# 7th IFAC Symposium on Advances in Automotive Control 2013

## Tokyo, Japan
## 4-7 September 2013

**Editor:**

**Taketoshi Kawabe**

**ISBN: 978-1-62993-168-5**

**Printed from e-media with permission by:**

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571


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Printed by Curran Associates, Inc. (2013)

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| Grahn, Markus | Volvo Car Corp. |
| Johansson, Krister | Volvo Car Corp. |
| McKelvey, Tomas | Chalmers Univ. of Tech. |
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| Yasui, Yuji | Honda R&D Co., Ltd. |
| Matsunaga, Hideki | Honda R&D Co.,Ltd. Automobile R&D Center |
| Otsu, Hideki | Honda R&D Co., Ltd. |
| Satoh, Naohiro | Honda R&D Co., Ltd. |
| Hans, Hardam | Delphi Automotive System Japan |
| Takahashi, Toshiharu | Delphi Automotive System Japan |
| Yamada, Masatoshi | Delphi Automotive System Japan |
| Balland, Jean | Delphi |
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| Quérel, Carole | IFP Energies Nouvelles |
| Bonfils, Anthony | IFPEN |
| Grondin, Olivier | IFP Energies Nouvelles |
| Creff, Yann | IFP Energies nouvelles |
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| Haga, Hisao | Honda R&D Co.,Ltd. Automobile R&D Center |
| Hashimoto, Eiji | Honda R&D Co.,Ltd. Automobile R&D Center |
| Nakajima, Koichi | Honda R&D Co.,Ltd. Automobile R&D Center |
| Matsunaga, Hideki | Honda R&D Co.,Ltd. Automobile R&D Center |
| Yasui, Yuji | Honda R&D Co., Ltd. |

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| Grauers, Anders | Chalmers Univ. of Tech. |
| Egardt, Bo S. | Chalmers Univ. of Tech. |
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| Bardini, Damiano | IFP Energies nouvelles |
| Leroy, Thomas | IFP Energies nouvelles |
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| Reig, Alberto | CMT - Motores Termicos, Univ. Pol. de Valencia |
| del Re, Luigi | Johannes Kepler Univ. |
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| Hou, Cong | State key Lab. of Automotive Safety and Energy, Tsinghua U |
| Wang, Hewu | State Key Lab. of Automotive Safety and Energy |
| Ouyang, Minggao | Tsinghua Univ. |

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| Aoki, Takashi | Kobe Univ. |
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| Kawashima, Hiroki | Japan Automobile Res. Inst. |
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| Fukao, Takanori | Kobe Univ. |
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| Berntorp, Karl | Lund Univ. |
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| Chu, Wenbo | Tsinghua Univ. |
| Cao, Kun | Tsinghua Univ. State Key Lab. of Automotive Safety a |
| Li, Shu | IAT Automobile Tech. CO.,LTD. |
| Luo, Yugong | Tsinghua Univ. |
| Li, Keqiang | Tsinghua Univ. |
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| Her, Hyundong | School of Mechanical and Aerospace Engineering, Seoul National U |
| Yi, Kyongsu | Seoul National Univ. |
| Suh, Jeeyoon | Hyundai Motor Company |
| Kim, Chongkap | Hyundai Motor Company |

| **ThB1** | Room 401 |
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| **Emission Control for Diesel Engine** (Regular Session) | |
| Chair: Nakada, Hayato | Toyota Motor Corp. |
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| Zentner, Stephan | ETH Zurich |
| Schaefer, Erika | MTU Friedrichshafen GmbH |
| Onder, Christopher Harald | Swiss Federal Inst. of Tech. Zurich (ETH Zürich) |
| Guzzella, Lino | ETH Zurich |

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| Sahara, Hiroya | Mazda Motor Corp. |
| Kakuda, Yoshie | Mazda Motor Corp. |
| Kim, Sang-kyu | Mazda Motor Corp. |
| Shimo, Daisuke | Mazda Motor Corp. |
| Maruyama, Keiji | Mazda Motor Corp. |
| Morinaga, Shinichi | Mazda Motor Corp. |
| Hashimoto, Takayoshi | Mazda Motor Corp. |
| Hayashibara, Hiroshi | Mazda Motor Corp. |
| Tetsuno, Masayuki | Mazda Motor Corp. |

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| Fischer, Michael | Honda R&D Europe (Deutschland) GmbH |

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| Bessai, Christian | IAV |

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| Schori, Markus | Univ. of Rostock |
| Boehme, Thomas Juergen | iav automotive engineering |
| Frank, Benjamin | IAV GmbH |
| Schultalbers, Matthias | IAV GmbH, Ingenieurgesellschaft Auto und Verkehr |

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| Couch, Jeremy | The Ohio State Univ. |
| Fiorentini, Lisa | The Ohio State Univ. |
| Canova, Marcello | The Ohio State Univ. |

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| Larsson, Viktor | Chalmers Univ. of Tech. |
| Johannesson Mårdh, Lars | Chalmers |
| Egardt, Bo S. | Chalmers Univ. of Tech. |

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| Manzie, Chris | The Univ. of Melbourne |
| Grondin, Olivier | IFP Energies Nouvelles |
| Sciarretta, Antonio | IFP |
| Zito, Gianluca | IFPEN |

**ThB3** Room 403

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| Guo, Hongyan | Jilin Univ. |
| Ji, Yan | Jilin Univ. |

Qu, Ting — Jilin Univ.
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Ikenishi, Toshihito — Tokyo Univ. of Agriculture and Tech.
Kamada, Takayoshi — Tokyo Univ. of Agriculture and Tech.
Nagai, Masao — Tokyo Univ. of Agriculture and Tech.

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Saigo, Shintaro — Tokyo Univ. of Agriculture and Tech.
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Nagai, Masao — Tokyo Univ. of Agriculture and Tech.

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Sena, Pasquale — Univ. of Salerno, Department of Pharmaceutical and Biomedic
d'Amore, Matteo — Univ. of Salerno, Department of Pharmaceutical and Biomedic
Pappalardo, Michele — Univ. of Salerno, Department of Industrial Engineering, Fis
Pellegrino, Arcangelo — Univ. of Salerno
Fiorentino, Anita — FIAT Group Automobiles, Pomigliano D'Arco (NA), Italy
Villecco, Francesco — Univ. of Salerno, Department of Industrial Engineering, Fis

## ThB4 — Room 409

**Model-Based Development I** (Invited Session)

Chair: Kato, Toshiji — Doshisha Univ.
Co-Chair: Tsuji, Kimitoshi — Toyota motor Corp.

