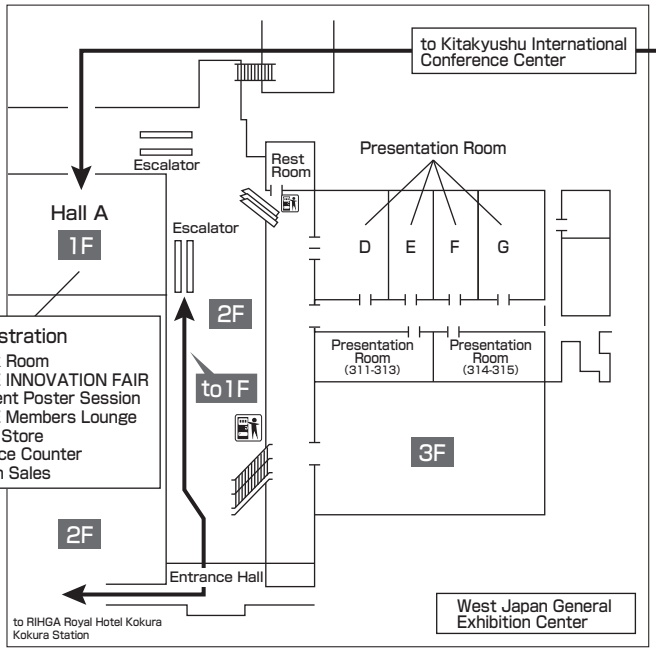
2025 JSAE Congress (Autumn)

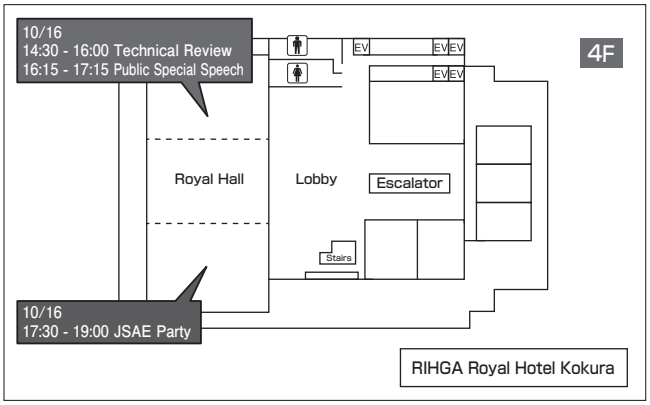
Wednesday, Oct. 15 - Friday, Oct. 17 2025

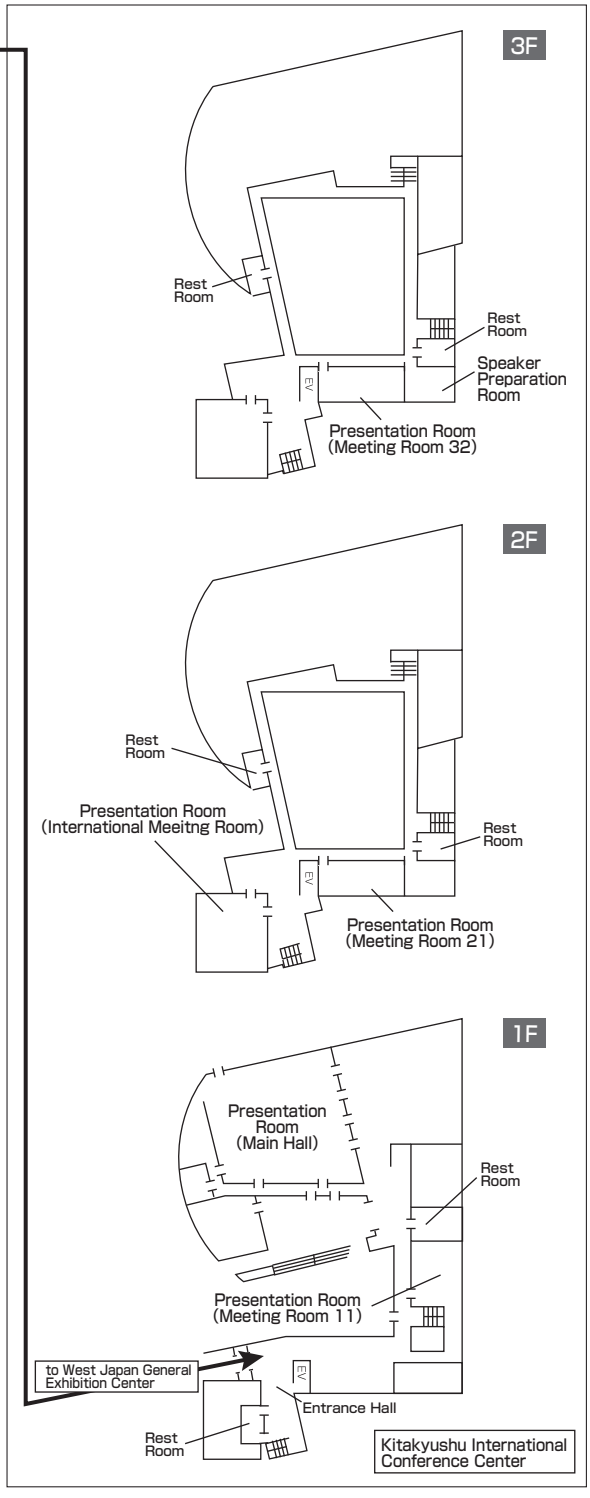
Kitakyushu International Conference Center, West Japan General Exhibition Center, RIHGA Royal Hotel Kokura

Final Program

Floor Map







Society of Automotive Engineers of Japan, Inc.

TOYODENKI

より安全により確実に

～ ADAS 試験のテストベンチ構築に最適 ～

ADAS 試験

操舵対応

タイヤハウスに
納まるサイズ

シャシーダイナモ代替

モード運転

急発進・急ブレーキ可能

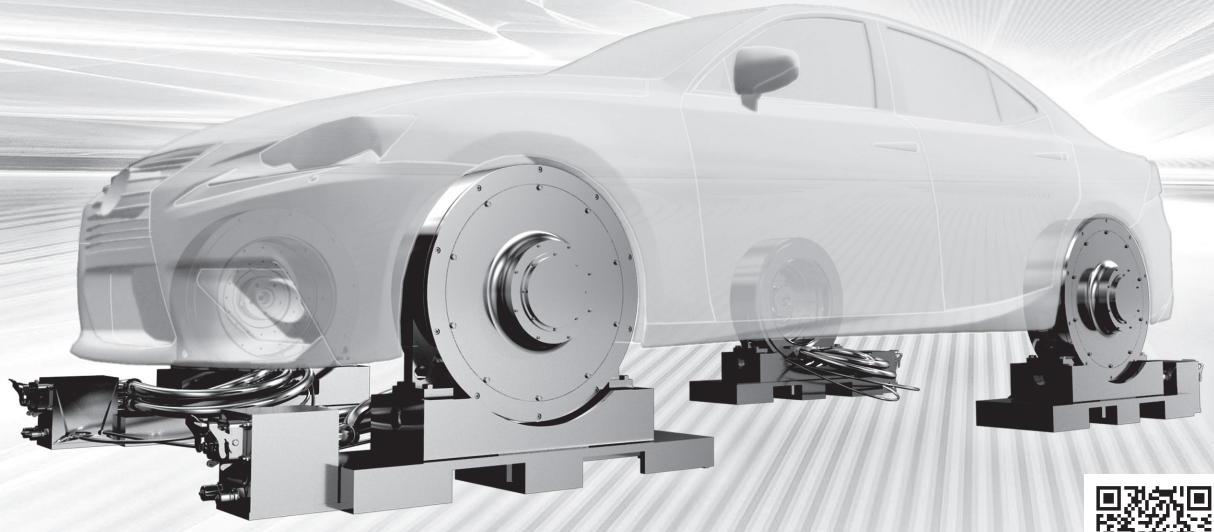
コンパクト

ピット工事不要

2 階や 3 階にも
設置できる

【 インタイヤハウスダイナモ 】

In-Tyre-House Dynamometer



自動車試験システムについて
詳しくはこちら ▶

滋賀竜王製作所にて
トライアル試験受付中

東洋電機製造株式会社

〒103-0028 東京都中央区八重洲1丁目4番16号 東京建物八重洲ビル
産業事業部車両試験システム営業部 TEL:03-5202-8134
https://www.toyodenki.co.jp/

2025 JSAE Congress (Autumn)

Period : Wednesday, Oct. 15 to Friday, Oct. 17, 2025
Venue : Kitakyushu International Conference Center
West Japan General Exhibition Center
RIHGA Royal Hotel Kokura

Table of Contents

INFORMATION

https://gakkai-web.net/jsae/a/2025/program/data/en/time-table.html

All events are in Japanese unless otherwise specified

Events	Notes	Oct 15	Oct 16	Oct 17
Technical Sessions	**Registration Required / Charged**	●	●	●
Technical Review	**Registration Required / Free**		●	
Public Special Speech	**Registration Required / Free**		●	
JSAE Party	**Registration Required / Charged**		●	
10th Student Poster Session	**Registration Required / Free**	●	●	●
JSAE INNOVATION FAIR 2025	**No Registration Required / Free**	●	●	●

Lunch Sales	Annex, Hall A *OPEN: 11:30-13:00

Opening Hours

Wednesday, October 15

Registration	West Japan General Exhibition Center Annex, Hall A	8:00～17:00
Service Counter	West Japan General Exhibition Center Annex, Hall A	8:00～18:00
Cloak Room	West Japan General Exhibition Center Annex, Hall A	8:00～18:00
Rest Area	West Japan General Exhibition Center Annex, Hall A	8:00～18:00
JSAE Members Lounge	West Japan General Exhibition Center Annex, Hall A	8:00～18:00
Book Store	West Japan General Exhibition Center Annex, Hall A	9:00～18:00

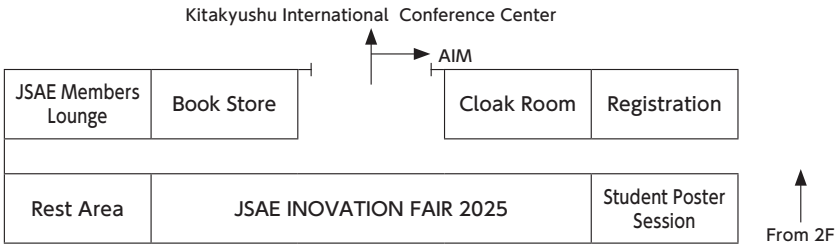
Thursday, October 16

Registration	West Japan General Exhibition Center Annex, Hall A	8:30～14:00
Service Counter	West Japan General Exhibition Center Annex, Hall A	8:30～14:00
Cloak Room	West Japan General Exhibition Center Annex, Hall A	8:30～16:00
Rest Area	West Japan General Exhibition Center Annex, Hall A	8:30～16:00
JSAE Members Lounge	West Japan General Exhibition Center Annex, Hall A	8:30～16:00
Book Store	West Japan General Exhibition Center Annex, Hall A	9:00～16:00

Friday, October 17

Registration	West Japan General Exhibition Center Annex, Hall A	8:30～16:00
Service Counter	West Japan General Exhibition Center Annex, Hall A	8:30～16:00
Cloak Room	West Japan General Exhibition Center Annex, Hall A	8:30～17:30
Rest Area	West Japan General Exhibition Center Annex, Hall A	8:30～16:00
JSAE Members Lounge	West Japan General Exhibition Center Annex, Hall A	8:30～16:00
Book Store	West Japan General Exhibition Center Annex, Hall A	9:00～16:00

Floor Map (Hall A)



OTHER EVENTS

Technical Review

[Registration Required / Free] *Language: Japanese

October 16th 14:30-16:30, RIHGA Royal Hotel Kokura 4F Royal Hall

Speaker

1. Satoshi Niwa (Denso)

2. Hiroshi Ibuka (TSMC Japan)

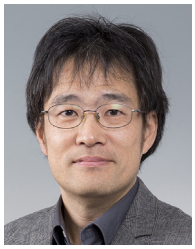
Public Special Speech

[Registration Required / Free] *Language: Japanese

October 16th 16:15-17:15, RIHGA Royal Hotel Kokura 4F Royal Hall

Speaker

Sadatake Tomioka (Japan Aerospace Exploration Agency)



JSAE Party

[Registration Required / Charged]

October 16th 17:30-19:00, RIHGA Royal Hotel Kokura 4F Royal Hall

10th Student Poster Session

[Registration Required / Free] *Language: Japanese

October 15th - October 17th 10:00-16:00, Annex Hall A

JSAE INNOVATION FAIR 2025

[No Registration Required / Free]

October 15th - October 17th, Annex Hall A

Technical Session Organizing Committee

Chair	Tatsuru Daimon	Keio University
Members	Yukiyo Kuriyagawa	Nihon University
	Akira Suto	Honda R&D
	Tetsuya Aizawa	Meiji University
	Kazuhiro Iida	Toyota Motor
	Tsuneaki Ishima	Gunma University
	Akemi Ito	Tokyo City University
	Daisuke Ito	Kansai University
	Hironaga Itou	SUBARU
	Manabu Omae	Keio University
	Shin Kato	AIST
	Yoshio Kawashita	Nissan Motor
	Kazuto Kinoshita	Hino Motors
	Daijirou Satou	Isuzu Motors
	Yasukazu Sato	Yokohama National University
	Osamu Shimizu	The University of Tokyo
	Norikazu Suzuki	Kobe University
	Yasufumi Sekine	Fukuyama University
	Takashi Nishisako	Mitsubishi Motors
	Tetsuya Nishimoto	Nihon University
	Ken Matsuura	JARI
	Yutaka Matsubara	Nagoya University
	Yasuo Moriyoshi	Chiba University
	Kenichi Yamamoto	Mazda

Wednesday, October 15 Congress Timetable

Room	Main Hall	11	21	International Conference Room	32	D
9:30	Synthetic Fuels 001 002 003 004 No. 87 No. of presentation: 4	Production, Manufacturing I 016 017 018 019 020 No. 91 No. of presentation: 5	CO_2 Suppression 028 029 030 031 032 ★ No. 94 No. of presentation: 5	Social System I -Automated Driving- 040 041 042 043 No. 96 No. of presentation: 4	Metal Materials I 050 051 ★ 052 10 min. Break 053 ★ 054 055 056 ★ No. 98 No. of presentation: 7	Vehicle Dynamics and Control I 063 064 065 066 No. 100 No. of presentation: 4
	11:10	11:35	11:35	11:10	12:35	11:10
	12:10	12:35	12:35	12:10	13:35	12:10
13:00	Alcohol・Ammonia Combustion 005 ★ 006 007 008 No. 88 No. of presentation: 4	Production, Manufacturing II 021 022 023 No. 92	Emissions 033 034 035 10 min. Break 036 ★ 037 038 039 No. 95 No. of presentation: 7	Social System II -Traffic Flow・Infrastructure- 044 ★ 045 046 10 min. Break 047 048 049 No. 97 No. of presentation: 6	Metal Materials II 057 058 ★ 059 10 min. Break 060 061 ★ 062 No. 99 No. of presentation: 6	Vehicle Dynamics and Control II 067 068 069 070 ★ No. 101 No. of presentation: 4
	13:50	13:50	15:40	14:50	16:15	13:50
	14:20					14:20
15:00	Knocking 009 010 011 No. 89 No. of presentation: 3	Lubricant 024 025 026 027 No. 93 No. of presentation: 4				Vehicle Dynamics and Control III 071 072 073 074 No. 102 No. of presentation: 4
	15:35	16:00				16:00
	16:05					
17:00	Gasoline Combustion 012 013 014 015 No. 90 No. of presentation: 4					
	17:45					
18:00						
19:00						

- Time allocated for a presentation is 25 minutes; 15 minutes for presentation and 10 minutes for Q&A.
- Program subject to change.
- Boxed numbers denote English presentations.
- A "★" next to presentation number indicates that the presentation will not be available for streaming after the congress.
- QR codes providing access to the presentation evaluation form will be posted at each presentation venue.
  This is important for the selecting the winner of the Excellent Technical Paper Presentation Awards, so we appreciate your cooperation.
- This timetable is based on the data as of September 19th 2025. Please note that information is subject to change without notice.

