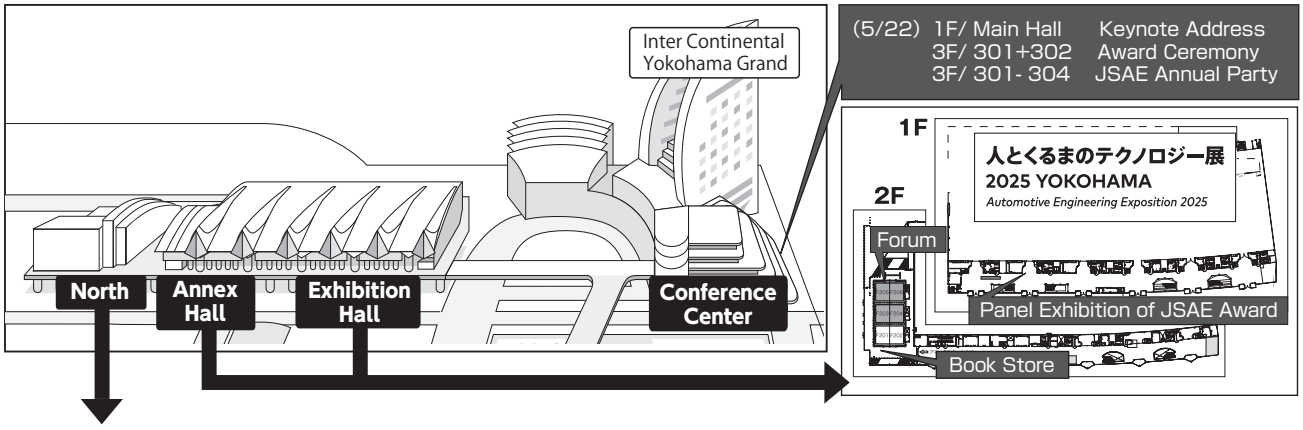
2025 JSAE Annual Congress (Spring)

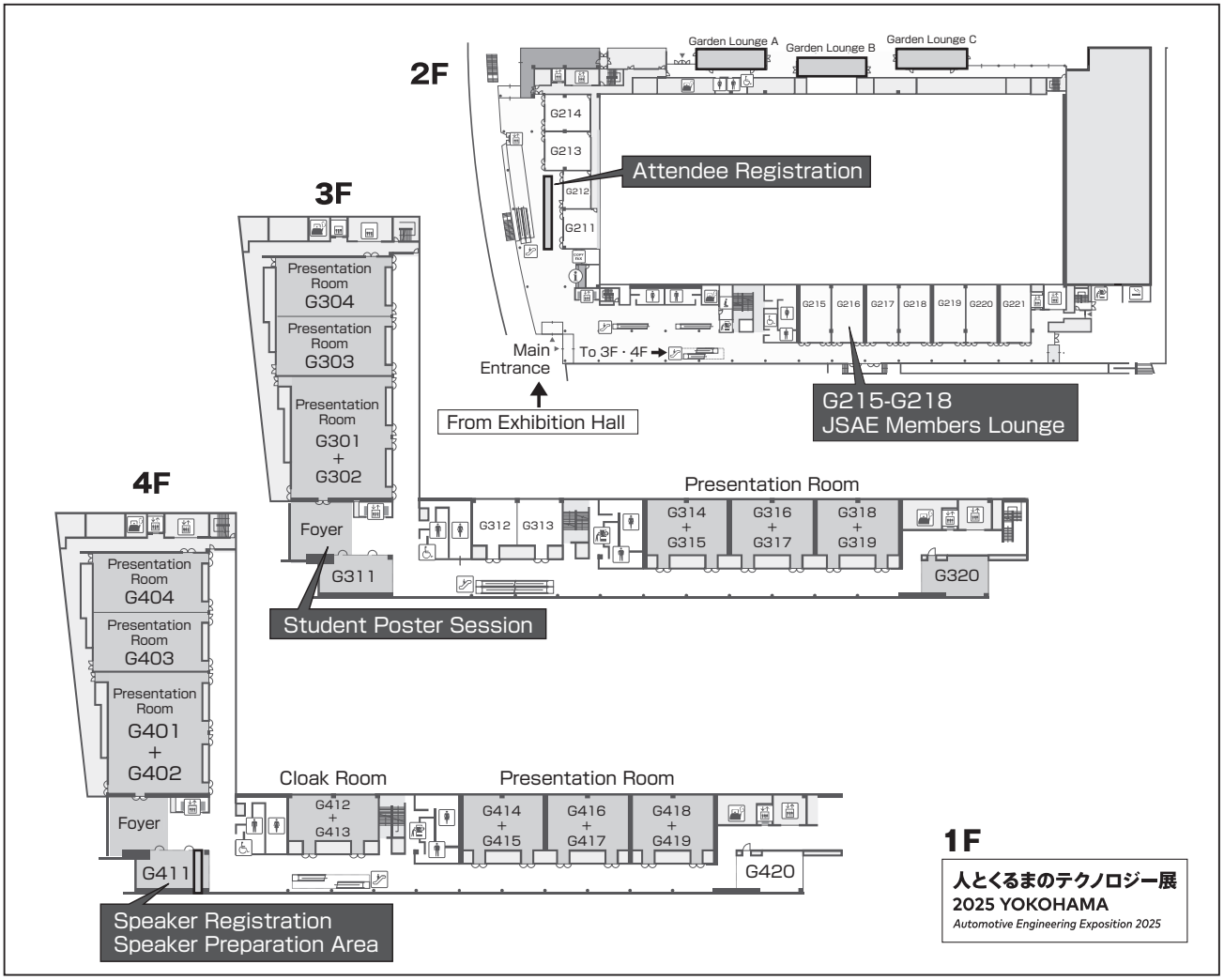
Wednesday, May 21 – Friday, May 23 2025 / Pacifico Yokohama

Supported by Yokohama City & Visitors Bureau

Final Program

Floor Map





Society of Automotive Engineers of Japan, Inc.

YOUR PARTNER IN SIMULATION AND VALIDATION

dSPACE

「その自動運転は安心できますか？ お客様の開発を強力にサポートします」

私たちはお客様とともに、世界中で信頼されている包括的なノウハウとソリューションで自動運転を進化させています。
データロギングからホモロゲーションまでのエンドトゥエンドを幅広いパートナーネットワークで支え、データドリブン開発、
シミュレーション、検証のための統合環境を提供します。
dSPACEのソリューションは、お客様の開発環境に簡単に組み込むことができ、開発のスピードアップとコスト削減を支援します。
詳細は、autonomous-driving.dspace.comでご覧ください。

人とくるまのテクノロジー展 2025 YOKOHAMA booth No. **185**
Automotive Engineering Exposition 2025 YOKOHAMA

2025 JSAE Annual Congress (Spring)

Period : Wednesday, May 21 to Friday, May 23, 2025
Venue : PACIFICO YOKOHAMA

Table of Contents

Supported by Yokohama City & Visitors Bureau

Wednesday, May 21 Congress Timetable

Pacifico Yokohama North

Room	G301+G302 (3F)	G303 (3F)	G304 (3F)	G314+G315 (3F)	G316+G317 (3F)	G318+G319 (3F)	G401+G402 (4F)	G403 (4F)
9:00								
9:30								
	Advanced Gasoline Engine Systems and Technologies I -CN Fuel I- 001 002 003 004 005 No. 1 (OS) No. of presentation: 5	The New Technology for the Drivetrain Systems I 013 014 [015] No. 4 (OS) No. of presentation: 3	Advanced Diesel Engine Systems and Technologies 021 022 023 10 min. Break 024 025 026 ★ (Cancelled) No. 6 (OS) No. of presentation: 6	Thermal and Fluid Technologies Leading to a Carbon Neutral Society I -Computational Fluid Dynamics (CFD)- 032 [033] ★ [034] ★ 10 min. Break 035 ★ [036] 037 No. 8 (OS) No. of presentation: 6	The Intersection of Design and Technology [043] 044 045 ★ 046 No. 10 (OS) No. of presentation: 4	Next Generation of Automotive Materials, Production Processing and Manufacturing Technologies I 054 ★ 055 056 ★ 057 ★ No. 13 (OS) No. of presentation: 4	Vehicle Dynamics and Control I 066 067 068 069 070 No. 16 (OS) No. of presentation: 5	The Latest Noise, Vibration and Sound Technology I 081 082 083 10 min. Break 084 085 086 No. 19 (OS) No. of presentation: 6
13:00	Advanced Gasoline Engine Systems and Technologies II -CN Fuel II- 006 [007] [008] 009 010 No. 2 (OS) No. of presentation: 5	The New Technology for the Drivetrain Systems II 016 017 ★ 018 019 020 No. 5 (OS) No. of presentation: 5	Diesel Engines 027 028 [029] 030 031 No. 7 No. of presentation: 5	Thermal and Fluid Technologies Leading to a Carbon Neutral Society II -Fluid Dynamics- [038] 039 040 041 042 No. 9 (OS) No. of presentation: 5	Automotive Security Technology I [047] [048] [049] [050] No. 11 (OS) No. of presentation: 4	Next Generation of Automotive Materials, Production Processing and Manufacturing Technologies II 058 ★ 059 060 061 No. 14 (OS) No. of presentation: 4	Vehicle Dynamics and Control II 071 072 073 074 075 No. 17 (OS) No. of presentation: 5	The Latest Noise, Vibration and Sound Technology II 087 088 089 090 091 No. 20 (OS) No. of presentation: 5
15:00	011 012 No. 3 (OS) No. of presentation: 2				Automotive Security Technology II [051] [052] [053] No. 12 (OS) No. of presentation: 3	Next Generation of Automotive Materials, Production Processing and Manufacturing Technologies III 062 063 064 065 No. 15 (OS) No. of presentation: 4	Vehicle Dynamics and Control III [076] ★ [077] ★ [078] [079] [080] No. 18 (OS) No. of presentation: 5	The Latest Noise, Vibration and Sound Technology III 092 093 094 095 096 No. 21 (OS) No. of presentation: 5
17:00								
18:00								
19:00								

Advanced Gasoline Engine Systems and Technologies III
-Cutting-Edge Spark Ignition Technology-

＊ 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.
＊ (OS) is the organized session focused on the specific themes.
＊ A "★" next to presentation number indicates that the presentation will not be streamed after the congress.
＊ QR code that allow access to the presentation evaluation form will be posted at each presentation venue.
This is important for the selecting the Excellent Technical Paper Presentation Awards winners, so we appreciate your cooperation.
＊ Please refer to the following URL for details of the forum program.
https://en.jsae.or.jp/assoc/event/gakkai/forum/2025ver/
＊ This timetable is based on the data as of April 7th 2025. Please hate that information may change without notice.

As of May, 2025

						Annex Hall			Exhibition Hall, North, Annex Hall	Conference Center
G404 (4F)	G414+G415 (4F)	G416+G417 (4F)	G418+G419 (4F)	G311 Foyer	Garden lounge B	F203	F204	F205 F206		

9:30

Advanced Technologies for Automotive Body Structure I
097
098
099
10 min. Break
100
101
[102]
No. 22 (OS)
No. of presentation: 6
12:10

New Movement of Model Distribution and Model Based Development I
[112] [113] [114]
115
No. 25 (OS)
No. of presentation: 4
11:10

Human Factor and Modeling for Driver
125
126
127
128
129
No. 28 (OS)
No. of presentation: 5
11:35

Active Safety and Advanced Driver Assistance Systems I
136
[137]
[138]
139
No. 30 (OS)
No. of presentation: 4
11:10

10:00
9th Student Poster Session
16:00

9:30
Forum Y1
13:00

9:30
Forum Y4
12:05

10:00
Automotive Engineering Exposition 2025 YOKOHAMA
18:00

12:40
New Movement of Model Distribution and Model Based Development II
116 117 118
119
No. 26 (OS)
No. of presentation: 4
14:20

13:05
Driver Perception, Cognition, and Emotion
130
131
132
10 min. Break
133
134
[135]
No. 29 (OS)
No. of presentation: 6
15:45

12:40
Active Safety and Advanced Driver Assistance Systems II
140
141
142
143
144
No. 31 (OS)
No. of presentation: 5
14:45

14:00
Forum Y2
17:30

14:00
Forum Y3
17:30

14:00
Forum Y5
16:40

13:40
Advanced Technologies for Automotive Body Structure II
[103]
104
[105]
106
107
No. 23 (OS)
No. of presentation: 5
15:45

14:50
SICE-JSAE Next Generation Mobility Control -Industry-academia Collaboration and Human Resource Development-
120
121
[122]
123
124
No. 27 (OS)
No. of presentation: 5
16:55

15:15
Active Safety and Advanced Driver Assistance Systems III
145
146
147
148
149
No. 32 (OS)
No. of presentation: 5
17:20

16:15
Advanced Technologies for Automotive Body Structure III
[108] [109] [110]
111
No. 24 (OS)
No. of presentation: 4
17:55

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

Thursday, May 22 Congress Timetable

Pacifico Yokohama North

Room	G301+G302 (3F)	G303 (3F)	G304 (3F)	G314+G315 (3F)	G316+G317 (3F)	G318+G319 (3F)	G401+G402 (4F)	G403 (4F)
9:00								
9:30	Hydrogen Engine 150 151 152 [153] ★ 154 ★ No. 33 No. of presentation: 5 11:35	Cars that Think and Communicate -Evolution and Deepening of Intelligent Technologies Surrounding Mobility- 159 160 161 10 min. Break 162 163 164 No. 35 (OS) No. of presentation: 6 12:10	Metal Materials and Joining 168 169 170 10 min. Break 171 ★ 172 ★ 173 No. 37 No. of presentation: 6 12:10	Hydrogen and Fuel Cell Technologies 178 179 [180] [181] 182 No. 39 (OS) No. of presentation: 5 11:35	Electric Road System I (Dynamic Charge and Power Supply) [185] 186 187 188 No. 41 (OS) No. of presentation: 4 11:10	Thermal and Fluid Technologies Leading to a Carbon Neutral Society III -Thermal Technology Contributing to Carbon Neutrality- 192 193 [194] 10 min. Break 195 196 197 198 No. 43 (OS) No. of presentation: 7 12:35	The Latest Noise, Vibration and Sound Technology IV 199 200 [201] 10 min. Break 202 ★ [203] 204 No. 44 (OS) No. of presentation: 6 12:10	xEV Motor/Inverter Technology [209] [210] 211 [212] [213] No. 46 (OS) No. of presentation: 5 11:35
13:00	13:05 CN Technology for Gas Engine 155 [156] 157 158 No. 34 (OS) No. of presentation: 4 14:45	13:40 Research on the Recognition Technology Required for Automated Driving 165 166 167 No. 36 (OS) No. of presentation: 3 14:55	13:40 The Value of Recycling in the Circular Economy 174 ★ 175 176 ★ 177 ★ No. 38 (OS) No. of presentation: 4 15:20	13:05 183 [184] ★ No. 40 (OS) No. of presentation: 2 13:55	12:40 Electric Road System II (Dynamic Charge and Power Supply) 189 190 191 No. 42 (OS) No. of presentation: 3 13:55	R&D Trends in Energy Storage System for Automobiles and Related Facilities	13:40 The Latest Noise, Vibration and Sound Technology V 205 ★ 206 207 [208] No. 45 (OS) No. of presentation: 4 15:20	13:05 Advanced Power Electronics Component Technologies for Future Vehicles 214 215 216 217 No. 47 (OS) No. of presentation: 4 14:45
15:00								
17:00								
18:00								
19:00								

* Time allocated for a presentation is 25 minutes; 15 minutes for presentation and 10 minutes for Q&A.
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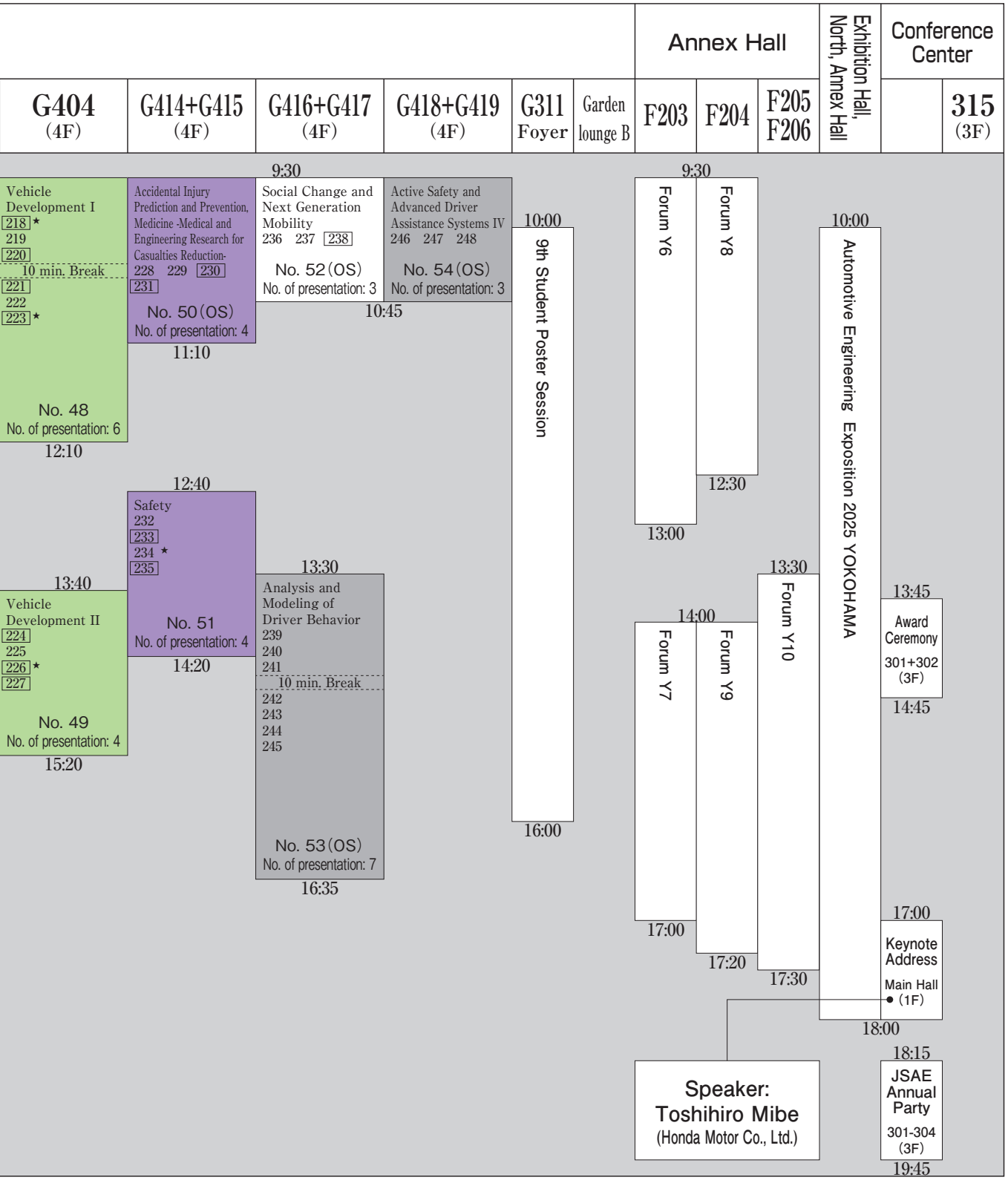