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Kadouchi, Eiji — PANASONIC STORAGE BATTERY CO., LTD

## ThC1 — Room 401

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Chair: Ohata, Akira — Toyota Motor Corp.

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Xu, Fang — Jilin Univ.
Chen, Hong — Jilin Univ. Campus NanLing
Gong, Xun — Jilin Univ.
Hu, Yunfeng — Jilin Univ.

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| Huang, Mike | Univ. of Michigan |
| Nakada, Hayato | Toyota Motor Corp. |
| Polavarapu, Srinivas | Toyota Tech. Center |
| Butts, Kenneth R. | Toyota Tech. Center, USA |
| Kolmanovsky, Ilya V. | Univ. of Michigan |

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| Albin, Thivaharan | RWTH Aachen Univ. |
| Zweigel, René | Inst. of Automatic Control |
| Hesseler, Frank-Josef | RWTH Aachen Univ. Inst. of Automatic Control |
| Abel, Dirk | RWTH-Aachen Univ. |

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*Explicit-Ready Nonlinear Model Predictive Control for Turbocharged Spark-Ignited Engines*, pp. 189-194.

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| Colin, Guillaume | Univ. of Orléans |
| Chamaillard, Yann | PRISME |
| Olaru, Sorin | Supelec |
| Rodriguez-Ayerbe, Pedro | Supelec |
| Talon, Vincent | Renault |

**ThC2** Room 402

**Vehicle Energy Management** (Regular Session)

Chair: Eriksson, Lars — Linköping Univ.

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| Nezhadali, Vaheed | Linköping Univ. |
| Eriksson, Lars | Linköping Univ. |
| Fröberg, Anders | Volvo CE |

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| Nilsson, Tomas | Linköping Univ. |
| Fröberg, Anders | Volvo CE |
| Aaslund, Jan | Linköping Univ. |

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| Kubota, Takuya | Waseda Univ. |
| Watanabe, Ryo | Waseda Univ. |

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| Dardanelli, Andrea | Pol. di Milano |
| Tanelli, Mara | Pol. di Milano |
| Savaresi, Sergio | Pol. di Milano |

**ThC3** Room 403

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Chair: Hayashi, Ryuzo — Tokyo Univ. of Agriculture and Tech.

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| Lee, Shihao | Tokyo Metropolitan Univ. |
| Kasahara, Misawa | Tokyo Metropolitan Coll. of Industrial Tech. |
| Mori, Yasuchika | Tokyo Metropolitan Univ. |

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| Fujita, Takayoshi | Kobe Univ. |
| Fukao, Takanori | Kobe Univ. |
| Kinoshita, Tomohiro | Hitachi Automotive Systems, Ltd |
| Itagaki, Noriaki | Hitachi AutomotiveSystems,Ltd. |

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| Tudon-Martinez, Juan Carlos | Tecnológico de Monterrey, campus Monterrey |
| Fergani, Soheib | Grenoble Univ. - GIPSA-Lab. |
| Varrier, Sébastien | GIPSA-Lab. |
| Sename, Olivier | Grenoble Inst. of Tech. / GIPSA-Lab. |
| Dugard, Luc | Gipsa-Lab. CNRS Grenoble |
| Morales-Menendez, Ruben | Tecnologico de Monterrey, Campus Monterrey |
| Ramírez-Mendoza, Ricardo A. | ITESM Campus Monterrey |
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| Pletschen, Nils | Tech. Univ. München |
| Spirk, Sebastian | Tech. Univ. München |
| Lohmann, Boris | Tech. Univ. München |

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| Co-Chair: Oho, Shigeru | Nippon Inst. of Tech. |
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| Shimada, Satoshi | Honda R&D Co., Ltd. Automobile R&D Center |
| Morishima, Kenta | Hitachi,Ltd. |
| Oho, Shigeru | Nippon Inst. of Tech. |
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| Anami, Kenji | Inst. of information systems and nanotechnologies |
| Kando, Takayuki | Qualiarc Tech. Solutions, Inc. |
| Murakami, Kazuaki | Kyushu Univ. Inst. of information systems and nanotech |
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| Delafosse, Vincent | ANSYS Inc. |
| Sekisue, Takayuki | ANSYS Inc. |
| Le Sergent, Thierry | ANSYS Inc. |
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| Kuempel, Joerg | Robert Bosch GmbH |
| Okuyama, Hitoshi | Bosch Corp. |

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| Leroy, Thomas | IFP Energies nouvelles |
| Chauvin, Jonathan | IFP Energies Nouvelles |
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| Thomasson, Andreas | Linköpings Univ. |
| Eriksson, Lars | Linköping Univ. |
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| Xie, Hui | Tianjin Univ. |
| Li, Susu | Tianjin Univ. |
| Song, Kang | Tianjin Univ. |
| He, Guanzhang | Tianjin Univ. |
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| Ohata, Akira | Toyota Motor Corp. |

| **FrA2** | Room 402 |
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| Nishida, Yoshikazu | HONDA R&D CO., Ltd. Automobile R&D Center |
| Maruno, Naoki | Honda R&D Co.,Ltd. Automobilr R&D Center |
| Komoda, Satoru | HONDA |
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| Yu, Kaijiang | Kyushu Univ. |
| Mukai, Masakazu | Kyushu Univ. |
| Kawabe, Taketoshi | Kyushu Univ. |
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| Fiorenti, Simone | Center for Automotive Res. The Ohio State Univ. |
| Guanetti, Jacopo | Pol. di Milano |
| Onori, Simona | The Ohio State Univ. |
| Guezennec, Yann | Ohio State Univ. |
| Madella, Nullo | Ohio State Univ. |
| Saletti, Andrea | MIDAC Batteries S.p.A. |
| Bovo, Stefano | MIDAC Batteries S.p.A. |
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| *Aging Propagation in Advanced Battery Systems: Preliminary Results*, pp. 313-318. | |
| Cordoba Arenas, Andrea | The Ohio State Univ. |
| Onori, Simona | The Ohio State Univ. |

Rizzoni, Giorgio — Ohio State Univ.
Fan, Guodong — The Ohio State Univ.

