to Evaluate Shift Force & Torque Interruption"*
Hyunsoo Kim, PhD, Sangjoon Park,
Jungeol Song, Wansik Ryn, Sungho Hwan,
PhD, Jungeol Song
Sungkyunkwan University
- 2:30 pm** *"Implementation & Control of Clutch-by-Wire Systems for Automated Manual Transmissions"*
Sung-Ho Hwang, PhD, Kwan-Soo Han, PhD
Sungkyunkwan University
- 3:00 pm** BREAK
- 3:15 pm** *"A New Hybrid Transmission Design for Motoscooter Applications"*
Francesco Frenzo, PhD, Emilio Vitale, PhD
University of Pisa
Luca Carmignani, PhD,
Maurizio Maracci, PhD • Piaggio
- 3:45 pm** *"IVT Technology- Building on the Fuel Economy Gains Delivered by Hybrids"*
Dick Elsy • Torotrak
- 4:15 pm** *"Gyroscopic Variable Power Transmission (GVT) - A New Invention"*
Michael Cleary, Jega Jegatheeson
Gyro Energy
- 4:45 pm** Q & A Panel Discussion
- 5:15 pm** SESSION ADJOURNED

POWERTRAIN MATERIALS & PROCESSES

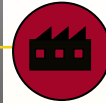
SESSION CHAIRMAN

David Roessler, PhD, Business & Policy Manager (USCAR) • General Motors

PROGRAM CO-CHAIRS

Katsuji Hidaka, General Manager • Toyota
David Roessler, PhD, Business & Policy Manager (USCAR)
General Motors
Dan Williams • Inductoheat

1:30 pm to 4:15 pm, Grand Hall, Suite 3



ADVANCED MANUFACTURING & MATERIALS

- 1:30 pm** *"Patternless & Digital Production of Molds & Cores for Sand Casting Applications"*
Daniel Maas • Extrude Hone
- 2:00 pm** *"Influence of Sliding & Chromium Content in the Steel on the White Structural Change Under Rolling Contact Fatigue"*
Susumu Tanaka, Nobuaki Mitamura,
Yasuo Murakami • NSK
- 2:30 pm** BREAK
- 2:45 pm** *"Trends and Drivers of Magnesium Die-Castings for Automotive Powertrain Components"*
Thomas Ruden • Lunt Manufacturing
- 3:15 pm** *"Latest Developments in the use of Phenolic Materials in Advanced Torque Converter Applications"*
Andrew Sanders • Vyncolit
- 3:45 pm** Q & A Panel Discussion
- 4:15 pm** SESSION ADJOURNED

THURSDAY, SEPTEMBER 30

MORNING SESSIONS

ADVANCED PROPULSION TECHNOLOGY ENABLERS

SESSION CHAIRMAN

Tetsuhiro Ishikawa, Group Manager • Toyota

PROGRAM CO-CHAIRS

Ahmed El-Antably, PhD, Engineering Specialist
General Motors

Herbert Kabza, PhD, Professor • University of Ulm

John Miller, PhD, Principal Engineer • J-N-J Miller
Design Services

Tetsuhiro Ishikawa, Group Manager • Toyota

9:00 am to 12:15 pm, Grand Hall Suite 1



ADVANCED PROPULSION/HEV

9:00 am "Hybrid-Attack with Starter
Generator"

Rainer Knorr, Guenter Lugert, PhD
Matthias Deiml • Siemens

9:30 am "DC/DC Converter Concept
for Belt Driven Starter
Generator"

Stephan Rohr, Herbert Kabza, PhD
University of Ulm

10:00 am "Control Strategy of 42Volt
ISG System for Improvement
of Fuel Economy & Torque
Smoothing"

Hyunsoo Kim, PhD, Jeongmin Kim, PhD
Sungkyunkwan University

10:15 am BREAK

10:45 am "Modifications &
Measurements on the 40 kW
Auxiliary Power Units for the
Series Hybrid Buses"