West Japan General Exhibition Center AIM3F

Annex

RIHGA Royal Hotel Kokura

E	F	G	311-313	314-315	Hall A	Orchid	Royal Hall

Noise, Vibration and Ride Quality I
075 076 077
No. 103
No. of presentation: 3
10:45

11:45

Noise, Vibration and Ride Quality II
078
079
080
10 min. Break
081
082
083
No. 104
No. of presentation: 6
14:25

14:55

Noise, Vibration and Ride Quality III
084
085 ★
086
10 min. Break
087
088 ★
089
No. 105
No. of presentation: 6
17:35

Human Modeling
090
091
092
10 min. Break
093
094
095
No. 106
No. of presentation: 6
12:10

13:10

Engine Components・Tribology I
096 097 098
No. 107
No. of presentation: 3

Engine Components・Tribology II
099
100
101
102
No. 108
No. of presentation: 4
16:35

Driver Behavior I
103
104
105
10 min. Break
106
107
108
No. 109
No. of presentation: 6
12:10

Information Presentation
109
110
111
10 min. Break
112
113
114
No. 110
No. of presentation: 6
15:50

EV・Power Supply and Charging
115 116 117
No. 111
No. of presentation: 3
10:45

11:45

EV・MBD
118
119
120
10 min. Break
121
122
123
No. 112
No. of presentation: 6
14:25

14:55

EV・Energy Management
124
125
126
127
128
No. 113
No. of presentation: 5
17:00

Aerodynamics・CAE
129
130
131
132
133
No. 114
No. of presentation: 5
11:35

12:35

Thermal Management
134
135
136
137
No. 115
No. of presentation: 4
14:15

14:45

Heat Exchange・Refrigerants
138
139
140
141
No. 116
No. of presentation: 4
16:25

10:00

10th Student Poster Session

16:00

JSAE INNOVATION FAIR 2025

17:00

Engine・After treatment・Powertrain | Body・Chassis・Production machining | ITS・Human Engineering | Parts・Materials | CAE/NV・Measurement・Fluid | HV・PHV・EV | Safety | Others

Detail of technical sessions: page 12-33.

Thursday, October 16 Congress Timetable

Kitakyushu International Conference Center 1-3F

Room	Main Hall	11	21	International Conference Room	32	D
9:30	Motor, Powertrain for EV I 142 143 144 145 No. 117 No. of presentation: 4	Vehicle Development III 150 151 152★ 10 min. Break 153★ 154 155 156 No. 119 No. of presentation: 7	Automatic Crash Notification and Injury Preventation 157 158 159 160 161 No. 120 No. of presentation: 5	Cold Gas Emissions 162 163★ 164 165 166 No. 121 No. of presentation: 5	Communication and Electronics I -Design and Development- 170 171 172★ 10 min. Break 173 174★ 175	Basic Combustion 176 177 178★ 179 180 No. 124 No. of presentation: 5
11:10			11:35			11:35
12:10	Motor, Powertrain for EV II 146 147 148 149 No. 118 No. of presentation: 4	No. of presentation: 7				
12:35		12:35		12:35	12:10	
13:00				Gasoline Deposit 167 168 169 No. 122 No. of presentation: 3		
13:50	13:50			13:50		
15:00						
17:00						
18:00						
19:00						

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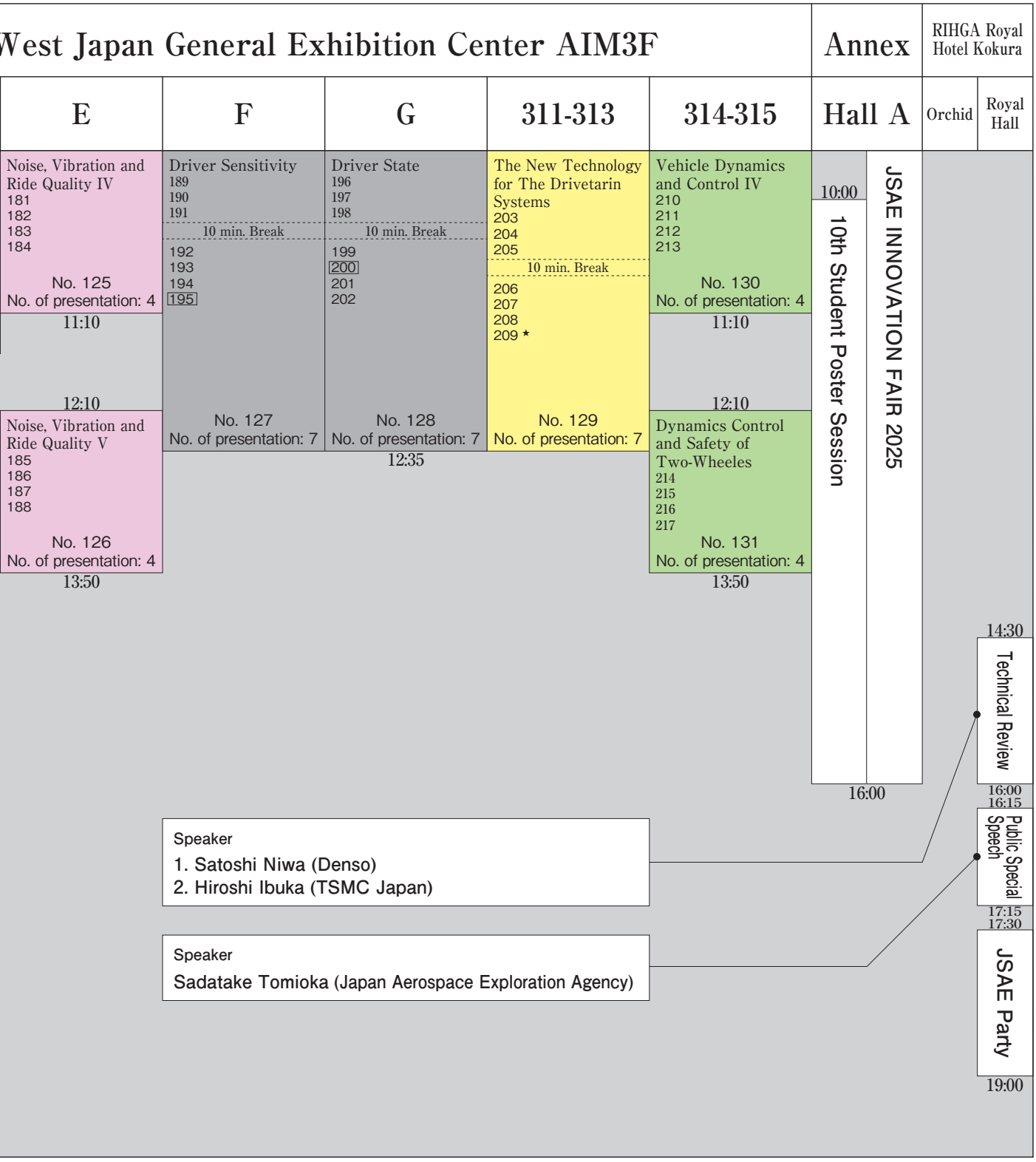

Engine・After treatment・Powertrain | Body・Chassis・Production machining | ITS・Human Engineering | Parts・Materials | CAE/NV・Measurement・Fluid | HV・PHV・EV | Safety | Others

Detail of technical sessions: page 12-33.

Friday, October 17 Congress Timetable

Kitakyushu International Conference Center 1-3F

Main Hall

9:30
Diesel Combustion
218
219
220
No. 132
No. of presentation: 3
10:45
11:45
Hydrogen Engine I
221
222
223
10 min. Break
224
225
226
No. 133
No. of presentation: 6
14:25
14:55
Hydrogen Engine II
227
228
229
No. 134
No. of presentation: 3
16:10

11

Driver Behavior II
230
231
232
10 min. Break
233
234
235
No. 135
No. of presentation: 6
12:10
13:10
Safety of Autonomous Driving
236
237
238
239
240
No. 136
No. of presentation: 5
15:15

21

Vehicle Development I
241
242
243
244
245
No. 137
No. of presentation: 5
11:35
12:35
Vehicle Development II
246
247
248
10 min. Break
249
250 ★
251
252
No. 138
No. of presentation: 7
15:40

International Conference Room

Gas Emissions
253
254
255
10 min. Break
256
257
258
No. 139
No. of presentation: 6
12:10
13:10
Numerical Analysis Method
259 260 261
No. 140
No. of presentation: 3
14:25

32

Occupant Safety
262
263
264
265
266
No. 141
No. of presentation: 5
11:35
12:35
Safety of Vulnerable Road Users
267
268
269
270
No. 142
No. of presentation: 4
14:15
14:45
Crash Safety Structure
271
272
273
274
No. 143
No. of presentation: 4
16:25

D

Measurement I
275 ★ 276
No. 144
No. of presentation: 2
10:20
10:50
Measurement II
277
278
279
280
No. 145
No. of presentation: 4
12:30

13:00
15:00
17:00
18:00
19:00

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West Japan General Exhibition Center AIM3F

Annex

RIHGA Royal Hotel Kokura

E	F	G	311-313	314-315	Hall A	Diamond
Composite Materials・Joining I 281 282 283 284 285 No. 146 No. of presentation: 5 11:35	Pedal Operation 295 296 297 10 min. Break 298 299 300 No. 149 No. of presentation: 6 12:10	Visibility 306 307 308 309 310 No. 151 No. of presentation: 5	EV Battery 316 ★ 317 318 319 320 No. 153 No. of presentation: 5 11:35	Automated Driving and Advanced Driver Assistance 331 332 333 10 min. Break 334 335 336 No. 156 No. of presentation: 6 12:10	10:00 10th Student Poster Session 16:00	JSAE INNOVATION FAIR 2025
12:35			12:35			
Composite Materials・Joining II 286 287 288 289 290 No. 147 No. of presentation: 5 14:40	13:10 Elderly Drivers 301 302 303 304 305 No. 150 No. of presentation: 5 15:15	Driving Seat 311 312 313 314 315 No. 152 No. of presentation: 5	EV Development I 321 322 323 324 325 No. 154 No. of presentation: 5 14:40	13:10 Communications and Electronics II -Evaluation Technology and Cyber Security- 337 338 339 10 min. Break 340 341 342 343 No. 157 No. of presentation: 7 16:15		
15:10			15:10			
Advanced Materials Technology 291 292 293 294 No. 148 No. of presentation: 4 16:50			EV Development II 326 327 328 329 ★ 330 No. 155 No. of presentation: 5 17:15			

Engine・After treatment・Powertrain | Body・Chassis・Production machining | ITS・Human Engineering | Parts・Materials | CAE/NV・Measurement・Fluid | HV・PHV・EV | Safety | Others

Detail of technical sessions: page 12-33.

JSAE Congress Autumn, Technical Session Program

- This program is based on the data as of September 19, 2025.
- There may be withdrawn presentations.
- The abstracts of the presentations are available on the timetable of the website.
  [https://gakkai-web.net/jsae/a/2025/program/data/en/time-table.html]
- Boxed numbers denote English presentations.
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Kitakyushu International Conference Center Main Hall

【9:30～11:10】

87 Synthetic Fuels
Shion Ando (Kyushu University)

001 Advanced Process for the Highly Efficient Conversion of FT Synthetic Crude Oil to FT Gasoline and FT Diesel for Automotive Use
Kenichi Okamoto・Noriaki Ohmori・Hiroshi Kisai・Akio Imai・Kazuyuki Morita・Mitsunori Tabata (Japan Petroleum and Carbon Neutral Fuels Energy Center)
Natsuki Hamada・Kazuhito Sato・Yoshihiro Iitsuka (Cosmo Oil)

002 Investigation of Engine Combustion Characteristics of Fischer–Tropsch-Derived Gasoline
Kohei Kuzuoka・Mitsuharu Oguma (AIST)
Kenichi Okamoto (Japan Petroleum and Carbon Neutral Fuels Energy Center)

003 Optimization of Diesel Injection Parameters for the Compatibility of Oxymethylene Dimethyl Ether (OME)
Shusuke Tanaka・Kaito Konno・Jiang Zijian・Hiroya Yamamoto・Masatoshi Tashima・Gen Shibata・Hideyuki Ogawa (Hokkaido University)

004 Effect of Distillation Characteristics of Synthetic Liquid Fuels on Diesel Spray Combustion
Hiroya Yamamoto・Masatoshi Tashima・Shusuke Tanaka・Kaito Konno・Gen Shibata・Hideyuki Ogawa (Hokkaido University)

【12:10～13:50】

88 Alcohol・Ammonia Combustion
Ekenechukwu Chijioke Okafor (Kyushu University)

005★ Study of Engine Combustion in Cold Start in use of Rich Methanol Blended Fuel
Tetsuya Ohira (Aichi University of Technology)
Keisuke Ito・Makoto Kaneko・Hidenori Fujii・Naoyuki Suda・Yoshinari Ninomiya (Suzuki Motor)

006 The Effects of Ethanol on Combustion in Super Lean Burn Engine
Kenji Sugata・Naoyoshi Matsubara・Ryota Yamada・Koji Kitano (Toyota Motor)

007 Alcohol Diffusive Combustion Technique as an Alternative Diesel Combustion (Third Report)
-Ignition Condition of Ethanol Diffusive Combustion with Diesel Pilot Flame by Dual Fuel Injector-
Yoshifumi Wakisaka・Kenji Fukui・Teruaki Kondo・Yoshiyuki Mandokoro・Kazuaki Nishikawa・Takayuki Fuyuto (Toyota Central R&D Labs.)
Kenji Date・Yusuke Ueda・Satoshi Sugawara (DENSO)

008 Effects of Port Fuel Injection of Liquid Ammonia on Intake Air Mass and Combustion Characteristics in a Spark-Ignition Engine
Mitsuaki Ohtomo・Hideaki Masui・Hiroshi Miyagawa (Toyota Central R&D Labs.)
Norinosuke Nakatani・Tadashi Takeuchi (Toyota Industries)

【14:20～15:35】

89 Knocking
Dai Matsuda (Kyushu University)

009 Knock Detection Frequency Optimization and Experimental Validation for Enhanced Knock Detection Accuracy
Tomoya Niki・Tomokazu Onda・Masayasu Nagado・Shouki Nakaya・Kouki Kishimoto・Hironao Sato・Hiroya Takai・Ryo Adachi (SUBARU)

010 Effect of Alicyclic Hydrocarbons on Knocking Intensity
Yamato Maruyama・Michio Nakano (Nippon Institute of Technology)
Kuniyoshi Eto (YAMABIKO)

011 A Study on Spark Knock Suppression by Reformed EGR and its Contributing Factors
Shota Tsuji・Gen Shibata・Hideyuki Ogawa (Hokkaido University)
Jun Goto (Yamaha Motor)

【16:05～17:45】

90 Gasoline Combustion
Ryo Shimizu (Nippon Bunri University)

012 Proposal and Demonstration of a New Spark Ignition Combustion Method with a Gross Indicated Thermal Efficiency Exceeding 53% (First Report)
-Concept of Improving Brake Thermal Efficiency-
Koji Morikawa・Takuya Nomura・Yasuo Moriyoshi・Tatsuya Kuboyama (Chiba University)
Atsushi Akamatsu・Yusuke Minami (Cosmo Oil Lubricants)
Tomohiro Nakayama・Ryo Muto (SUBARU)

013 Proposal and Demonstration of a New Spark Ignition Combustion Method with a Gross Indicated Thermal Efficiency Exceeding 53% (Second Report)
-Optimization of Combustion Using 3D-CFD and Verification on Actual Equipment-
Takuya Nomura・Koji Morikawa・Yasuo Moriyoshi・Tatsuya Kuboyama（Chiba University）
Atsushi Akamatsu・Yusuke Minami（Cosmo Oil Lubricants）
Tomohiro Nakayama・Ryo Muto（SUBARU）

014 Intake Characteristics of Multi-Cylinder Gasoline Engines for Small Competition Vehicles
-Basic Study of The Effects of Intake Manifold Shape-
Takumu Takayama・Shinobu Kasamatsu・Ikkei Kobayashi・Wenbao Wu・Jumpei Kuroda（Tokai University）
Kazuki Ogawa（Aichi University of Technology）
Hideaki Kato・Takayoshi Narita（Tokai University）

015 Simulation of a Scavenging Process for a Small Two-Stroke Gasoline Engine
Koichi Hatamura（Hatamura Engine Research Office）
Tadashige Kawakami（Hosei University）
Kuniyoshi Eto（YAMABIKO）
Akira Iijima（Nihon University）
Keiya Nishida（Hiroshima University）

Kitakyushu International Conference Center 11

【9:30～11:35】

91 Production, Manufacturing I
Junichi Ogura (Yamaha Motor)

016 Using the Integration of Manufacturing Process Simulations to Improve the Accuracy of Predicting Thermal Distortion in Outer Panels During the Painting and Drying Process for Thin Panel Applications
Kenjirou Baba・Kazuki Shouyama（Toyota Auto Body）
Shinichi Takezoe・Ryuichi Kaminishi・Katsushi Tsunoura（Toyota Auto Body R&D）
Takeshi Chino・Masashi Arai（JSOL）
Hirotaka Fukui・Takashi Fujiwara（Toyota Auto Body）