**FrA3** — Room 403
**Longitudinal Behavior and Assistance** (Regular Session)
Chair: Yi, Kyongsu — Seoul National Univ.

10:30-10:50 — FrA3.1
*A Study on the Method for Predicting the Driver's Car-Following Tendency*, pp. 319-321.
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Ozaki, Osamu — Toyota Motor Corp.

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Zhang, Fang — Tsinghua Univ.
Takae, Yasuhiko — NISSAN MOTOR Company
Chu, Wenbo — Tsinghua Univ.
Li, Keqiang — Tsinghua Univ.

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Matsumi, Ryosuke — Tokyo Univ. of Agriculture and Tech.
Raksincharoensak, Pongsathorn — Tokyo Univ. of Agriculture and Tech.
Nagai, Masao — Tokyo Univ. of Agriculture and Tech.

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Akamatsu, Yuta — Tokyo Univ. of Agriculture and Tech.
Moro, Katsumi — Tokyo Univ. of Agriculture and Tech.
Nagai, Masao — Tokyo Univ. of Agriculture and Tech.

**FrA4** — Room 409
**Modelica Tools and Applications I** (Invited Session)
Chair: Hirano, Yutaka — Toyota Motor Corp.

10:30-11:10 — FrA4.1
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Elmqvist, Hilding — Dassault Systèms

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Satzger, Clemens Wolfgang — German Aerospace (DLR)
Brembeck, Jonathan — DLR - SR FAZ
Otter, Martin — DLR

**FrB1** — Room 401
**Cylinder Pressure Sensors** (Regular Session)
Chair: Shen, Tielong — Sophia Univ.

13:30-13:50 — FrB1.1
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Ponti, Fabrizio — Univ. of Bologna
Ravaglioli, Vittorio — Univ. of Bologna
Moro, Davide — Univ. of Bologna
Corti, Enrico — Univ. of Bologna
De cesare, Matteo — Magneti Marelli

13:50-14:10 — FrB1.2

*Estimation of Engine Torque and Cylinder Pressure Index Based on Crankshaft Rotation Measurement*, pp. 360-365.

| | |
|---|---|
| Aono, Toshihiro | HItachi Ltd., |
| Saruwatari, Masayuki | Hitachi Automotive Systems |
| Furuya, Junichi | Hitachi Automotive Systems |

14:10-14:30 FrB1.3

*Development of Pattern Recognition Knock Detection System Using Short-Time Fourier Transform*, pp. 366-371.

| | |
|---|---|
| Akimoto, Kenji | Honda R&D Co.,Ltd. |
| Komatsu, Hirotaka | Honda R&D Co.,Ltd. |
| Kurauchi, Atsushi | Honda R&D Co.,Ltd. |

14:30-14:50 FrB1.4

*An Optimal CumSum-Based Knock Controller*, pp. 372-377.

| | |
|---|---|
| Peyton Jones, James | Villanova Univ. |
| Spelina, Jill | Villanova Univ. |
| Frey, Jesse | Villanova Univ. |

**FrB2** Room 402

**XEV and Battery Management Control** (Regular Session)

Chair: Rizzo, Gianfranco — Univ. of Salerno

13:30-13:50 FrB2.1

*A LPV/Hinf Approach for Fuel Consumption Minimization of the PHEV with Battery Life Prolongation*, pp. 378-383.

| | |
|---|---|
| Wang, Tinghong | Grenoble Inst. of Tech. |
| Sename, Olivier | Grenoble Inst. of Tech. / GIPSA-Lab. |
| Martinez Molina, John J. | GRENOBLE-INP, GIPSA-Lab. |

13:50-14:10 FrB2.2

*Optimal Energy Management Strategy Including Battery Health through Thermal Management for Hybrid Vehicles*, pp. 384-389.

| | |
|---|---|
| Miro Padovani, Thomas | Univ. d'Orléans |
| Debert, Maxime | Renault s.a.s. |
| Colin, Guillaume | Univ. of Orléans |
| Chamaillard, Yann | PRISME |

14:10-14:30 FrB2.3

*Feasibility Issues of Using Three-Phase Multilevel Converter Based Cell Balancer in Battery Management System for Xevs*, pp. 390-397.

| | |
|---|---|
| Altaf, Faisal | Chalmers Univ. of Tech. |
| Johannesson Mårdh, Lars | Chalmers |
| Egardt, Bo S. | Chalmers Univ. of Tech. |

14:30-14:50 FrB2.4

*Including a Battery State of Health Model in the HEV Component Sizing and Optimal Control Problem*, pp. 398-403.

| | |
|---|---|
| Johannesson Mårdh, Lars | Chalmers |
| Murgovski, Nikolce | Chalmers Univ. of Tech. |
| Egardt, Bo S. | Chalmers Univ. of Tech. |
| Gelso, Esteban R. | Volvo Group Trucks Tech. |
| Hellgren, Jonas | Volvo Tech. |
| Ebbesen, Soren | ETH Zürich |

**FrB3** Room 403

**Active Steering Control** (Regular Session)

Chair: Fukao, Takanori — Kobe Univ.

13:30-13:50 FrB3.1

*Artificial Steering Feel Design for Steer-By-Wire Vehicles*, pp. 404-409.

| | |
|---|---|
| Balachandran, Avinash | Stanford Univ. |
| Gerdes, J. Christian | Stanford Univ. |

13:50-14:10 FrB3.2

*Improvement of Trajectory Tracking Performance in Autonomous Collision Avoidance by Steering*, pp. 410-415.

| | |
|---|---|
| Hayashi, Ryuzo | Tokyo Univ. of Agriculture and Tech. |
| Chatporntanadul, Puwadech | Tokyo Univ. of Agriculture and Tech. |
| Nagai, Masao | Tokyo Univ. of Agriculture and Tech. |

14:10-14:30 FrB3.3

*Driver Assistance Algorithm for Automotive Collision Avoidance Using Optimization Feasibility*, pp. 416-421.

| | |
|---|---|
| Mukai, Masakazu | Kyushu Univ. |
| Kawabe, Taketoshi | Kyushu Univ. |

14:30-14:50 FrB3.4

*Hyperbolic Distribution of All-Wheel Independent Braking Force for Cornering Vehicle*, pp. 422-427.

| | |
|---|---|
| Ji, Xuefei | Changchun Inst. of Engineering Tech. |
| He, Lin | Tsinghua Univ. |
| Wang, Wei | The Representatives Bureau of Vehicle Vessel |
| Meng, Aihong | Tsinghua Univ. |
| Zhong, Jianjun | Tsinghua Univ. |
| Song, Jian | Tsinghua Univ. |

**FrB4** Room 409

**Modelica Tools and Applications II** (Invited Session)

Chair: Brembeck, Jonathan DLR - SR FAZ

13:30-13:50 FrB4.1

*Application of Modelica to Development of Future New-Concept Vehicles (I)*, pp. 428-433.