Engine・After treatment・Powertrain | Body・Chassis・Production machining | ITS・Human Engineering | Parts・Materials | CAE/NV・Measurement・Fluid | HV・PHV・EV | Safety | Others

Friday, May 23 Congress Timetable

Pacifico Yokohama North

G301+G302 (3F)

9:30
Research on Combination between Combustion and Fuel for CO_2 Reduction (AOI Project)
249
250
251 ★
10 min. Break
252
253
254
No. 55 (OS)
No. of presentation: 6
12:10

13:40
Effect of Automobile Emission on Atmospheric Environment
255
256
257
258
259
No. 56 (OS)
No. of presentation: 5
15:45

16:15
260
261
262
No. 57 (OS)
No. of presentation: 3
17:30

G303 (3F)

9:30
Next-generation Fuel, Lubricant, and Tribology Technologies I
263
264
265
10 min. Break
266
267
268
No. 58 (OS)
No. of presentation: 6
12:10

13:40
Next-generation Fuel, Lubricant, and Tribology Technologies II
269
270
271
10 min. Break
272
273 ★
274
275
No. 59 (OS)
No. of presentation: 7
16:45

G304 (3F)

9:30
MBD Guaranteed for Model Distribution Conforming to International Standards I -Support Technology for Digital Validation and Visualization of Carbon Neutrality-
276 277 278
279 280
No. 60 (OS)
No. of presentation: 5
11:35

13:05
MBD Guaranteed for Model Distribution Conforming to International Standards II -Support Technology for Digital Validation and Visualization of Carbon Neutrality-
281 282 283
284 285
No. 61 (OS)
No. of presentation: 5
15:10

G314+G315 (3F)

9:30
Engineering Ethics Today
286
287
288
289 ★
No. 62 (OS)
No. of presentation: 4
11:10

12:40
Exhaust Emission Catalyst System I
290 ★
291 ★
292 ★
10 min. Break
293
294
295
No. 63 (OS)
No. of presentation: 6
15:20

15:50
Exhaust Emission Catalyst System II
296 ★ 297
298
No. 64 (OS)
No. of presentation: 3
17:05

G316+G317 (3F)

9:30
New Technologies for Advanced Measurements and Diagnostics I
299 300 301
No. 65 (OS)
No. of presentation: 3
10:45

12:40
New Technologies for Advanced Measurements and Diagnostics II
302
303
304
305
306
No. 66 (OS)
No. of presentation: 5

15:15
307
308
309
310 ★
No. 67 (OS)
No. of presentation: 4
16:55

G318+G319 (3F)

9:30
Tire/Road Characteristics, Contact Properties and Related Technologies I -Tire Mechanisms Toward the Future-
311 312 313
314 315
No. 68 (OS)
No. of presentation: 5
11:35

13:05
Tire/Road Characteristics, Contact Properties and Related Technologies II -Tire Mechanisms Toward the Future-
316 ★ 317 ★
318 319
No. 69 (OS)
No. of presentation: 4
14:45

15:15
Prospects of Sustainable Automotive Society
320 321 322
No. 70 (OS)
No. of presentation: 3
16:30

G401+G402 (4F)

9:30
xEV I
323
324
325
326
No. 71 (OS)
No. of presentation: 4
11:10

12:40
xEV II
327
328
329
330
331
No. 72 (OS)
No. of presentation: 5

15:15
xEV III
332
333
334
335
No. 73 (OS)
No. of presentation: 4
16:55

G403 (4F)

9:30
Technologies of Evaluations and Measures for Road Traffic Noise
336
337
338
339
340
No. 74 (OS)
No. of presentation: 5
11:35

13:05
Noise, Vibration, Ride Comfort
341 342 343
No. 75
No. of presentation: 3
14:20

18:00
Advanced Gasoline Engine Systems and Technologies IV
-Cutting-Edge Spark Ignition Technology-

Thermal and Fluid Technologies Leading to a Carbon Neutral Society IV
-Cabin Environmental Technology that Balances Thermal Comfort, Air Quality and Efficiency-

19:00

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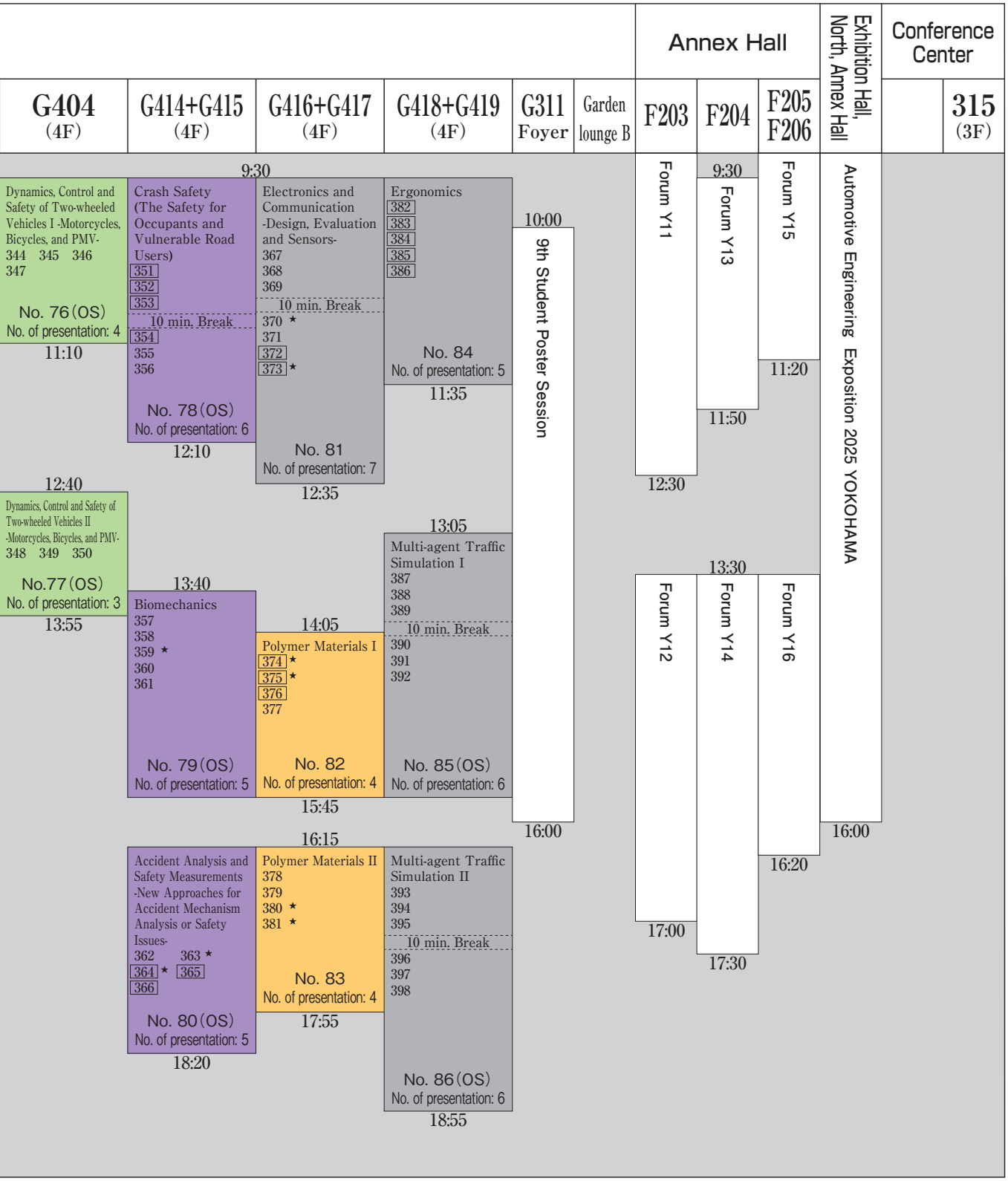

Engine · After treatment · Powertrain | Body · Chassis · Production machining | ITS · Human Engineering | Parts · Materials | CAE/NV · Measurement · Fluid | HV · PHV · EV | Safety | Others

INFORMATION

https://www.jsae.or.jp/2025haru/english/index.php

All events are in Japanese unless otherwise specified

Events	Notes	May 21	May 22	May 23
Technical Sessions	**Registration Required / Charged**	●	●	●
Award Ceremony 75th JSAE Engineering Award 16th Engineering Education Award JSAE Engineering Level Accreditation 2024 Excellent Technical Paper Presentation Awards	———		●	
Keynote Address	**Registration Required / Free** ※ Technical Sessions or Exposition		●	
JSAE Annual Party	**Registration Required / Charged**		●	
9th Student Poster Session	**No Registration Required / Free**	●	●	●
Automotive Engineering Exposition 2025 YOKOHAMA	**Registration Required / Free**	●	●	●
Forum YOKOHAMA	**Registration Required / Free**	●	●	●

Free Wi-Fi	【Conference Center・Exhibition Hall】 SSID：FREE-PACIFICO / PASSWORD：none 【North】 SSID：FREE-PACIFICO-NORTH / PASSWORD：none
Smoking Area	【Indoor】1F, 3F, 5F, Conference Center 【Outdoor】2F（Near the east gate）, North
Beverages	2F, 3F, 4F, North / 1F, 3F, 5F, Conference Center
Convenience Store	1F, 2F, Exhibition Hall
Business Center	2F, North / 1F, Conference Center / 2F, Exhibition Hall

※ Please see the map on the front page.

Opening Hours

Tuesday, May 20

Registration	North 2F Foyer (Attendee) North 4F 411+Foyer (Speaker)	15:00～17:00

Wednesday, May 21

Registration	North 2F Foyer (Attendee) North 4F 411+Foyer (Speaker)	8:00～18:00
Service Counter	North 4F G411+Foyer	8:00～18:00
Cloak Room	North 4F G412+G413	8:00～18:45
Speaker Preparation Area	North 4F G411+Foyer	8:00～17:00
JSAE Members Lounge	North 2F G215–G218	8:00～18:00

Thursday, May 22

Registration	North 2F Foyer (Attendee) North 4F 411+Foyer (Speaker)	8:30～16:00
Service Counter	North 4F G411+Foyer	8:30～17:00
Cloak Room	North 4F G412+G413	8:30～17:00
Speaker Preparation Area	North 4F G411+Foyer	8:30～14:00
JSAE Members Lounge	North 2F G215–G218	8:30～17:00

Friday, May 23

Registration	North 2F Foyer (Attendee) North 4F 411+Foyer (Speaker)	8:30～17:00
Service Counter	North 4F G411+Foyer	8:30～18:00
Cloak Room	North 4F G412+G413	8:30～19:00
Speaker Preparation Area	North 4F G411+Foyer	8:30～17:00
JSAE Members Lounge	North 2F G215–G218	8:30～18:00

※ Please see the map on the front page.

OTHER EVENTS

Award Ceremony

75th JSAE Engineering Award
16th Engineering Education Award
JSAE Engineering Level Accreditation
2024 JSAE Award Congress Excellent Technical Paper Presentation Awards

Related Parties Only

Thursday, May 22 13:45 ~ 14:45 301+302, 3F, Conference Center **(Language: Japanese)**

Keynote Address

Free Admission/Registration for Technical Sessions or Exposition is Required

Thursday, May 22, 17:00 ~ 18:00 Main Hall, 1F, Conference Center **(Language: Japanese)**

Toshihiro Mibe
Honda Motor Co., Ltd.

The expansion of the mobility industry in the era of electrification and intelligence

As electric vehicle companies such as Tesla and BYD dominate the market and global competition intensifies, the automobile industry is entering a period of transformation into a "mobility industry". the scope of the industry and VC are set to expand significantly. We will introduce such efforts along with the example of Honda, which aims to balance its efforts with environmental and safety concerns.

JSAE Annual Party

Registration Required/Charged

Thursday, May 22, 18:15 ~ 19:45 301-304, 3F, Conference Center

9th Student Poster Session

No Registration Required/Free Admission

Wednesday, May 21 ~ Friday, May 23, 3F, North 3F G311+Foyer **(Language: Japanese)**

Automotive Engineering Exposition 2025 YOKOHAMA

Registration Required/Free Admission

Wednesday, May 21 ~ Friday, May 23 Exhibition Hall, North 1F

Prior registration is required to participate in the exposition.

Please check the exposition website for details.

Forum YOKOHAMA

Registration Required/Free Admission

Wednesday, May 21 ~ Friday, May 23, Annex Hall 2F **(Language: Japanese)**

Forum texts are available at 3,300 to 5,500 yen in Book Store.
Prior registration is required to participate in the exposition.

Please check the exposition website for details.

JSAE Annual Congress Spring, Technical Session Program

- This program is based on the data as of April 7th, 2025.
  Please hate that information may change without notice.
- The abstracts of the presentations are available on the timetable of the website.
  [https://gakkai-web.net/jsae/s/2025/program/data/en/time-table.html]
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G301+G302

【9:30～11:35】

1 Advanced Gasoline Engine Systems and Technologies I
-CN Fuel I-
<OS> Takashi Kondo (Honda Motor)

001 Combustion Visualization of a Supercharged Direct Injection Hydrogen Engine
Kyohei Izumi (Kawasaki Motors)
Toshitaka Fujiki (Yamaha Motor)
Yusuke Marui (Honda Motor)
Yoshinari Ninomiya (Suzuki Motor)
Kazuki Arima・Hiroshi Kato・Yoshinori Nakao・
Taketo Marubashi・Yusaku Matsumoto・
Satoaki Ichi (Kawasaki Motors)

002 Effects of Fuel Supply Methods on Hydrogen Engine NOx Emissions
Tomohiko Kamio・Narumi Hiramoto・
Atsushi Yamamoku (Yamaha Motor)
Koichiro Matsushita (Honda Motor)
Kyohei Izumi (Kawasaki Motors)
Yuta Kagawa (Suzuki Motor)

003 Investigation of Effect of Hydrogen Mixture Formation on Hydrogen Combustion by Hydrogen Jet Model
Atsushi Hisano・Yota Sakurai・
Masahito Saito (Kawasaki Heavy Industries)
Satoaki Ichi (Kawasaki Motors)

004 Near-Infrared Two-Color Pyrometry and Numerical Investigation on Combustion Processes of Premixed Hydrogen-Air Mixtures in a Rapid Compression Machine
Fangsi Ren・Haoming Gu・Daisuke Kaminuma・
Shinji Nakaya・Mitsuhiro Tsue (The University of Tokyo)
Satoaki Ichi (Kawasaki Motors)
Koichiro Matsushita (Honda Motor)
Kishal Saxena (Yamaha Motor)
Yoshinari Ninomiya (Suzuki Motor)

005 Effect of Excess Air Ratio and Engine Speed on Instantaneous Heat Flux in Motorcycle Hydrogen Engines
Masakuni Oikawa・Aoshi Yokomori・Yuji Mihara・
Yuki Kaga・Takumi Iwata (Tokyo City University)
Tomohiko Kamio・Atsushi Yamamoku (Yamaha Motor)
Kenichi Sano (Honda Motor)
Kyohei Izumi (Kawasaki Motors)
Yoshinari Ninomiya (Suzuki Motor)
Michiyasu Owashi (MOTORA)

【13:05～15:10】

2 Advanced Gasoline Engine Systems and Technologies II
-CN Fuel II-
<OS> Takahiro Noyori (Waseda University)

006 Development of a λ=1 Turbocharged Direct Injection Hydrogen Engine
Kenjiro Nakama・Kei Yoshimura・Naoto Watanabe・
Yutaro Usui (Suzuki Motor)
Philipp Kapus・Peter Pötscher・Paul Kapus (AVL List)

007 Commercial Hydrogen Engines: Methodologies for Rapid Mechanical Development and Validation
Anton Arnberger・Gottfried Lurf (AVL List)
Peter Grabner・Michael Schneider
(Graz University of Technology)

008 Hydrogen Combustion Engine: Performance, Fuel Efficiency and Emissions Optimisation
Joel Op de Beeck・Badr-Din Lahmoumi・Jezer Costa・
Krzysztof Potaczek・Marcos Carvalho-Barreto・
Nissrine Harbil・Toshihiko Minami (OPmobility)

009 Study on Gas-Liquid Two-Phase Flow Injection System of Hydrogen and Water for Suppression of Abnormal Combustion in Spark Ignition Hydrogen Engine
Taichi Hiyoshi・Eriko Matsumura・Jiro Senda
(Doshisha University)
Keiso Takeda (enable)

010 Effects of High Injection Rate on Thermal Efficiency in Low-Pressure Direct Injection Hydrogen Engines
Seiya Yamada (Tokyo City University)
Nobuhiro Shimmura (Tokyo City University/
Kawasaki Heavy Industries)
Masakuni Oikawa・Kotaro Hata (Tokyo City University)
Sekai Miyamoto (Kawasaki Heavy Industries)
Yuji Mihara・Yasuo Takagi (Tokyo City University)

【15:40～16:30】

3 Advanced Gasoline Engine Systems and Technologies III
-Cutting-Edge Spark Ignition Technology-
<OS> Toshiaki Kitagawa (Kyushu University)

011 Effect of Unsteady Flow Field on Spray Feature in a DISI Engine
Tomohiro Ishiguro・Shota Minami・Eriko Matsumura・Jiro Senda (Doshisha University)
Shigenori Haraguchi・Yoshihisa Sato (Honda Motor)

012 Development of a Prediction Model of Soot Particle Size Distribution Applicable for Design Calculations of Internal Combustion Engines (3rd Report)
-Validation for 5-Component Gasoline Surrogate-
Jun Hashimoto・Kazumasa Ito (Oita University)
Tatsuya Kuboyama (Chiba University)
Yasuyuki Sakai (Ibaraki University)
Kazuhiro Akihama (Nihon University)

G303

【9:30～10:45】

4 The New Technology for the Drivetrain Systems I
<OS> Tomokazu Nakazawa (Gentherm Japan)

013 Comparison of Various Computational Methods for Gear Stirring (2nd Report)
-Discussion of Prediction Accuracy for Droplets and Proposal of a Practical Method for Improvement-
Takafumi Kawamura (Computational Fluid Dynamics Consulting)
Tomoaki Watamura (The University of Tokyo)
Kazuyasu Sugiyama (Osaka University)
Masaru Shimada (JATCO Engineering)
Tadashi Yamada (Toyota Motor)
Masanori Katou (Honda Motor)
Daiki Saegusa (Honda R&D)
Akira Nakashima (Mazda)

014 A Study on High Rotational Speed Traction Drive
-High Reduction Ratio Experiment and Unit Configuration-
Yuechen Jia・Takeshi Yamamoto (Tokai University)

015 Electrified Motorcycle Powertrains - Hybrid Concepts Paving the Way to Future Technologies
Wolfgang Schoeffmann・Gernot Fuckar・Christian Hubmann・Vitaly Davydov・Christian Martin (AVL List)

【12:40～14:45】

5 The New Technology for the Drivetrain Systems II
<OS> Yasukazu Sato (Yokohama National University)

016 Study of Increase in Drag Torque at High Rotational Speed of Wet Multi-Plate Clutch Part3
Hirofumi Ebisumoto・Hitoshi Tamegai・Tomohiro Yoshizue (Mazda)

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

018 Influence of Speed Ratio on Pitching Angle of Elements of Metal Pushing V-Belt Type CVT under Steady-State
Ryota Matsuda・Kazuya Okubo・Kiyotaka Obunai (Doshisha University)

019 Quantification of the Influence of Factors on Abnormal Austenite Grain Growth in Carburized Steel Parts for Drivetrain
Yasuo Itou・Gou Katou・Makoto Maeda (JATCO)

020 Prediction of Abnormal Grain Growth in Carburized Components using Bayesian Networks
Akira Mizuno・Gou Katou・Makoto Maeda (JATCO)
Takumi Yoshida・Tsubasa Yamashita・Shuhei Kojima (MI-6)
Junya Inoue (The University of Tokyo)

G304

【9:30～12:10】

6 Advanced Diesel Engine Systems and Technologies
<OS> Sangkyu Kim (Mazda)

021 Infrared High-Speed Thermography of Piston Surface on Diesel Engine
Kazuya Miyashita・Shinya Furukawa・Yoshinori Ishii・Hisashi Ozawa (Isuzu Advanced Engineering Center)

022 NOx Reduction Strategy using Direct Water Injection in a Diesel Engine (Second Report)
-Applying the In-Cylinder Water Stratification Concept to Higher Load Conditions-
Kazuhisa Inagaki (Toyota Central R&D Labs.)
Tsutomu Kawae (Toyota Industries)
Teruaki Kondo・Kazuaki Nishikawa (Toyota Central R&D Labs.)