017 Development of a Press Feasibility Evaluation Method Using a Surrogate Model
Takayuki Yoshimatsu・Shigeki Kojima・Takashi Kanai・Takaaki Harada・Koji Okamura・Daisaku Yanaga・Yuji Miyazawa・Mamoru Wakasa・Kiyoshi Nonomura（Toyota Motor）

018 Development of an Automated Optimization Method for Resin Molding by Integrating CAE and Machine Learning
Yuto Takehara・Takayuki Nukui・Ryo Kamogawa・Yoshiko Hayashi・Kenji Takamura（Asahi Kasei）

019 Development of a System for Efficient Confirmation Tasks to Prevent Return with Contents Using Object Detection (First Report)
Masahiro Kagi・Toru Hirai・Yuya Sakakibara・Ryo Kobe・Haruki Sei・Yuto Mori（Toyota Motor）

020 Automated Quality Assessment of Cylinder Block Cavities Using Digital Transformation Technologies
Hiroyuki Kimoto・Yuki Okahara・Tooru Iwaki・Hirotaka Sakamoto・Kunihiro Nobuhara（Toyota Motor）

【12:35～13:50】

92 Production, Manufacturing II
Syuhei Kurokawa (Kyushu University)

021 Electroplating Technology Using Solid Electrolyte Membranes for the Realization of Environmentally Harmonized Surface Treatment Processes
Masaaki Nishiyama・Akira Kato・Soma Higashikozono（Toyota Motor）
Hitoshi Inoue・Katsuya Houkibara・Hiroki Sato（Mikado Technos）

022 Cleaning Technology of Plating Using Ultrasonic Mist for the Realization of Environmentally Harmonized Surface Treatment Processes
Kosei Goto・Takahiro Hiramatsu（TMEIC）
Masaaki Nishiyama・Akira Kato（Toyota Motor）

023 Development of Mass Production Process for Cold Spray Valve Seat
Hirohisa Shibayama・Hidenobu Matsuyama・Takashi Izawa・Hironao Netsu・Shotaro Takahashi・Daiki Hirobe（Nissan Motor）

【14:20～16:00】

93 Lubricant
Daisuke Kawano (Osaka Sangyo University)

024 A Basic Study on Energy-Efficient Electric Vehicle Oils by Applying Oil Film Forming Lubricant Additive (Second Report)
Toshitaka Nakamura・Takashi Furuse・Shinji Hasegawa・Shinya Akahori・Kimikazu Itou・Soichiro Sakurada・Junnosuke Akiguchi（ENEOS）

025 Study on Low Viscosity Lubricants for Electrified Transmissions and Compatibility with Organic Materials
Tsuneo Adachi・Yoshinori Ono・Walter Bunting（Afton Chemical Japan）
Christopher Cleveland（Afton Chemical）
Ryouta Iwasawa・Yumi Suzuki・Hitoshi Nakamura・Hiroyuki Kitajima・Hisashi Aoki（SUBARU）

026 Development of Fuel-Efficient Engine Oil Using Plant-Derived Materials Compliant with ILSAC GF-7 and JASO GLV-2
Yasunori Kanno・Rikuto Saito・Kazuma Yagura・Noriyuki Matsui・Ko Onodera（ENEOS）

027 Detection Method for Gear Pitting Using a Rule-Based Approach
Junnosuke Akiguchi（ENEOS）

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【9:30～11:35】

94 CO_2 Suppression
Tadanori Yanai (Shizuoka Institute of Science and Technology)

028 Considering the Issues of Achieving Carbon Neutrality in the Automotive Sector
-Focusing on Heavy-Duty Vehicles-
Shuichi Kanari・Hiroshi Hirai・Akiyoshi Ito・Tetsuya Suzuki (JARI)

029 Research on Customer Acceptance of CO_2 Extraction Behavior in Vehicles with CO_2 Capture Technology
Kenji Uchida・Masahiro Horikoshi・Akiko Miura・Chikara Tanaka・Yuji Harada (Mazda)

030 Applicability of Moisture Swing Adsorption for CO_2 Capture from Engine Exhaust
Yusuke Osawa・Ibuki Matsubara・Satoshi Sakaida・Kotaro Tanaka (Ibaraki University)

031 Project to Develop and Promote Next-Generation Heavy-Duty Vehicles through Industry-Academia-Government Collaboration toward Carbon Neutrality
Tomoki Takashima (MLIT)

032★ LCA for Electric Vehicles in Traveling Stage in Line with Paris Agreement
Keiichiro Sano・Yuuri Ujike (Kanto Gakuin University)
Yasuhiro Oi (Former Kanto Gakuin University)
Hiroshi Yagita (Nippon Institute of Technology)
Junichi Kasai・Katsuhiko Takeda (Kanto Gakuin University)

【12:35～15:40】

95 Emissions
Takayuki Fuyuto (Toyota Central R&D Labs.)

033 Study of OSC Materials from the Viewpoint of Catalyst Deterioration On-Board Diagnosis
Akhmad Fadel Fadilla・Masami Nakamoto・Dai Sawada・Tetsuro Onishi・Kazuya Yasuda (Daihatsu Motor)
Yuki Kazama・Shunsuke Oishi・Takashi Goto (Cataler)
Daiju Matsumura・Hirohisa Tanaka (Japan Atomic Energy Agency / Kwansei Gakuin University)

034 High Performance DPF to Tackle Nano Particulate Emissions for Off-Highway Applications
Shotaro Kato・Hiroaki Suzuki・Ryuji Kai・Takashi Aoki (NGK Insulators)

035 PN10 Emission Behavior in Diesel Engines
Hiroshi Anoda・Haruki Goto・Genshirou Shibuya (Isuzu Motors)
Igor Gershkovich・Mojtaba Keshavarz (Isuzu Motors Germany GmbH)

036★ Improvement of Performance of Catalyst-Coated Gasoline Particulate Filter by Controlling Catalyst Density
Tomoya Takizawa・Hiroyuki Kurita・Takashi Araki・Kohei Sakai・Hiroshi Murakami (Mazda)

037 Study on Factors of Performance Degradation of Urea SCR System Installed in Heavy-Duty Vehicles During the Use Process
Toshiro Yamamoto (NTSEL)

038 Effect of Ambient Humidity on Nitrous Oxide Emissions from Light Duty Vehicles
Shoi Koshikawa・Hisakazu Suzuki (NTSEL)

039 Considering High Porosity Substrate for PHEV
Daiki Suzuki・Kai Matsumoto・Takashi Aoki・Tasuku Matsumoto・Yuji Sasaki (NGK Insulators)
Anoop Reghunathan Nair・Sho Eijima (NGK Automotive Ceramics USA)

Kitakyushu International Conference Center International Conference Room

【9:30～11:10】

96 Social System I -Automated Driving-
Toshiyuki Sugimachi (Tokyo City University)

040 Systematic Approach to Define Operational Design Domain from Individual Traffic Scene for Automated Driving Systems
Keisuke Shimono・Mitsuaki Hagino・Kimihiko Nakano (The University of Tokyo)

041 A Study on How Training Data Quality Affects the Performance of a VQA-Based Model for Driving Scene Retrieval Model
Sota Nakanishi・Kento Ohtani (Nagoya University)
Kazuya Takeda (Nagoya University / Tier IV)

042 Validation of Autonomous Vehicle Management Using Remote Assistance
Yasuhiro Akagi (Nagoya University)
Yoh Yusa・Wataru Izumi (Soliton Systems)
Ryo Kanamori・Takayuki Morikawa (Nagoya University)

043 Occluded Vehicle Presence Estimation via Observable Vehicle Behaviors for Intersection Motion Planning
Koki Morita (Nagoya University)
Eijiro Takeuchi (Tier IV)
Kazuya Takeda (Nagoya University)

【12:10～14:50】

97 Social System II -Traffic Flow・Infrastructure-
Sou Kitajima (JARI)

044★ Development of Other Vehicle Behavior Model for BEV Dynamic Evaluation Simulator due to Thermal
Masahiro Nojima・Masaki Morita・Takuji Horimoto (Toyota Motor)

045 Study on Development Efficiency and System Cost Reduction through BEV Charging and Discharging Service Platform
Midori Sugiyama・Masato Ehara・Yoshihiro Sakayanagi・Takahiro Hirano・Tsubasa Otohata (Toyota Motor)

046 Development of Logistic Demand Estimation Process and Supplementary Methods for Predicting Future Changes in Truck Demand
Kenta Shintoku (Kozo Keikaku Engineering)
Nobumasa Ohashi・Junichiro Nitta (Isuzu Advanced Engineering Center)
Ryoko Maeda (Kozo Keikaku Engineering)

047 Design and Evaluation of a Virtual Traffic Light (VTL) Control Algorithm Adaptive to Traffic Demand
Keita Sakai・Hironori Suzuki (Toyo University)

048 Trajectory Prediction of Traffic Participants in Interaction Scenes at Signalized Intersections
Quy Hung Nguyen Van・Heishiro Toyoda (Toyota Motor)
Cui Xiongyi・Rosman Guy (Toyota Research Institute)
Kimimasa Tamura (Woven by Toyota)

049 A Robust License Plate Recognition System Against Environmental Changes Using Vision Language Models
Kota Shinjo・Shintaro Yoshizawa・Yuto Mori (Toyota Motor)

Kitakyushu International Conference Center 32

【9:30～12:35】

98 Metal Materials I
Tomokatsu Katagiri (JFE Techno-Research)

050 Study on Strength Prediction of 6000 Series Aluminum Alloys Using Machine Learning and its Application to Crash Simulation (First Report)
Junya Nagai・Kentarou Aono・Ryousuke Negawa・Hiroki Takami (SUBARU)

051★ Strength Properties of Steel/Aluminum Dissimilar Spot Welded Joint (First Report)
-Investigation of Tensile Shear and Peel Strength-
Ayaka Kagami・Eisuke Umeno・Naoki Horita・Tetsuya Fujisaki (Toyota Motor)
Hideaki Matsuoka・Tatsuyuki Amago (Toyota Central R&D Labs.)

052 Development of Heat-Radiative Aluminum Coating Material for Automotive Component Housings
Hironori Watanabe・Osamu Kato・Yoshihiko Kyo (UACJ)

053★ Nitriding Behavior of Stainless Steel in Ammonia Combustion Atmosphere
Yoshitomo Fujimura・Atsutaka Hayashi・Naoki Hirakawa・Jun-ichi Hamada (Nippon Steel)

054 Bending Fatigue Behaviors of T-Shaped Ni Alloy Brazed Joints
Gyoko Oh・Atsushi Umezawa (Tokyo Roki)

055 Material Development for Cold Spray Valve Seat
Yoshinori Izawa・Shotaro Takahashi・Junichi Arai・Hayato Hirayama (Nissan Motor)

056★ Development of Steel for Carbo-Nitriding with Superior Pitting Fatigue/Bending Fatigue Strength
Arisa Ito・Tomoya Tamai・Ryosuke Ohashi・Ayumi Yamazaki (Daido Steel)

【13:35～16:15】

99 Metal Materials II
Ryohei Ishikura (Daido Steel)

057 Development of Frame with High Performance Using Hot Stamping
Yumi Saito・Naoki Kimoto・Satoshi Shirakami (Nippon Steel)

058★ The Influence of Secondary Forming on Sheared Edge Delayed Fracture
Yuichi Matsuki・Junya Tobata・Toyohisa Shinmiya・Hideyuki Kimura・Takeshi Shiozaki (JFE Steel)

059 Consideration on Vibration Durability Evaluation Using Simultaneous Three-Axis Excitation
Katsuhiko Nakamura・Tatsuki Okunaga (IMV)
Tsukasa Ohzawa・Kenji Yoshida (DENSO)
Tetsuya Hyakutake (SOKEN)

060 Improving the Fatigue Limit of Spot-Welded Tensile Shear Joints Using 980MPa-class High-Tensile Steel Sheets as the Base Material
-Improving the Fatigue Limit due to a Single Overload-
Kotaro Tanaka・Akifumi Okabe・Noboru Tomioka (Nihon University)

061★ Fatigue Strength Evaluation of Spot Welded Joints Using Infrared Thermoelastic Method
Hideki Ueda・Hiroshi Shiromizu (Nippon Steel)
Reiji Tanaka (Nippon Steel Technology)

062 Development of Analytical and Evaluation Techniques for Enhancing the Performance of Integrated Hot Stamped Components
Masahiro Kubo・Naoki Kimoto・Toru Okada・Satoshi Shirakami (Nippon Steel)

Exhibition Center AIM3F D

【9:30～11:10】

100 Vehicle Dynamics and Control I
Yoshikazu Hattori (Toyota Central R&D Labs.)

063 Development of Energy Transmissibility Model for Three-Degree-of-Freedom Vehicle Dynamics
Atsushi Kosegawa・Toru Yamazaki・Kai Kurihara・Kazurou Iwata (Kanagawa University)

064 Dynamic Evaluation of Straight-Line Stability and Steering Components Based on an Energy Transmissibility Model
Toru Yamazaki・Atsushi Kosegawa・Kai Kurihara・Kazurou Iwata (Kanagawa University)

065 Coordinated Control of Driving and Steering for Vehicle Stability Improvement on Split-μ Roads
Hiroki Kamiya・Akira Ito (Aichi Institute of Technology)

066 Study of the Torsion Bar Stiffness Design of Electric Power Steering System
Takashi Miyoshi (Honda Motor)

【12:10～13:50】

101 Vehicle Dynamics and Control II

Makoto Yamakado (Kanagawa Institute of Technology)

067 A Stability Control During Cornering Using Sideslip Angle on Rear Axle

Naoto Ohkubo・Ryo Koyama・Fumiaki Honjo (Honda Motor)

068 Study on Roll Behavior and Improvement of Dynamic Cornering Characteristics with Front-Rear Relative Roll Angular Velocity Compensation Control

Toshiki Matsumoto (J-QuAD DYNAMICS)
Yosuke Yamada (Advics)

069 Application of Data-Based Preview Controller to Torsion Bar Active Suspension

Hiroki Furuta・Jin Hozumi・Takashi Saito・Tatsuya Keida (Toyota Motor)

070★ Optimal Driving Force Control Considering Slip Limit by Road Friction Estimation and its Application to Autonomous Lawnmowers

Kyohei Sakagami・Akiko Ito (Honda R&D)
Takayuki Arakawa・Yuichi Kawasaki (Honda Motor)

【14:20～16:00】

102 Vehicle Dynamics and Control III

Hiroyuki Urabe (Honda R&D)

071 Analysis of Handling Stability under Combined Steering and Road Irregularity Inputs

Ayumu Tanaka・Yasuji Shibahata・Makoto Yamakado・Masaki Yamamoto・Masato Abe・Yoshio Kano (Kanagawa Institute of Technology)

072 Analysis of the Impact of Changes in Vehicle Dynamics on Driver Operation

Yoshinori Maeda (Toyota Motor)

073 Evaluation of Steering Characteristics Using τL and Steering Robot Tests on a Brake G-Vectoring Controlled Vehicle

Ibuki Genpei・Masaki Yamamoto・Yoshio Kano・Masato Abe・Makoto Yakakado (Kanagawa Institute of Technology)
Tomohisa Shibata (Toyota Motor)

074 Study on the Development of a System for Estimating Tire–Road Friction Characteristics Ahead of the Vehicle
-Development of Sensor Selection Criteria and Algorithms for a Forward-Looking Road Friction Estimation System-

Atsushi Watanabe (Nihon University)
Ichiro Kageyama (Nihon University / Consortium on Advanced Road-Friction Database)
Yukiyo Kuriyagawa (Nihon University)
Tetsunori Haraguchi (Nihon University / Consortium on Advanced Road-Friction Database)
Tetsuya Kaneko (Osaka Sangyo University)
Minoru Nishio (Absolute)

Exhibition Center AIM3F E

【9:30～10:45】

103 Noise, Vibration and Ride Quality I

Kei Ichikawa (Honda Motor)

075 Vibration Analysis of Tire Using Compressed Sensing DIC

Yuki Kato (Kochi University of Technology)
Soma Watahiki (Kozo Keikaku Engineering)
Masayoshi Otaka (Ono Sokki)
Mitsuki Togoshi (Kozo Keikaku Engineering)
Yoshiho Oda (Ono Sokki)

076 Experimental Analysis Method of Sprung Vibration Characteristics for Suspension Inputs
-Vehicle Electrification Impact Analysis Including Longitudinal and Lateral Inputs-

Tsuyoshi Yoshimi・Shingo Koumura (Toyota Motor)