Erik Verhaeven, PhD • Vito
Georges Feltz • AVL
Antonio Vecchio, PhD • LMS

11:15 am "Real-Time Simulation of Fuel
Cell Hybrid Electrical Vehicles"

Jean Belanger, Christian Dufour, PhD
Opal-RT
Tetsuhiro Ishikawa, Kousuke Uemura
Toyota

11:45 am Q & A Panel Discussion

12:15 pm SESSION ADJOURNED

12:30 pm LUNCH

NOVEL TRANSMISSIONS II

SESSION CHAIR

Denis Wiczorek, Senior Manager • DaimlerChrysler

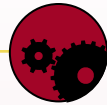
SESSION CO-CHAIRS

Mircea Gradu, PhD, Director • TIMKEN

Joe Scalisi, Director • New Venture Gear

Denis Wiczorek, Senior Manager • DaimlerChrysler

9:00 am to 11:45 pm, Grand Hall, Suite 2



ADVANCED TRANSMISSION DESIGN & PERFORMANCE

9:00 am "Fuel Efficiency and Thermally
Stable Bearing Systems for All
Wheel Drive Applications"

Mircea Gradu, PhD, Russ Folger, Sharon Ross
John Feltman • TIMKEN

9:30 am "Mathematical Fundamentals
for Vehicle Performance
Control"

Vladimir Vantsevich, PhD
Lawrence Technical University

10:00 am "Development of the Super
Ultraflat Torque Converter"

Katsuhiko Okada, Keeichi Tatewaki • Jatco

10:30 am BREAK

10:45 am "Driveline System Integration
for Optimized NVH
Performance"

Zhaohui Sun, PhD, Glen Steyer
Michael Voight
American Axle & Manufacturing

11:15 am Q & A Panel Discussion

11:45 am SESSION ADJOURNED

12:30 pm LUNCH

SURFACE ENGINEERING-PROCESS OPTIMIZATION

SESSION CHAIRMAN

Dan Williams, Vice President, Inductoheat

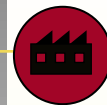
PROGRAM CO-CHAIRS

Katsuji Hidaka, General Manager • Toyota

David Roessler, PhD, Business & Policy Manager (USCAR)
General Motors

Dan Williams, Vice President • Inductoheat

9:00 am to 12:45 pm, Grand Hall Suite 3



ADVANCED MANUFACTURING & MATERIALS

9:00 am "Basics of Induction Surface
Hardening"

Dan Williams • Inductoheat

9:30 am "Computer Modelling of the
Induction Process"

Valery Rudnev, PhD • Inductoheat

10:00 am "Advanced Induction Coil
Design and Manufacturing"

Robert Ruffin • Fluxtrol Manufacturing

10:30 am BREAK

10:45 am "Vacuum Carburizing of
Gears"

Thomas Wingens • Ipsen

11:15 am "Controlled Nitriding for
Powertrain Parts"

Tahar Nabil Tarfa, PhD, George Tymowski
Nitrex Metal

11:45 am "Surface Modification using
High Power Direct Diode
Lasers - Case Studies"

John Haake • Nuovonyx

12:15 pm Q & A - Panel Discussion

12:45 pm SESSION ADJOURNED

12:45 pm LUNCH

THURSDAY, SEPTEMBER 30

AFTERNOON SESSIONS

ADVANCED POWERPLANTS & VEHICLES

SESSION CHAIRMAN:

Herbert Kabza, PhD, Professor • University of Ulm

PROGRAM CO-CHAIRS :

Ahmed El-Antably, PhD, Engineering Specialist
General Motors
Herbert Kabza, PhD, Professor • University of Ulm
John Miller, PhD, Principal Engineer • J-N-J Miller
Design Services
Brian Wicke, PhD, Principal Research Scientist
General Motors