023 Thermal Efficiency Improvement for a High-Compression-Ratio HD Diesel Engine by Utilizing an Offset Orifice Nozzle
Tomoyuki Mukayama・Noboru Uchida (New A.C.E Institute)

024 Model Analysis of the Concentration Distribution in the Spray and Wall Interaction in High Compression Ratios (High Ambient Density Field) in Diesel Engines
Ryoto Yoshikawa・Yuki Yasuno・Eriko Matsumura・Jiro Senda (Doshisha University)

025 Modeling of Fuel Spray-Wall Coated Lubricating Oil Interference in Compression Ignition Engines
Yuki Nakata・Shoto Nakaoka・Kanako Nishimura・Eriko Matumura (Doshisha University)

026★ (Cancelled) Evaluation on the Exhaust Behavior of a Diesel Light Duty Vehicle by On-Board Alternative Analyzers
Noritsune Kawaharada・Hisakazu Suzuki (NALTEC)

【13:40～15:45】

7 Diesel Engines
Noboru Uchida (New A.C.E. Institute)

027 Reduction Mechanism of Nnitrogen Oxides Derived from Post Injection
Yukito Watanabe・Yoji Hiraiwa・Gen Shibata・Hideyuki Ogawa (Hokkaido University)

028 Estimation of Gas Temperature in Intake System of a Diesel Engine using Modeling Method Based on Machine Learning
Takato Ikedo・Yoshifumi Wakisaka (Toyota Central R&D Labs.)

029 Proof of Advanced Emission Control Systems and Thermal Strategies for Future NRMM Regulations
Bernhard Raser・Hannes Noll (AVL List)
Dirk Bosteels・Joachim Demuynck (AECC)

030 Optical Analysis of Mixture Formation by Spraying Urea-Emulsion Fuel
Ryosuke Takeda・Daisuke Oda・Akihiro Kido (Tohoku Gakuin University)

031 Evaluation of Urea-Added Emulsion Fuels by Chassis Dynamometer Tests using an IDI Diesel Engine Vehicle
Daisuke Oda・Ryosuke Takeda・Akihiro Kido (Tohoku Gakuin University)

G314+G315

【9:30～12:10】

8 Thermal and Fluid Technologies Leading to a Carbon Neutral Society I
-Computational Fluid Dynamics (CFD)-
<OS> Takuji Nakashima (Hiroshima University)

032 CAE Method Development for Damage Prediction of Underfloor Components in Flooded Roads
Hidenori Mayusumi・Jun Miyazaki・Kei Akasaka・Kosuke Nakasato (Nissan Motor)

033★ Investigation of the Flow Separation from the DrivAer Notchback Rear Window with DDES and LES
Luca Bauer (Technical University of Munich)
Jonas Sebald (Audi)
Philipp Schlichter・Thomas Indinger (Technical University of Munich)

034★ Numerical Investigation of Water Flow in Narrow Gaps of Vehicle Interior Components
Evelyn Sabella Rugerri (Technical University of Munich)
Dirk Baeder (Audi)
Thomas Indinger (Technical University of Munich)

035★ CFD Simulation of BPE on a Drum Brake
Shuhei Tanamachi・Taisuke Ito・Katsuhiro Uchiyama・Yoshiyuki Yamaguchi (Nisshinbo Brake)

036 Numerical Implementation of a Leak Testing Method to High Voltage Batteries
Matthew Sleight・Stefan Adami (Technical University of Munich)
Mathieu Mulmann (Audi)
Thomas Indinger (Technical University of Munich)

037 CFD Methods for the Prediction of Washer Fluid Behavior during Wiper Operation
Shun Nakamura・Yuta Ito (Toyota Motor)
Satoru Yamada (Dassault Systems)
Arisa Mizutani・Shiro Yasuoka (Toyota Motor)
Pichon Gabriel (Dassault Systems)

【13:40～15:45】

9 Thermal and Fluid Technologies Leading to a Carbon Neutral Society II
-Fluid Dynamics-
<OS> Kota Fukuda (Tokai University)

038 Research on Aerodynamic Performance Enhancement of an Automobile Through Utilization of Cooling Ventilation
Feiyi Chen・Takuji Nakashima・Takenori Hiraoka (Hiroshima University)
Keigo Shimizu・Yusuke Nakamura (Mazda)
Hidemi Mutsuda (Hiroshima University)

039 Relationship between the Window in the Tunnel Entrance Hood and the Flow around the Vehicle
Naoto Kato・Moeri Okawa (Utsunomiya University)
Keisuke Yoshida (TOYOTA GAZOO Racing Development)
Hiroaki Hasegawa (Utsunomiya University)

040 Identification of Flow Fields Contributing to Aerodynamic Drag on an Automobile using Graph-Structured Analysis
Yusuke Nakamura・Mitsugu Mera・Keigo Shimizu・Kohei Seo・Takenori Hiraoka (Mazda)
Shohei Imagawa・Takuji Nakashima (Hiroshima University)

041 Study on the Reduction Mechanism of Modulated Wind Noise by Numerical Simulation Reproducing Fluctuation of Natural Wind
Takumi Hirata (Nissan Motor)
Atsushi Tajima (Kobe University)
Takahiro Kamiwaki・Kodai Tashiro・Junichi Wakamatsu・Jun Ikeda・Kousuke Nakasato (Nissan Motor)
Chung-Gang Li (RIKEN)
Makoto Tsubokura (Kobe University/RIKEN)

042 Investigation of Required Spatial Resolution of CFD for Predicting Separation Points around A-Pillar
Kazuaki Hiwatashi・Ryuta Yonemitsu・Masayuki Watarai (Honda Motor)
Kazuya Abiko (Auto Technic Japan)
Jiayi Zhang (Persol Cross Technology)
Tsuyoshi Terakawa (Honda Techno Fort)

G316+G317

【9:30～11:10】

10 The Intersection of Design and Technology
<OS> Shinji Takashima (Advanced Institute of Industrial Technology)

043 Challenges and Innovations in Sustainable Urban Vehicle Design
-Designing for People, Planet, and Profit-
Emilia Romero・Inés Munoz (Applus+ IDIADA)

044 Fusion of Design and Function in Robot Arms and Differential Swerve Drive
Kaito Ota
(Tokyo University of Agriculture and Technology)

045★ Reflection of Design by Featuring Infusion Molding
Mikio Yonaha・Atsushi Dobata (Fabricators)

046 Generative AI-Driven Innovation in Design Process and Intellectual Property Rights Management (First Report)
-Design Process Innovation Enabled by Generative AI and Practical Implementation of Intellectual Property Protection Utilizing Blockchain-
Yasuhide Yokoi・Masafumi Asakura (Final Aim)

【12:40～14:20】

11 Automotive Security Technology I
<OS> Hiroshi Ueda (AutoNetworks Technologies)

047 Assessing Automotive Cybersecurity Vulnerabilities with Generative Adversarial Networks
Miguel Martinez Montoya
(IDIADA Automotive Technology)

048 Securitization of an Automotive FOTA Process in Compliance with UNECE R155 & R156
Sergi Arjona Martí (Applus+ IDIADA)

049 WPA3 Technology in Automotive: Enhancing Security for Connected Vehicles
Ismael Vera Hidalgo (Applus+ IDIADA)

050 End-to-End Secure Automotive IoT Applications
Dennis Kengo Oka (IAV)

【14:50～16:05】

12 Automotive Security Technology II
<OS> Hana Ono (AISIN)

051 Firmware Security Module
Philipp Jungklass・Claude-Pascal Stöber-Schmidt・Marco Siebert (IAV)
Jonas Rummel・Takuya Nigoro (IAV Japan)

052 Agile Software Development in the Automotive Environment
-Scrum and Automotive SPICE – Contradiction in Terms?-
Carsten Elvers・Philipp Jungklass (IAV)
Claude-Pascal Stöber-Schmidt (IAV Japan)
Jonas Rummel (IAV)
Takuya Nigoro (IAV Japan)

053 Penetration Testing of Automotive Systems
-Efficient Security Analysis of Vehicular E/E Systems-
Claude-Pascal Stöber-Schmidt (IAV)
Takuya Nigoro (IAV Japan)
Marco Siebert・Philipp Jungklass (IAV)
Jonas Rummel (IAV Japan)

G318+G319

【9:30～11:10】

13 Next Generation of Automotive Materials, Production Processing and Manufacturing Technologies I
<OS> Atsuyoshi Fujita (Suzuki Motor)

054★ Development of Gas-Blow Hot Stamping Method for Achieving Integrated Components
Masahiro Kubo・Satoshi Shirakami (Nippon Steel)
Noboru Itagaki (Sumitomo Heavy Industries)
Manabu Nishijima (Imanishi Manufacturing)
Hiroshi Yoshida (Nippon Steel)

055 Development of Large-Scale Hot Stamping Integrated Parts and Technologies
Kenta Ikegami・Masahiro Kubo・Atsushi Ohno・Tasuku Zeniya・Tohru Yonebayashi・Hiroshi Yoshida (Nippon Steel)

056★ Development of Resistance Spot Welding Technology using Pulsed Current Waveform Control and Automatic Off-Time Control for Three Sheets Stacks with High Sheet Thickness Ratio (First Report)
-CDC New Spot Welding Technology-
Shinya Watanabe・Hitoshi Saito・Xihao Tan (Honda Motor)
Hiroki Toyoda・Rinsei Ikeda (Osaka University)

057★ Development of Resistance Spot Welding Technology using Pulsed Current Waveform Control and Automatic Off-Time Control for Three Sheets Stacks with High Sheet Thickness Ratio (Second Report)
-CDC New Spot Welding Technology-
Shinya Watanabe・Hitoshi Saito・Xihao Tan (Honda Motor)
Hiroki Toyoda・Rinsei Ikeda (Osaka University)

【12:40～14:20】

14 Next Generation of Automotive Materials, Production Processing and Manufacturing Technologies II
<OS> Norikazu Suzuki (Kobe University)

058★ Development of Suede Surface Application Technology for Interior Instrument Panels
Kento Imai・Yushi Shinno (Honda Motor)

059 Highly Electrical Insulating and Heat-Resistant Molding Compound using Diallyl Phthalate Resin
Chiharu Inoue・Ryoichi Igawa (Sumitomo Bakelite)

060 Development of a Water-Based Hard Coat Material for Plastic Glazing
Mifuyu Niwa・Kentaro Shiraishi (Asahi Kasei)
Kazufumi Iwai・Daisuke Orihashi (Renias)

061 Development of a Process Analysis System using Image Processing (First Report)
-Practical Validation of an Automated Analysis System for Logistics Processes-
Takuma Sugino・Hirofumi Morishita (Toyota Motor)
Gianpiero Francesca・Sven Meier (Toyota Motor Europe)
Kazuhiro Shintani (Toyota Motor)

【14:50～16:30】

15 Next Generation of Automotive Materials, Production Processing and Manufacturing Technologies III
<OS> Koshiro Aoki (Shibaura Institute of Technology)

062 Development of High-Response Heat Insulation Material Technology in Engine Combustion Chamber to Improve the Fuel Economy (4th Report)
-Development of Adhesion Model and Substrate Roughening Model for Heat Insulation Material-
Kai Yamamura・Shinji Kadoshima・Koichiro Ichihara・
Shota Miyamoto・Kenta Okada (Mazda)

063 Simplified Evaluation of Internal Residual Stresses in Steel: Proposal of the Half-Cut Method
Satoru Nishida・Eiki Kobayashi (Akiyama Seiko)
Souichiro Nishino (Ibaraki University)

064 Quality Improvement of Mastic Application Areas through the Utilization of Body Thermal Deformation CAE
Koichiro Oi・Takeshi Kashiyama・Toshiro Ohori・
Moe Yasue (Suzuki Motor)

065 Analysis of Lifespan Distribution, Dirt and Deterioration State of Seatbelt Webbing Recovered from End-of-Life Vehicles for Closed-Loop Recycling (First Report)
Takeru Fukuda・Masatoshi Kobayashi (Honda R&D)
Rumi Ogawa・Yutaka Fujiwara
(Sumika Chemical Analysis Service)

G401+G402

【9:30～11:35】

16 Vehicle Dynamics and Control I
<OS> Junya Takahashi (Hitachi)

066 Verification of Drivers Delay Time (τ_L) Due to Differences in Seat Characteristics
Tetsuhiro Okuda・Tomoya Kato (Toyota Boshoku)

067 Influence of Driver Seating Position on Steering Characteristic Evaluation
Motoharu Hattori・Masato Abe・Yoshio Kano・
Masaki Yamamoto・Makoto Yamakado・
Naoya Nishimura (Kanagawa Institute of Technology)

068 "Cornering Driver Model" for Highly Accurate Corner Tracking
-Vehicle Position and Control System Customization are Important-
Hideki Sakai (Kindai University)

069 Vehicle Motion Analysis using Deep Learning Coordinate Transformation
Masanori Harada・Yuki Ueyama
(National Defense Academy of Japan)

070 The Influence of Vertical Suspension Friction on Planar Vehicle Dynamics (Second Report)
Ayumu Tanaka・Yasuji Shibahata・Masaaki Minakawa・
Makoto Yamakado・Masaki Yamamoto・Masato Abe・
Yoshio Kano (Kanagawa Institute of Technology)

【13:05～15:10】

17 Vehicle Dynamics and Control II
<OS> Yoshikazu Hattori (Toyota Central R&D Labs.)

071 Vehicle Dynamics Simulation Under Braking for Autonomous Driving System
Hiroo Yamazaki・Katsuya Yashiro・
Yoshiki Watanabe (UD Trucks)

072 Development of Damping Control for Vertical Vibration using Driving Force of In-Wheel Motors to Improve Passenger Comfortability
Naoki Hatta・Masaru Yamasaki・
Toshiyuki Ajima (Hitachi)
Sakahisa Nagai・Hiroshi Fujimoto
(The University of Tokyo)

073 Driving Stabilization Technology using Model Predictive Control Considering Changes in Future Target Values
Hiroki Obara・Shinji Ishihara (Hitachi)
Atsushi Yokoyama・Hiroki Sonoda・Yuichiro Minakuchi・
Yusuke Honjo (Astemo)

074 Influence of Trail Braking Maneuver on Vehicle Cornering Behavior
Ikkei Kobayashi・Fumiya Yoshida・Liting Fu・
Wenbao Wu (Tokai University)
Kazuki Ogawa (Aichi University of Technology)
Mohamad Heerwan Bin Peeie (University Malaysia Pahang)
Hideaki Kato・Takayoshi Narita (Tokai University)

075 A Basic Study on Meandering Motion of Multi-Articulated Vehicle
Sunao Chikamori (Former Seikei University)

【15:40～17:45】

18 Vehicle Dynamics and Control III
<OS> Pongsathorn Raksincharoensak (Tokyo University of Agriculture and Technology)

076 * Verification of PBV Driving Performance for Universal Mobility using Suspension Module Test Rig
Seungmin Kwon・Hyunjae Lee・David Song・
Seonghun Kim・Jongho Ko・Yongsub Yi (Hyundai Motor)

077 * Development of MF (Magic Formula) Tire Model Application Technique
Jinhee Lee (Hyundai Motor)

078 EV SUV Aftershock Performance Improvement
-In View of Frequency Decoupling and Bushing Characteristics-
TaeHee Lee・Dae-Un Sung・Yong-Hyun Ryu
(Hyundai Motor)
Su-Hyun Lim (PH Company)
JinHwan Oh (DH R&T Company)

079 Vehicle Motion Control on Electric Vehicles
-Capabilities on Connecting Chassis and Powertrain Features-
Martin Dorn (FEV Vehicle)
Thomas Reckeweg (FEV Europe)
Frank Schummers (FEV Vehicle)
Michael Struth (FEV Europe)
Michael Hog (FEV Group)
Noriyuki Muramatsu (FEV Japan)

080 Mechanism Design of Suspension and Steering Systems for Balancing Mobility and Maneuverability
Tian Mengjian・Lv Haoyang・Liu Jianyuan・Guo Jiakai・Huang Mingfang・Ding Saifei・Li Zhuo・Xie Fengru・Wang Kaipeng (Shenzhen Technology University)

G403

【9:30～12:10】

19 The Latest Noise, Vibration and Sound Technology I
<OS> Koji Sugiyama (Suzuki Motor)

081 Machine Learning-Based Method of Determining Target Characteristics for Road Noise Reduction (Second Report)
-Methods for Extracting Multiple Target Characteristics with Different Combinations of Characteristic Directions and Components-
Kei Ichikawa・Jun Tsutsumi・Yuta Shimamura (Honda Motor)
Koji Tachioka・Hiromichi Ebisawa (Estech)

082 A Study on Structural Optimization by Adjusting Plate Thickness Based on Minimizing Vibration Response Energy under Displacement Excitation using FEM
-Second Report: Effect of Evaluation Points on Sound Pressure-
Katsuhiko Kuroda (Nagasaki Institute of Applied Science)

083 A Method for Measuring Instantaneous Structural Intensity in Flat Structures
Keisuke Abe (SUBARU/Kanagawa University)
Hironori Yamada (SUBARU)
Toru Yamazaki (Kanagawa University)