077 Vibration Sensation Evaluation Based on a Reproduction of Vehicle Vibration Using a Vibration Exciter

Sota Tanaka・Gen Tamaoki (Tokyo Metropolitan University)
Shuya Nojima・Hirotaka Shiozaki (Mitsubishi Motors)
Takuya Yoshimura (Tokyo Metropolitan University)

【11:45～14:25】

104 Noise, Vibration and Ride Quality II

Hiroko Tada (Honda Motor)

078 NV Prediction Technology for Excitation Force and Vibration Transfer Using Multi-Body Dynamics CAE in the Development of Electric Drive Unit

Toshio Kageyama (AVL Japan)

079 Construction of Numerical Model for in-Vehicle Sound Field Based on the Exploration of Phase Difference during Reflection

Takayuki Masumoto・Masahiro Takekawa (Cybernet Systems)
Kazushi Kuroyanagi・Akira Shigeta・Hiroyuki Kumakura (JVCKENWOOD)

080 Proposal of a New Unit Mode Extraction Method

Takafumi Mochizuki・Hiroyuki Suzuki・Takao Hirai・Kazuki Hidaka・Moe Hanashima (Estech)

081 The Influence of Mass and Stiffness Distribution on Vibration Characteristics of Automobile Bodies

Ryo Ageba・Kazuhiko Higai・Tsuyoshi Shiozaki (JFE Steel)

082 Evaluation of Vibration Characteristics of Bolted Joints Using Aluminum Alloy Bolts and Titanium Alloy Bolts

Yuuki Kawaharabashi・Satoru Kuga・Yoshinao Kishimoto・Yukiyoshi Kobayashi・Tristan Samuel Britton (Fujimori)・Keisuke Inoue (Tokyo City University)

083 Vibration Characteristics of Bolted Joints in Magnesium Alloy Based Multi-Material Structures

Tristan Samuel Britton (Fujimori)・Keisuke Inoue・Yoshinao Kishimoto・Yukiyoshi Kobayashi・Yuuki Kawaharabashi・Satoru Kuga (Tokyo City University)

【14:55～17:35】

105 Noise, Vibration and Ride Quality III
Kazuhito Misaji (Nihon University)

084 A Technique for Estimating Airborne Characteristics from the Battery Unit to the Vehicle Interior to Consider High-frequency Ripple Noise
Kenya Fujii・Naoki Toyama (Honda Motor)
Hitoshi Taira (Auto Technic Japan)

085★ Development Process and Modeling Techniques for NV Evaluation in Electric Vehicles Using a Driving Simulator
Kenji Torii・Shion Mise・Kenya Fujii (Honda Motor)
Sellerbeck Philipp (HEAD Acoustics)
Kenta Tanabe (HEAD Acoustics Japan)

086 Development of a Machine Learning Model to Predict Engine Noise Perception Based on Cabin Noise and Vehicle Parameters
Shinichi Suganuma (Chuo University / Nissan Motor)
Shimpei Nagae (Nissan Motor)
Takeshi Toi (Chuo University)

087 Development of a Machine Learning Model to Predict Engine Noise Perception Considering Temporal Driving Conditions
Shinichi Suganuma (Chuo University / Nissan Motor)
Shimpei Nagae (Nissan Motor)
Takeshi Toi (Chuo University)

088★ Development of Automatic Evaluation System for BSR (2nd Report)
Tatsuya Sakuishi・Kazutaka Yonemori・Takaaki Yamanaka・Yoshinari Tokunaga・Yohei Kurami (Nissan Motor)

089 Study on Psychoacoustic Indices for Evaluating Annoyance Caused by Fluctuating Wind Noise
Tomoya Washizu (Nissan Motor)
Toshihiko Komatsuzaki (Kanazawa University)
Takuya Yoshimura (Tokyo Metropolitan University)
Akiyoshi Iida (Toyohashi University of Technology)
Toru Yamazaki (Kanagawa University)
Yuichi Matsumura (Gifu University)
Takenori Miyamoto・Keiichiro Iida (Suzuki Motor)
Keiichi Taniguchi (Nissan Motor)

Exhibition Center AIM3F F

【9:30～12:10】

106 Human Modeling
Ryuzo Hayashi (Tokyo University of Science)

090 Analysis of Crossing Pedestrians' Decision at Unsignalized Crosswalk Using Logistic Regression
Shunto Araki・Takashi Nishimoto・Hiroyuki Okuda・Tatsuya Suzuki (Nagoya University)
Kazunori Ban (Toyota Technical Development)

091 Near-Miss Verification Using Driver-Pedestrian Model Based on Decision
Takuma Yamaguchi (Toyota Technical Development)
Toru Watanabe (Nagoya University)
Kazunori Ban (Toyota Technical Development)
Hiroyuki Okuda・Tatsuya Suzuki (Nagoya University)

092 Analysis and Modeling of Cyclists' Intersection-Crossing Behavior Using a Neural Network Model
Ryo Wakisaka・Takuma Yamaguchi・Kazunori Ban (Toyota Technical Development)
Hiroyuki Okuda・Tatsuya Suzuki (Nagoya University)

093 Evaluation of Driving Training for Passenger Comfort by the Vestibular Surprise Model
Keita Teshima・Masatoshi Takayama・Tomoo Kosaka・Mitsuhiro Narusue・Sho Yabunaka・Daichi Sato・Takeshi Yabuki・Masayuki Watanabe (Mazda)

094 Proposal of a Steering Assist System Considering Individual Driver's Operational Input Constraints: Second Report
Daisuke Nagasaka (J-QuAD DYNAMICS)
Akira Ito (Aichi Institute of Technology)
Hiroyuki Okuda・Hirofumi Aoki (Nagoya University)
Shigenori Ichinose (J-QuAD DYNAMICS)

095 Analysis of Abdominal Visceral Dynamics During Whole-Body Vibration Using a Human Body Finite Element Model
Toru Hamasaki・Yuko Nakahira・Masami Iwamoto (Toyota Central R&D Labs.)

【13:10～14:25】

107 Engine Components・Tribology I
Akemi Ito (Tokyo City University)

096 Development of a Method to Predict the Behavior of Engine Parts in the Market by Combining Big Data and Machine Learning
Yuki Otsuka・Kenta Yoshii・Kazuhiko Yamakami・Kazuaki Watanabe・Kohei Tanaka (Honda Motor)

097 Experimental Study on the Seizure Process in a Rig Test Machine for Evaluating Engine Bearings
Motohiko Koushima・Mari Nagata・Tadamichi Tamura・Shinichi Sakurai (Daido Metal)

098 Analysis of Oil Supply to Piston Skirt
Tomoya Jinnouchi・Kenta Sato・Hisanobu Kawashima・Hidekazu Suzuki・Tsuneaki Ishima (Gunma University)

【14:55～16:35】

108 Engine Components・Tribology II
Takuya Yamaguchi (Oita University)

099 Study on In-Cylinder Thermal Barrier Coatings and Evaluation/Analysis Techniques for Reducing Cooling Losses (First Report)
-Design of Thermal Barrier Materials, Method of Coatings, and Evaluation of Thermal Barrier Performance-
Kentaro Shinoda・Koichi Kinoshita・Mohammed Shahien・Haruka Abe・Megumi Akoshima・Eishi Kubota (AIST)
Takayuki Ito (JARI)

100 Study on In-Cylinder Thermal Barrier Coatings and Evaluation/Analysis Techniques for Reducing Cooling Losses (Second Report)
-Evaluation of Thermal Properties of Thermal Barrier Coatings-
Haruka Abe・Kentaro Shinoda・Megumi Akoshima・Koichi Kinoshita・Shahien Yamada Mohammed・Eishi Kubota (AIST)

101 Development of Thermal Barrier Coating Using Low Thermal Conductivity Material for Piston (2nd Report)
Ryoko Yamanoi・Kazuki Ogiwara・Teppei Tano・Shiori Yoda (ART Metal Manufacturing)

102 Development of a High-Response Thermal Barrier Coating to Improve Fuel Efficiency and Combustion Stability in Gasoline Engines
Hiroya Okada・Kazuma Kobayashi・Takeshi Tsuda・Koji Kawashita (SUBARU)
Katsuya Takaoka (Niterra)
Kaito Takagi・Yoichiro Habu・Kousuke Sanami (Tocalo)

Exhibition Center AIM3F G

【9:30～12:10】

109 Driver Behavior I
Toshihisa Sato (AIST)

103 Development of a Depth-Camera-Based Foot Behavior Evaluation System with Automatic Hazard Scene Detection
Kazuma Suzaki・Hiroaki Hayashi・Shigeki Sugano (Waseda University)
Akira Isshiki (NX Cash Logistics)
Mitsuhiro Kamezaki (The University of Tokyo)

104 Early Detection of Latent Unsafe Consciousness Based on Dynamic Estimation of Internal Driver State
Hironori Suzuki (Toyo University)
Toshiaki Kimura (Kyoto Tachibana University)
Jun Tajima (Misaki Design)

105 Comparison of Driving Behavior between Japanese and Chinese drivers Using the KM Safe Driving Test Kit
Masahiro Yamataka (Aichi University of Technology)
Katsuya Matsunaga (Kyushu University)

106 Characteristics of Bicycle Driving at Unsignalized Intersections by Non-Driving License Holders
Oto Nagamine・Hiroshi Yoshitake・Motoki Shino (Institute of Science Tokyo)

107 Investigation of Control Requirements for a Safe Level 2 Driver Assistance Systems Based on Driving Excitement
Masahiko Kato・Maki Sakamoto・Kenji Tanaka (University of Electro-Communications)

108 A Study on Indicators to Identify Decrease in Attentional Resources for Driving
-Capturing the Eye-Centering Phenomenon through Fixation Time-
Hiroaki Ogawa・Katsushi Asami (DENSO)
Takushi Kawamorita (Kitasato University)

【13:10～15:50】

110 Information Presentation
Yukiyo Kuriyagawa (Nihon University)

109 Performance-Based Evaluation Method for Detectability of Alert Signs on Dashboard Display
Tsukasa Kimura・Yurie Shin・Ryutaro Oe (The University of Osaka)
Masanori Furuya・Tomomichi Uekuri (Nissan Motor)
Kazumitsu Shinohara (The University of Osaka)

110 Influences of In-Vehicle Information Presentation Using Animation Display on Drivers' Behaviors
-Discussion on Information Providing by V2X System on Intersections with Poor Visibility-
Akira Ohtani・Ryohei Homma (JARI)
Masaaki Abe (JAMA)

111 Influence of Humanoid Robot Interaction on Pedestrian-Aware Driving Behavior
Ayaka Togiya・Hirotaka Yamamoto (Kyoto Institute of Technology)
Mariko Osaka (The University of Osaka)
Yukiko Nishizaki (Kyoto Institute of Technology)

112 Basic Study on a Method for Estimating Arousal Level Focusing on Physiological Information of Drivers Conversing with Generative AI
Tatsuya Sato・Yuta Ogura・Shunta Takahashi・Komei Hayashi・Ryo Saegusa・Yasuaki Ohtaki・Hidenobu Takao (Kanagawa Institute of Technology)
Ayumu Kawata・Yusuke Tanizawa・Hiroaki Hashimoto・Rusako Fujino・Hideki Nagata・Jun Osugi・Shinichi Gayama (Pioneer)

113 Evaluation of a Human Machine Interface for Vehicle – Infrastructure Cooperative Driver Assistance at Right Turns at Intersections
Jun Sawada・Masaaki Onuki・Kimihiko Nakano (The University of Tokyo)

114 Evaluation of Driver Acceptance in in-Vehicle Driving Assistance Information Across Various Situations Using Event-Related Potentials
Jongseong Gwak (Takushoku University)
Hiroshi Yoshitake・Motoki Shino (Institute of Science Tokyo)

Exhibition Center AIM3F 311-313

【9:30～10:45】

111 EV・Power Supply and Charging
Takeshi Kato (Honda R&D)

115 Simulation of Electric Vehicle Charging Behaviour on Highways Assuming Dynamic Pricing
Takuma Niimi・Tomoko Iwata・Tsuyoshi Yoshioka (Shibaura Institute of Technology)

116 Development of Charging and Power Supply System for New BEV
Takumi Kitajima・Keisuke Nishida・Yuuichi Hosaka・Shuichi Orita (Nissan Motor)

117 Study on the Feasibility of Small, Low-Speed EVs with On-Board PV Systems
Toshio Hirota・Yushi Kamiya（Waseda University）
Sou Ikeda・Yasuyuki Muramatsu（Yamaha Motor）

【11:45～14:25】

112 EV・MBD
Satoru Hirano (Hino Motors)

118 The Evolution of Power Unit Development Process through MBD (Sixth Report)
-Development and Application of a Drive Unit Thermal Model to Maximize Vehicle Performance-
Takuya Honjo・Rika Kikuchi・Kenichiro Ogata・
Keijiro Koide・Takumi Matsumoto（Honda Motor）
Mikito Nagata（Meitec Fielders）

119 The Evolution of Power Unit Development Process through MBD (Seventh Report)
-Model Acceleration through Formulation Technology for Engine Thermal Plant Models-
Keijiro Koide・Kenichiro Ogata・Takumi Matsumoto・
Go Toshizane（Honda Motor）

120 The Evolution of Power Unit Development Process through MBD (Eighth Report)
-Model Construction Integrating Thermal Plant Models and its Use for Control Calibration-
Kenichiro Ogata・Takuya Honjo・Rika Kikuchi・
Keijiro Koide・Takumi Matsumoto・
Go Toshizane（Honda Motor）
Junya Matsumoto（Ryomo Systems）
Mikinori Sato・Yuki Hamatsu（AutoTechnicJapan）
Mikito Nagata（Meitec Fielders）

121 The Evolution of Power Unit Development Process through MBD (Nineth Report)
-Enhancing the Robustness of Energy Management Control for Hybrid Power Units-
Takumi Matsumoto・Kenichiro Ogata・Yuichiro Murata・
Yuki Honma・Keiji Tojo・Tetsuya Fukuoka（Honda Motor）
Junya Matsumoto（Ryomo Systems）
Mikinori Sato・Kazuma Inukai（AutoTechnicJapan）

122 Model-Based Development of Parallel Hybrid System for K-Cars
Norifumi Mizushima（AIST）
Kyohei Yamaguchi（Kokushikan University）
Yoichi Iiyama・Yuji Kado（JAXA）

123 Study of Optimal Thermal and Power Management Control for Hybrid Electric Vehicle Based on Vehicle System 1D Simulation Model (Second Report)
Yuya Hato・Rinnosuke Hoshi・Wei-Hsiang Yang・
Toshio Hirota・Yushi Kamiya（Waseda University）
Kiyotaka Sato（Mazda）

【14:55～17:00】

113 EV・Energy Management
Koichiro Muta (Toyota Motor)

124 Study on Eco-Driving Method for BEV on Real Driving (2nd Report)
-Energy Consumption Characteristics of light BEV on Read Driving-
Akira Kato・Hyo Yeon Yoon・
Yuki Kimura（Teikyo University）

125 Study on Various Factors to Affect Fuel Economy and Driving Range of a Small Commercial EV
Hisakazu Suzuki・Kenichiro Koshika・Shota Miyoshi・
Tomonori Hasegawa（NTSEL）

126 Evaluation Method Development of Drive Control System Function and Performance by Coupling the Chassis Dynamo and Simulation Software (VILS)
Akihiro Terao・Toshiyuki Myochin・
Kazutoshi Miwa（Nissan Motor）

127 Evaluation Review of a Chassis Dynamometer System for xEV Testing (3rd Report)
-On the Purpose of Standardizing the Performance Requirements and Evaluation Methods of Chassis Dynamometer Test Systems Aimed at Reproducing Actual Driving Conditions-
Noriaki Nakate（JATA）
Hisakazu Suzuki（NTSEL）
Isamu Inoue（Ono Sokki）
Yoku Hirose（HORIBA）
Toshinobu Furuta（MEIDENSHA）
Hideyuki Kuba（Mazda）
Kenji Sato（Toyota Motor）
Yasuhito Takemura（Daihatsu Motor）
Masato Taniwaki（Suzuki Motor）
Shohei Nakagawa（Honda Motor）
Masaki Naruke（JARI）
Kosuke Tashiro（Mitsubishi Motors）
Takeo Horikawa（SUBARU）
Keiichi Masutani（Nissan Motor）
Akira Noda（Former JATA）

128 Energy Optimization Method for Coordinated Operation of Household and Facility Using EVs and Shared Energy Storage System
Yuito Ohno（Nagoya University）
Shinkichi Inagaki（Nanzan University）
Tatsuya Suzuki（Nagoya University）

