

# International Conference “Global/Local Innovations for Next Generation Automobiles”

Part1 : Special Session of Tenth International Conference on Fluid Dynamics(ICFD2013)

OS5: “Global/Local Innovations for Next Generation Automobiles”

Organizers: A. Miyamoto(Tohoku University), P. Kapsa(Ecole Central de Lyon)

**\*Date\***: November 25(Mon) – 27(Wed), 2013

**\*Conference Site\***: Sendai International Center, Sendai, Japan

**\*Registration Fee\***:

Advanced Registration fee (on or before Oct.3):General 20,000JPY Student 2,000JPY

On-site Registration fee: General 25,000JPY Student 3,000JPY

**\*Website\***: <http://www.miyagicar.com/icfd-english/>  
<http://www.ifs.tohoku.ac.jp/icfd2013/>

November 25(Mon)

12:00-12:50 Session OS5 Lunch Meeting (Sakura 1)

OS5 Session Opening 13:00-13:10

Akira Miyamoto and Philippe Kapsa

Chair: Yasutaka Iguchi, Nozomu Hatakeyama

OS5-1 13:10-13:50

Convergence of Transportation and Energy in the Future

Mark C. Williams (URS, USA)

OS5-2 13:50-14:30

Research and development of fully automated vehicles

Keiji Aoki (Japan Automobile Research Institute, Japan)

OS5-3 14:30-15:10

Human Factor Research Using a Driving Simulator

Kimihiko Nakano (The University of Tokyo, Japan)

**Break 15:10-15:30**

**Chair: Masuo Okada, Masahiro Nishizawa**

**OS5-4 15:30-16:10**

Vehicle Innovations Bring Regional Community into the New Age – Fuel Cell Vehicle and Hydrogen Move to the 2015 Introduction –  
Katsuhiko Hirose (Toyota Motor Corporation, Japan)

**OS5-5 16:10-16:50**

Research and Development of Transport Simulation  
Alexandre Torday (Transport Simulation Systems, Australia)

**Chair: Shigenao Maruyama, Tsutomu Ito**

**OS5-6 16:50-17:30**

NDT-Innovations in The Automotive Industrial Sector And To Light-Weight Materials  
Gerd Dobmann (Fraunhofer-IZFP, Germany)

**OS5-7 17:30-18:00**

Compact-Sizing of Optical Topography Technology (NIRS)  
Kiyoshi Hasegawa (Hitachi, Ltd., Japan)

**OS5 Session Dinner Party 19:00-21:00**

**Westin Hotel 25<sup>th</sup> Floor TSUKI**

**November 26(Tue)**

**Chair: Shiro Takegami, Akira Yoshikawa**

**9:00-10:30 Short Oral Presentations of Poster - Part 1**

**Chair: Tsunemoto Kuriyagawa, Hitoshi Takamura**

**10:40-12:00 Short Oral Presentations of Poster - Part 2**

**12:00-12:50 Session OS5 Lunch Meeting (Sakura 1)**

**13:00-14:30 Poster Presentations**

**Chair: Noriko Behling, Masayoshi Esashi**

**OS5-8 14:30-15:00**

Understanding the Triple Helix Model and the Finance of Innovation:  
Implications for Japan

Masato Hisatake (Tohoku University, Japan)

**OS5-9 15:00-15:40**

Understanding the Triple Helix Model and the Finance of Innovation

Erik P. M. Vermeulen (Tilburg University, The Netherlands)

**OS5-10 15:40-16:20**

Innovation, University Entrepreneurship and the Role of Triple Helix

Shigeo Kagami (The University of Tokyo, Japan)

**(Break 10 min)**

**Chair: Kazumi Nishijima, Hiroshi Inomata**

**OS5-11 16:30-17:10**

Can Functional Brain Imaging Prompt Innovations in Next-generation  
Automobiles?

Ryuta Kawashima (Tohoku University, Japan)

**OS5-12 17:10-17:50**

Alzheimer's disease from pathology to therapeutics

Takeshi Iwatsubo (The University of Tokyo, Japan)

**18:00-20:30 ICFD Banquet at SAKURA**

**November 27(Wed)**

**Chair: Tsugio Sato, Junichi Kawamura**

**OS5-13 9:00-9:30**

The Japanese Next Generation Vehicle Strategy: A Successful Strategy to  
Achieve CO<sub>2</sub> Emission Reduction and Global Green Vehicle Leadership

Noriko Behling (Author, USA)

**OS5-14 9:30-10:00**

NH<sub>3</sub>-DeNO<sub>x</sub> Performance of the Composite [Fe-Beta + Fe(Mn)MCM-48]  
Catalyst: Combining SCR Activity and NH<sub>3</sub> Oxidation Activity for NH<sub>3</sub> Slip  
Removal