084 Extraction of High Contributing Acoustical Modes in Luggage Room Space Model using Principal Component Contribution Analysis
Junji Yoshida・Reo Matsui (Osaka Institute of Technology)
Norihisa Nakajima・Shoya Noguchi・Ichiro Fukumoto (Kasai Kogyo)

085 Study on the Measurement Conditions of Road Noise by Chassis Dynamometer
Tomoki Ichikawa・Toshiyuki Nakamura・Hiromasa Hayashi・Naoya Murakami (Hayashi Telempu)

086 Asymmetry of Tire Vibration as a Source of Road Noise
Masao Ishihama (Ishihamagiken Consulting)

【13:40～15:45】

20 The Latest Noise, Vibration and Sound Technology II
<OS> Kei Ichikawa (Honda Motor)

087 Building of Multibody Dynamics and Machine Learning Hybrid Model and Application to Drivetrain Tortional Vibration Development
Ryu Chikasue・Roberto Gonzalez Flores・Seijun Morita・Kazuhiro Tanaka・Kenji Kudo (Mazda)

088 Analysis of the Mechanism of THS Engine Start-Up Vibration Caused by HEV Damper Characteristics
Masaki Sagawa・So Shimizu・Yuki Notake・Kenji Suemasu・Hirotaka Kaneko (Toyota Motor)

089 Application of Semi-Anechoic PT-VRS for Development of Vehicle Noise and Vibration
Yoshihide Narita・Masashi Komada・Jun Kokaji・Hidenori Morita (Toyota Motor)

090 Study on Amplitude Dependent Friction Damping at Joints and Development of a Simple Estimation Method
Sotaro Tajiri (NewtonWorks)

091 The Method to Break Down NVH Performance Targets from Vehicle Sound Pressure to Component Eigenvalues
Takuro Sonoda・Koji Saito (Altair Engineering)
Mari Nakagami (Daihatsu Motor)

【16:15～18:20】

21 The Latest Noise, Vibration and Sound Technology III
<OS> Hisayoshi Matsuoka (Nissan Motor)

092 Efficient Thermal Management: Key Technologies using Bionic Features
Hotaka Tsuchiya (MAHLE Behr Japan)
Uli Christian Blessing・Laurent Art・Thorsten Moellert (MAHLE Behr)

093 Proposal of Entire NVH Simulation Process for eMotor Under Various Load Spectra and Correlation Study to Measurements
Fumio Numata・Kazumasa Kato (Magna International Japan)
Oliver Grieshofer・Anton Plank (Magna Powertrain Engineering Center Steyr)

094 Seat Structure with High Damping Mechanism to Reduce Body Motion
Hideki Hitomi・Kota Koyanagi・Naoharu Tamura (Honda Techno Fort)
Yukio Kobayashi・Takafumi Tomida・Osamu Inaba (Honda Motor)
Takayuki Toyoshima (Honda Racing)

095 Dynamic Substructuring for Predictive Approach of EPS Operation Noise
Hirotaka Kamano (Toyota Motor)

096 Effects of Inclusions at Joint Interface on Vibration Characteristics of Bolted Joints
Tristan Samuel Britton (Fujimori)・Keisuke Inoue・Yoshinao Kishimoto・Yukiyoshi Kobayashi・Shogo Isobe・Yuuki Kawaharabashi・Satoru Kuga (Tokyo City University)

G404

【9:30～12:10】

22 Advanced Technologies for Automotive Body Structure I
<OS> Michihiro Yamagishi (Nissan Motor)

097 Fatigue Damage Degree Evaluation of C-SMC using Thermoelastic Temperature Variations
Atsushi Akai (Kyoto University of Education)
Yukihiro Hamada (Toyota Motor)
Yasumoto Sato (Toyota Central R&D Labs.)
Atsushi Mikuni (Toyota Motor)

098 Effects of Tension and Bending Loads on the Fatigue Threshold in a Stainless Steel Sheet (Part 2)
-Changes due to Stress Ratio-
Gyoko Oh・Atsushi Umezawa (Tokyo Roki)

099 Fatigue Life Prediction Method for Point Joints Considering Multiple Fracture Modes
-Fatigue Life Prediction Method for Flow Drilling Screw (FDS) Joints-
Hiroaki Kawamura・Eita Niisato・Suguru Goto・Kazushi Urakawa・Sogo Takuno・Toshiyuki Isono (Toyota Motor)

100 Numerical Simulation for Lap Joints Considering Adhesion
Hirofumi Sugiyama・Tomoki Nomura (University of Yamanashi)
Shigenobu Okazawa (University of Yamanashi/Diver Technology)

101 CAE Analyses for Rotary Friction Welding of the Dissimilar Metal Pipes with Closed Forging Method
-Adjustment Analyses for Exploring Construction Conditions of RFW Bonding of the Pipes with MBD Method-
Tomohiko Ariyoshi (Atori CAE)

102 Study on Vaporizing Foil Actuator Welding (VFAW) for Steel-Aluminum Dissimilar Metals Joining without Hardware
Hyuckmin Kwon・Junyeong Jeong・Changyeol Yoo・Younil Jung・Eulyong Choi (Hyundai Motor)
Taeseon Lee (Incheon National University)

【13:40～15:45】

23 Advanced Technologies for Automotive Body Structure II
<OS> Shigenobu Okazawa (University of Yamanashi)

103 Research on Securing the Formability of Aluminum 7000 Series 3D Printing Alloy and Optimizing Heat Treatment through Adding Zr Inoculant and Refining Crystal Grains to Achieve High Strength and Elongation of Body Structure
Hyomoon Joo・Yeonha Chang・Wanghyun Yong・Yeongcheol Jo・Seongjin Kim・Hanjae Kim・Youn Il Jung (Hyndai Motor)
Jungho Choe・Kyung Tae Kim・Jeong Min Park (Korea Institute of Materials Science)

104 Investigation of the Modeling on Crush FEM of Aluminium Components
Shingo Nakajima・Ryohei Yukishige (Kobelco Reseach Institute)

105 Advanced Numerical Method for Weight Optimization under Consideration of Integrated and Innovative Design Trends
Jan Ophey (FEV Vehicle)
Michael Hog (FEV Group)
Christian Kürten (FEV Vehicle)
Noriyuki Muramatsu (FEV Japan)

106 Process Improvement of Structural Strength Development using AI Surrogate Models
Mikimasa Kawaguchi・Motoki Tanaka・Takashi Ebisugi・Toru Nakano・Jun Nishikawa (Mazda)
Bisser Raytchev (Hiroshima University)

107 Development of Crashworthiness Evaluation Method using Simplified Test Structures and Verification of Fracture Prediction Technology
Takahiro Aito・Takeshi Kawachi・Eriko Shimoda (Nippon Steel)

【16:15～17:55】

24 Advanced Technologies for Automotive Body Structure III
<OS> Yoshitaka Wada (Kindai University)

108 A Study on the Optimization of Door BIW Structure using Thin Casting Method
Sang Jin Lee・Jeong Min Kang・Dong Ha Kang・Jung Han Kim・Sang Young Im・Seong Hwan Seo・Hee Beom Yang (Hyundai Motor)

109 The Development of the TPV Door Inner Belt WeatherStrip
-Meets Wind Noise Targets and Prevents Glass Sliding Squeak Noise Simultaneously-
Jeehoon Seong・Sanghyun Lee・Boram Kang・Jungdae Kim・Jaehoon Kim・Youngchel Sin (Hyundai Motor)

110 Development of PBV Power Gate System
-High Durability Power Gate System for Improving Commercial PBV Operation-
Duck Young Kim・Jung Hoon Park・Dong Wuk Choi・Doo Young Jung (Hyundai Motor)
Seong Tae Hong・Kwang Hun Hong (PHA)

111 Damping Performance of Bolted Structures Including Plastic Members
Keisuke Inoue・Tristan Samuel Britton (Fujimori)・Yoshinao Kishimoto・Yukiyoshi Kobayashi・Shogo Isobe・Satoru Kuga・Yuuki Kawaharabashi (Tokyo City University)

G414+G415

【9:30～11:10】

25 New Movement of Model Distribution and Model Based Development I
<OS> Yutaka Hirano (HIRANO Research Lab.)

112 Novel AD/ADAS Virtual Validation with Integration of LLM and Digital Twin Technologies
Prof. Dr. Reza Rezaei・Dr. Alexander Bradler・Dr. Christian Lang・Robert Schneider・Mahmudul Bashar・Simon Olma (IAV)

113 Key Challenges in the Engineering of Industrial Simulation
-Insights from Automotive R&D-
Henri Sohier・Romain Barbedienne (IRT SystemX)
Dai Araki (Toshiba Digital Solutions)
Cedric Leclerc (IRT SystemX/Renault Group)
Tomohiko Adachi (Mazda)
Karla Quintero (IRT SystemX)

114 Simulation Verification and Validation in the Light of Systems, Software, and AI Engineering
Henri Sohier・David Danan・Stephen Creff・
Romain Barbedienne (IRT SystemX)
Julien Silande (IRT SystemX/ESI)
Rim Kaddah (IRT SystemX)

115 Systems Engineering Initiatives for Promoting MBD
Yuki Hirayama・Hironori Yumura・Takuya Machida
(SUBARU)

【12:40～14:20】

26 New Movement of Model Distribution and Model Based Development II
<OS> Masakazu Mukai (Kogakuin University)

116 Model-Based Development of Damper Properties and Vehicle Dynamics Performance through Model Exchange between OEM and Supplier
-Development of Real-Time Damper Model and Use of OEM Vehicle Model for In-House Development-
Peng Lu・Hiroshi Endo・Shuta Suzuki (Astemo)
Yukihiro Adachi・Shunsuke Iwamatsu・Toshikatsu Hoshi・
Kazuo Mori・Mitsunori Makino (Toyota Motor)

117 Model-Based Development of Damper Properties and Vehicle Dynamics Performance through Model Exchange between OEM and Supplier
-Study of Vehicle Dynamics Evaluation using Driving Simulator-
Yukihiro Adachi・Shunsuke Iwamatsu・Toshikatsu Hoshi・
Kazuo Mori・Mitsunori Makino (Toyota Motor)
Hiroshi Endo・Peng Lu・Shuta Suzuki (Astemo)

118 Synergies of Developing and Testing Battery Management Systems (BMS) in SIL and HIL Environments
Katsuya Tsuzuki (dSPACE Japan)
Sophia Volmering・Thomas Paradowski・
Tusharkumar Mehta (dSPACE)

119 Improving Efficiency in e-Axle System Development through the Integration of MBSE, MBD, and Generative AI
Masaru Katsuki・Kazunori Kawashima・
Takuro Kawasumi (JATCO)
Shota Sato (Lightblue)
Jyunji Kashitani (Panasonic System Design)

【14:50～16:55】

**27 SICE-JSAE Next Generation Mobility Control
-Industry-academia Collaboration and Human Resource Development-**
<OS> Toshihiro Aono (Hitachi)

120 Groundwork Toward the Inaugural AI-Formula
Issa Omura・Masaya Okada・Yuki Akimoto・
Kota Sakazaki・Atsushi Kato・Yuji Yasui (Honda R&D)

121 Vision-Based Control for Autonomous Driving Systems in AI-Formula (First Report)
Shogo Hoshino・Akito Nemoto・Phan Phearamony・
Md Abdus Samad Kamal (Gunma University)
Shunsuke Tarui・Akichika Kurihara・Yuki Asaga・
Takahiro Oinuma・Ryuki Kondo・Tatsuki Note・
Masakazu Mukai (Kogakuin University)

122 Optimization of Price Plan for a Smart Satellite City with Price Sensitivity Considered
Wenjing Cao・Shota Zenke・Zhenlong Wu・
Takehito Kobayashi (Sophia University)

123 Designing an Autonomous Emergency Avoidance Benchmark Problem and Exploring Solutions with Multiple Approaches
Siyang Xie・Takayasu Kumano・Yuji Yasui (Honda R&D)
Sachiyo Arai・Kang-Zhi Liu・Kazuya Okawa
(Chiba University)

124 Polynomial Regression-Based Vehicle Trajectory Tracking Control with Vibration Suppression
Kazuki Ogawa・Takeru Goto・Kosuke Toda (Honda R&D)

G416+G417

【9:30～11:35】

28 Human Factor and Modeling for Driver
<OS> Motoki Shino (Institute of Science Tokyo)

125 Relationship between Evaluation of Elderly Drivers Urban Driving by Driving Instructors and Cognitive-Physical Characteristics and Driving Attitudes
-Study on Driver Characteristics for Delaying Driving Cessation (44)-
Takashi Yonekawa・Masae Kojima・
Hirofumi Aoki (Nagoya University)
Kan Shimazaki (Kindai University)
Rin Itou・Sueharu Nagiri・Satsuki Yamauchi・
Kunitomo Aoki・Akio Hirano (Nagoya University)

126 Developing an Integrated Driver Model for Risk Assessment
-Reproduction of Driver's Visual and Cognitive Functions-
Miki Hayashima・Yuji Matsuki
(Fukuoka Institute of Technology)

127 Determinants of Elderly Drivers' Needs for Driving Aptitude Tests, Safe Driving Learning, and Advanced Driver Assistance Systems
-Study on Driver Characteristics for Delaying Driving Cessation (45)-
Shunji Taniguchi・Aiko Inoue・
Hiroyuki Umegaki (Nagoya University)
Naoshi Koide (Osaka University)
Hirofumi Aoki (Nagoya University)

128 Relationship between Driving Risk Assessment using Touch Panel Display and Driving Risk Estimated from Image Analysis (First Report)
Masumi Terayama
Masayuki Shimizu・Hiroyuki Aoki (Nagoya University)

129 Development of Drunk Driving Detection Models using Machine Learning with Driving Simulator and Actual Vehicle Data
Norimasa Nakamura・Masaki Yamaoka・Minori Yamataka・Takafumi Ito (DENSO)

【13:05～15:45】

29 Driver Perception, Cognition, and Emotion
<OS> Toshihiro Hiraoka (JARI)

130 A Study on the Utilization of Virtual Reality in the Development of Automotive Visibility Performance
-A Comparative Study of Virtual Reality Evaluations and Actual Vehicle Evaluations-
Kazumasa Onda・Takuma Yamazaki・Yukihiro Takatsu・Hidenori Horita (Suzuki Motor)

131 Brain Function Analysis in Vibration Compensation of HUD Virtual Image
Hikaru Kato (Niigata University)
Masaki Katagiri・Tadashige Makino・Naoyuki Shiraishi (Nippon Seiki)
Atsuhiko Iijima・Junichi Hori (Niigata University)

132 Eye Movement Analysis in Vibration Compensation of HUD Virtual Image
Maria Ono (Niigata University)
Masaki Katagiri・Tadashige Makino・Naoyuki Shiraishi (Nippon Seiki)
Junichi Hori・Atsuhiko Iijima (Niigata University)

133 Vehicle Behavior Evaluation by Vestibular Surprise Model
Keita Teshima・Daichi Sato・Hidekazu Ishii・Kazuhiro Takemura・Yoshihisa Okamoto・Hiroko Kajikawa・Masayuki Watanabe (Mazda)

134 Concisely Measuring Cognitive Workload of the Interactive User Interface (Second Report)
Hiroshi Kishi・Hirofumi Aoki (Nagoya University)

135 A Study on the Change of Bio-Signals under Driver Stress
Yoseob Lee・Baekhee Lee (Hyundai Motor)
Gwanseob Shin・Donghyun Song (UNIST)

G418+G419

【9:30～11:10】

30 Active Safety and Advanced Driver Assistance Systems I
<OS> Takanori Fukao (The University of Tokyo)

136 Long-Range and High-Resolution LiDAR Based on a Stacked SPAD Depth Sensor for Automotive LiDAR Applications
Shunpei Suzuki・Takahiro Kado・Ibuki Fujioka・Koji Yamamoto・Shengchao Zheng・Seiya Kaito・Tatsuya Yui・Gyongsok Song・Tomoyuki Taguchi・Taro Beppu (Sony Semiconductor Solutions)

137 Automotive Towards SDV
-Challenges and Opportunities in ADAS&AV Features-
Xavier Sellart Ortega・Jesus Fuentes Chillon (Idiada Automotive)

138 Trustworthy Multimodal Generative AI for ADAS Development
Son Tong・Balakrishnan Ayyanar・Shiye Fang・Kohei Noma・Satoshi Sekine・Theo Geluk・Reiji Takeuchi (Siemens Digital Industries Software)

139 Tractor Driving Simulator for farm Smart Safety
-Nonlinear Time Series Analysis on Tractor Dynamics-
Kenshi Sakai (Tokyo University of Agriculture and Technology)
Masami Matsui・Takahiro Tamura (Utsunomiya University)
Watanabe Masahisa (Tokyo University of Agriculture and Technology)
Keisuke Kazama (Nihon University)
Hidehiko Inoue・Hiroki Takimoto・Ichiro Harada (NARO)
Yuya Aoyagi (Ryukyu University)
Pongsathorn Raksincharoensak・Masahiro Nakajima・Tadashi Chosa・Megumi Yamashita (Tokyo University of Agriculture and Technology)
Tsukasa Tejima (NARO)
Jun-ichi Takeda (Iwate University)
Ei Seki (NARO)
Muneki Tomita (Iwate University)

【12:40～14:45】

31 Active Safety and Advanced Driver Assistance Systems II
<OS> Takemi Tsukada (Honda Motor)

140 Advanced Safety Technology Evolution Its Traffic Accident Reduction Analysis (Third Report)
Takashi Hasegawa・Yukiko Sanda・Yukihiro Ikeda (Toyota Motor)

141 Analysis on Crossing Collision in Stop Intersection by Utilizing Drive Recorder Video Images
Raksincharoensak Pongsathorn・Yoko Hojo・Kotaro Seki・Xingguo Zhang・Masami Aga (Tokyo University of Agriculture and Technology)
Shotaro Yamasaki (Aioi Nissay Dowa Insurance)

142 Behavior Comparison between Taxi Drivers and Ordinary Drivers in Car-to-Car Crossing Collisions at Non-Signalized Intersections
Masami Aga・Yoko Hojo・Pongsathorn Raksincharoensak (Tokyo University of Agriculture and Technology)
Shotaro Yamasaki (Aioi Nissay Dowa Insurance)
Masao Nagai (Tokyo University of Agriculture and Technology)

143 Investigation of Deceleration Support Method by Driver Intervention to Prevent Encounter Accidents on Residential Roads
Asuka Harada・Hitoshi Kanamori (Nagoya University)
Kenichi Yamada・Hayato Mizuma (Toyota Motor)
Nihan Karatas・Yuki Yoshihara・Takahiro Tanaka (Nagoya University)

144 Evaluation of the Effectiveness of a Child Crossing Approach Notification System using Smartphones
Yasunobu Yokoi (Toyota Motor)
Takeshi Kitahara (KDDI)
Tomoko Yasui (Toyota Motor)
Kengo Kurosawa (KDDI)