Exhibition Center AIM3F 314-315

【9:30～11:35】

114 Aerodynamics・CAE
Tsuneaki Ishima (Gunma University)

129 Estimation of Airflow in the Vehicle Engine Room and Velocity of Air Passing Through the Heat Exchanger Using Machine Learning
Takumi Kitsukawa・Fangge Chen・Takehito Teraguchi・
Kei Akasaka・Takuya Nanri（Nissan Motor）

130 Research on the Flow Field Structure to Achieve Both Reduction of Snow Adhesion and Aerodynamic Performance
Motoki Morioka・Masatoshi Saitou・Tomohisa Ueda・Hyuuga Miyazawa (SUBARU)

131 Development of CAE Methods for Predicting Snow Accumulation on Floor Undercovers During Snowy Road
Tadashi Matsuura・Teruyuki Annen・Shigeki Ueno・Takeyuki Harada・Mikio Asai・Haruyuki Watanabe (Toyota Motor)

132 Flow around a Longitudinal Circular/Square Cylinder Moving Near the Ground
Yui Mitamura・Mohammed Firoz Rathore・Kazuki Matsuno (Doshisha University)
Tatsuya Inoue (Railway Technical Research Institute)
Katsuya Hirata (Doshisha University)

133 Investigation of Aerodynamic Drag Differences Caused by Tire Shape and Reduction Methods
Yoshiteru Hoshida・Hiroaki Nagaoka・Shin Makita・Yuichi Isobe (Honda Motor)

【12:35～14:15】

115 Thermal Management
Takumi Hasegawa (SUBARU)

134 Development of a Method for Predicting Ambient Temperature of In-Vehicle Electronic Components Using 3D Fluid Analysis (First Report)
Takafumi Okumura・Hisao Nishimori・Jun Muto・Hiroshi Kamatani・Yahiro Honda・Daiki Yamaguchi (Toyota Motor)

135 Design of Battery Cooling Channel for Electric Vehicles Optimizing Object Distribution
Yoshikatsu Furusawa・Kunitaka Shintani・Shunsuke Hirotani (Nature Architects)
Kentaro Yaji (The University of Osaka)
Kai Suto (Nature Architects)

136 Evaluation of Equivalent Temperature in Vehicle Cabin by a Mesh-Free Simulation (Fifth Report)
-Evaluation of Equivalent Temperature under Transient Cooling Condition with Solar Radiation-
Yoshiichi Ozeki (AGC)
Hajime Oi・Akira Matsumoto (Nissan Motor)

137 Improvement of Steady-State Analysis Accuracy of Blower Fans through Optimization of the MRF Region
Katsutoshi Taninaka・Yusuke Koike・Kanichi Yamaguchi・Keigo Shimizu (Mazda)
Takuji Nakashima (Hiroshima University)
Masayuki Shiga・Yuka Kinoshita (Japan Climate Systems)

【14:45～16:25】

116 Heat Exchange・Refrigerants
Masaki Morita (Toyota Motor)

138 Application of Numerical Boiling Heat Transfer Model to Pin-Fin Heat-Exchanger
Yoshiki Tanaka・Takaya Sato・Takeshi Ooyama (DENSO TECHNO)
Yukinori Hamaji・Masayuki Tokitani (National Institute of Fusion Science)
Yoshiyuki Tsuji (Nagoya University)

139 Utilization of the 1D Vehicle Model for the Development of the Thermal Management System for Battery Electric Vehicles
Motomasa Iizuka (SOKEN)
Tetsuma Takeda・Takayoshi Kojima (DENSO)

140 Self-Decomposition Evaluation of R-1132(E)-Based Refrigerant Blends
Takashi Usui・Tomoyuki Goto・Tomohito Inoue・Yasutaka Negishi (Daikin Industries)

141 Modeling of Short Circuits and Arc Discharge Energy Prediction in Automotive Electric Compressors
Kengo Nagai・Yota Omizu (Nagoya University)
Takashi Usui・Yasutaka Negishi・Tomoyuki Goto (Daikin Industries)
Koichi Shigematsu・Jun Imaoka・Masayoshi Yamamoto (Nagoya University)

Kitakyushu International Conference Center Main Hall

【9:30～11:10】

117 Motor, Powertrain for EV I
Shingo Soma (ex-Honda R&D)

142 Development of a High-Power Density Motor (First Report)
-Formulation and Verification of the Design Concept-
Naoki Itasaka・Michiharu Kawano・Hisayuki Kabashima・Kentaro Nomura・Kazunori Hirabayashi (MCF Electric Drive)

143 Development of a High-Power Density Motor (Second Report)
-Performance Verification via Analysis and Prototype Testing-
Hisayuki Kabashima・Naoki Itasaka・Michiharu Kawano・Kentaro Nomura・Kazunori Hirabayashi (MCF Electric Drive)

144 Development of a High-Power Density Motor (Third Report)
-Cooling Performance Verification and Design Optimization-
Michiharu Kawano・Hisayuki Kabashima・Naoki Itasaka・Kentaro Nomura・Kazunori Hirabayashi (MCF Electric Drive)

145 Development of Rotary-Fin Structure of Air-Cooled In-Wheel Motors for Small EVs
Tetsuya Suto・Akeshi Takahashi (Astemo)
Makoto Ito (Hitachi)
Hideaki Goto (Astemo)

【12:10～13:50】

118 Motor, Powertrain for EV II
Takashi Majima (IHI)

146 Development of Two-Motor Electric AWD (All Wheel Drive) System for Mini-Van
Shuhei Tajima・Eigo Sakagami・Hiroki Shimoyama (Nissan Motor)

147 High Performance Inverter for an Electric Vehicle with a Newly Developed Double-Sided Cooling Power Module
Kazushige Namiki・Kouichi Matsuda (Nissan Motor)
Yuta Numakura・Shuichi Shinohara・Shoya Awamori (Astemo)
Yu Ebihara (Jatco)

148 Development of EV Powertrain for Third-Generation New EV
Sho Maruyama・Hiroyasu Murakami・Sadahiro Nagasaka・Mototsugu Yamanaka (Nissan Motor)
Yukiyoshi Inuta (Jatco)

149 Slip Ratio Estimation Method for In-Wheel Motor Vehicles Based on Sensing Torque
Toshiyuki Ajima (Astemo)
Wataru Hatsuse (Hitachi)
Masaru Yamasaki (Astemo)

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【9:30～12:35】

119 Vehicle Development III
Yasufumi Sekine (Fukuyama University)

150 A Study on the Development, CAE Analysis, and Test Validation of a Cell Frame Assembly Module for Advanced Battery Systems
Geonhee Cheon・Gun In・Namjin Kim・Donghoon Kim・Jungsub Kim・Hyun Sung (Seojin Industrial)
Gyuho Shim (Ecoplastic)

151 Experimental Study on Fire Prevention in Storage of Crashed Electric Vehicles (First Report)
Yoshihiro Sukagawa・Koji Yamazaki・Masashi Takahashi・Atsuhiro Konosu・Yohsuke Tamura (JARI)

152 ★A Study on the Development of Predictive Method for Structural Weakness of Bus Body in Concept Stage Using 1D Beam Model and Machine Learning
Gyuhee Kim (Hyundai Motor)

153 ★A Study on Suspension Input Load Prediction Using RNN-Based Virtual Sensor for Durability Application
Seungwan Son・Daejin Kim (Hyundai Motor)

154 Efficient Optimization of Component Placement Using Replica Exchange Method
Koichi Seki・Masaya Michishita・Hideaki Bunazawa (Toyota Motor)

155 Optimization of Frame Cross-Sectional Shape Using Kernel-QA
Wataru Shimoda・Toshiki Kondo・Takehisa Kohira (Mazda)

156 Prediction Technology Development for Millimeter Wave Radar Transmittance with Paint Composition in New Color Development
Naoya Osaki・Cheetuck Ho・Keiko Ukishima・Natsuko Kaji (Nissan Motor)

Kitakyushu International Conference Center 21

【9:30～11:35】

120 Automatic Crash Notification and Injury Preventation
Tetsuya Nishimoto (Nihon University)

157 Development of a Simulation to Estimate Emergency Transport Time and Its Simplified Method
Shinji Asakura・Heishiro Toyoda・Tomoyuki Miyoshi・Hiroto Kawano・Takashi Moriuchi・Shinji Yamagiwa・Maria Yasuda (Toyota Motor)

158 Analyzing the Differences between D-Call Net Based and Accident Data Delta-V
Noboru Tanase・Shizue Katsumata・Takahiro Ando (Toyota Motor)
Mayu Ishii (ITARDA)
Yasushi Nagaoka (Toyota Motor)

159 Study on Actual Situations of D-Call Net by Matching Automatic Notification Data with ITARDA Macro Data
Toru Kiuchi (ITARDA)
Nobuo Saito・Ichiro Ando (Japan Mayday Service)
Eiko Kagesawa・Mayu Ishii (ITARDA)

160 Utilization of Image Recognition for Pedestrian Injury Prediction Considering Vehicle Collision Areas
Mie Tokuyama・Shizue Katsumata (Toyota Motor)
Kohji Ichikawa (Toyota Technical Development)
Takahiro Andoh・Noboru Tanase (Toyota Motor)

161 Development of a Collision Detection Model Using Dashcam Audio Information (1st Report)
Yuki Nomura・Shouhei Kunitomi・
Yoshihiro Sukegawa (JARI)
Yasushi Nagaoka (JAMA)

Kitakyushu International Conference Center International Conference Room

【9:30～11:35】

121 Cold Gas Emissions
Eiji Kinoshita (Kagoshima University)

162 Numerical Modeling for Control to Achieve Early Activation of Urea SCR Catalysts by Electric Heating
Hayato Kojima・Reon Aoki・Tomoki Sakurai・
Jin Kusaka (Waseda University)

163★ Concept and Verification of Cold Emission Reduction Technology through Exhaust Path Reaction Control
Xiyao Ge・Ran Nishikido・Yoshitomo Takahashi・
Tsugio Fukube・Daichi Takashima (Mazda)

164 Study on the Post-Oxidation Mechanism of Unburned Hydrocarbon Species Inside the Exhaust Port
Masahisa Yamakawa・Tatsuya Fujikawa・
Daisuke Shimokuri・Keisuke Yamamoto
(Hiroshima University)
Kenji Uchida・Junki Hori・Naoki Yoshioka・
Kaede Shirane (Mazda)
Akira Miyoshi・Yoshiki Sho (Hiroshima University)

165 Proposal of a Compact Aftertreatment System Integrating Exhaust Gas Adsorption, Conversion and Particle Filtration Functions
Masashi Matsumoto (JARI)
Katsunori Hanamura
(Sophia University / Japan Science and Technology Agency)
Takashi Ogi (Hiroshima University)
Kohei Kume・Masahiko Matsukata (Waseda University)
Takaaki Kitamura (JARI)

166 Experimental Analysis of Ammonia Generation Characteristics by Heated Urea Water Solution Spray in SCR Systems
Tetsu Ishii・Kengo Nakagawa・
Eriko Matsumura (Doshisha University)

【12:35～13:50】

122 Gasoline Deposit
Hirosuke Sumida (Mazda)

167 Hardening Mechanism of Gasoline Deposits
-Viscoelastic Behavior of Deposits under Thermal Cycling Conditions-
Yoshinori Nakayama・Takumi Suzawa (SOKEN)
Tomoharu Kataoka (Toyota Motor)

168 Study on Modeling of Combustion Chamber Deposits in High-Efficiency Gasoline Spark-Ignition Engines (First Report)
-Accelerated Formation of Combustion Chamber Deposits Using a Spark-Ignition Engine-
Kazuma Motohashi・Takumi Nakajima・Kento Okusa・
Satoshi Sakaida・Kotaro Tanaka・
Mitsuru Konno (Ibaraki University)
Koichi Kinoshita・Yohko Abe (AIST)
Satoshi Kodama・Shinsuke Mori
(Institute of Science Tokyo)

169 Study on Modeling of Combustion Chamber Deposits in High-Efficiency Gasoline Spark-Ignition Engines (Second Report)
-Elucidation of the Formation Mechanism of Combustion Chamber Deposits Using an Autoclave-
Koichi Kinoshita・Yohko Abe (AIST)
Kotaro Tanaka・Satoshi Sakaida・Mitsuru Konno
(Ibaraki University)
Shinsuke Mori・Satoshi Kodama
(Institute of Science Tokyo)

Kitakyushu International Conference Center 32

【9:30～12:10】

123 Communication and Electronics I -Design and Development-
Masahito Sonehara (Mazda)

170 Reliability Impact Study of Printed Wiring Board Manufacturing Quality in Support of the SDV Era
Natsuki Kumagai・Tai Horikawa・
Norimitsu Sakai (Nissan Motor)

171 Redefining Moisture Resistance Lifetime Design and Moisture Resistance Testing for Printed Circuit Boards in the Era of SDV
Tai Horikawa・Natsuki Kumagai・
Shunsuke Narita (Nissan Motor)
Masatoshi Ando・Kazuya Okada・Masayuki Shimura・
Takeshi Yoda・Takenori Kakutani (Taiyo Ink Mfg.)

172★ Proposal for the Mechanism of Whisker Formation and Countermeasures from Sn Plating in High-Speed Communication Connectors
Jun Muto・Hisao Nishimori・Junya Maeda・Miiyu Orinaka・
Yasufumi Shibata・Takashi Yamada (Toyota Motor)

173 Analysis of Solder Peeling Phenomenon in High-Density Electronic Components and Proposal of Design Guidelines
Yasufumi Shibata・Hisao Nishimori・
Akihiro Yamagata (Toyota Motor)

174★ Optimization of ECU Connector Pin Signal Assignment Using Quantum-Inspired Technology
Toshiki Terabe・Daisuke Ibata・Hiroshi Yoshimoto・Yoshinori Suga (Toyota Motor)
Shinji Iwane (Fujitsu)

175 Gate Driver CMTI Verification Model Development and Precautions for Power Electronics MBD Development -CMTI Verification Model in VHDL-AMS-
Noboru Takizawa (Freelance Consultant)

Exhibition Center AIM3F D

【9:30～11:35】

124 Basic Combustion
Sadami Yoshiyama (The University of Kitakyushu)

176 Time-Series Spectrum Analysis of Spark Discharge and Flame in Hydrogen Spark Ignition Engine
Kotaro Shimizu・Nobuyuki Kawahara・Yoshimitsu Kobashi (Okayama University)
Satoaki Ichi (Kawasaki Motors)
Koichiro Matsushita (Honda Motor)
Tomohiko Kamio (Yamaha Motor)
Yoshinari Ninomiya・Makoto Kaneko (Suzuki Motor)

177 Study of Flame Propagation and Quenching Characteristics of Premixed Turbulent Flames with Karlovitz Number
Dai Matsuda・Hiroshi Maeyama・Ekenechukwu C. Okafor・Toshiaki Kitagawa (Kyushu University)

178★ A Study on Ion Current of Carbon-Free Fuel Reciprocating Engine
Kouichi Muneo・Mitsuhiro Izumi・Tsutomu Kusuhara・Akihiro Yamao・Kou Wada
(Diamond & Zebra Electric Mfg.)