Hirano, Yutaka Toyota Motor Corp.

13:50-14:10 FrB4.2

*Detailed Powertrain Dynamics Modelling in Dymola - Modelica (I)*, pp. 434-439.

| | |
|---|---|
| Picarelli, Alessandro | Claytex Services Ltd |
| Roberts, Neil | Claytex Services Ltd |
| Dempsey, Mike | Claytex Services Ltd |

14:10-14:30 FrB4.3

*Integrated Simulation of an E4wd Vehicle Using Modelica (I)*, pp. 440-445.

Andreasson, Johan Modelon

14:30-14:50 FrB4.4

*Model-Based Dynamic Optimization with OpenModelica and CasADi (I)*, pp. 446-451.

| | |
|---|---|
| Shitahun, Alachew | Linkoping Univ. |
| Ruge, Vitalij | Bielefeld Univ. |
| Gebremedhin, Mahder | Linkoping Univ. |
| Bachmann, Bernhard | Bielefeld Univ. |
| Eriksson, Lars | Linkoping Univ. |
| Andersson, Joel | Katholieke Univ. Leuven |
| Diehl, Moritz | K.U. Leuven |
| Fritzson, Peter | Linkoping Univ. |

**FrB5** Room 304

**Engine Powertrain I** (Regular Session)

Chair: Ohata, Akira Toyota Motor Corp.

13:30-13:50 FrB5.1

*Online Estimation of 3D-Torque Characteristics of Dual Clutches Using Control Oriented Models*, pp. 452-457.

| | |
|---|---|
| Tarasow, Alex | Clausthal Univ. of Tech. |
| Bohn, Christian | Clausthal Univ. of Tech. |
| Wachsmuth, Guido | IAV GmbH, Ingenieurgesellschaft Auto und Verkehr |
| Serway, Roland | IAV GmbH, Ingenieurgesellschaft Auto und Verkehr, Berlin, German |

13:50-14:10 FrB5.2

*The Effect of Thermal Expansion in a Dry Clutch on Launch Control*, pp. 458-463.

| | |
|---|---|
| Myklebust, Andreas | Linkoping Univ. |
| Eriksson, Lars | Linköping Univ. |

14:10-14:30 FrB5.3

*Modeling and Simulation for the Dynamic Analysis of an Electronically Controlled Torque Coupling*, pp. 464-469.

| | |
|---|---|
| Maroonian, Aris | JTEKT Corp. |
| Tamura, Tsutomu | JTEKT Corp. |
| Fuchs, Robert | JTEKT Corp. |

14:30-14:50 FrB5.4

*Control Design for a Second Order Dynamic System : Two-Stage Turbocharger*, pp. 470-476.

Moulin, Philippe IFP

Grondin, Olivier — IFP Energies Nouvelles

**FrC1** — Room 401

**Powertrain Control Methodologies** (Regular Session)

Chair: Nakada, Hayato — Toyota Motor Corp.

15:20-15:40 — FrC1.1

*Extremum Seeking Algorithm to Optimize Fuel Injection in a Hydraulic Linear Engine*, pp. 477-482.

Zaseck, Kevin — Univ. of Michigan
Kolmanovsky, Ilya V. — Univ. of Michigan
Brusstar, Matthew — United States Environmental Protection Agency

15:40-16:00 — FrC1.2

*The Electrical Dual Mass Flywheel - an Efficient Active Damping System*, pp. 483-488.

Pfleghaar, Joachim — Tech. Univ. München
Lohmann, Boris — Tech. Univ. München

16:00-16:20 — FrC1.3

*Including Drag Phases in Numerical Optimal Control of Diesel Engines*, pp. 489-494.

Asprion, Jonas — Inst. for Dynamic Systems and Control, ETH Zurich
Onder, Christopher Harald — Swiss Federal Inst. of Tech. Zurich (ETH Zürich)
Guzzella, Lino — ETH Zurich

16:20-16:40 — FrC1.4

*A Logical Dynamical Systems Approach to Modeling and Control of Residual Gas Fraction in IC Engines*, pp. 495-500.

Wu, Yuhu — Harbin Univ. of Science and Tech.
Shen, Tielong — Sophia Univ.

16:40-17:00 — FrC1.5

*Air/Fuel Ratio Estimation of SI Engine Using Higher Order Sliding Mode*, pp. 501-506.

Akram, Muhammad Amin — MAJU
Bhatti, Aamer Iqbal — Muhammad Ali Jinnah Univ. Islamabad
Ahmed, Qadeer — The Ohio State Univ.

**FrC2** — Room 402

**Energy Management Control for XEV III** (Regular Session)

Chair: Chen, Hong — Jilin Univ. Campus NanLing

15:20-15:40 — FrC2.1

*The Seamless Gear Shifting Control for Pure Electric Vehicle with 2-Speed Inverse-AMT*, pp. 507-511.

Liang, Qiong — Jilin Univ. NanLing)
Tang, Nana — Jilin Univ. NanLing)
Gao, Bingzhao — Jilin Univ.
Chen, Hong — Jilin Univ. Campus NanLing

15:40-16:00 — FrC2.2

*Optimal Control of a Parallel Hybrid Vehicle Equipped with a Dual Electrical Storage System*, pp. 512-517.