【15:15～17:20】

32 Active Safety and Advanced Driver Assistance Systems III
<OS> Yuichi Omoda (JARI)

145 Feasibility Study of a Hazard Avoidance Brake Control System using V2N Technology
Yoshiaki Irie (Toyota Motor)
Fumiaki Ise・Yukihiro Yamamoto (Technoco)
Junki Ito・Keita Arita (SoftBank)
Dror Elbaz・Tal Lavi (Eye-Net Mobile)

146 A Note on the Information Presentation of Hazards in Urban Areas Caused by Snow Pile on Shoulder
Chinami Fukui・Sho Takahashi・Toru Hagiwara (Hokkaido University)
Hidekatsu Hamaoka (Akita University)

147 Initial Study on Position Estimation of Surrounding Traffic Participants Observed by Vehicle with Position Uncertainty
Kota Watanabe・Takuma Ito (The University of Tokyo)

148 Initial Study on Method of Extracting Potentially Dangerous Spots to Improve Machine Learning Model for Speed Decision on Community Roads
Yuki Sadanaka・Keita Hori・Takuma Ito (The University of Tokyo)

149 A Proposal for Indicators of Proximity and Safety Margin for Evaluating Behavioral Safety of Automated Vehicles
Yuichi Saito・Syohei Shimotori (University of Tsukuba)
Hideo Inoue (Kanagawa Institute of Technology)

G301+G302

【9:30～11:35】

33 Hydrogen Engine
Koji Kikuhara (Waseda University)

150 Evaluation of Exhaust Characteristics and Fuel Efficiency Based on Demonstration Tests of a Hydrogen Internal Combustion Engine Hydraulic Excavator
Haru Nabata (Kanazawa Institute of Technology)
Tadashi Enomoto・Takuya Yamaura (Flat Field)
Yuki Ninomiya (Oriental Consultants)
Akemi Ito (Tokyo City University)
Kaname Naganuma (Kanazawa Institute of Technology)

151 Improvement of Output Power and Thermal Efficiency by Circulation System Pressurizing in an Argon Circulation Hydrogen Engine
Uta Kondo・Ryouta Kiyokawa・Zhili Chen (Tokai University)

152 Considerations for Maximizing the Thermal Efficiency of a Highly Boosted Port-Injected Hydrogen Engine
Shojun Rachi・Tsukasa Yamazaki・Yuhei Sakane (Kanazawa Institute of Technology)
Tadashi Enomoto・Takuya Yamaura (Flat Field)
Akemi Ito (Tokyo City University)
Ryuiti Sasaki (RIKEN)
Masaya Yoshioka (HOROBA)
Kodai Ichikawa (NGK INSULATORS)
Kaname Naganuma (Kanazawa Institute of Technology)

153 ★ Clarification of the Mechanism of Abnormal Combustion in Hydrogen Engines (Part I: Investigation of Abnormal Combustion Location by Numerical Analysis)
Pravin Ananta Kadu・Takao Nakayama・Kei Yoshimura・Keiji Muramatsu・Takuya Kosugi・Kenjiro Nakama (Suzuki Motor)

154 ★ Clarification of the Mechanism of Abnormal Combustion in Hydrogen Engines
-Part II: Investigation of Abnormal Combustion Location by Visualization Measurement-
Keiji Muramatsu・Satoshi Tokuhara・Kadu Pravin Ananta・Kei Yoshimura・Kenjiro Nakama (Suzuki Motor)

【13:05～14:45】

34 CN Technology for Gas Engine
<OS> Tsutomu Kikuchi (Nissan Motor)

155 The Syngas Production by Biogas with Methanol through Piston Compression of Diesel Engines
Changqi Liu・Dengpei Chen・Hiromu Katou・Gen Shibata・Hideyuki Ogawa (Hokkaido University)
Ken Kawabe・Ryota Minamino (Yanmar Holdings)

156 Development of Fixed Speed Spark Ignited Hydrogen Internal Combustion Engine for Heavy Duty Non-Road Applications
Xander Seykens・Erik Doosje・Cemil Bekdemir (TNO)
Peter Wezenbeek (NPS Driven B.V.)

157 Research and Development of Hydrogen Engine Systems Based on Industrial Engines
Kota Tanaka・Takeshi Tanaka (Toyota Industries)
Hiroshi Yamamoto・Mitsuhiro Izumi (Diamond&Zebra Electric Mfg.)
Norifumi Mizushima・Kohei Kuzuoka (AIST)

158 Research on Abnormal Combustion in Hydrogen Engines -Construction of a Knocking Prediction Model-
Hiroki Kambe (Toyota Industries)
Ryo Masuda (Toyota Central R&D Labs.)
Takeshi Tanaka (Toyota Industries)

G303

【9:30～12:10】

35 Cars that Think and Communicate -Evolution and Deepening of Intelligent Technologies Surrounding Mobility-
<OS> Yuichiro Toda (Okayama University)

159 AUTOSAR Activities for Realizing SDV -Software Architecture for High Performance Computer in Vehicle-
Masahiro Goto (AUTOSAR/DENSO)

160 Improvement of Multiple Service Metrics in Autonomous Driving Mobility by Model Predictive Control
Teppei Saitoh・Noriyasu Hasejima (Hitachi)

161 Verification of Models using Reinforcement Learning for Urban Autonomous Driving
Katsuo Semmyo・Shin Sakamoto・Masahiko Watanabe (NTT DATA Automoviligence Research Center)

162 In-Vehicle Camera Footage Analysis with Multimodal Large Language Model to Improve Advanced Driver Assistance Systems
Masafumi Tsuyuki・Zhiyuan Luo (Hitachi)
Taminori Tomita・Yoshitaka Atarashi (Astemo)

163 Measurement of Reflection and Transparency Coefficients of Snow for Camera, LiDAR, and Radar
Yoshihisa Amano・Hiroshi Kuroda・Aiko Hibino・Masashi Mizukoshi・Hideo Inoue (Kanagawa Institute of Technology)
Kengo Sato (NIED)

164 Development of Cooperative Autonomous Driving in Snowy Environments using Vehicle Sensing with Road Embedded Optical Fiber Sensor
Fumihito Yamaguchi・Hajime Oyama・Tokio Nakamichi (SUBARU)
Michio Imai・Hiroyuki Aoshika (Kajima)

【13:40～14:55】

36 Research on the Recognition Technology Required for Automated Driving
<OS> Takayoshi Yamashita (Chubu University)

165 Improving Multi-Camera Bird's-Eye-View Perception Accuracy through Stereo Matching
Shuntaro Tsuchiya・Yui Tanaka・Takeru Ninomiya・Hideaki Kido (Hitachi)
Kota Irie・Yoshitaka Okuyama (Hitachi Astemo)

166 Implementing Localization using Deep Learning with LiDAR Point Clouds
Kengo Kawahara・Keisuke Yoneda・Ryo Yanase・Amane Kinoshita・Naoki Suganuma (Kanazawa University)

167 Simulation of Infrastructure LiDAR using CARLA and Pedestrian Detection with Deep Learning
Riku Nikaido・Keigo Hariya・Keisuke Yoneda・Naoki Suganuma (Kanazawa University)

G304

【9:30～12:10】

37 Metal Materials and Joining
Yoshitomi Yamada (Isuzu Motors)

168 Improve Durability of FSW Tools using Coating Technology
Sarina Shibata・Ryu Yoshiura・Souichiro Nishino (Ibaraki University)
Yukitaka Sumiya (Japan Coating Center)

169 Effect of Welding Speed on Resistance Seam Welding of Stainless Steel Foil Material
Tomoki Otsuka・Shion Koyama・Souichiro Nishino (Ibaraki University)
Seiya Yoshikawa (ART-HIKARI)
Tetsuya Nogami・Reina Araya (NOGAMI)

170 Multi-Scale CT Observation of Al-Adhesive Interface during Tensile Test
Takanori Itoh・Norio Saito・Masayuki Inaba・Chulho Song・Emi Mukai・Takashi Kumamoto (Nissan ARC)
Akihisa Takeuchi・Masayuki Uesugi・Yuki Sada (SPring-8/JASRI)
Hiro Fujihara・Hiroyuki Toda (Kyushu University)

171★ Evaluation of Corrosion Resistance of Stainless Steels in Lithium-Ion Battery Environments
Satoshi Sampei・Atsutaka Hayashi・Junichi Hamada (Nippon Steel)

172★ Friction and Wear Characteristics of Stainless Steels for Brake Discs
Toshiki Yoshizawa・Atsutaka Hayashi・Jun-ichi Hamada・Takanori Kato・Yuiko Sakayama (Nippon Steel)

173 Smart Lightweight and Performance Solutions for Structural Parts by Tailor Rolled Blanks
Hubertus Steffens (Mubea Tailor Rolled Blanks)
Taranjeet Singh (Mubea Japan)
Torben Wilks・Christoph Hahn (Mubea Tailor Rolled Blanks)

【13:40～15:20】

38 The Value of Recycling in the Circular Economy
<OS> Shuhei Makiura (Makiura Steel Industry)

174★ Cross-Border Trade of Used Parts and Recycled Resources and New Developments in the "Venous" Business
Mami Kimura (Nagasaki University)
Yutaka Asazuma (Hokkai-Gakuen University)

175 Research on the Performance of an Air Table Separator in Recovering Valuable Materials from ASR
Takashi Furuyama・Masaru Yoshida
(Tohoku University of Community Service and Science)

176★ Study on the Possibility of Recycling ELV-Derived Plastics in CEs (First Report)
-Introduction of a Traceability System and Standards for Waste Plastics of Automotive Origin-
Hideki Miyakawa (Veolia Japan)

177★ A Circular Economy Indicator for Vehicles (2)
-Estimation of the Circular Economy Index Considering the Resource Value and the Quality of Resource Circularity-
Takamichi Iwata (Toyota Central R&D Labs.)
Yoshiro Masuda (Toyota Motor)
Kiyotaka Tahara・Mitsutaka Matsumoto (AIST)
Masashi Hara・Tetsuro Kobayashi・Daisuke Yamada・
Hisaaki Takao (Toyota Central R&D Labs.)
Eiji Ishida・Takayuki Nagai (Toyota Motor)

G314+G315

【9:30～11:35】

39 Hydrogen and Fuel Cell Technologies
<OS> Yoshinori Yamamoto (Mitsubishi Motors)

178 3D Fuel Cell Simulation for Cell Design and Prediction of Performance and Durability
Takayuki Tsukamoto・Tsutomu Takayama・
Keisuke Komiyama・Ippei Tsujimura・
Rui Sugawara (Mizuho Research & Technologies)

179 Effect of High Temperature Operating Conditions on Single Cell Evaluation of PEFC
-Effects of Differences in MEA Specifications-
Ken Kagaya (HORIBA)
Hiroyuki Kanesaka (FC-Cubic TRA)
Tomokazu Sakai (Toyota Motor)
Hiroki Kusakabe (FC-Cubic TRA)

180 Comparison of Multi-Fuel Cylinder Head Concepts for Heavy Duty Engine Running on Alternative Fuels with Charge Motion Design (CMD) Process
Dhongde Avnish・Morcinkowski Bastian・
Virnich Lukas・Mally Max (FEV Europe)
Zhengling Li・Lüeckerath Moritz
(RWTH Aachen University)

181 H2 Internal Combustion Engines for Commercial Vehicles
-Increasing Power Density by Low Pressure Direct Injection-
Martin Weber・André Polej・Thomas Kemski・
Hubertus Ulmer・Thaddäus Delebinski (IAV)

182 Development of Compact Water-Cooled Fuel Cell System
Yuta Ichigo・Akihiro Inukai・Kensuke Doi・
Akifumi Tsujimura・Kasumi Nakajima・Yasunari Arai・
Kazuyuki Hirata (Toyota Boshoku)

【13:05～13:55】

40 R&D Trends in Energy Storage System for Automobiles and Related Facilities
<OS> Noriko Yoshizawa (AIST)

183 In-Service State of Health Estimator for On-Board Battery Storage Systems (Part 4)
Kohei Maruchi・Takahiro Yamamoto・
Hisaaki Hatano (Toshiba)

184★ Demonstrating Nondestructive Safety Diagnosis for Lithium-Ion Battery Modules Based on Charging Curve Analysis Data
Kenichiroh Koshika (NTSEL)
Hideki Tsuruga (JET)
Tomokazu Morita (Toshiba)
Keizoh Honda (JET)

G316+G317

【9:30～11:10】

41 Electric Road System I (Dynamic Charge and Power Supply)
<OS> Junya Yamakawa (National Defense Academy)

【OS Keynote Address】

185 Smart Microgrid-Integrated Dynamic Road Fast Charging Station
Saleh Ali・Volker Pickert・Mansoureh Zangiabadi
(Newcastle University)
Mohammed Alharbi (Taibah University)
Handong Li (Iniversity College London)

186 Modal Combination Past, Present, and Future by Linkage with Transportation Modes with Focusing on Rail Freight Transportation
Takaaki Otsubo (Japan Freight Railway)

187 Research on a Method of Installing 450kW Electric Road System on Bus Rapid Transit
Hina Tamiya・Kazuki Shimamura (JARI)
Takamitsu Tajima (Honda R&D)

188 Feasibility Study of Onboard PV for Commercial EV Application
-Estimation of the On-Board Effect of PV Systems for Small Delivery Van-
Shuai Pei・Jingxuan Peng・Kimiyoshi Kobayashi・
Toshio Hirota・Yushi Kamiya (Waseda University)
Hidenori Mizuno・Takashi Oozeki (AIST)

【12:40～13:55】

42 Electric Road System II (Dynamic Charge and Power Supply)
<OS> Takamitsu Tajima (Honda R&D)

189 Endurance Test Methods for Batteries Applied to Intermittent Charging during Highway Driving
Yoshihisa Hojo (Toyo Denki Seizo)

190 Proof of Concept of Trolley Technology in EV Conversion of Mining Dump Trucks
Toshikazu Minoshima・Jun Ikeda・Takayuki Sato (Hitachi Construction Machinery)

191 Development of a PVEV Evaluation Tool
Hidenori Mizuno・Bunme Pawita・Takumi Takashima・Takashi Oozeki (AIST)

G318+G319

【9:30～12:35】

43 Thermal and Fluid Technologies Leading to a Carbon Neutral Society III
-Thermal Technology Contributing to Carbon Neutrality-
<OS> Masaki Teshi (Suzuki Motor)

192 A Numerical Analysis of Wall Heat Transfer of Diesel Spray Flame using Large Eddy Simulation with High Spatial Resolution
Tatsuya Kuboyama・Tetsu Kadohata (Chiba University)
Shin Kimura (Sustainable Engine Research Center)
Yasuo Moriyoshi (Chiba University)

193 An Experimental Method for the Development of Vehicle Thermal Management Systems using Transient Thermal Control Devices
Hirotaka Iseki・Ryo Yoshimura・Seiji Hirai・Toshiyuki Michikita (HORIBA)

194 Comparison of Nucleate Boiling Heat Transfer on Aluminum Heating Surface using Distilled Water, Ethylene Glycol Aqueous Solution, and Long-Life Coolant for IC Engine Cooling System
Emir Yilmaz・Takashi Suzuki・Kota Suzuki・Shota Ishii・Minato Suzuki・Kodai Kato・Mayu Watanabe・Mitsuhisa Ichiyanagi (Sophia University)

195 Development of a Compact Rankine Cycle Generator with an Integrated-Component Structure
-Eighth Report: Experiments using Refrigerants by Metalized Parts-
Katsuyuki Tanaka・Chigusa Nakagawa・Tetsuhiro Wakiyama・Nana Tonooka・Kenya Ohtsuka (Nihon University)

196 Experiments on Energy Recovery Using the 5kW Rankine Cycle Generator from Waste Heat of Heavy Vehicles Engine
-First Report: Construction of the Apparatus and Performance Test-
Ryotaro Kobitsu・Hiroki Kato・Waka Katoono・Masanari Saito・Kenya Ohtsuka・Katsuyuki Tanaka (Nihon University)
Masaki Naruke・Takaaki Kitamura (JARI)

197 Thermoelectric Materials for Hybrid Electrical Vehicles with Lean Burn Engine
Michihiro Ohta・Philipp Sauerschnig・Kishor Kumar Johari (AIST)
Masaki Naruke (JARI)
Kazuki Imasato・Masanobu Miyata・Takao Ishida・Atsushi Yamamoto (AIST)

198 Thermoelectric Power Generation Performance by Heat Recovery from Exhaust Gas
Hiroyasu Mino・Satoshi Someya・Toshie Koyama (Tokyo Denki University)
Masaki Naruke (JARI)

G401+G402

【9:30～12:10】

44 The Latest Noise, Vibration and Sound Technology IV
<OS> Hidenori Morita (Toyota Motor)

199 Development of Evaluation Technology for Tire External Noise and Investigation of Generation Mechanism
Kotaro Mune・Ryuichi Tanimoto (Sekiso)

200 Construction of PBN (Pass-By Noise) Model using MBD (Second Report)
-Construction of PBN Prediction Linkage to a HEV 1D System Model to Improvement Acceleration Performance-
Shinta Nakazawa・Go Endo・Hiromu Iwase・Kenichiro Ogata・Kazuya Chinda (Honda Motor)

201 A Hybrid BEM-SEA Approach to Assess and Mitigate AVAS-Induced Cabin Noise: Balancing Safety and Comfort
Robert Fiedler (ESI Eastern Europe)
Massimiliano Calloni (ESI)

202★ Fast Estimation Method for Vehicle NVH Sensitivity Variation Range Due to Component Tolerances
Hiroyuki Nagashima・Masashi Okuno・Satoshi Hoshika・Shigemitsu Takahashi・Hisayoshi Matsuoka (Nissan Motor)
Hirotaka Uchimura (CDH-Japan)

203 Virtual Mount Design Framework for Component-Based TPA
-Hybrid FE/Test Method for High-Frequency Mount Stiffness Characterization-
Domenico Minervini・Andrea Serni (Siemens Digital Industries Software)
Theo Geluk (Siemens Digital Industries Software/University of Florence)
Niccolò Baldanzini (Siemens Digital Industries Software)

204 Operational 6 DOF Contribution Analysis Method Employing Virtual Point Transformation
-Contribution Analysis Application to Simple Vehicle Model-
Junji Yoshida・Kenta Hara (Osaka Institute of Technology)

【13:40～15:20】

45 The Latest Noise, Vibration and Sound Technology V
<OS> Masayuki Takada (Kyushu University)

205★ Evaluation of Audibility of Information Transmission Sounds using Auditory Saliency Model
Yuki Nakatani・Naoko Yorozu・Ikuyo Ohsugi・Hisanobu Ino・Masayuki Watanabe (Mazda)

206 Sound Quality Evaluation by SD Method for Passenger CHVAC Noise
Hideo Takao (Sekiso)

207 Study on the Evaluation Method of Piston Slap using Engine Background Noise
Junjiro Nakanishi・Tsunehiro Mori・Masakazu Kikuchi・Ayato Yamamoto・Kazuhiro Matsuoka・Yasuhiro Nonaka (Mazda)