179 Study on Ignition and Combustion Characteristics for Ammonia Spark Ignition Engine
Ryota Yamada・Shunsuke Kasuga・Hiroyuki Sakai・Takeshi Hashizume (Toyota Motor)

180 Laminar Premixed Combustion Characteristics of Ternary Fuel Mixtures of Methane, Hydrogen, and Carbon Dioxide
Wataru Nishio・Takuma Kobayashi・Taketoshi Shimizu (Waseda University)
Kei Yoshimura・Satoshi Tokuhara (Suzuki Motor)
Jin Kusaka (Waseda University)

Exhibition Center AIM3F E

【9:30～11:10】

125 Noise, Vibration and Ride Quality IV
Koji Sugiyama (Suzuki Motor)

181 A Study of Combustion-Induced Vibration in a Single-Cylinder Diesel Engine through Modal Analysis and Dynamic Behavior Analysis
Daichi Yamane・Karin Aoyagi・Masato Mikami (Yamaguchi University)

182 Fundamental Study on Structural Design Using Inverse Method for the Assignment of Vibration Nodes
Keizo Konishi (Honda R&D)
Kenji Torii (Honda Motor)
Hideto Tamaki (Auto Technic Japan)
Akira Sato (Former Tokyo Metropolitan University)
Takuya Yoshimura (Tokyo Metropolitan University)

183 The Improvement of NVH Evaluation Method through the Development of Simulation Technology to Realize the Vibration Effect of a Power Plant Suspended by Mounts on 3-axis Transmission Test Bench
Shoichi Ishigaki・Hajime Fujimura・Hiroshi Sho・Hiroaki Sumitomo・Hiroki Kuwamoto (Toyota Motor)

184 Simplified Method to Create Vehicle Sound Model for Road Traffic Noise Prediction
Ayumu Yanagibayashi・Yoshihiro Shirahashi・Kai Kurihara (Kanagawa University)
Hiroyuki Houzu (NTSEL)
Toru Yamazaki (Kanagawa University)

【12:10～13:50】

126 Noise, Vibration and Ride Quality V
Hidenori Morita (Toyota Motor)

185 Development of NVH Design Technology for High Combustion Speed of 3rd-Generation 100% Electric Drive Hybrid Powertrain
Shinpei Kondo・Norifumi Okajima・Masaki Nakazawa・Tadashi Yabe・Daisuke Shibata・Yutaro Sekine・Tsuyoshi Kozima・Hiroshi Matsuo (Nissan Motor)

186 Quietness Development of a New Electric Vehicle with the Third-Generation e-POWER Unit
Syuuichi Etori・Takayuki Miyakawa・Shinichi Suganuma・Yukihiro Mori (Nissan Motor)

187 Development of Integrated 3-in-1 Electric Powertrain and Optimization for Dedicated EV Platform to Improve Powertrain NV
Kazuhiko Arai・Yasuyuki Asahara・Akihiro Hisada・Tsuyoshi Kozima・Hiroshi Matsuo (Nissan Motor)

188 Development of Quietness for New-Generation Electric Vehicle with 3-in-1 Unit
Yoshihiro Ando・Takayuki Miyakawa・Shinichi Suganuma・Yukihiro Mori (Nissan Motor)

Exhibition Center AIM3F F

【9:30～12:35】

127 Driver Sensitivity
Toshihiro Hiraoka (JARI)

189 Sensitivity Characteristics of Driver's Body Regions to Airflow Stimulation in Thermal Environment
Yoko Hayashi (Institute of Science Tokyo)
Jongseong Gwak (Takushoku University)
Akinari Hirao (Shibaura Institute of Technology)
Motoki Shino (Institute of Science Tokyo)

190 Structure of Model to Quantify Psychological Aspects of Tactile Feedback of Switches (Second Report)
Yuya Nanaeda・Hideki Sakamoto (Alps Alpine)
Shoichiro Takehara (Sophia University)

191 Study on Extraction of Sensory Evaluation Words for Automobile Steering Systems Using Evaluation Grid Method
Yudai Hoshino・Shoichiro Takehara (Sophia University)
Ryo Nakada・Katsunori Tanaka (Nissan Motor)

192 Quantification of Straight-Line Stability Using a New Approach
-Application to Chauffeur Car Development-
Toshiki Morita・Nagataka Sassa・Tomoyuki Katayama・
Nobuaki Minami (Toyota Motor)

193 Development of an Objective Evaluation Method for Steering Feel Using a Steering Operation and Grip Force Measurement System
Hideaki Shibue・Yutaro Kobayashi・Tatsuya Miyazaki・
Hideyuki Muramatsu (S&VL)

194 Effects of Video Viewing and Reflection on Reducing Driving Anxiety in Novice Drivers
Yukiko Nishizaki・Chihiro Shumiya・
Hajime Yoshida (Kyoto Institute of Technology)
Shin Hirano (Panasonic Holdings)
Motoyuki Okayama (Panasonic Automotive Systems)
Yukihiro Morita (Panasonic Holdings)

195 Verification of 180° Rotating Armrest Console Rigidity through Analysis
Dongmin Kim (SECO KOMOS)

Exhibition Center AIM3F G

【9:30～12:35】

128 Driver State
Takafumi Ando (AIST)

196 Measurement of Test Driver Workload in Autonomous Driving
-Effects on Heart Rate and Autonomic Nervous System Indicators During Autonomous and Manual Driving-
Hiroshi Watanabe・Mitsuhiro Takahara
(AutoTechnicJapan)
Keiji Jimi (Gunma University)

197 Non-Contact Sensing for Real-Time Estimation of Driver Arousal Level During Automated Driving
Hiroki Takeuchi
(University of Occupational and Environmental Health)
Mieko Ohsuga・Yoshiyuki Kamakura
(Osaka Institute of Technology)

198 Assessment of Human States Using Heart Rate and Heart Rate Variability Indices
-Interpretation of LF/HF Index-
Mieko Ohsuga・Yoshiyuki Kamakura
(Osaka Institute of Technology)
Shimpei Yamada・Hiroki Takeuchi
(University of Occupational and Environmental Health)

199 Estimation of Chronic Stress Using Pulse Waves and Facial Expression Features while Driving a Car
Masanari Murai・Rio Ishiguro・
Kota Toyama (Chiba University)
Daisuke Negishi (Suzuki Motor)
Masato Takahashi・Norimichi Tsumura
(Chiba University)

200 Consideration of Appropriate Driving Supports to Achieve Successful Experiences in Alleviating Anxiety
Yosuke Furuya・Yoshihisa Okamoto・
Nanae Michida (Mazda)
Norihiro Sadato (Ritsumeikan University)

201 Evaluation of Sleeping by Leg Motion while Driving
Ryotaro Abe・Toshiyuki Shimizu (TS Tech)

202 Research on Driver Alertness Maintenance Using Vibration Stimulation Based on Heart Rate
Ryuto Takahashi・Shuncong Shen・
Toshiya Hirose (Shibaura Institute of Technology)
Kenichi Kamano・Tomoari Aiba・
Toshiyuki Shimizu (TS Tech)

Exhibition Center AIM3F 311-313

【9:30～12:35】

129 The New Technology for The Drivetrain Systems
Yasukazu Sato (Yokohama National University)

203 Gear Rattle Noise Analysis Based on Electric Automotive Drivetrain Model
Takeshi Watanabe・Sachio Wada・Tsuyoshi Shinohara・
Yoshiyuki Yomogida (SUBARU)

204 Control Method that Achieves High Acceleration Response and Low Gear Rattle Noise of Electric Vehicles
Hajime Ishii・Keigo Yamada・Yu Takano (SUBARU)

205 Auxiliary Brake Apparatus by Air Compression and Release for Stop of Heavy FCV Regenerative Brake (5th Report)
-Two-Stage Compression System for High Brake Power-
Chinatsu Sano・Hiroshi Uchida・Toshinori Fujita・
Takashi Shibayama (Tokyo Denki University)

206 Mechanism Analysis of Vehicle Dynamics under Front-Rear and Left-Right Differential Rotation Restrictions for AWD
Kai Kadono・Yusuke Yabusaki・Tomohiro Shimizu・
Akira Ono・Satoru Sugiyama・Susumu Ito・
Masami Oguri (SUBARU)

207 Development of the Surrogate Model for Bolt Loosening in Differential Case Ring Gears by Integrating Generative Shape AI and Principles
Kazumasa Watanabe・Tomofumi Shimokawa
(Toyota Motor)
Koji Iwayama・Takayuki Onojima (Shiga University)
Hiroaki Tashiro・Hiromasa Ueno・
Takahiro Mochihara (Toyota Motor)

208 Numerical Prediction of the Oil Flow Accelerated by the Momentum Received between Gear Teeth
Yoshihiro Kato・Tadanobu Ueda
(Toyota Central R&D Labs.)

209★ Prevention Design of Electrical Erosion in Deep Groove Ball Bearing for Electric Powertrain (Second Report)
Hideyuki Shiraku・Takahiro Kuwabara・Satoshi Takemoto (Nissan Motor)

Exhibition Center AIM3F 314-315

【9:30～11:10】

130 Vehicle Dynamics and Control IV
Tomoya Kitani (Shizuoka University)

210 CAE Prediction of Tire Dynamics with Tread Patterns
Yoichi Mie (Sumitomo Rubber Industries)

211 Design and Implementation of a Tire Force Estimation Model Based on the Extended Kalman Filter
Shota Kitano・Hideki Itoga・Takanori Hibino・Kazuki Kuwabara・Hirotaka Kaneko (Toyota Motor)

212 Study on Constructing Road Friction Database to Improve Road Traffic Safety
-Reconstruction of Measurement System and Analytical Methods-
Ichiro Kageyama
(Consortium on Advanced Road-Friction Database / Nihon University)
Atsushi Watanabe・Yukiyo Kuriyagawa (Nihon University)
Tetsunori Haraguchi
(Consortium on Advanced Road-Friction Database / Nihon University)
Tetsuya Kaneko (Oosaka Sangyo University)
Minoru Nishio (Absolute)

213 Development of Visual Analysis Approaches for the Contact Phenomenon between Tires and Real Road Surfaces
Naohiro Ishigami・Naoki Isayama (TOYO TIRE)

【12:10～13:50】

131 Dynamics Control and Safety of Two-Wheels
Pongsathorn Raksincharoensak
(Tokyo University of Agriculture and Technology)

214 Analysis of the Influence of Force Aerodynamic on Frame Flexibility
Tsuyoshi Katayama・Masanori Myoyo・Yuto Fujimoto・Takahiko Yoshino (Kurume Institute of Technology)

215 Distance Calculation and Position Measurement Method Using Omnidirectional Images
Junji Hirasawa
(National Institute of Technology (KOSEN), Ibaraki College)

216 Design Requirements Enabling Hands-Free Straight-Line Driving on Slanted Surfaces for a Personal Mobility Vehicle (PMV) Equipped with a Tilting Mechanism
Tetsunori Haraguchi
(Nagoya University / Nihon University)
Tetsuya Kaneko
(Osaka Sangyo University / Nihon University)

217 Investigating the Kinematic Performance of E-Scooter via Real-World Comparative Experiment with Bicycle
Huiping Zhou・Akira Ohtani (JARI)
Takashi Hasegawa・Hiroyuki Mae
(The Japan Automobile Manufacturers Association)

Kitakyushu International Conference Center Main Hall

【9:30～10:45】

132 Diesel Combustion
Seiya Hagihara (Saga University)

218 Study on Optimization of Two-Stage Post Injection under PCCI Combustion
Yoji Hiraiwa・Yukito Watanabe・Gen Shibata・Hideyuki Ogawa (Hokkaido University)

219 The Effects of Lower Boiling Point Hydrocarbons in the Diesel Oil on Combustion and Exhaust Gas Emissions Characteristics in a Heavy Duty Diesel Engine
Kunihiro Shimizu・Tomohiro Matsuda・Jin Kusaka (Waseda University)

220 Effect of Fuel Ignitability and Aromatic Components on Crystallite Size of Soot Particles from a Diesel Engine
Yu Kuroshima・Yuki Yamakura・Mizuki Obara・Kazuki Inaba・Kazuhiro Hayashida (Kitami Institute of Technology)

【11:45～14:25】

133 Hydrogen Engine I
Kimitoshi Tanoue (Oita University)

221 Development of a One-Dimensional Combustion Model for Direct Injection Hydrogen Engines Considering Preferential Diffusion
Toshiki Mikami・Hirokazu Kurihara・Yuji Ishii・Kazuhiro Uehara・Hideyuki Handa (Toyota Motor)

222 Visualizing Hydrogen Jet Concentrations with Negative LIF
Shohei Ishida・Akihiro Ando・Ryusei Tawara (SOKEN)
Shiro Tanno・Jun Miyagawa (Toyota Motor)

223 Development of Measurement Method for Equivalence Ratio around the Spark Plug in Spark-Ignition Hydrogen Engine Using M10 Spark Plug
Taisei Bando・Nobuyuki Kawahara・Yoshimitsu Kobashi (Okayama University)
Satoaki Ichi・Kazuki Arima・Yoji Kato・Kyohei Izumi (Kawasaki Motors)
Koichiro Matsushita (Honda Motor)
Tomohiko Kamio (Yamaha Motor)
Yoshinari Ninomiya (Suzuki Motor)

224 Effect of Excess Air Ratio and Injection Timing on Piston Surface Temperature in Cylinder Direct Injection Hydrogen Engines by Temperature Measurement Method Using Multipoint Small Data Logger
Shota Tsukamoto・Masakuni Oikawa・Yuji Mihara・Seiya Yamada・Kentaro Minoda (Tokyo City University)
Masahiko Satou・Toshiyuki Iseki・Junnosuke Yasuda (Komatsu)

225 Effect of Fuel Supply System on Instantaneous Heat Flux at the Cylinder Liner Wall of Motorcycle Hydrogen Engine
Aoshi Yokomori・Masakuni Oikawa・Yuji Mihara・Yuki Kaga (Tokyo City University)
Takumi Iwata (Motora)
Tomohiko Kamio・Atsushi Yamamoku (Yamaha Motor)
Kenichi Sano (Honda Motor)
Yoshinari Ninomiya (Suzuki Motor)
Michiyasu Owashi (Motora)
Kyohei Izumi (Kawasaki Motors)

226 Comparative Verification of Measured and Numerical Analysis Results in Instantaneous Heat Flux of Motorcycle Hydrogen Engine
Yuki Kaga・Masakuni Oikawa・Yuji Mihara・Aoshi Yokomori (Tokyo City University)
Takumi Iwata (Motora)
Tomohiko Kamio・Atsushi Yamamoku (Yamaha Motor)
Kenichi Sano (Honda Motor)
Yoshinari Ninomiya (Suzuki Motor)
Michiyasu Owashi (Motora)
Kyohei Izumi (Kawasaki Motors)

【14:55～16:10】

134 Hydrogen Engine II
Koji Kikuhara (Waseda University)

227 Development of Elemental Technologies for Hydrogen Engines
Yasuyuki Murata・Hiroki Nagashima・Naoyoshi Nishigata・Ryo Iwashita・Saki Shiratori・Takeru Tagawa・Masato Watanabe (SUBARU)

228 Changes in Water Content and Elements in Lubricant due to Differences in Operating Conditions and Cylinder Wall Temperature of a Hydrogen Engine and Their Effects on Friction and Seizure Characteristics of Engine Bearings
Dengda Zhu・Yasuyuki Miyajima・Shinnosuke Higashino (Tokyo City University)
Takumi Iwata (MOTORA)
Masakuni Oikawa (Tokyo City University)
Yusuke Iizuka・Rikuto Saito・Ko Onodera (ENEOS)
Yuji Mihara (Tokyo City University)

229 Effects of Changes in Water Content of Lubricant Oil due to Combustion in Hydrogen Engines on Friction Characteristics of Piston Systems
Shinnosuke Higashino・Yasuyuki Miyajima・Dengda Zhu (Tokyo City University)
Takumi Iwata (MOTORA)
Masakuni Oikawa (Tokyo City University)
Yusuke Iizuka・Rikuto Saito・Ko Onodera (ENEOS)
Yuji Mihara (Tokyo City University)

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【9:30～12:10】

135 Driver Behavior II
Hisashi Imanaga (JARI)

230 Avoidance Behavior When Encountering Dangerous Driving by Others and Driving Behavior Aimed at Ensuring Physical Margin During City Driving by Human Drivers (the 1st Report)
Toru Kojima・Yuki Manabe・Koichi Kitada・Kenji Morizaki (NTSEL)

231 Avoidance Behavior When Encountering Dangerous Driving by Others and Driving Behavior Aimed at Ensuring Physical Margin During City Driving by Human Drivers (the 2nd Report)
Yuki Manabe・Toru Kojima・Kouichi Kitada・Kenji Morizaki (NTSEL)

232 Analysis of Physical and Gaze Behavior Factors Influencing Driver Responses in Car-to-Cyclist Intersection Collisions
Kotaro Sugiura・Yuki Nitta・Yuqing Zhao・Koji Mizuno (Nagoya University)

233 Exploring Age-Related Drivers' Gaze Behavior Contributing to Car-to-Cyclist Collisions Under Different Visibilities Using a Driving Simulator
Yuki Nitta・Kotaro Sugiura・Yuqing Zhao・Koji Mizuno (Nagoya University)

234 A Study on the Effects of Differences in Driver's Brain Activity on Curve Recognition and Driving Performance
Hiroshi Kuniyuki・Fumitaka Fukuzawa・Kohjiro Hashimoto・Kikunori Shinohara (Suwa University of Science)
Masashi Makita (Teikyo University)

235 A Study on Optimal Driver Posture with Low Driving Burden
-Impact on Hazard Avoidance Scenarios-
Naoya Yamakawa・Souma Adachi・Ryoto Warashina (Suwa University of Science)
Masashi Makita (Teikyo University)
Hiroshi Kuniyuki (Suwa University of Science)

【13:10～15:15】

136 Safety of Autonomous Driving
Toshiaki Sakurai (Tokyo City University)

236 Impact of Roadside Sensor's Sensing Performance on Automated Driving at Intersections Using Cooperative Systems
Hiroshi Yoshitake・Jiang Wu (Institute of Science Tokyo)
Wataru Kugimiya (The University of Tokyo)
Motoki Shino (Institute of Science Tokyo)