Fontaine, Clément — Univ. of Valenciennes et du Hainaut Cambrésis
Delprat, Sebastien — Univ. of Valenciennes et Hainaut Cambresis
Paganelli, Sébastien — Univ. of Valenciennes et du Hainaut Cambrésis
Guerra, Thierry Marie — Univ. of Valenciennes Hainaut-Cambresis

16:00-16:20 — FrC2.3

*Improvement of Fuel Efficiency and Drivability Using Simple Prediction for Gear Changing*, pp. 518-523.

Khodabakhshian, Mohammad — KTH Royal Inst. of Tech.
Feng, Lei — Royal Inst. of Tech. (KTH)
Wikander, Jan — KTH Royal Inst. of Tech.

16:20-16:40 — FrC2.4

*Diagnostics and Prognostics Needs and Requirements for Electrified Vehicles Powertrains*, pp. 524-529.

Cordoba Arenas, Andrea — The Ohio State Univ.
Zhang, Jiyu — OSU
Rizzoni, Giorgio — Ohio State Univ.

**FrC3** — Room 403

**Traction and Brake Control I** (Regular Session)

Chair: Li, Keqiang — Tsinghua Univ.

15:20-15:40 — FrC3.1

*Design and Robustness Analysis of Global Chassis Controller with Respect to Parametric Uncertainty*, pp. 530-535.

Bolia, Pratiksh — Univ. of Kaiserslautern
Weiskircher, Thomas — Tech. Univ. Kaiserslautern
Mueller, Steffen — Tech. Univ. of Kaiserslautern

15:40-16:00 — FrC3.2

*Advanced Stability Control for Electric Vehicles Via a Novel Hybrid Actuator System*, pp. 536-541.

Ringdorfer, Martin — Alpen-Adria Univ. Klagenfurt
Horn, Martin — Univ. of Klagenfurt

16:00-16:20 — FrC3.3

*Regenerative Braking Optimization and Wheel Slip Control for a Vehicle with In-Wheel Motors*, pp. 542-547.

Le Solliec, Guenael — IFPEN
Chasse, Alexandre — IFP
Geamanu, Marcel-Stefan — Lab. des Signaux et Systèmes, Supélec

**FrC4** — Room 409

**Reliability/Diagnosis** (Regular Session)

Chair: Nielsen, Lars — Linköping Univ.

15:20-15:40 — FrC4.1

*Fault Monitoring of the Electric Machine in a Hybrid Vehicle*, pp. 548-553.

Sundström, Christofer — Linköping Univ.
Frisk, Erik — Linköping Univ.
Nielsen, Lars — Linköping Univ.

15:40-16:00 — FrC4.2

*Dependability Assurance Framework Standardization for Safety-Sensitive Consumer Devices at the OMG*, pp. 554-555.

Matsuno, Yutaka — Nagoya Univ.
Biggs, Geoffrey — National Inst. of Advanced Industrial Science and Tech.
Ohata, Akira — Toyota Motor Corp.
Ishizaki, Naoya — Toyota Motor Corp.
Tacuhi, Kenji — AIST

16:00-16:20 — FrC4.3

*Design of Fault Tolerant Control System for Electric Vehicles with Steer-By-Wire and In-Wheel Motors*, pp. 556-561.

Ito, Akira — DENSO Corp.
Hayakawa, Yoshikazu — Nagoya Univ.

16:20-16:40 — FrC4.4

*Failure Modes and Effects Analysis Using Virtual Prototyping System with Microcontroller Model for Automotive Control System (I)*, pp. 562-563.

Sugure, Yasuo — Hitachi, Ltd.
Ito, Yasuhiro — Hitachi, Ltd.
Nakata, Yohei — Kobe Univ.
Takeuchi, Yusuke — Kobe Univ.
Kawaguchi, Hiroshi — Kobe Univ.
Yoshimoto, Masahiko — Kobe Univ.
Oho, Shigeru — Nippon Inst. of Tech.

**FrC5** — Room 304

**Engine Powertrain II** (Regular Session)

Chair: Lino, Paolo — Pol. di Bari

15:20-15:40 — FrC5.1

*Robust Numerical Approach to Mean-Value Modeling of Internal Combustion Engines*, pp. 564-569.

Beňo, Radek — Czech Tech. Univ. in Prague, FacultyofElectricalEnginee
Pachner, Daniel — Honeywell
Havlena, Vladimir — Honeywell Intl.

15:40-16:00 — FrC5.2

*Flywheel Angular Velocity Model for Misfire and Driveline Disturbance Simulation*, pp. 570-575.

| | |
|---|---|
| Eriksson, Daniel | Linköping Univ. |
| Eriksson, Lars | Linköping Univ. |
| Frisk, Erik | Linköping Univ. |
| Krysander, Mattias | Linköping Univ. |

16:00-16:20 FrC5.3

*Optimal Control of Internal Combustion Engine Test Benches Equipped with Hydrodynamic Dynamometers*, pp. 576-581.

| | |
|---|---|
| Passenbrunner, Thomas Ernst | Johannes Kepler Univ. Linz |
| Sassano, Mario | Imperial Coll. London |
| del Re, Luigi | Johannes Kepler Univ. |

16:20-16:40 FrC5.4

*Design and Simulation of Fractional-Order Controllers of Injection in CNG Engines*, pp. 582-587.

| | |
|---|---|
| Lino, Paolo | Pol. di Bari |
| Maione, Guido | Pol. di Bari |

| **SaA1** | Room 401 |
|---|---|
| **Cyclic Combustion Analysis and Control** (Regular Session) | |
| Chair: Eriksson, Lars | Linköping Univ. |
| 11:10-11:30 | SaA1.1 |
| *Effect of Transient Residual Gas Fraction for Gasoline Engines*, pp. 588-593. | |
| Sata, Kota | TOYOTA MOTOR Corp. |
| Kako, Junichi | Toyota Motor Corp. |
| Yang, Jun | Inst. of Electrical Engineering, Yanshan Univ. |
| Ohata, Akira | Toyota Motor Corp. |
| Shen, Tielong | Sophia Univ. |
| 11:30-11:50 | SaA1.2 |
| *Statistical Model and Control of Residual Gas Mass in Gasoline Engines*, pp. 594-599. | |
| Yang, Jun | Inst. of Electrical Engineering, Yanshan Univ. |
| Sata, Kota | TOYOTA MOTOR Corp. |
| Kako, Junichi | Toyota Motor Corp. |
| Ohata, Akira | Toyota Motor Corp. |
| Shen, Tielong | Sophia Univ. |
| 11:50-12:10 | SaA1.3 |
| *Cylinder Individual Feedback Control of Combustion in a Dual Fuel Engine*, pp. 600-605. | |
| Ott, Tobias | ETH Zurich |
| Zurbriggen, Florian | ETH Zurich |
| Onder, Christopher Harald | Swiss Federal Inst. of Tech. Zurich (ETH Zürich) |
| Guzzella, Lino | ETH Zurich |
| 12:10-12:30 | SaA1.4 |
| *Modeling of the Thermal Behavior and the Diagnostic Systems of a SI Engine*, pp. 606-611. | |
| Hoppe, Matthias | RWTH Aachen |
| Hesseler, Frank-Josef | RWTH Aachen Univ. Inst. of Automatic Control |
| Brückner, Daniel | BMW Group |
| Missy, Stephan | BMW Group |
| Abel, Dirk | RWTH-Aachen Univ. |