208 Subjective Ride Comfort Evaluation Based on CAE Simulation Results
Rabah Hadjit (ESI North America)
Kelby Weilnau・Yumiko Sakamoto (VI-grade)

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【9:30～11:35】

46 xEV Motor/Inverter Technology
<OS> Shingo Soma (Honda R&D)

209 Next Generation xEV Modular Platform Powered by In-Wheel Motors
Stephen Lambert (Protean Electric)
Chris Hilton (Emmbrook)
Richard Ford・Andrew Whitehead (Protean Electric)

210 Optimization of Laminated Stacks for Electrified Vehicle Drives
Francis van der Sluis・Benny Seitzinger・Sander de Vet・Oleg Alexandrov (Bosch Transmission Technology BV)

211 Development of Coil Immersion Oil Cooling Technology to Improve Continuous Output
Takaki Itaya・Masanori Sawahata・Akihito Toya・Hideaki Goto・Akeshi Takahashi (Astemo)

212 Impact of Advanced Control Techniques on Electromagnetic Torque Generation using a Multiphysics Simulation
Francisco Ulloa-Herrera・Carlos Moya (Applus+ IDIADA)
Kuntal Mandal (Universitat Rovira i Virgili)
Xavier Genaro-Muñoz・Daniela de-Lima・Javier Corea-Araujo (Applus+ IDIADA)

213 A Review on Inverter Testing Methodologies for Electric Vehicle Industry
Xavier Genaro-Muñoz・Francisco Ulloa-Herrera・Javier Corea-Araujo (Applus+ IDIADA)

【13:05～14:45】

47 Advanced Power Electronics Component Technologies for Future Vehicles
<OS> Shinya Yano (Nissan Motor)

214 Efficient HILS Verification Method for xEVs with Electrified Equipment
-Real-Time Validation using Causal Models-
Kazuhiko Kurokawa・Kensuke Tsukahara・Yuji Yajima (MCOR)

215 Technology for Optimizing Pump Startup in Electric Vehicle Cooling Systems
Naoki Onosaka・Takeru Yamamoto (AISIN)

216 Improving Performance of eAxles with Integrated Charging Functions for Electric Vehicles
Keiya Nimura・Yoshihisa Kubota・Soumei Nakatomi・Takumi Todoroki・Naoya Naito・Keisuke Azusawa・Satoyoshi Oya (Honda R&D)

217 Dynamic Wireless Power Transfer for Multiple AGVs using Capacitive Coupling Method
Naoya Kondo・Fujiyuki Iwamoto・Takayuki Shibata・Takanari Sasaya・Akihiro Yamaguchi (Mirise Technologies)

G404

【9:30～12:10】

48 Vehicle Development I
Yasufumi Sekine (Fukuyama University)

218 * A Research for AI Driven Advanced Performance Evaluation of Exterior Closure System
Soonho Her・Minhyung Byun・Byungsung Park (Hyundai Motor)

219 Automotive Aerodynamic Development Based on Interpretability of 3D Shape Generative AI
Daiki Ikeuchi・Yohei Morikuni・Mashio Taniguchi・Yuta Ito・Yuya Fukao・Yuya Yamashita・Shiro Yasuoka・Tomotaka Sugai・Koji Nishikawa・Minoru Tsuchiyama (Toyota Motor)

220 Reverse Engineering Vehicle Aerodynamics
- A Fully Automated Methodology using 3D Scanning and OpenFOAM
Remmerie Wouter・Majksner Nikola (AirShaper)

221 6 Bar Link Operation Analysis using Multi-body Dynamics
WooSik Yoon・Minsu Kim・Sungwon Hong・Jaehyun Seo (DAEDONG HI-LEX)
Ki Hyun Choi (HKMC)

222 Consideration Regarding Drag Torque Reduction of Disc Brakes (2nd Report)
Takumi Inoue・Naoya Miyahara・Yuhei Yamazaki・Takashi Shimizu (Advics)

223 * Establishment of Target Aero Drag and Investment Criteria Considering Vehicle Characteristics
Wookhyun Han・Kwangchan Ko (Hyundai Motor)

【13:40～15:20】

49 Vehicle Development II
Yasuhiro Matsui (NTSEL)

224 Development of Indoor Lighting Optimization Through Customer Preference Clinic
Daeseon Lee (Hyundai Motor)

225 Enhanced Telescopic Performance of Stowable Steering Column in Steer-by-Wire System
Herbert Erhardt・Seryas Mohammad・Matthias Beck (Schaeffler Technologies)
Wenshan Tang (Schaeffler Japan)

226 ★ Impact Energy Absorption and Safety Evaluation of Glass Fiber Reinforced Plastic Composite Leaf Springs for Automotive Applications
Soo Sik Chung (Hyundai Motor)

227 A Study on the Multifunctional Protection Bumper Cover of Autonomous Driving Sensor
-Development of Multi-Functional Sensor Cover for EV Grill System Trend-
Hongheui Lee (Hyundai Motor)

G414+G415

【9:30～11:10】

50 Accidental Injury Prediction and Prevention, Medicine
-Medical and Engineering Research for Casualties Reduction-
<OS> Hirotoshi Ishikawa (HEM-Net)

228 ΔV Calculation Method Considering Vehicle Rotational Behavior in Side Impact Accidents
Noboru Tanase・Shizue Katsumata・Tomomi Yoshida・Takahiro Ando・Yasushi Nagaoka (Toyota Motor)

229 Using Machine Learning to Estimate Crash Delta-V from Vehicle Damage
Tetsuya Nishimoto・Kazuhiro Kubota・Kento Nakao (Nihon University)
Tomokazu Motomura (Nippon Medical School)
Elsegood Martion・Doecke Sam・Ponte Giulio (The University of Adelaide)

230 How Does Pre-Crash Environment Affect Injury Risk? Injury Prediction and Analysis Based on Graph Neural Network
Junhao Wei・Yusuke Miyazaki (Institute of Science Tokyo)
Fusako Sato (JARI)

231 Investigation of Severe Injury Probability Prediction Models by Body Parts Through Decision Tree-Based Machine Learning Approach
Yimeng Mei・Haruhiro Fukushima・Yusuke Miyazaki (Institute of Science Tokyo)
Fusako Sato (JARI)

【12:40～14:20】

51 Safety
Daisuke Ito (Kansai University)

232 Study on Ventilation Volume of EV in the Case of Transport for COVID-19 Patient (Part4)
Koichi Oshino

233 Enhancing Vehicle Safety Through AI-based Motion Prediction and Drivable Space Estimation
Robin Smit (TNO)
Emilia Silvas (TNO/Eindhoven University of Technology)
Manuel Muñoz Sánchez (Eindhoven University of Technology)
Koichi Kawaguchi (TNO/TNO Japan)

234 ★ A Study on Natural Language-Driven 3D Vehicle Styling Generation
Akihiko Katagiri・Yoshikazu Nakagawa・Shin Saeki・Jun Shiraishi・Masato Sasaki・Osamu Ito (Honda Motor)

235 EU Landscape for Safety Assessment of Connected and Automated Driving
Olaf Op Den Camp (TNO)

G416+G417

【9:30～10:45】

52 Social Change and Next Generation Mobility
<OS> Toshiyuki Sugimachi (Tokyo City University)

236 Survey and Analysis of External Factors as Challenges to the Adoption of Commercial Electric Vehicles in the Freight Transport Industry
Shota Miyoshi・Tomonori Hasegawa (NALTEC)
Takeshi Sugimoto・Masayuki Kobayashi (Organization for the Promotion of Low Emission Vehicles)

237 Occupant Behavior and Subjective Evaluation during Acceleration and Deceleration in Electric Light and Low-Speed Vehicle
Sueharu Nagiri・Takashi Yonekawa・Hirofumi Aoki (Nagoya University)
Yuuya Ohba・Munehiro Oosumi・Manabu Kai (Yamaha Motor)

238 Development of a Container-Based Yocto Build System for an Infotainment SW Platform
Joonhyung Kim (Hyundai Motor)

【13:30～16:35】

53 Analysis and Modeling of Driver Behavior
<OS> Shuichi Enokida (Kyushu Institute of Technology)

239 Driving Behavior of Careful Human Drivers in the Scene of Dynamic Blind Spots and Overtaking a Bicycle
Yuki Manabe・Toru Kojima・Koichi Kitada・Kenji Morizaki (NALTEC)

240 Study on Visibility Behavior at Intersections in an Actual Vehicle and an Immersive Driving Simulator
Hisato Fukuda・Yuto Takei・Hyuga Nojiri (Gunma University)
Toshihiko Kozai・Tsutomu Iwase (Gunma University/SUBARU)
Masanori Yoshida・Kenichi Sato (SUBARU)

241 Improvement of Driving Simulator for Rear-End Collision Prevention Education using the PLATEAU 3D City Model
Koshi Miyazaki・Kazuaki Goshi・Masaki Hayashi・Yasuaki Sumida (Kyushu Sangyo University)
Katsuya Matsunaga (Kyushu University)

242 Analysis of Mirror Field of View Expansion Range Resulting from Driver's Head Movement
Takashi Hosokawa (JARI)
Akinari Hirao (Shibaura Institute of Technology)
Tomotaka Igarashi (JAMA)

243 Interaction between Inappropriate Schema and Attention Deficits as a Mechanism of Pedal Misapplication
Shohei Shimotori・Yuichi Saito・Makoto Itoh (University of Tsukuba)
Toshihisa Sato (AIST)

244 Data Collection and Impact Analysis of Drunk Driving
Masaki Yamaoka・Norimasa Nakamura・Minori Yamataka・Takafumi Ito (DENSO)

245 Provision of Information to Encourage Driver Preparing Behavior toward Potential Risks
Saori Noda・Taiji Kawachi・Koji Hamada (DENSO)
Hitoshi Kanamori・Asuka Harada・Takahiro Tanaka (Nagoya University)

G418+G419

【9:30～10:45】

54 Active Safety and Advanced Driver Assistance Systems IV
<OS> Yutaka Hamaguchi (Hino Motors)

246 Personalization of Parking Styles and Steering Assistance for Reducing Discomfort with Parking Assist Systems
Kenta Maeda・Naoyuki Tashiro・Swarn Singh Rathour・Shinji Seto (Hitachi)
Daisuke Tsuga・Hiroki Sato・Miki Koso・Atsushi Yokoyama (Astemo)

247 Development of Trajectory Prediction Methods for Oncoming Vehicles and Path Planning Techniques for Narrow Road Passing by Autonomous Driving
Ryo Inaba・Masato Imai・Daniel Gabriel (Hitachi)
Shuntaro Tsuchiya・Hidehiro Toyoda・Satoshi Ito・Yuichi Komoriya・Ryo Sakurai (Hitachi Astemo)

248 Trajectory Planning for Lane Change Feasibility Decision using Chance-Constrained Model Predictive Control
Yuichi Okura・Kenta Tominaga・Hiroaki Kitano (Mitsubishi Electric)

G301+G302

【9:30～12:10】

55 Research on Combination between Combustion and Fuel for CO_2 Reduction (AOI Project)
<OS> Akira Iijima (Nihon University)

【OS Keynote Address】

249 Joint Research on CO_2 Reduction between Petroleum Association of Japan and Japan Automobile Manufacturers Association (AOI Project 3rd Report)
Hideaki Sugano・Takashi Kaneko (ENEOS)
Takae Okamoto (Cosmo Oil)
Tatsuya Suzuki (Hino Motors)
Iwao Kadota (Honda Motor)
Hironori Shodai (Idemitsu Kosan)
Takashi Sano (Isuzu Motors)
Tsutomu Kikuchi (Nissan Motor)
Hitoshi Hayashi・Kiyoo Hirose・Katsuhiko Yamaguchi (Toyota Motor)

250 Prediction of Vehicle Fuel Consumption under WLTC Driving Conditions using AOI Project Fuel in Dilute/Lean Combustion
Yasuo Moriyoshi・Fuguon Xu・Zhiyuan Wang・Tatsuya Kuboyama (Chiba University)
Kotaro Tanaka (Ibaraki University)

251★ Propagation Characteristics of Pentene, Ethanol, and Iso-Octane Premixed Turbulent Flames
Hiroshi Maeyama・Takato Kataoka・Yugo Yoshikawa・Ekenechukwu C. Okafor・Toshiaki Kitagawa (Kyushu University)

252 A Shock-Tube Study on the Dependence of Base Fuels on Ethanol Ignition Suppression
Tomohiro Hamasaki・Ken Satokawa・Ryohei Hirai・Riku Sugiura・Kazuo Takahashi (Sophia University)
Akira Miyoshi (Hiroshima University)

253 Laminar Burning Velocity of Light Olefin Containing Gasoline Surrogate Fuels with Oxygenated Fuel Addition
Yuki Ito・Kento Masui・Taku Mizutani (Osaka Metropolitan University)
Fugo Kawanishi (Osaka Prefecture University)
Hidefumi Kataoka・Daisuke Segawa (Osaka Metropolitan University)

254 A Study on the Effect of Synthetic Fuels with Different Properties on Combustion and Exhaust Emission Characteristics of a Heavy-Duty Compression-Ignition Engines
Byungju Shin・Toshiaki Shinozaki・Noboru Uchida (New A.C.E Institute)

【13:40～15:45】

56 Effect of Automobile Emission on Atmospheric Environment
<OS> Tazuko Morikawa (JARI)

255 Effect of the Introduction of Battery Electric Vehicles on Ground-Level O_3 and $PM_{2.5}$
-Mitigation of Heat Island Effect and Health Impact-
Hiroo Hata・Norifumi Mizushima (AIST)
Tomohiko Ihara (The University of Tokyo)

256 Effect of Fuel Tank Pressure on Entrained Air Flow Rate during Automobile Refueling Process and Its Calculation Model
Shota Yokoyama・Toshiki Iwakawa・Keiki Yamaguchi・Juan C. Gonzalez Palencia・Mikiya Araki
(Gunma University)

257 PN Emission from Heavy Duty Vehicles Complying with Cold Start Emissions Regulation
Kazu Oshima・Hiroyuki Yamada (Tokyo Denki University)
Hidenori Konno (Toke Engineering)
Atsushi Sato・Jun Okabe・Yoya Tachi
(Environment & Information)

258 Brake Emission Reduction Approach under the Impact of EU7
Christof Danner (AVL List)
Kinzo Takahashi・Toru Nishizawa (AVL Japan)

259 Development of Brake Particle Emissions Measurement System for New European Regulations
Kenji Kondo・Stefan Guether (HORIBA Europe)
Takahiro Kitahara・Suguru Fukushima・Yoshinori Otsuki (HORIBA)

【16:15～17:30】

57 Advanced Gasoline Engine Systems and Technologies IV
-Cutting-Edge Spark Ignition Technology-
<OS> Akira Tsunoi (Bosch)

260 Development of Elemental Technologies using Ethanol-Containing Fuel for Gasoline Engine
Tomohiro Nakayama・Ryo Iwashita・Takahiro Seino・Yuuki Itou・Masami Shiki・Shohei Matsuoka・Kenu Takahashi (SUBARU)

261 Multi-Cylinder Demonstration of a Pre-Chamber Lean-Burn Gasoline Combustion System using Real-Time Fuel Reforming
Makoto Kaneko (Chiba University)
Takuya Kondo・Katsuki Hayashi (Futaba Industrial)
Tatsuya Kuboyama (Chiba University)
Toshio Yamada (Sustainable Engine Research Center)
Yasuo Moriyoshi (Chiba University)
Takashi Yoshida (IHI)

262 Research on Small Two-Stroke Opposed Piston Power Unit
Akira Iijima・Yoshiaki Yamazaki・Jinru Liu・Shumpei Fukushima・Yusuke Otaki・Ikumi Okawara・Sou Watanabe (Nihon University)

G303

【9:30～12:10】

58 Next-generation Fuel, Lubricant, and Tribology Technologies I
<OS> Daisuke Kawano (Osaka Sangyo University)

263 Optimization of Injectors for Improving Thermal Efficiency and Reducing Smoke in the Combustion of Liquid Synthetic Fuels and OME
Zijian Jiang・Shusuke Tanaka・Hiroya Yamamoto・Gen Shibata・Hideyuki Ogawa (Hokkaido University)

264 Influence of the Oil Formulation on the Oil Consumption Mechanisms and the Emission Behavior of Hydrogen Combustion Engines
Marcus Gohl・Robert Wulff・Mathias Braun
(APL Automobil-Prüftechnik Landau)
Peter Scholl・Pierre Chapelot (TotalEnergies)
Michael Günthner・Thorsten Fuchs・Philipp Emanuel Jung
(RPTU University of Kaiserslautern-Landau)

265 The Experimental Study on the Effect of Diesel Fuel Composition and Distillation Properties on PM Production
Kohei Katori・Tsutomu Hasegawa・Masahiro Seo・Ko Takahashi (Idemitsu Kosan)

266 Alcohol Diffusive Combustion Technique as an Alternative Diesel Combustion (First Report)
-Survey of Ignition Assisting Method and Minimum Condition of Pilot Flame-
Takayuki Fuyuto・Kenji Fukui・Yoshiyuki Mandokoro・Reiko Ueda・Kazuaki Nishikawa・Teruaki Kondo・Yoshifumi Wakisaka (Toyota Central R&D Labs.)

267 Alcohol Diffusive Combustion Technique as an Alternative Diesel Combustion (Second Report)
-Pilot Ignition and Main Diffusion Combustion with Methanol Monofue-
Kenji Fukui・Yoshiyuki Mandokoro・Reiko Ueda・Kazuaki Nishikawa・Teruaki Kondo・Yoshifumi Wakisaka・Takayuki Fuyuto (Toyota Central R&D Labs.)