237 Extraction of Contributing Factors for Safe Speed Calculation of Automated Buses Traveling Straight Through Intersections
Taichi Sawanobori・Hiroshi Yoshitake (Institute of Science Tokyo)
Yui Matsuura・Masaya Segawa (Advanced Smart Mobility)
Motoki Shino (Institute of Science Tokyo)

238 Effects of Cooperative Assistance Systems on Pedestrians by Using Mixed Reality
Yuki Sakamura・Ryohei Homma・Takashi Wakasugi・Genya Abe (JARI)
Motoki Shino・Hiroshi Yoshitake (Institute of Science Tokyo)
Yuji Takagi (Honda R&D)
Takashi Misumi・Tadafumi Shima (MLIT)

239 Camera Exposure Time for Reproducing Human Perceived Visibility in Snowstorms
Toshimitsu Sakurai・Hirotaka Takechi・Ikku Koshikuni・Masaru Matsuzawa (Civil Engineering Research Institute for Cold Region)

240 2D Quantitative Measurement of Friction Coefficient μ with Icy Road Surface Using a NIR Camera
Tomoki Kawahara・Akihiro Kido (Tohoku Gakuin University)

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【9:30～11:35】

137 Vehicle Development I
Daisuke Ito (Kansai University)

241 Relationship between Void Distribution Function of Soft Polyurethane Foam and Mechanical Property (Compression Force - Displacement Characteristic) (First Report)
-Modeling Methodology and Validation for Fundamental Compression Force - Displacement Characteristics-
Minoru Inoue (Mazda / Kagawa University / Hiroshima University)
Keisuke Suzuki (Kagawa University)
Hiroyuki Ito (Toyo Seat)

242 Study on Damping Performance of Resin and Metal Members with Bolted Joints
-Mechanical Factors of Vibration Damping and Analysis Model-
Keisuke Inoue・Tristan Samuel Britton (Fujimori)・Yoshinao Kishimoto・Yukiyoshi Kobayashi・Satoru Kuga・Yuuki Kawaharabashi (Tokyo City University)

243 Development of Body Part Integration Technology Utilizing Ultra High Strength Steel and Cold Stamping
Ryo Ageba・Shunsuke Tobita・Satoshi Sumikawa・Yoichiro Onishi・Kazuhiko Higai・Tsuyoshi Shiozaki (JFE Steel)

244 Quantitative study of VOC Components in Vehicle Interior Using Hydrogen Carrier Gas TD-GC-MS
Kyosuke Karaki (Isuzu Motors)
Koichi Tatsu (Isuzu Motors / University of Shizuoka)
Kunihiro Hoshino (ENV Sciences Trading)
Sadao Nakamura・Takeshi Serino (Agilent Technologies Japan)
Maiko Tahara (National Institute of Health Sciences)
Hidechika Matsui (Tokai Technology Center)

245 Development of a Brake Chamber Failure Prediction Model Using Machine Learning
Mikiya Okuzawa・Tomoya Suzuki (Ibaraki University)

【12:35～15:40】

138 Vehicle Development II
Yasuhiro Matsui (NTSEL)

246 Development of Prediction Method for SPR (Self Piercing Rivet) Fatigue Strength Using Machine Learning
Kento Shimizu・Yuta Suzuki・Hirotaka Sakamoto・Kohei Takahashi (Toyota Motor)
Narihisa Fujimoto (Toyota Motor Kyushu)
Toshiyuki Isono (Toyota Motor)

247 High-Resolution Topology Optimization of Instrument Panel Beams
Yuji Wada (Institute of Science Tokyo)
Takeshi Kashiyama・Kei Nagasaka (Suzuki Motor)
Koji Nishiguchi (Nagoya University / RIKEN)
Shigenobu Okazawa (University of Yamanashi)
Makoto Tsubokura (RIKEN / Kobe University)

248 Machine Learning Surrogate Models for Real-Time Tire Contact Finite Element Analysis
Akira Wada (TOYO TIRE)

249 A Study on Enhancing the Accuracy of Crash CAE Predictions for Fiber-Reinforced Plastic Components through the Utilization of Surrogate Models
Yoshikazu Nakagawa・Osamu Ito (Honda Motor)

250★ Shape Optimization of Aluminum Extrusion Considering Manufacturing Constraints
Yuto Komatsu・Shota Chinzei・Taiki Yamakawa・
Narikazu Hashimoto (Kobe Steel)

251 3D Shape Generative AI for Thin Sheet Metal Components under Geometric Boundary Shape Constraints
Takumi Sugiura (JSOL)
Isamu Hashiguchi (The University of Osaka)
Atsushi Takahashi・Nobuhiro Taki (JSOL)
Koji Nishiguchi (Nagoya University)
Kei Saito (JSOL)

252 Tread Pattern Design Technology that Balances Functionality and Aesthetics Using Generative AI
Ryoichi Ishihara・Shuichi Karatsu (TOYO TIRE)

Kitakyushu International Conference Center International Conference Room

【9:30～12:10】

139 Gas Emissions
Masayuki Tomita (Nissan Motor)

253 Development of Real-World-Emission Reduction Technologies (First Report)
-Establishment of a Digital Twin Development Environment-
Masato Ikemoto・Kentaro Mineo・Mie Kato・
Takahiro Tsukagoshi・Hiromasa Nishioka・
Bungo Kawaguchi (Toyota Motor)
Yuki Moribe・Masayasu Harimoto
(Toyota Technical Development)

254 Development of Real-World-Emission Reduction Technologies (Second Report)
-Study on Exhaust Emission Reduction Using a Digital Twin Development Environment-
Kentaro Mineo・Masato Ikemoto・Mie Kato・
Takahiro Tsukagoshi・Hiromasa Nishioka・
Bungo Kawaguchi (Toyota Motor)

255 Development of Powertrain Technologies for Achieving Zero Emissions (Part 1)
-Improvement of the Trade-Off Between Purification and Pressure Loss in Catalytic Reactions-
Hiroyoshi Ueda・Hiromu Sasaki・Kazuhiro Umemoto・
Hiromasa Nishioka・Bungo Kawaguchi (Toyota Motor)

256 Study on Screening Method for Catalysts Using Arc-Plasma Deposition
Teppei Ohori (Isuzu Advanced Engineering Center)
Masato Machida (Kumamoto University)
Hisashi Ozawa (Isuzu Advanced Engineering Center)

257 Modeling of Exhaust Gas Purification Behavior of Pd/CZ-Based Three-Way Catalysts for Plug-in Hybrid Passenger Vehicles
Yuma Endo (Waseda University)
Yuya Hato・Takashi Araki (Mazda)
Jin Kusaka (Waseda University)

258 Smoke Emission Characteristics of Biofuels
Kenichi Tomomatsu・Masaharu Ito (SOKEN)
Yo Usui・Takashi Kawachi・
Gaku Kishimoto (Toyota Industries)

【13:10～14:25】

140 Numerical Analysis Method
Atsushi Miura (Suzuki Motor)

259 Development of Pipeline Design Method Using 3D Shape Generation via Integration of Variational Autoencoder and CAD
Shoichiro Kisanuki・Naoya Matsumura・
Takuya Sugiura (AISIN)

260 Numerical Simulation of Flows around DrivAer Models Using the Cartesian Cut-Cell Method
Kazuyuki Ueno・Atsumi Furusawa・Yuki Takeda・
Masayuki Juryozawa (Iwate University)

261 Analysis of Cabin Odor Components to Improve Vehicle Interior Air Quality (VIAQ)
Miwako Oro・Mie Hirahara・Yuki Koda (Mazda)

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【9:30～11:35】

141 Occupant Safety
Ryo Oga (Tokyo City University)

262 Study of Far-Side Occupant Behavior in Side Impacts with Occupants Seated in Driver and Front Passenger Seats
Yoshinori Tanaka・Naruyuki Hosokawa・Yasuhiro Matsui・
Masatoshi Usui (NTSEL)

263 Advanced Technology in Airbag Modeling
Rie Kodama・Kenji Tamura・Akifumi Daidoh・
Chiharu Murase・Kazuo Imura (Toyota Motor)

264 Evaluation of the Effects of Restraint Conditions on Pelvic Kinematics of Rear Seat Occupants in Frontal Impact
Toshiharu Azuma・Yuqing Zhao・
Koji Mizuno (Nagoya University)
Kei Nagasaka・Takahiro Suzuki・
Idemitsu Masuda (Suzuki Motor)

265 Generation of Vehicle Body Deformation Data for Occupant Lower Limb Injury Prediction in Crash Using Machine Learning
Kyohei Noguchi (University of Yamanashi)
Kei Nagasaka・Idemitsu Masuda (Suzuki Motor)
Yuta Yokoyama (Diver Technology)
Hirofumi Sugiyama (University of Yamanashi)
Shigenobu Okazawa
(University of Yamanashi / Diver Technology)

266 Safety Performance Evaluation of Transport Wheelchairs with Quickly and Easily Locking Systems Using Sled Test
Keisuke Fukuyama・Yoshihiro Sukegawa (JARI)
Yuuya Ueda (JAMA)

【12:35～14:15】

142 Safety of Vulnerable Road Users
Koji Mizuno (Nagoya University)

267 Damage Assessment of Pedestrians Collided by High-Velocity Runaway Vehicles
-Risk Assessment between High-Velocity Runaway Vehicle and Pedestrian Collision from Statistical Accident Data Analysis-
Yasufumi Sekine (Fukuyama University)

268 Rider Kinematics and Head Injury Evaluation in Full-Scale Car-to-Electric Scooter Crash Tests
Akihiro Kido・Takaaki Terashima・
Ryunosuke Sakamoto・Kenshiro Kato
(National Research Institute of Police Science)
Ryo Oga
(Japan Safe Driving Center / Tokyo City University)

269 Effect of Riding Height of Electric Scooter on Flying Behavior of Small-Sized Human Body when Colliding with a Bonnet-Type Vehicle
Ryo Oga
(Japan Safe Driving Center / Tokyo City University)
Akihiro Kido・Takaaki Terashima・
Ryunosuke Sakamoto・Kenshiro Kato
(National Research Institute of Police Science)

270 Development of a Flexible Head Protection Cap for Bicyclists (Concept Model)
Atsuhiro Konosu (JARI)

【14:45～16:25】

143 Crash Safety Structure
Toshiaki Sakurai (ex-Iwaki Meisei University)

271 Proposed Impact Performance Design Method Intended for Multi-Performance Optimization Based on Energy Propagation
-Design for S-Shaped Thin-Walled Member-
Xin Yuan・Kai Kurihara・
Toru Yamazaki (Kanagawa University)

272 Prediction of Strain Distribution in Press Forming Using Machine Learning
Mayu Nitta (University of Yamanashi)
Yuki Okumoto・Kosuke Kojima (Mazda)
Genbu Takahashi (University of Yamanashi)
Yuta Yokoyama (Diver Technology)
Hirofumi Sugiyama (University of Yamanashi)
Shigenobu Okazawa
(University of Yamanashi / Diver Technology)

273 Multi-Step Shape Optimization Method Using Isogeometric Analysis
-Part 2: Robust Shape Optimization Independent of Initial Geometry-
Mizuki Hoshino (University of Yamanashi)
Shin-ichi Arimoto・Kosho Kawahara (Toyota Motor)
Yuta Yokoyama・Hirofumi Sugiyama・Shigenobu Okazawa
(University of Yamanashi)

274 FRP Crash Box Made from Composite of Carbon and Flax Fiber
-Experimental Consideration on Impact Absorption Performance-
Naoya Matsumoto・Hijiri Otake・Shinobu Kasamatsu・
Wenbao Wu・Ikkei Kobayashi・Junpei Kuroda・
Hideaki Kato・Takayoshi Narita (Tokai University)

Exhibition Center AIM3F D

【9:30～10:20】

144 Measurement I
Kotaro Tanaka (Ibaraki University)

275★ Development and Practical Application of Analysis Process Utilizing Surrogate AI
Kazuto Uehara・Hideki Yoshizawa・Shohei Nakai・
Kyohei Kitamura・Mizuho Mizushino (AISIN)

276 Improvement of End-of-Life Vehicle Chassis Number Reading Software Using AI-OCR
Masayoshi Nakamura
(National Institute of Technology (KOSEN), Akashi College)
Shigeya Ikebo (Nagoya Bunri University)
Satoru Yaseda・Hitoshi Yamasaki (Aratani Shoukai)

【10:50～12:30】

145 Measurement II
Shohei Kan (Aisin)

277 A Study on Prediction of Conducted Emissions in Electric Vehicles During Charging Utilizing Both EMC Simulations and Neural Networks
Makoto Jomoto・Keishi Miwa (Toyota Motor)
Naoya Kajiura (Toyota MotorN)

278 Stress Level Analysis Due to Differences in Application Methods in Electrostatic Discharge Testing
Hiroki Itozakura (Toyota Motor)
Takeshi Ishida (Noise Laboratory)

279 A Study on the Effects of HEMP for Automotive Equipment
Akira Mori (Toyota Motor)

280 Construction of Direct Evaluation System of Adsorption/Desorption Speed for Physisorption of Carbon Dioxide
Yoshitaka Hirabayashi・Takashi Kuraishi・Hiroshi Yokoyama (Toyohashi University of Technology)

Exhibition Center AIM3F E

【9:30～11:35】

146 Composite Materials・Joining I
Takuya Yuasa (Nissan Motor)

281 Effect of Heating Conditions on Evaluation of Fiber Orientation in Carbon Fiber-Reinforced Polymer Composites Using Halogen Spot Periodic Heating
Atsushi Akai (Kyoto University of Education)
Yukihiro Hamada (Toyota Motor)
Yasumoto Sato (Toyota Central R&D Labs.)
Atsushi Mikuni (Toyota Motor)

282 Effect of Fire-Resistant Structural Design on the Mechanical Properties of Fiber-Reinforced Polymer Composites
Yusuke Ishihara・Asami Nakai・Masayuki Okoshi (Gifu University)
Atsushi Yuki・Satoshi Enokida・Kouhei Kajitani (DaikyoNishikawa)
Shuhei Yasuda・Junichi Ogawa・Yuki Yamada (Mazda)
Masahiko Shigetsu (Hiroshima University)

283 Design and Performance Evaluation of CFRP Pipes Aimed at High Energy Absorption Characteristics
Riki Oishi・Kakeru Aoike・Asami Nakai (Gifu University)

284 Development and Validation of a Finite Element Model for Predicting the Bending Characteristics of CFRP Hat-Shaped Components
Masaharu Noguchi (SUBARU)

285 Study on Vibration Characteristics of CFRP Plate Bolted Member
Satoru Kuga・Yuuki Kawaharabashi・Yoshinao Kishimoto・Yukiyoshi Kobayashi・Tristan Samuel Britton (Fujimori)・Keisuke Inoue (Tokyo City University)

【12:35～14:40】

147 Composite Materials・Joining II
Tetsuya Oda (Toyota Motor)

286 Evaluation Method of Interlaminar Shear Strength of CFRP for Higher Accuracy
Ryohei Miyake・Kazuya Miyata・Masateru Yoshizumi・Hiroyuki Ogata (JFE Techno-Research)

287 Crack Propagation Simulation for Lap Joints Considering Adhesion
Hirofumi Sugiyama (University of Yamanashi)
Shigenobu Okazawa
(University of Yamanashi / Diver Technology)

288 Unified Strength Evaluation for Various Adhesive Joints and Strength Improvement by Adding Notches
Kazuhiro Oda (Oita University)
Rei Takaki (Nippon Bunri University)
Nao-Aki Noda (Kyushu Institute of Technology)

289 Comparison of Adhesive Strength of Butt Joint and Lap Joint Based on the Intensity of Singular Stress Field
Rei Takaki (Nippon Bunri University)
Nao-Aki Noda (Kyushu Institute of Technology)
Yasuaki Suzuki (Suzuki Adhesion Institute of Technlogy)
Kazuhiro Oda (Oita University)

290 Improvement of Fracture Toughness of Biomass Composite Materials Using Injection Molding Machine with Vent System
Akio Ohtani・Senri Hirata (Kyoto Institute of Technology)

【15:10～16:50】

148 Advanced Materials Technology
Kenichi Yamamoto (Mazda)

291 Effect of Changes Over Time in the Surface Crystallinity of Polypropylene on Adhesion
Takuo Saiki・Akihisa Otsuki・Kazumasa Kikuchi・Katsuhiko Suzuki・Haruo Unno (Nissan Motor)