| **SaA2** | Room 402 |
|---|---|
| **Traction and Brake Control II** (Regular Session) | |
| Chair: Shino, Motoki | The Univ. of Tokyo |
| 11:10-11:30 | SaA2.1 |
| *Basic Design of Electric Vehicle Motion Control System Using Single Antenna GPS Receiver*, pp. 612-619. | |
| Nguyen, Binh Minh | The Univ. of Tokyo |
| Alexander, Viehweider | The Univ. of Tokyo |
| Fujimoto, Hiroshi | The Univ. of Tokyo |
| Hori, Yoichi | Univ. of Tokyo |
| 11:30-11:50 | SaA2.2 |
| *Modelling, Control & Implementation of an Electro-Mechanic Braking Force Actuator for HEV and EV*, pp. 620-625. | |
| Lindvai-Soos, Daniel | Alpen Adria Univ. Klagenfurt |
| Horn, Martin | Univ. of Klagenfurt |
| 11:50-12:10 | SaA2.3 |
| *Comparison of Two Strategies for Optimal Regenerative Braking, with Their Sensitivity to Variations in Mass, Slope and Road Condition*, pp. 626-630. | |
| Boisvert, Maxime | Univ. de Sherbrooke |
| Micheau, Philippe | Univ. of Sherbrooke |
| Mammosser, Didier | Univ. de Sherbrooke |
| Desrochers, Alain | Univ. de Sherbrooke |
| 12:10-12:30 | SaA2.4 |
| *Optimum Distribution of Lateral and Traction/braking Forces for Energy Conservation*, pp. 631-636. | |
| Nishihara, Osamu | Graduate School of Informatics, Kyoto Univ. |
| Higashino, Shimpei | Kyoto Univ. |

| **SaA3** | Room 403 |
|---|---|
| **Communication-Based Driver Assistance Systems** (Regular Session) | |
| Chair: Omae, Manabu | Keio Univ. |
| 11:10-11:30 | SaA3.1 |
| *Advanced Driver Assistant System Using Telematics*, pp. 637-642. | |
| Li, Shuguang | The Univ. of Tokyo |
| Yamabe, Shigeyuki | The Univ. of Tokyo |
| Sato, Yoichi | The Univ. of Tokyo |
| Suda, Yoshihiro | Univ. of Tokyo |
| Chandrasiri, Naiwala P. | Toyota Info Tech. Center Co. LTD |
| Nawa, Kazunari | Toyota Info Tech. Center Co. LTD |
| 11:30-11:50 | SaA3.2 |
| *A Smartphone-Based Intelligent Vehicle System to Minimize the Possibility of Traffic Congestion Occurrence*, pp. 643-644. | |
| Koshizen, Takamasa | Honda Motor R&D Centre |
| 11:50-12:10 | SaA3.3 |
| *Traffic Signal Control in an MPC Framework Using Mixed Integer Programming*, pp. 645-650. | |
| Kamal, Md. Abdus Samad | The Univ. of Tokyo |
| Imura, Jun-ichi | Tokyo Inst. of Tech. |
| Hayakawa, Tomohisa | Tokyo Inst. of Tech. |
| Ohata, Akira | Toyota Motor Corp. |
| Aihara, Kazuyuki | Univ. of Tokyo |
| 12:10-12:30 | SaA3.4 |
| *The Impacts of Large Scale Electric Vehicles Charging Behaviour on Distribution System and Local Traffic System*, pp. 651-657. | |
| Luo, Yugong | Tsinghua Univ. |
| Zhu, Tao | Tsinghua Univ. State Key Lab. of Automotive Safety a |
| Cao, Kun | Tsinghua Univ. State Key Lab. of Automotive Safety a |
| Li, Keqiang | Tsinghua Univ. |

| **SaA4** | Room 409 |
|---|---|
| **Hils** (Regular Session) | |
| Chair: Oho, Shigeru | Nippon Inst. of Tech. |
| 11:10-11:30 | SaA4.1 |
| *Hardware-In-The-Loop Test of Battery Management Systems (I)*, pp. 658-664. | |
| Haupt, Hagen | dSPACE GmbH |
| Ploeger, Markus | dSPACE GmbH |
| Bracker, Jörg | dSPACE GmbH |
| 11:30-11:50 | SaA4.2 |
| *Advanced Engine Simulator Integrated with Engine Rotational Hardware (I)*, pp. 665-670. | |
| Kinoshita, Sadahiro | Toukyou Denki Univ. |
| Hoshino, Daiki | Tokyo Denki Univ. |
| Yanagi, Yuta | Tokyo Denki Univ. |
| Ishikawa, Jun | Tokyo Denki Univ. |
| Kamamichi, Norihiro | Tokyo Denki Univ. |
| Yamakita, Masaki | Tokyo Inst. of Tech. |
| Ohata, Akira | Toyota Motor Corp. |
| Furuta, Katsuhisa | Tokyo Denki Univ. |
| 11:50-12:10 | SaA4.3 |
| *Efficient Testing of Controller Influenced Vehicle Dynamics*, pp. 671-676. | |
| Peperhowe, Michael | dSPACE GmbH |
| Haupt, Hagen | dSPACE GmbH |
| Liem, Kusnadi | dSPACE GmbH |
| Schindler, Wolfgang | Daimler AG |
| 12:10-12:30 | SaA4.4 |
| *Real-Time Models of Hybrid Electric Vehicle Powertrains*, pp. 677-682. | |
| Geng, Stefan | Ostwestfalen-Lippe - Univ. of Applied Science |
| Schulte, Thomas | Univ. of Applied Science - OWL |