268 The Combined Effects of Gasoline Components on Intake Valve Deposit
Shouta Tobe (SUBARU)
Henry Du (Lubrizol Management)

【13:40～16:45】

59 Next-generation Fuel, Lubricant, and Tribology Technologies II
<OS> Junpei Yoshida (Honda R&D)

269 Effect of Engine Oil Containing Ultrafine Bubbles on Reduction of Friction Loss in Piston-Cylinder System
-Influence of Cylinder Bore Honing Specifications and Lubricant Viscosity-
Kai Horiba・Yuji Mihara・Syusuke Hoshino・Takumi Iwata・Masakuni Oikawa (Tokyo City University)

270 Reduction of Engine Bearing Friction with Engine Oils Containing Ultrafine Bubbles
-Effect of Generation Density and Oil Viscosity-
Shusuke Hoshino・Kai Horiba・Takumi Iwata・Yuji Mihara・Masakuni Oikawa (Tokyo City University)

271 Influence of Piston Design Parameters on Oil Volume of Oil Film at Piston-Cylinder Interface
Yasuhiro Ishikawa (Tokyo City University/ Isuzu Advanced Engineering Center)
Ruka Matayoshi・Akemi Ito (Tokyo City University)
Kenichi Yamashita (Isuzu Advanced Engineering Center)

272 A Study on Water Evaporation Characteristics from Emulsified Oil in a Hydrogen Engine
Akemi Ito・Itsuki Motomiya・Daisuke Hiyama・Ryosuke Ichimura (Tokyo City University)

273★ Study of Re-Refined Base Oil (RRBO) for Fuel-Efficient Engine Oil
Yuta Watanobe・Takumaru Sagawa・Kiyoshi Hanyuda・Ayano Otsuka (Shell Lubricants Japan)

274 Development of Next Generation Fuel Economy Engine Oil JASO GLV-2 0W-16, 0W-20
Shunsuke Nara・Yuta Uematsu・Kazuo Yamamori・Junichi Sudo・Satoshi Hirano・Noriya Ishizaki・Atsuhisa Tamano (Toyota Motor)
Shogo Eryu・Yushi Kato (ENEOS)

275 Relationship Between Degradation of Additives in EV Fluid and Friction Properties
Toshimitsu Numata・Sawa Araki・Yuriko Fujii・Kiyotaka Nakamura (Nissan ARC)

G304

【9:30～11:35】

60 MBD Guaranteed for Model Distribution Conforming to International Standards I
-Support Technology for Digital Validation and Visualization of Carbon Neutrality-
<OS> Junichi Ichihara (AZAPA)

【OS Keynote Address】

276 Support Technology for Digital Validation and Carbon Footprint
-Simulation Setup in Protocols for Digital Validations-
Toshiji Kato (Doshisha University)
Kimitoshi Tsuji (Digital Twins)
Tsunehiro Saito (AGC)
Masahiro Okamura (JSOL)

277 Initiatives for Virtual Testing using Digital Twins and Digital Authentication II
-Comprehensive CO2 Reduction and New Manufacturing System-
Kimitoshi Tsuji (Digital Twins)
Tosiji Kato (Doshisha University)
Tsunehiro Saito (AGC)
Masahiro Okamura (JSOL)

278 Study and Proposal on Model Traceability using Cryptographic Hash Function
Masahiro Okamura (JSOL)
Kimitoshi Tsuji (Digital Twins)
Tsunehiro Saito (AGC)
Toshiji Kato (Doshisha University)

279 Study and Proposal on OCC for Automotive Glass using EV Model (Second Report)
-POC of Digital Authentication Protocol with EV Cabin Thermal Model-
Tsunehiro Saito (AGC)
Hideto Noyama
(Mitsubishi Heavy Industries Thermal Systems)
Masahiro Okamura (JSOL)
Kimitoshi Tsuji (Digital Twins)
Toshiji Kato (Doshisha University)

280 Construction of Online Co-Simulation Environment (Sixth Report)
-Development of Machine Learning-Based Surrogate Model of 1D Thermal Plant Model-
Kenichiro Ogata・Keijiro Koide・Motoki Takahata・Kohei Tanaka・Kazuaki Watanabe (Honda Motor)

【13:05～15:10】

61 MBD Guaranteed for Model Distribution Conforming to International Standards II
-Support Technology for Digital Validation and Visualization of Carbon Neutrality-
<OS> Osamu Seya (TechnoPro)

281 Accuracy Verification of Circuit Analysis Method using Coupled Electrical and Mechanical 1D Models in Collaboration with Tier 1 and Tier 2 Suppliers
Masashi Inaba (DENSO)
Hiroki Nakamizo (Institute of Science Tokyo)
Masanari Ueda
(Siemens Electronic Design Automation Japan)
Yoshiko Ikeda (Toshiba Electronic Devices & Storage)
Takao Egami (AC Technologies)
Daisaku Mukaiyama (Rubycon)
Yoshinori Aruga (KOA)
Wataru Hijikata・Hideaki Fujita
(Institute of Science Tokyo)
Takuya Shinoda (DENSO)

282 Accuracy Verification of Robust Design for Location of Thermal Interfacial Material by using MBD
Kazunari Hashimoto (DENSO)
Ryuta Yasui (Institute of Science Tokyo)
Masashi Inaba (DENSO)
Takao Egami (AC Technologies)
Yoshiko Ikeda (Toshiba Electronic Devices & Storage)
Yoshinori Aruga (KOA)
Daisaku Mukaiyama (RUBYCON)
Masaki Ueda (Siemens)
Kazuyoshi Fushinobu (Institute of Science Tokyo)
Takuya Shinoda (DENSO)

283 Evaluation of the Actuator Behavior in a Low-Temperature Range
-The effect of the Low Temperature Characteristics of the Aluminum Electrolytic Capacitors-
Daisaku Mukaiyama (Rubycon/Nagoya University)
Masashi Inaba (DENSO)
Masanari Ueda
(Siemens Electronic Design Automation Japan)
Yoshinori Aruga (KOA)
Yoshiko Ikeda (Toshiba Device & Storage)
Takao Egami (AC Technologies)
Kazunari Hashimoto (DENSO)
Hideki Jounokuchi (Nagoya Institute of Technology)
Masayoshi Yamamoto (Nagoya University)
Takuya Shinoda (DENSO)

284 Resistor and Board Modeling for Tier 1 and Tier 2 Collaboration using MBD
Yoshinori Aruga (KOA)
Masashi Inaba (DENSO)
Masanari Ueda
(Siemens Electronic Design Automation Japan)
Daisaku Mukaiyama (Rubycon)
Hiroki Nakamizo (Institute of Science Tokyo)
Haruki Takei (Siemens)
Takao Egami (AC technologies)
Yoshiko Ikeda (Toshiba Electronic Devices & Storage)
Hideki Jounokuchi (Nagoya Institute of Technology)
Takuya Shinoda (DENSO)

285 Consideration of the Impact of Semiconductor Model Accuracy on MBD Collaboration between Tier1 and Tier2 and Application to Actuator Drive Circuit Operation
Yoshiko Ikeada (Toshiba Electronic Devices and Storage)
Takao Egami (AC Technology)
Takashi Nakanishi (Toshiba Electronic Devices & Storage)
Masashi Inaba・Kazunari Hashimoto (DENSO)
Masao Ueda (Siemens)
Daisaku Mukaiyama (Rubycon)
Yoshinori Aruga (KOA)
Hideki Jonokuchi (Nagoya Institute of Technology)
Takuya Shinoda (DENSO)

G314+G315

【9:30～11:10】

62 Engineering Ethics Today
<OS> Yasuki Motozawa (Shiga University of Medical Science)

【OS Keynote Address】

286 Redefining Engineering Ethics in the Context of Society–Technology Relations
Norihisa Miki (Keio University)

287 Characterizing Micro-Ethics in Autonomous Vehicles using Scenarios
Masao Ito (NIL)

288 Assessment of Risky Driving Levels from Traffic Accident Statistics Data Analysis on High-Velocity Runaway Accidents on Public Roads
-Estimating the Aggressiveness of High-Velocity Runaway Vehicles from Traffic Accident Injury Statistics-
Yasufumi Sekine (Fukuyama University)

289★ Derivation of Support Concepts Based on the Driver's Cognitive Abilities
Nanae Michida・Masanori Honda・Kuninori Suzuki・Yoh Yamazaki・Kenta Okada・Hiromune Obayashi (Mazda)
Yoshinori Tamada・Ken Itoh・Tatsuya Mikami・Koichi Murashita・Shigeyuki Nakaji (Hirosaki University)

【12:40～15:20】

63 Exhaust Emission Catalyst System I
<OS> Hiroshi Anoda (Isuzu Motors)

290★ Research on Direct Carbon Dioxide Capture Technology from Motorcycle Exhaust Gas
Momona Hirao・Toru Uenishi
(Kitami Institute of Technology)

291★ Research on Carbon Recycling Technology in Vehicles
Toru Uenishi・Momona Hirao
(Kitami Institute of Technology)

292★ CO_2 Separation and Capture from Engine Exhaust Gas using the Physical Adsorption Method (Second Report)
-Impact of the Differences between a Gasoline Engine and a Diesel Engine on CO_2 Adsorption and Desorption Performance-
Tadanori Yanai
(Shizuoka Institute of Science and Technology)

293 Development of an Exhaust Gas Aftertreatment System using Plasma and HC Adsorption
Ryoichi Shimamura・Ryutaro Tamaki・Chihiro Matsuda・Takamasa Imanishi・Kazuhiko Madokoro・Kazuya Naito・Tatsuya Ehara (Daihatsu Motor)
Ryoichi Ogawa・Tetsuya Shinozaki・Minoru Ito (Cataler)

294 Enhancement of Reaction by Molecular Diffusion in Three-Way Catalyst Porous Particles Membrane Filter
Mariko Watanabe (Sophia University)
Katsunori Hanamura
(Japan Science and Technology Agency)

295 Development of DPF Model Compatible with Whole Vehicle Model and Study on Regeneration Control (Second Report)
-Improvement of Temperature Prediction Accuracy of DPF Models and Its Application-
Kenta Hasegawa (Tokyo Denki University)
Norifumi Mizushima (AIST)
Hiroyuki Yamada (Tokyo Denki University)

【15:50～17:05】

64 Exhaust Emission Catalyst System II
<OS> Susumu Sato (Institute of Science Tokyo)

296★ Development of Optimized GPF Performances Based on GPF Model
Sungmu Choi・Jiho Cho・Hyungjun Kim・Sangmin Lee (Hyundai Motor)

297 Quasi-2-D Numerical Modeling on the Urea SCR Catalyst with Detailed Surface Reactions
Fuka Yoshida・Jin Kusaka (Waseda University)

298 Simulation and Performance Prediction of Spray Droplet Behavior in a Urea-SCR Dosing System using PIV-DDM
Shotaro Nara・Nachi Takeuchi・Joe Ono・Yukiyuki Kawamoto・Naoya Fukushima・Masayuki Ochiai・Tetsuo Nohara (Tokai University)

G316+G317

【9:30～10:45】

65 New Technologies for Advanced Measurements and Diagnostics I
<OS> Atsushi Shimada (Hitachi)

299 Development of Efficient Testing Methods for In-Vehicle Battery Durability Evaluation Utilizing Bidirectional Power Supply System
Toshimichi Takahashi (Meidensha)
Hiroki Kazami (Kikusui Electronics)

300 Relationship between Mass Burnt Fraction 50% Crank Angle and Low-Frequency Components in Cylinder Pressure When Ignition Timing was Delayed
Keiichi Nagashima (Honda R&D)
Kazuo Tsuchiya (Meiji University)

301 Bulk Quench of Turbulent Premixed Combustion Under Dilution and Lean Operating Conditions in DI Gasoline Engine
Masaaki Kato・Yoshirou Shiina・Takeshi Tsuda (SUBARU)

【12:40～14:45】

66 New Technologies for Advanced Measurements and Diagnostics II
<OS> Kotaro Tanaka (Ibaraki University)

302 Euro 7 OBM and Solutions to On-Board Emissions Assessment
Scott Savage・Ian Short (Ricardo UK)
Hidenori Noguchi (Ricardo Japan)

303 Analysis of Real Driving Emissions Measurements during Adverse Weather Conditions using a Laser Spectroscopy Based Portable Emissions Measurement System
Jorge E. Lamas・Shoji Namikawa・Yosuke Kondo・Yoshinori Otsuki (HORIBA)

304 Integrated Development of Chassis and Powertrain Systems: Enhancing Vehicle Motion Control through Predictive Dynamics and Virtual Validation
Felix Matthies・Marcus Perner・Wei Han・Tim Ahrenhold・Christoph Koehler (IAV)

305 Initial Damage Sensing by the Vibration Modes of AE Waves in Vibration Fatigue
Toshiharu Kaneshiro・Takashi Maeda・Satoshi Ikeda・Yoshimi Sato (Estech)

306 Applicability Evaluation for Vehicle Bench Testing using a Flat-Type Dynamometer that can be Installed Inside the Vehicle's Tire Housing
Kentaro Kondo・Yuichi Takasaki・Yoshihisa Hojo・Kohei Yasumoto・Kenji Terada・Daisuke Kozakai・Koichi Eitoku (Toyo Denki Seizo)

【15:15～16:55】

67 Thermal and Fluid Technologies Leading to a Carbon Neutral Society IV
-Cabin Environmental Technology that Balances Thermal Comfort, Air Quality and Efficiency-
<OS> Yuzuru Yoshinami (Nissan Motor)

307 Numerical Analysis of Cabin Particulate Matter to Improve Vehicle Interior Air Quality (VIAQ)
Mie Hirahara・Yusuke Nakamura・Masato Hijikuro・Akane Masui・Keigo Shimizu・Yuki Koda (Mazda)

308 Investigation of Convective Heat Transfer to Various Parts of the Human Body for Air Conditioning Efficiency and Thermal Comfort
Akane Masui・Yusuke Nakamura・Mie Hirahara・Masato Hijikuro・Koki Kawakami・Kazuki Ito・Keigo Shimizu (Mazda)
Akira Togii (Mazda/Hiroshima University)

309 Thermal Manikin for Optimizing the Cabin Climatization Control Strategy
Patrick Schutzeich (FEV Vehicle)
David Hemkemeyer・Simon Schilling (FEV Europe)
Kai Franke・Daniel Linse (RWTH Aachen University)
Michael Hog (FEV Group)
Noriyuki Muramatsu (FEV Japan)

310* 1D Model Development of Thermal Management System in BEV
Takeru Kakita (DENSO)
Matthew Blom (DENSO Automotive Systems Australia)
Yousuke Yasuda・Yusuke Sato・Tomohiro Sudo (DENSO)

G318+G319

【9:30～11:35】

68 Tire/Road Characteristics, Contact Properties and Related Technologies I
-Tire Mechanisms Toward the Future-
<OS> Isao Kuwayama (Bridgestone)

311 Tread Depth Monitoring for Automotive Tires
Matthias Kretschmann・Nicolas Guinart・Remi Gobin (Continental SCR)

312 Towards a Multi-Performance Real Time Capable Tire Model
Christian Ludwig・Benjamin Rieff (Cosin scientific software AG)

313 A Tire Model Extension to Express Water Depth and Velocity Influences on Tire Performance
Toshiyuki Hyuga (Siemens)
Carlo Lugaro・Willem Versteden (Siemens Industry Software and Services)

314 Development of a Method for Predicting Tire Cornering Force Curve using Machine Learning
Yudai Mikami・Haruyuki Suzuki (Sumitomo Rubber Industries)

315 Improvement of Transient Yaw Response using Electric Power Steering Considering Tire Characteristics
Daiki Morimoto・Yasunori Seki・Daisuke Yokoi (Suzuki Motor)

【13:05～14:45】

69 Tire/Road Characteristics, Contact Properties and Related Technologies II
-Tire Mechanisms Toward the Future-
<OS> Masami Matsubara (Waseda University)

316* A Study on the Fail-Safe of the Intelligent Tire Sensor using the Tire Strain Model
Heeyoung Jo (Illinois Institute of Technology)
Sun Je Kim (Chungnam National University)
Kyuwon Ken Choi (Illinois Institute of Technology)
Kihan Noh (Korea Automotive Technology Institute)
Dhrumitkumar Rami (Illinois Institute of Technology)

317 ★ Development of Tire and Vehicle Performance Prediction Model using Machine Learning
Yeonsang Yoo (Hyundai Motor)
Benjamin Schaefer (RWTH Aachen University)
Yongdae Kim・JinSil Kyeong (Hyundai Motor)

318 New Efforts to Construct Road Friction Measurement System
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 (Osaka Sangyo University)
Minoru Nishio (Absolute)

319 Measurement of Road Contact Load during Straight Driving of a Car using Tire Wheel Deformation
Hiroshi Tachiya・Akira Shibuya・Masahiro Higuchi (Kanazawa University)
Daisuke Yokoi・Naoki Sekino・Kenta Konishi・Daiki Morimoto (Suzuki Motor)

【15:15～16:30】

70 Prospects of Sustainable Automotive Society
<OS> Hiroshi Kawanabe (Kyoto University)

【OS Keynote Address】

320 Prospects of Sustainable Automotive Society
-Directions of Technical Responses, and Challenges-
Yoshio Maeda (Waseda University)

321 A Battery Recycling Outlook for Lithium in the UK
-An Automotive Battery End-of-Life Value Chain Overview-
Hadi Moztarzadeh・Julian Hetherington (Advanced Propulsion Centre UK)

322 Material-Recycle Technology of Automobile Shredder Residue
Shogo Izawa・Yuta Urushiyama・Akinori Yoshimura (Nagoya University)

G401+G402

【9:30～11:10】

71 xEV I
<OS> Takashi Majima (IHI Inspection & Instrumentation)

323 Revolutionizing Battery Management
-AI-Powered Digital Twin for Predictive Maintenance and Enhanced Performance-
Nikolaus Keuth・Gerhard Schagerl (AVL List)

324 Study on a Slip Rate Estimation Method Based on Motor Torque Control of Four In-Wheel Motors
Wataru Hatsuse (Hitachi)
Toshiyuki Ajima・Masaru Yamasaki (Astemo)

325 Development of Next-Generation e:HEV Control System for Synchronization with Driver Emotions
Ryosuke Narimoto・Sadaharu Maeda・Yohei Ukai・Shinobu Kurachi・Masatoshi Saito・Naoya Murata・Akari Nagakura・Hiroki Gunji・Kazuki Shiki (Honda Motor)

326 Changes in dQ/dV Depending on Battery Abnormalities
Hyunjun Jo・Sijoong Kim・Hyunjun Jang・Taekyu Kang・Woosung Kim (Hyundai Motor)

【12:40～14:45】

72 xEV II
<OS> Shintaro Oshio (Nissan Motor)

327 Flex-eDrive: Next Generation e-Powertrain Concept for Maximum Flexibility and Cost Scaling
Christoph Danzer・Rico Resch・René Kockisch・Stephan Günther・Philipp Welke・Tobias Voigt・Volker Helbig・Volker Ambrosius・Hubertus Ulmer (IAV)

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

329 A Study on Calculation Method of EV Range per Charge for Heavy-Duty EV
-Considerations of Test Duration and Influence of Regenerative Braking Characteristics-
Shinji Yoshikawa・Nobunori Okui (NALTEC)

330 Evaluation Review of a Chassis Dynamometer System for xEV Testing (Second Report)
-Analysis of the Impact of 4WD Chassis Dynamometer Performance Requirements Evaluation Parameters on Electric Power Consumption-
Noriaki Nakate (JATA)
Hisakazu Suzuki (NALTEC)
Tomonobu Furuta (MEIDENSHA)
Isamu Inoue (Ono Sokki)
Takashi Nagayama (HORIBA)
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)

331 Driving Efficiency and Innovation in BEVs
-Next-Generation Electronics-
Ayman Ayad・Philip Brockerhoff (Schaeffler AG)
Takuya Mimori (Schaeffler Japan)

【15:15～16:55】

73 xEV III
<OS> Osamu Shimizu (The University of Tokyo)

332 Research on Thermal Insulation for EV Batteries with Latent Heat Storage System
Tatsuyuki Ohashi・Haruyuki Iijima (F.C.C.)
Takahiro Nomura・Tomokazu Nakamura
(Hokkaido University)