Alexandr Yu. Stakheev, Dmitry A. Bokarev, Alina I. Mytareva (N. D.  
Zelinsky Institute of Organic Chemistry, Russia), Rajesh Kumar Parsapur  
and Parasuraman Selvam (Indian Institute of Technology Madras, India)

**OS5-15 10:00-10:30**

Li-ion Battery Module for Small Electric Vehicles  
Hiroshi Matsuo (Micro Vehicle Lab. Ltd., Japan)

**Break 10:30-10:40**

**Chair: Mark C. Williams, Tetsuo Shoji**

**OS5-16 10:40-11:00**

Research and Development of Tribological Techniques for Automotive Parts  
Naruhiko Inayoshi, Keiji Sasaki and Ryoichi Hombo (DENSO  
CORPORATION, Japan)

**OS5-17 11:00-11:20**

Starved Lubrication: Contribution of Laser Surface Micro-Texturing  
Florian Brémond (IREIS, France), Denis Mazuyer (Ecole Centrale de Lyon,  
France), Philippe Maurin-Perrier (IREIS, France) and Juliette ayer-Barrioz  
(Ecole Centrale de Lyon, France)

**OS5-18 11:20-12:00**

Traffic Management Future  
Reinhard Pfliegl (A3PS, Austria)

**12:00-12:50 Session OS5 Lunch Meeting (Sakura 1)**

**Chair: Akihiro Isomura, Hiroki Sato**

**OS5-19 13:00-13:30**

Tribology for the future: Biomimetism and Surface Engineering  
Philippe Kapsa (Ecole Centrale de Lyon, France)

**OS5-20 13:30-14:10**

Synthetic Biofuels From Biomass

Joachim Knebel, Nicolaus Dahmen and Jörg Sauer (Institute for Catalysis Research and Technology, Germany)

**OS5-21 14:10-14:50**

VEHICLE TECHNOLOGY & ENERGY CENTRE Canadian Applied

Research Experience at Red River College

Ray Hoemsen (Red River College, Canada)

**Break 14:50-15:00**

**Chair: Tatsuhiko Yoshimura, Kazuhiro Kosuge**

**OS5-22 15:00-15:20**

RED RIVER COLLEGE VEHICLE TECHNOLOGY & ENERGY CENTER

Applied Research Project Selection: "Student & Staff Centered"

Neil Cooke (Red River College, Canada)

**OS5-23 15:20-16:00**

Modeling, Simulation, Analysis and Control of Freeway Traffic Corridors

Roberto Horowitz (University of California, USA)

**Concluding Remarks: Akira Miyamoto and Philipe Kapsa**

**<Move to Akyu Hotspring Resort by Arranged Bus>**

**Worldwide Leaders Dinner Party of Next Generation Automobiles**

**18:00-20:00**

**At Sakan Hotel, Akyu Hotspring Resort**

**Part2 : “Worldwide Leaders Meeting on Global/Local Innovations for Next Generation Automobiles”**

**Organizers: A. Miyamoto (Tohoku University) and K. Nakatsuka(ICR)**

**\*Date\*:** November 28(Thu), 2013

**\*Conference Site\*:** Sendai Trust Tower, Sendai, Japan

**\*Registration Fee\*:** Free.

**\*Website\*:** <http://www.miyagicar.com/icfd-english/>

**November 28(Thu)**

**10:00-10:10**

**Introductory Talk**

**Akira Miyamoto**

**Chair: Katsuto Nakatsuka, Kazuhiro Kosuge**

**10:10-10:40** Regional Innovation Cluster Policy of MEXT

Hiroki Takaya (Ministry of Education, Culture, Sports, Science and Technology (MEXT))

**10:40-11:10** VisLab’s latest Autonomous Driving challenges: from intercontinental to urban tests

Alberto Broggi (VisLab, The Artificial Vision and Intelligent Systems Lab.)

**Chair: Toshio Kato, Akira Miyamoto**

**11:10-12:00**

**My Idea for the Progress in Global/Local Innovations for Next Generation Automobiles-Part 1**

**Around 10 Presentations by Lecturers, Chairs and Participants  
(Each presentation 4 min)**

**12:10-13:50**

**Lunch Meeting at Japanese Restaurant/Westin Hotel Sendai**

**Chair: Katsuto Nakatsuka**

**14:00-14:30** Next-Generation Advanced Mobility System

Fumihiko Hasegawa (Tohoku University, Japan)

**Chair: Toshio Kato, Akira Miyamoto**

**14:30-16:00**

**My Idea for the Progress in Global/Local Innovations for Next Generation  
Automobiles- Part 2**

**Around 18 presentations by Lecturers, Chairs and Participants  
(Each presentation 4 min)**

**16:00-16:10**

**Summary and Concluding Remarks**