| 12:30-12:50 | SaA4.5 |
|---|---|
| *Hardware-In-The-Loop Test Rig for Integrated Vehicle Control Systems*, pp. 683-688. | |
| Heidrich, Lukas | Ilmenau Univ. of Tech. |
| Shyrokau, Barys | Nanyang Tech. Univ. |
| Savitski, Dzmitry | Ilmenau Univ. of Tech. |
| Ivanov, Valentin | Ilmenau Univ. of Tech. |
| Augsburg, Klaus | Tech. Univ. Ilmenau |
| Wang, Danwei | Nanyang Tech. Univ. |

| **SaA5** | Room 304 |
|---|---|
| **Engine Powertrain III** (Regular Session) | |
| Chair: Harada, Shingo | Mazda Motor Corp. |
| 11:10-11:30 | SaA5.1 |
| *Driving Cycle Adaption and Design Based on Mean Tractive Force*, pp. 689-694. | |
| Nyberg, Peter | Linköping Univ. |
| Frisk, Erik | Linköping Univ. |
| Nielsen, Lars | Linköping Univ. |
| 11:30-11:50 | SaA5.2 |
| *Global Dynamic Modeling for Gasoline Engine*, pp. 695-699. | |
| Shimojo, Kanako | Honda R&D Co.,Ltd. Automobile R&D Center |
| Kitamura, Yasutaka | Honda R&D Co |
| Sato, Masahiro | Honda R&D Co.,Ltd. |
| Vogels, Marie-Sophie | AVL List GmbH |
| Reumueller, Markus | AVL List GmbH |
| Lackner, Lukas | AVL List GmbH |
| 11:50-12:10 | SaA5.3 |
| *A Torque Demand Strategy of IC Engines for Fuel Consumption Improvement Using Traffic Information*, pp. 700-705. | |
| Kang, Mingxin | Sophia Univ. |
| Shen, Tielong | Sophia Univ. |
| 12:10-12:30 | SaA5.4 |
| *Development of Control Technology for I-ELOOP*, pp. 706-710. | |
| Kume, Akitomo | Mazda Motor Corp. |

| **SaB1** | Room 401 |
|---|---|
| **Diesel Engine Control** (Regular Session) | |
| Chair: Matsunaga, Akio | Toyota Motor Corp. |
| 14:00-14:20 | SaB1.1 |
| *Integrated Emission Management for Cost Optimal EGR-SCR Balancing in Diesels*, pp. 711-716. | |
| Willems, Frank | Eindhoven Univ. of Tech. |
| Mentink, Paul | TNO Automotive |
| Kupper, Frank | Eindhoven Univ. of Tech. |
| Van den Eijnden, Edwin | TNO Automotive |
| 14:20-14:40 | SaB1.2 |
| *Robust Common Rail Pressure Control Algorithm for Light-Duty Diesel Engines*, pp. 717-722. | |
| Hong, Seungwoo | Hanyang Univ. |
| Shin, Jaewook | Hanyang Univ. |
| Park, Inseok | Hanyang Univ. Department of automotive engineering, ACE La |
| Sunwoo, Myoungho | Hanyang Univ. |
| Jeon, Jongik | Hyundai Motor Company |
| Choi, Changeun | Hyundai Motor Group |
| 14:40-15:00 | SaB1.3 |
| *Control Strategy of Mode Transition between Low-Temperature Combustion and Conventional Combustion in a Light-Duty Diesel Engine*, pp. 723-729. | |
| Kim, Kihyun | KAIST |
| Han, Sangwook | KAIST |
| Bae, Choongsik | KAIST |
| 15:00-15:20 | SaB1.4 |

*Exhaust Temperature Predictor : An Alternative Approach to Predictive Control Applied to Diesel Aftertreatment*, pp. 730-731.
Balland, Jean — Delphi

| **SaB2** | Room 402 |
|---|---|
| **ACC and Platoon** (Regular Session) | |
| Chair: Tsugawa, Sadayuki | Meijo Univ. |
| 14:00-14:20 | SaB2.1 |
| *Satellite and Map-Based Long Range Cooperative Adaptive Cruise Control System for Road Vehicles*, pp. 732-737. | |
| Alrifaee, Bassam | RWTH Aachen Univ. |
| Reiter, Matthias | RWTH Aachen |
| Maschuw, Jan Philipp | RWTH Aachen Univ. |
| Christen, Frederic | Forschungsgesellschaft Kraftfahrwesen mbH Aachen |
| Eckstein, Lutz | RWTH Aachen Univ. |
| Abel, Dirk | RWTH-Aachen Univ. |
| 14:20-14:40 | SaB2.2 |
| *When Is It Fuel Efficient for a Heavy Duty Vehicle to Catch up with a Platoon?*, pp. 738-743. | |
| Liang, Kuo-Yun | Royal Inst. of Tech. (KTH) |
| Mårtensson, Jonas | KTH |
| Johansson, Karl H. | Royal Inst. of Tech. |
| 14:40-15:00 | SaB2.3 |
| *Modified Intelligent Driver Model for Driver Safety and Traffic Stability Improvement*, pp. 744-749. | |
| Derbel, Oussama | Univ. de haute alsace |
| Tamas, Peter | Budapest Univ. of Tech. and Ec. |
| Zebiri, Hossni | Univ. Haute Alsace UHA Mulhouse |
| Mourllion, Benjamin | UHA |
| Basset, Michel | Univ. de Haute-Alsace |
| 15:00-15:20 | SaB2.4 |
| *A Distributed Model Predictive Control Approach to Active Steering Control of String Stable Cooperative Vehicle Platoon*, pp. 750-755. | |
| Kianfar, Roozbeh | Chalmers Univ. of Tech. |
| Falcone, Paolo | Chalmers Univ. of Tech. |
| Fredriksson, Jonas | Chalmers Univ. of Tech. |