1:30 am - 5:15 pm, Grand Hall, Suite 1



ADVANCED PROPULSION/HEV

1:30 pm *"The Saint-Hilaire Quasi-Turbine as the Basis for the Alternate Vehicle Propulsion Systems"*
Myron Stokes • Emotion Reports

2:00 pm *"Current & Future Commitments towards Sustainable Public Transportation by the City of Luxembourg"*
Georges Feltz, Nico Pundel • AVL
Erik Verhaeven, PhD • Vito

2:30 pm BREAK

2:45 pm *"GM Hy-wire Concept"*
Chris Borroni-Bird, PhD • General Motors

3:15 pm *"GM Articulated Hybrid Busses"*
Ahmed El-Antably, PhD • General Motors

3:45 pm *"Fuzzy Battery Power Control for Powersplit Hybrid Vehicle"*
Bader Bedreddine, PhD, Ming Kuang, PhD
Vincent Freyermuth, PhD • Ford

4:15 pm Q & A Panel Discussion

4:45 pm SESSION ADJOURNED

ADVANCED TRANSMISSION/ POWERTRAIN CONTROLS

SESSION CHAIRMAN

Jean Belanger, President • Opal RT

SESSION CO-CHAIRS

Jean Belanger, President • Opal RT
Tetsuhiro Ishikawa, General Manager • Toyota
Frederic Matekunas, PhD, Principal Research Scientist
General Motors

1:30 pm to 4:45 pm, Grand Hall, Suite 2



ADVANCED TRANSMISSION DESIGN & PERFORMANCE

1:30 pm *"Mechatronic Controls for Dual Clutch Transmission"*
Bernd Stockman, Guenther Alberter
Continental TEMIC

2:00 pm *"Design of Electro-Hydraulic Control Systems for Automatic Transmission"*
Lei Xia, PhD • Ansoft

2:30 pm *"Hardware In-the-Loop for Transmission Algorithm Development at DaimlerChrysler"*
Paul VanOphem, Hussein Dourra
DaimlerChrysler
Kevin Rzemien, Mahendra Muli • dSPACE

3:00 pm BREAK

3:15 pm *"Mechatronic Transmission Control - A Key Enabling Technology for New Transmission Concepts"*
Guenther Scheid, Helmut Gander, PhD
Siemens

3:45 pm *"The Research for HILS application on OBD System Development"*
Seveng-Hyu Park, Jong-Soo Lee,
Seung-Wook Yang • Hyundai

4:15 pm Q&A Panel Discussion

4:45 pm SESSION ADJOURNED

SURFACE ENGINEERING/POWERTRAIN SYSTEMS

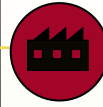
SESSION CHAIRMAN

Dan Williams, Vice President • Inductoheat

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David Roessler, PhD, Business & Policy Manager (USCAR)
General Motors
Dan Williams, Vice President • Inductoheat

1:30 pm to 4:45 pm, Grand Hall, Suite 3



ADVANCED MANUFACTURING & MATERIALS

1:30 pm *"Industrial Methodology for the Simulation of the Heat Treatment of Complex Shaped Three-dimensional Parts"*
Yogendra Gooroochurn, PhD,
Harald Porzner, Frederic Boitout, Damian Dry,
Philippe Mourgue • ESI

2:00 pm *"Crankshaft Induction Heat Treat - Non Rotational"*
Glen Desmier • Inductoheat

2:30 pm *"Miccroloy® Precision Bronze ID Plating for Powertrain Gears"*
Timothy Kurcz • KC Jones Plating

3:00 pm BREAK

3:15 pm *"Advanced Technologies- Induction Gear Hardening"*
Ed Rylicki • Inductoheat

3:45 pm *"Case Carburizing of Gear, Cranks & Other Parts"*
Dan Herring • The Heat Treat Doctor

4:15 pm Q & A - Panel Discussion

4:45 pm SESSION ADJOURNED

re-fuel @ GPC 2005

September 27 - 29, 2005
Sheraton Inn, Ann Arbor

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Abstracts due by December 16, 2004

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