292 Study on Fatigue Life Prediction of Lithium-ion Battery Electrode Materials with Stress Ratio
Atsuki Takeuchi・Yudai Furuhata・Yoshinao Kishimoto・Yukiyoshi Kobayashi (Tokyo City University)
Yasushiro Otsuka・Yuki Kawata・Jun Kanai (TA Instruments Japan)
Hajime Okui (Dainen Material)

293 Evaluation of Dissipated Strain Energy of Lithium-ion Battery Anode Material Using SBR-Based Binder by Dynamic Mechanical Analysis
Yudai Furuhata・Atsuki Takeuchi・Yoshinao Kishimoto・Yukiyoshi Kobayashi (Tokyo City University)
Yasushiro Otsuka・Yuki Kawata・Jun Kanai (TA Instruments Japan)
Hajime Okui (Dainen Material)

294 Modeling the Drying Process of Fuel Cell Catalyst Inks for Predicting Catalyst Layer Properties
Takanori Sugiura・Yuki Ota・Yuji Kurotani・Ryosuke Maekawa (Toyota Motor)
Yoshiko Ito (University of Hyogo / Leica Microsystems)
Yuri Nishino・Atsuo Miyazawa (University of Hyogo)

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【9:30～12:10】

149 Pedal Operation
Yasumi Ito (University of Yamanashi)

295 Analysis of Foot Kinematics During Organ-Type Brake Pedal Operation
Shinji Komatsu (SOKEN)
Kengo Ito・Genki Suzuki (DENSO)

296 Effects of Driver's Decreased Walking Ability on Pedal Operation
Yui Kato・Machiko Hiramatsu (Nissan Motor)
Naoto Kamide・Masataka Ando (Kitasato University)
Tsuyoshi Sakuma (Nissan Motor)

297 Identification of Driving Behavior and Gaze Behavior of Drivers with Impaired Cognitive Function
Fumito Yamada・Machiko Hiramatsu・Yuki Ito・Tsutomu Kawano・Tsuyoshi Sakuma (Nissan Motor)

298 A Study on Estimation Method of Walking Ability and Cognitive Function by Driving Behavior
Akihiko Ebina・Machiko Hiramatsu・Tsutomu Kawano・Tsuyoshi Sakuma (Nissan Motor)

299 Age-Related Changes in Pedal Operation and Their Effects on Driving (4th Report)
-Effectiveness of Pedal Characteristics Considerate of Elderly Drivers-
Machiko Hiramatsu・Akihiko Ebina・Tsutomu Kawano・Yui Kato・Tsuyoshi Sakuma (Nissan Motor)

300 Comparison of Traffic Accident Characteristics Caused by Drivers' Pedal Misapplications and Gear Shift Errors
Yoko Kato・Yasuhiro Matsui・Michiaki Sekine (NTSEL)

【13:10～15:15】

150 Elderly Drivers
Kazunori Shidoji (Kyushu University)

301 Investigating the Impact of Traffic Conditions on Safety Confirmation Behavior under Naturalistic Driving: Towards Driving Assessment for Older Drivers
Yuki Yoshihara・Linjing Jiang・Nihan Karatas・Hitoshi Kanamori・Asuka Harada (Nagoya University)
Motoshi Kojima (Toyota Motor)
Takahiro Tanaka (Nagoya University)

302 Investigation of Dynamic Grip Strength Analysis for Establishing a Comprehensive Driving Ability Assessment Index
Ryuma Majikina・Yasumi Ito・Ryuichi Yamada・Takashi Nonaka・Ayumu Honda・Yoshiyuki Kagiyama (University of Yamanashi)
Yuki Tanaka (Gunma University)
Tetsuya Nemoto (University of Yamanashi)

303 Effects of Safety Needs on Elderly Drivers' Participation in Driving Aptitude Assessments and Safe Driving Learning Programs
-Study on Driver Characteristics for Delaying Driving Cessation (46)-
Shunji Taniguchi・Aiko Inoue・Hiroyuki Umegaki (Nagoya University)
Naoshi Koide (The University of Osaka)
Hirofumi Aoki (Nagoya University)

304 Effect of Education Correcting Overestimation on Older Driver's Awareness of Safe Driving
Mayu Yoshikawa (The University of Tokyo)
Hiroshi Yoshitake (Institute of Science Tokyo)
Ryota Fujita・Hiroto Kato (Mitsubishi Precision)
Motoki Shino (Institute of Science Tokyo)

305 Verification of the Usefulness of the Vehicle Behavior-Based Cognitive Decline Estimation Method under Unrestricted Driving Conditions
Yoshito Ogawa・Tatsuya Obuchi (Toyota Motor)

Exhibition Center AIM3F G

【9:30～11:35】

151 Visibility
Kazumasa Onda (Suzuki Motor)

306 Outdoor Evaluation Experiment Under Daytime and Nighttime Conditions on Perception of Automated Driving System Marker Lamps (First Report)
-When a Linear Marker Lamp is Installed at the Front Edge of the Roof-
Akihiro Abe・Yoko Kato・Michiaki Sekine・Yoshiro Aoki (NTSEL)

307 Outdoor Evaluation Experiment Under Daytime and Nighttime Conditions on Perception of Automated Driving System Marker Lamps (Second Report)
-When Marker Lamps are Installed Near Headlamp Unit-
Michiaki Sekine・Akihiro Abe・Yoko Kato・Yoshiro Aoki (NTSEL)

308 Effects of Angular Velocity and Time Interval of Sequential Visual Stimuli Presented in Peripheral Vision on Large-Angle Gaze Guidance During Driving
Masanori Takemoto (Seikei University)

309 Comparison of Reaction Times for Safety Colors
Shimpei Yamada
(University of Occupational and Environmental Health)

310 Research on the Improvement of Pedestrian Visibility for Drivers by Geometric Patterns Projection Lighting
Yoshiro Aoki・Yoko Kato・Michiaki Sekine (NTSEL)

【12:35～14:40】

152 Driving Seat
Takahiro Wada (Nara Institute of Science and Technology)

311 Effects of Regional Airflow from Fan-Integrated Car Seats on Thermal Comfort in Hot Conditions
Kentaro Wada・Teruyuki Nagai
(Kyoto Institute of Technology)
Tetsuya Kitagawa (Fortech)
Yukiko Nishizaki・Naoyuki Yamashita
(Kyoto Institute of Technology)

312 Consideration of an Alert Method Using Positional Correspondence between Seat Vibration and Attention Targets (Second Report)
Yosuke Uemura (Kyoto Institute of Technology)
Tetsuya Kitagawa・Ryuji Furumai (Fortech)
Yukiko Nishizaki (Kyoto Institute of Technology)

313 Fundamental Study on Vibration Stimulation via an Automobile Seat
Yukiyo Kuriyagawa・Xinyue Zhang (Nihon University)
Hidefumi Koizumi・Shinichi Sagawai・Hiroshi Wakuda・Toshiki Nakamura・Keigo Abe・Kunio Sato (Alps Alpine)

314 Research on Active Car Seats for Reducing Car Sickness: Focusing on the Directional Specificity of Human Acceleration Perception Intensity
Masanori Matsuoka・Junya Hoshino (Advics)

315 The Estimation of Seated Bone Shape from Ultrasound Images
Masateru Amano・Yuji Muragishi・Yoshikazu Hattori (Toyota Central R&D Labs.)

Exhibition Center AIM3F 311-313

【9:30～11:35】

153 EV Battery
Daichi Imamura (JARI)

316★ Preliminary Demonstration of Internal State Estimations for Batteries in an in-Service EV Using a Nondestructive Diagnosis Technique
-Assessing the Impact of Data Sampling and Analysis Methods on SOH Estimation-
Kenichiroh Koshika (NTSEL)
Tomokazu Morita (Toshiba)
Toshiki Oda (Kansai Electric Power)
Keizoh Honda (JET)

317 Estimation of Battery Pack SOH Based on Non-Destructive Diagnostic Technique for Cell Capacity and Cell Balance During Battery Pack Degradation
Tomokazu Morita (Toshiba)
Keizoh Honda
(Japan Electrical Safety & Environment Laboratory)
Kenichiroh Koshika (NTSEL)

318 Study on Improving Cycle Durability of Anode-Free All-Solid-State Batteries (First Report)
Takashi Nakagawa・Kyohei Izumi・Shuntaro Ujiie・Hayate Kusushita (Honda R&D)

319 A Power Control Method Utilizing Pre-Operational Information to Extend the Lifetime of Fuel Cells in a Fuel Cell Hybrid Test Train
Takashi Yoneyama
(Railway Technical Research Institute / Waseda University)
Sihai Xu・Shengen Hsu・Minhao Wen・Yida Bao・Wei-hsiang Yang・Yushi Kamiya (Waseda University)
Kenichi Ogawa・Takamasa Yamada・Manato Kaneko
(Railway Technical Research Institute)

320 Investigation of Impedance Measurement Methods for EV Traction Batteries Mounted on EVs
Takumi Mori・Nozomu Teranishi (Hioki E.E.)
Toshimichi Takahashi (MEIDENSHA)

【12:35～14:40】

154 EV Development I
Shintaro Oshio (Nissan Motor)

321 Development of Simulation Technologies for Efficient Parameter Design in xEV Driving Control
Takuya Morikawa・Takashi Kaminaga・Motoyuki Kimata・Yuya Nagasawa・Hirotaka Kaneko (Toyota Motor)

322 HEV Transaxle Loss Estimation Using Integrated Physical and Experimental Model
Motoyuki Kimata・Takuya Morikawa・Hirotaka Kaneko (Toyota Motor)

323 Study of Model-Based Design of Engine Stop Control Parameters in xEV
Takashi Kaminaga・Takuya Morikawa・Hirotaka Kaneko (Toyota Motor)

324 Development of Look-Ahead Energy Management Control for Electric Commercial Vehicles Using Route Information
Naohiko Matsuura・Masahiro Suzuki・Hidemasa Takayama (Hino Motors)

325 Accelerating Powertrain Development Cycles with GenAI
Jan Nowack・Lukas Schäfers (FEV Europe)
Jin Izawa (FEV Japan)

【15:10～17:15】

155 EV Development II
Toshiyuki Ajima (Astemo)

326 Verifying Field Compatibility of Ultra-Low-Floor Light Duty BEV Trucks for Last-Mile Delivery
Yusuke Takenaka・Satoshi Uemua・Shotaro Hamai (Hino Motors)

327 Air Conditioner Drive System for Dual-motor EV Using Planetary Gear Transmission
Noritaka Matsuo (Matsuo Engineering Office)

328 Development of Interactive Manual Drive
Yoichiro Isami・Tatsuya Imamura・Ryohei Yuasa・Toru Shinagawa・Yuji Iwase (Toyota Motor)

329★ The Formula One Turbo Hybrid Engine has Calculated and Measured Efficiency of 53% (The Third Report)
-Use of Synthetic Gasoline in Formula 1 Final suggests Solution to Oil Depletion Problem-
Osamu Fujii (Renewable Energy Research Institute TRB)

330 Development of a Prediction Method for Oxidative Degradation Performance in Coolant for Electric Vehicles
Shinya Asaura・Hiroyuki Hisada・Yasuaki Kodama・Mikio Takeda・Kazumi Suzuki・Yuji Noyori (Toyota Motor)

Exhibition Center AIM3F 314-315

【9:30～12:10】

156 Automated Driving and Advanced Driver Assistance
Manabu Omae (Keio University)

331 Trajectory Prediction and Planning Using Combinatorial Optimization in Highway Merging Scenarios
Koji Oya (Mirise Technologies)
Yoshiaki Irie (Toyota Motor)
Hiroshi Fujimoto・Kouta Matsuura・Kenshin Yamamoto (Mirise Technologies)
Tomoaki Morimoto (Toyota Motor)

332 Development of Localization Function for Achieving Autonomous Driving in Failing Environment of GNSS
Takahiro Sakai・Noriyasu Hasejima・Teppei Saitoh (Hitachi)

333 Development of a Remote Driving Function Using a Digital Twin Environment Constructed with High-Resolution 3D Models
Noriyasu Hasejima・Kenta Maeda・Yoshibumi Fukuda・Tsuyoshi Kitamura・Hiroyuki Yamada・Naoyuki Tashiro (Hitachi)

334 Precise Docking Control of Urban Autonomous Driving Using Multiple-Coordinates-Based Cost Function
Hidemi Ando・Yuki Shiozawa・Takashi Fukushige (Nissan Motor)

335 Proposal for Stuck Vehicle Escape Control Using Tire Position Prediction in a Depression Based on Acceleration
Yuji Hara・Kentaro Nishida・Takahiro Yokokawa・Yoshiyuki Imashioya (Toyota Motor)

336 Straight Path Tracking Control of a Trailer for Car-Caravan Type Articulated Tracked Vehicles Using Time-State Control Form
Bunji Mizukami・Yuichi Chida・Masaya Tanemura (Shinshu University)

【13:10～16:15】

157 Communications and Electronics II
-Evaluation Technology and Cyber Security-
Yuichiro Toda (Okayama University

337 Development Methodology of ADAS Calibration Testing Utilizing Hub-Coupled Vehicle Testbed
Tomoki Taira・Masaki Sagawa・Kenji Suemasu・Hirotaka Kaneko・Nobuhiro Tazawa (Toyota Motor)

338 Investigation into Start Performance Issues in ADAS Evaluation Utilizing Hub-Coupled Vehicle Testbed
Masaki Sagawa・Tomoki Taira・Kenji Suemasu・Hirotaka Kaneko (Toyota Motor)

339 Evaluation of CRC Capability of AVPS (Automated Valet Parking Systems)
Yasuhiro Yamasaki (Chukyo University)

340 Correlation between ESA Immunity Test Methods
Shinichiro Itoh・Keiji Kobayashi (NTSEL)
Hitoshi Tsukahara (Japan Quality Assurance Organization)

341 Performance Evaluation of Advanced PAD Structure for HOD System
Seokhwan Ji (SECO KOMOS)

342 Mitigating Automotive Cybersecurity Risks in Software Containers for Software-defined Vehicles
-How Edge AI is Transforming Vehicle Threat Detection-
Ian Chu・Seiki Hara (VicOne)

343 From Emissions to Cybersecurity: Navigating Euro 7's New Compliance Landscape
-A Practical Path to Compliance through Strategic Adaptation of Existing Cybersecurity Frameworks-
Shin Li (VicOne)

すべる・しめる・まもる　- ベアリングのエキスパート -

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我々“エキヨ”は、お客様のプロジェクトで特別な解決策が必要な時 低摩擦樹脂技術・バネ技術を活用した独創的でユニークな製品で お客様の課題克服をサポートします

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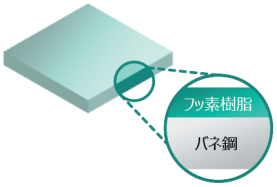


フッ素樹脂とバネ鋼の多層構造
(厚さ:250μm)

&

バリエーション豊かなばね形状

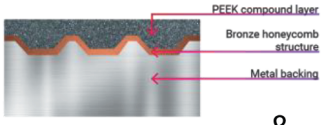
低摩擦を持続
バネ構造が、あらゆる環境下で安定したプリロードを付加

軽量・小型化
フッ素樹脂とバネ構造のハイブリッド材料が、お客様の設計上の制約を解消、新たな構造の可能性を切り拓きます

ガタつき根絶
熱膨張や摩耗、構成部品の隙間やミスアライメントを吸収
製品ライフにわたって隙間ゼロを実現します

グリス不要
安定した低摩擦力をメンテナンスフリーで実現
シンプルな製品・プロセス設計に貢献します

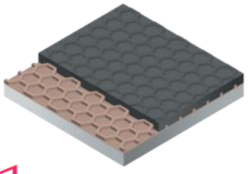
ハイスピード × 高耐摩耗　NORGLIDE® HPPRO ノルグライド



PEEKベースの低摩擦樹脂層

&

ブロンズハニカム構造



低摩擦を持続
高い耐摩耗性能は、お客様の使用期間を通じて
安定したすべり性能を提供します

寸法安定性
優れた耐荷重・耐摩耗性能が製品ライフにおける
クリアランスの変化を小さく抑えます

静粛性能を維持
クリアランス変化に伴うNVHの増加を抑えます

軽量・小型化
高い耐荷重性能は、従来の限界を超える設計を
可能にします

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- 主要取扱製品 -


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リニア軸受


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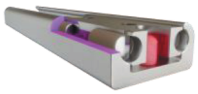
リニアガイド


締結リング


トルクリミッタ

主なマーケット：自動車、自転車、ロボット、産業機械、住宅用設備、医療設備

10/29(水)-10/31(金) オートモーティブワールド2025 名古屋に出展します！ (会場：ポートメッセなごや, ブース番号：N1-28)

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