| **SaB3** | Room 403 |
|---|---|
| **Lateral Assistance** (Regular Session) | |
| Chair: Raksincharoensak, Pongsathorn | Tokyo Univ. of Agriculture and Tech. |
| 14:00-14:20 | SaB3.1 |
| *Mild Merging Path Generation Method with Optimal Merging Point Based on MPC*, pp. 756-761. | |
| Cao, Wenjing | Kyushu Univ. |
| Mukai, Masakazu | Kyushu Univ. |
| Kawabe, Taketoshi | Kyushu Univ. |
| Nishira, Hikaru | Nissan Motor Co., Ltd. |
| Fujiki, Noriaki | NISSAN MOTOR CO., LTD. |
| 14:20-14:40 | SaB3.2 |
| *Design of a Strategy for Lane Change Assistance System*, pp. 762-767. | |
| Lee, Junyung | Seoul National Univ. |
| Kim, Kyuwon | School of Mechanical and Aerospace Engineering, Seoul National U |
| Kim, Dongwook | Seoul national Univ. |
| Yi, Kyongsu | Seoul National Univ. |
| 14:40-15:00 | SaB3.3 |
| *Identification of Yaw Moment of Inertia of a Truck During Travelling*, pp. 768-772. | |
| Lee, Seungyong | The Univ. of Tokyo |
| 15:00-15:20 | SaB3.4 |
| *Leader-Following Formation Navigation with Virtual Trajectories for Dynamic Multi-Agents*, pp. 773-779. | |
| Kobayashi, Ryo | the Univ. of Electro-Communications |
| Suzuki, Manabu | the Univ. of Electro-Communications |
| Nakano, Kazushi | the Univ. of Electro-Communications |

| **SaB4** | Room 409 |
|---|---|
| **Benchmark Problems** (Invited Session) | |
| Chair: Komori, Satoshi | Mazda Motor Corp. |
| 14:00-14:20 | SaB4.1 |
| *Identification with Physical and Error Models for Internal Combustion Engine (I)*, pp. 780-785. | |
| Kawaguchi, Masahiro | Tokyo Inst. of Tech. |
| Yamakita, Masaki | Tokyo Inst. of Tech. |
| 14:20-14:40 | SaB4.2 |
| *Identification of a Data-Driven Dynamic Model from Virtual Test Bench Results: An Extended Hammerstein Approach (I)*, pp. 786-788. | |
| Schmiechen, Philipp | IAV GmbH |
| Baumann, Wolf | IAV GmbH |
| Konstanz, Robert | IAV GmbH |
| 14:40-15:00 | SaB4.3 |
| *Model Free Tuning of Variable State of Charge Target of Hybrid Electric Vehicles (I)*, pp. 789-793. | |
| Ahmad, Mohd Ashraf | Kyoto Univ. |
| Baba, Ichiro | Kyoto Univ. |
| Azuma, Shun-ichi | Kyoto Univ. |
| Sugie, Toshiharu | Kyoto Univ. |
| 15:00-15:20 | SaB4.4 |
| *Model Predictive Sliding Mode Control for Four Wheel Steering and Driving Vehicles (I)*, pp. 794-799. | |
| Nonaka, Kenichiro | Tokyo City Univ. |
| Oda, Takatsugu | Tokyo City Univ. |
| 15:20-15:40 | SaB4.5 |
| *Development of Energy Management of Hybrid Electric Vehicle for Improving Fuel Consumption Via Sequential Approximate Optimization (I)*, pp. 800-805. | |
| Hagura, Ryuhei | Kanazawa Univ. |
| Kitayama, Satoshi | Kanazawa Univ. |
| Yasui, Yuji | Honda R&D Co., Ltd. Japan |

| **SaC1** | Room 401 |
|---|---|
| **Energy Management Control for XEV IV** (Regular Session) | |
| Chair: Yasui, Yuji | Honda R&D Co., Ltd. Japan |
| 15:50-16:10 | SaC1.1 |
| *Toward the Development of a Through-The-Road Solar Hybridized Vehicle*, pp. 806-811. | |
| Arsie, Ivan | Univ. of Salerno |
| D'Agostino, Mario | Univ. of Salerno |
| Naddeo, Massimo | Univ. of Salerno |
| Rizzo, Gianfranco | Univ. of Salerno |
| Sorrentino, Marco | Univ. of Salerno |
| 16:10-16:30 | SaC1.2 |
| *Electric Mobility: From Fossil Fuels to Renewable Energy, Opportunities and Challenges*, pp. 812-817. | |
| Marano, Vincenzo | Ohio State Univ. |
| Muratori, Matteo | The Ohio State Univ. |
| Rizzo, Gianfranco | Univ. of Salerno |
| Rizzoni, Giorgio | Ohio State Univ. |
| 16:30-16:50 | SaC1.3 |
| *Optimal Transient Control and Effects of a Small Energy Storage for a Diesel-Electric Powertrain*, pp. 818-823. | |
| Sivertsson, Martin | Linköping Univ. |
| Eriksson, Lars | Linköping Univ. |

| **SaC3** | Room 403 |
|---|---|
| **Handling and Stability** (Regular Session) | |
| Chair: Ivanov, Valentin | Ilmenau Univ. of Tech. |
| 15:50-16:10 | SaC3.1 |
| *Optimal Control for Steady State Drifting of RWD Vehicle*, pp. 824-830. | |
| Chaichaowarat, Ronnapee | Chulalongkorn Univ. |

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|---|---|
| Wannasuphoprasit, Witaya | Chulalongkorn Univ. Department of Mechanical Engineering, |

| 16:10-16:30 | SaC3.2 |
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*Safe Driving Envelopes for Shared Control of Ground Vehicles*, pp. 831-836.

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| Erlien, Stephen | Stanford Univ. |
| Fujita, Susumu | NISSAN MOTOR CO., LTD |
| Gerdes, J. Christian | Stanford Univ. |

| 16:30-16:50 | SaC3.3 |
|---|---|

*Maneuverability Analysis of Front Drive Type Personal Vehicle STAVi Using Modeling Error Compensation System*, pp. 837-842.

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| Maruno, Yutaro | Kumamoto Univ. |
| Dan, Yusuke | Kumamoto Univ. |
| Zengin, Aydin Tarik | Kumamoto Univ. |
| Okajima, Hiroshi | Kumamoto Univ. |
| Matsunaga, Nobutomo | Kumamoto Univ. |