333 Development of Battery Data Generation Technology using Time Series Wasserstein GAN Based on Deep Learning
Hyun Jun Jang・Byung Soo Park・Si Joong Kim・
Woo Sung Kim (Hyundai Motor)

334 Realizing an Energy and Resource Saving Society by Dynamic Wireless Power Transfer for EVs
Naoya Kato・Tetsuji Mitsuda・Keisuke Tani・
Takuya Osugi・Koji Yamaguchi・Yuki Konno・
Mitsuhiro Ishihara・Atsuki Ito・
Toshiki Nagamatsu・Keiichi Oshima (DENSO)

335 Early Fault Detection in Lithium-Ion Batteries using Machine Learning
Ethelbert Ezemobi・Seyedmehdi Hosseininasab・
Lennart Bauer・Maximilian Kloock (FEV Europe)

G403

【9:30～11:35】

74 Technologies of Evaluations and Measures for Road Traffic Noise
<OS> Sohei Tsujimura (Nihon University)

336 Activities of the Vehicle Exterior Noise Division Committee of the Society of Automotive Engineers of Japan
Toru Yamazaki (Kanagawa University)

337 Subjective Evaluation of Motor Vehicle Noise with Low Frequency Components
Kazuma Yabuuchi (Kanagawa University)
Shigenori Yokoshima (Kanagawa University/
Kanagawa Environmental Research Center)
Makoto Morinaga (Daido University)
Koichi Makino・Tetsuya Doi・Sakae Yokoyama・
Tomohiro Kobayashi
(Kobayasi Institute of Physical Research)
Toru Yamazaki (Kanagawa University)

338 Objective Evaluation of Awaking Due to Road Traffic Noise
-Basic Study using Wearable Devices-
Makoto Morinaga (Daido University)
Shigenori Yokoshima
(Kanagawa Environmental Research Center/
Kanagawa University)
Yoshiki Umezaki (Creative Research and Planning)
Toru Yamazaki (Kanagawa University)

339 A Study on Latent Representation Learning and Speed Estimation of Traffic Noise Based on the DCASE2024 Task
Manyong Jeong
(National Institute of Technology, Numazu College)
Kotatsu Nomura (Tohoku University)

340 Outline of Road Traffic Noise Prediction Model "ASJ RTN-Model 2023"
Yasuaki Okada (Meijo University)
Katsuya Yamauchi (Kyushu University)
Shinichi Sakamoto (The University of Tokyo)

【13:05～14:20】

75 Noise, Vibration, Ride Comfort
Hiroko Tada (Honda Motor)

341 Application of the Momentum Algorithm for Active Noise Control
-Fast Convergence for the HVAC Compressor Noise in an Autonomous Bus-
Seongyeol Kim・Junseok Choi・Doyeon Kim・
Sang-Kwon Lee (Inha University)

342 Electromagnetic and NVH Analysis of PMSM with Eccentricity and Rotor Magnetization Variations
Sumeet Singh (EMWorks)
Rabah Hadjit (ESI)
Mario Felice (virsolTech)
Taiki Tsukada (ESI)

343 Impact of Vibration Applied to the Vehicle by the Hub Nut Clamp Type Vehicle Restraint Device (Second Report)
Toshimichi Takahashi・Toshinari Kozeki (Meidensha)
Masao Furusawa (F-MA Consulting)

G404

【9:30～11:10】

76 Dynamics, Control and Safety of Two-wheeled Vehicles I
-Motorcycles, Bicycles, and PMV-
<OS> Tomoya Kitani (Shizuoka University)

344 Analysis of Obstacle Avoidance Performance of a Personal Mobility Vehicle (PMV) Equipped with an Active Inward-Tilting Mechanism under Braking Conditions
Tetsunori Haraguchi
(Nagoya University/Nihon University)
Tetsuya Kaneko
(Osaka Sangyo University/Nihon University)

345 Simulation-Based Analysis of Obstacle Avoidance in Personal Mobility Vehicle (PMV) with an Inward Tilting under Braking Conditions
Tetsuya Kaneko
(Osaka Sangyo University/Nagoya University)
Tetsunori Haraguchi
(Nagoya University/Nihon University)
Ichiro Kageyama (Nihon University)

346 Analysis of the Effect of Motorcycle Dynamics on Frame Flexibility
Tsuyoshi Katayama・Reiya Haraoka・Masanori Myoyo・
Takahiko Yoshino (Kurume Institute of Technology)

347 Analysis of the Influence of Motorcycle Dynamics on Frame Flexibility (Second Report)
-Examples of Applications of Flexibility Indicators-
Takahiko Yoshino・Reiya Haraoka・Masanori Myoyo・
Tsuyoshi Katayama (Kurume Institute of Technology)

【12:40～13:55】

77 Dynamics, Control and Safety of Two-wheeled Vehicles II -Motorcycles, Bicycles, and PMV-
<OS> Tetsunori Haraguchi (Nagoya University)

348 Examination of the Appropriate Alignment of Omnidirectional Cameras in the Position Measurement System for a Motorcycle using Image Processing
Junji Hirasawa
(National Institute of Technology (KOSEN), Ibaraki College)

349 Analysis of the Synchronization of the Rider's Posture, Gaze, and Maneuvers with the Vehicle's Motion
Masakazu Tomosada・Masaru Katayama・Yoshihiro Fujioka・Yukito Fukushima・Daiki Izumi・Takeshi Kobuki・Akiyasu Takami
(National Institute of Technology, Matsue College)

350 A Proposal for Translating Vehicle Motion Sensing Data into Symbolic Sequences with Temporal Dynamics -Hear the Motorcycle Sing-
Tomoya Kitani・Takuro Sone・Yotaro Yada
(Shizuoka University)

G414+G415

【9:30～12:10】

78 Crash Safety (The Safety for Occupants and Vulnerable Road Users)
<OS> Masahito Hitosugi (Shiga University of Medical Science)

351 Development of Sub System Sled-Based Lateral Pole Impact Test
Gustavo Maturana・Alba Marquez・Alessandro Gravina・Jordi Viñas・Genis Mensa
(IDIADA Automotive Technology)

352 A Comprehensive Approach to Hydrogen Vehicle Crash Testing Challenges
Victor Garcia Santamaria・Miguel Angel Gallego Ruiz・Saul Martin Medina・Genís Mensa Vendrell・Carles Vidal Aguado (IDIADA Automotive Technology)

353 Raising the Bar for Heavy Quadricycles Safety in Urban Mobility -Structure and Occupant Protection Assessment of a L7-e Vehicle through Euro NCAP Tailored Crash Test Protocols-
Carles Vidal Aguado・Emilia Romero Tienda・Jordi Salvat Pamies・Genís Mensa Vendrell・Victor Garcia Santamaria
(IDIADA Automotive Technology)

354 Evaluation of ATD and Human Body Model Responses in Rear Impact Scenarios
Simona Roka・Pablo Lozano (Applus+ IDIADA)
XuFeng Li (IDIADA China)

355 A Study of Lower Extremity Injuries in Various Seat Positions in Frontal Collisions
Toshimitsu Negishi・Shogo Nagano・Yuuta Kasuya・Shigeki Hayashi・Hiroaki Imai・Yuuji Nakane (Toyota Motor)

356 Investigation of the Effects of Muscle Activation in Pedestrian Crashes using THUMS
Takuma Miyazaki・Yoshiki Takahira・Yojiro Iizuka・Hiroshi Miyazaki・Shigeki Hayashi・Hiroaki Imai・Yuji Nakane (Toyota Motor)

【13:40～15:45】

79 Biomechanics
<OS> Ryuuji Ootani (Nissan Motor)

357 Development of 50th Percentile Female Human Body Model
Noriyuki Fujita・Takao Matuda・Yuuiti Kitagawa
(Toyota Motor)

358 Development of Pregnant Women Occupant Models and Prediction of Placental Abruption in Vehicle Collisions using these Models
Tomohiro Izumiyama・Atsuno Tsuji (Mazda)
Yumiko Tateoka (Shiga Medical Science)
Ryusuke Asahi (Mazda)
Masahito Hitosugi (Shiga Medical Science)

359★ The Novel Restraint System for the Safety of Wheelchair User Vehicle Passengers
Masahito Hitosugi・Ayumu Kuwahara
(Shiga University of Medical Science)

360 Factors Influencing Thoracic and Abdominal Injuries in Far-Side Collisions and Injury Reduction
Hitoshi Ida・Yoshito Kusuhara・Masashi Aoki・Michihisa Asaoka (Toyoda Gosei)
Masahito Hitosugi (Shiga University of Medical Science)

361 Analyses of Injury Mechanism with Human FE Models in Accidents Involving an Electric Kick Scooter
Daisuke Ito・Shun Fujishima (Kansai University)

【16:15～18:20】

80 Accident Analysis and Safety Measurements -New Approaches for Accident Mechanism Analysis or Safety Issues-
<OS> Hisashi Imanaga (JARI)

362 International and Domestic Trends of Safety Regulations on Motor Vehicles
Masafumi Matsusaka (MLIT)

363★ Study on the Actual Situation and Characteristics of Pedal Error Accidents Based on Event Data Recorders and Other Data in Micro Investigations
Hideki Matsumura (NALTEC)
Motoki Sugiyama・Takekazu Iwata
(Institute for Traffic Accident Research and Data Analysis)

364★ Advancing Automated Driving Systems Development and Safety Evaluation with the Automated Mobility Partnership
Jacobo Antona-Makoshi・Gibran Ali・Kaye Sullivan・Vicki Williams (Virginia Tech Transportation Institute)
Alex Hatchett
(Global Center for Automotive Performance Simulation)
Kevin Kefauver (Virginia Tech Transportation Institute)

365 Construction of Accident Risk Assessment Method for Road Alignment using Digital Road Map
Ryoma Ohtani・Katsuma Ando・Ryoya Hara・Hiroshi Kuniyuki (Suwa University of Science)

366 Analysis of Causes for Single Motorcycle Accidents in Hilly and Mountainous Areas using Motorcycle Driving Simulator
Yuta Katayama・Taisei Kitagawa・Yusuke Numao・Hiroshi Kuniyuki (Suwa University of Science)

G416+G417

【9:30～12:35】

81 Electronics and Communication
-Design, Evaluation and Sensors-
Hiroaki Morino (Shibaura Institute of Technology)

367 Study of Robust Design to Ensure the Manufacturing Quality of High-Density Mounted Electronic Components on the Printed Board
Hisao Nishimori・Jun Muto・Tomoyuki Furukawa・Miiyu Orinaka・Yasufumi Shibata (Toyota Motor)

368 Predicting Engine Physical Sensor Values using Multiple Regression Models
Yuki Yano・Kenichi Morizane・Koshiro Wada・Nobuo Yunoki・Kenta Kobayashi (Mazda)

369 Study on Improving the Robustness of Stroke Sensors for Steer-by-Wire EPS
Yohei Shirakawa・Yoshiaki Yanagisawa・Yukio Ikeda (Proterial)

370★ Noise Evaluation and Prediction Technology for In-Vehicle Electrical Components
Yukihiro Serizawa (Sohwa & Sophia Technologies)

371 Development of an Artificial Weather Chamber that Reproduces a Dynamic Weather Environment for Autonomous Driving Sensors (3rd Report)
Satoshi Akaike・Hiroyuki Enoki・Yuri Saito・Hisayasu Shima (ESPEC)
Hisato Matsumiya (Kyoto University)

372 Systematic Deployment of Small Language Models to Edge Devices
Tobias Schäfer (Fev.io)
Muhammed Emin Baslak (FEV Turkey Otomotiv Mühendislik)
Alexander Kugler・Hendrik Ruppert (Fev.io)
Victorsam Pravinjoelraj・Yutaka Otashiro (FEV Japan)

373★ AI-Based Low Pressure Fuel Pump Pressure Sensor Prediction Model by Super TML
Tac-Koon Kim・Jun-Young Shin・Soo-In Lee (Hyundai Motor)

【14:05～15:45】

82 Polymer Materials I
Masaya Ogata (Nippon Paint Automotive Coatings)

374★ Study on Prediction of Roof Rack Performance using Data Learning Finite Elements Analysis Technique
Gyuho Shim・Teawon Kim (Seco Ecoplastic)
Geonhee Cheon (Seco Seojin)

375★ Manufacturing Process Technology for LiDAR Covers with Self-Healing
Wanho Son・Taiwon Kim・Gyeomson Seong (Seco Ecoplastic)

376 Study on Plastic Materials for FCEV Thermal Management System Components
-Comparative Analysis of PA and PP-
Hyeongwon Park・Kyunghwan Oh・Min Gyun Chung・Taegeun Kim・Kyeongjun Baek・Wookil Jang・Chulwan Park・Jihyun Lee・Soohwan Kim (Hyundai Motor)

377 Dynamic Viscoelastic Measurements of Urethane Foam for Vehicle Seats with Nonlinear Properties
Chihiro Kamio・Rei Asakura・Takao Yamaguchi・Shinichi Maruyama (Gunma University)
Kazuto Hanawa (SUBARU)
Tsutomu Iwase・Toshihiko Kozai (Gunma University/SUBARU)
Tatsuo Hayashi・Toshiharu Sato・Hajime Mogawa (NHK Spring)

【16:15～17:55】

83 Polymer Materials II
Takashi Iizuka (SUBARU)

378 Effect of Different Refractory Structures on the Flammability of Fiber Reinforced Plastics
Yusuke Ishihara・Asami Nakai・Masayuki Okoshi (Gifu University)
Atsushi Yuki・Hiroto Shigeta・Haruhiko Nakamura (DaikyoNishikawa)
Shuhei Yasuda・Junichi Ogawa・Yuki Yamada (Mazda)
Masahiko Shigetsu (Hiroshima University)

379 Improving CFRTP Strength by Controlling Fiber Orientation
-Effect of Product Shape on Fiber Orientation-
Mutsuki Hamada・Souichiro Nishino (Ibaraki University)
Hidemaru Sootome・Kenta Iwasawa (Industrial Technology Innovation Center of Ibaraki Prefecture)

380★ Material Data Enrichment with Machine Learning for the Orthotropic Material Property of the FRP
Masakazu Takeuchi (Celanese)

381★ Optimization for Thickness Design of Polymer Parts using Machine Learning
Hiroshi Asayama・Hirofumi Kishi・Kazuyoshi Baba (Daihatsu Motor)

G418+G419

【9:30～11:35】

84 Ergonomics
Mieko Ohsuga (Osaka Institute of Technology)

382 A Study of Haptic Simulator for Virtual Door Open & Close Feeling Test
Jaehoon Chung (Hyundai Motor)
Jisung Kim・Jihyung Ma (KAIST)

383 Customized Interior Lamp Control by Detecting and Determining the Condition of Passengers Passenger Status
Sung Ho Park (Hyundai Motor)

384 New Euro NCAP Protocol for General Vehicle Controls
-Redefining Safety Standards for Driver Interaction Through Vehicle Design-
James Jackson (Applus+ IDIADA)

385 Assessing Driver Engagement in a Driving Simulator
Francesco Deiana・James Jackson・Elena Castro Gonzalez・Sergio Cauto Gonzalez・Cristina Periago Linares (Applus+ IDIADA)

386 A Study on Optimal Energy Use for Operating Moving Parts in Vehicle
Seokjin Park・Kyungsup Chun・Jaeyoon Ryoo・Minhyung Byun・Sanghyun Lee (Hyundai Motor)

【13:05～15:45】

85 Multi-agent Traffic Simulation I
<OS> Toshiya Arakawa (Tokyo Denki University)

387 Multi-Agent Traffic Simulation and Road Safety Assessment: Current Status and Future Work
Jun Tajima (Misaki Design)
Keisuke Suzuki (Kagawa University)

388 Analysis of Motorcycle Rider Risk-Taking Behavior Based on Emotional State and Driver Characteristics
Keisuke Suzuki・Naoki Nishiyama (Kagawa University)
Kultida Payappanon・Sunhapos Chantranuwathana・Nuksit Noomwongs (Chulalongkorn University)
Joohyeong Lee・Yoshitaka Mimura (Honda R&D)

389 Development of Mixed-Reality Pedestrian Simulator for Constructing Pedestrian Agent Model and Proposition of Simulator Experiment Database for Sharing Experimental Raw Data
Keita Oda・Jun Tajima (Misaki Design)
Keisuke Suzuki (Kagawa University)

390 Effectiveness Validation on Highway Merging Support System using Multi-Agent Traffic Simulation and Multiple Driving Simulator Coordination
Tohru Yoshioka (Mazda Motor/Kagawa University)
Keisuke Suzuki (Kagawa University)
Hironori Suzuki (Toyo University)
Jun Tajima (Misaki Design)

391 Design Method for Visibility Support Devices that Provide a High Sense of Security
Takuya Izumiguchi・Kento Mera・Hideki Shinsaka・Seishi Takagi・Kan Kouno (PENSTONE)
Tohru Yoshioka・Keisuke Suzuki (Kagawa University)

392 Proposal and Effectiveness Test of Metacognitive Driving Training for Electric Kick Scooter Drivers
Rintaro Yoshikawa・Keisuke Suzuki (Kagawa University)
Kensuke Umazume (Aioi Nissay Dowa Insurance)

【16:15～18:55】

86 Multi-agent Traffic Simulation II
<OS> Keisuke Suzuki (Kagawa University)

393 Proposal of Virtual Platform by Utilizing Multi-Agent Traffic Simulation for Sophisticated Automated Driving System Development
Sou Kitajima・Shun Endo・Nobuyuki Uchida・Kunio Yamazaki (JARI)
Naoki Suganuma (Kanazawa University)
Tadashi Okuno (OS Planning)
Jun Tajima (Misaki Design)

394 Unified Path Planning Algorithm for Traffic Participants in Multi-Agent-Based Simulation and Its Parameter Estimation from Actual Data
Hironori Suzuki (Toyo University)
Jun Tajima (Misaki Design)

395 Multi-Agent Traffic Simulation Based on Dashboard Camera Images
-Development of 3D Position Reconstruction Technology Utilizing Digital City Models-
Toshiya Arakawa (Tokyo Denki University)
Jun Tajima (Misaki Design)
Hironori Niwa (nitro)

396 Acquisition and Analysis of Simulator Driving Data in the Naturalistic Traffic Flow Generated by Multi-Agent Traffic Simulation by the Same Subject Over Months
Toshiaki Kimura (Kyoto Tachibana University)
Hironori Suzuki (Toyo University)
Jun Tajima (Setouchi Simulator)

397 Analysis of Factors Leading to Abandoning Cars during Disaster Evacuations
Haruto Masubuchi・Kousuke Aoyama (formerly Nippon Institute of Technology)
Toshiya Arakawa (Tokyo Denki University)

398 Managing Automaker's Legal Risks in Traffic Accidents of Autonomous Driving, using Multi-Agent Traffic Simulation
Naohiro Tomochika (Mominoki Tomochika Law Firm)

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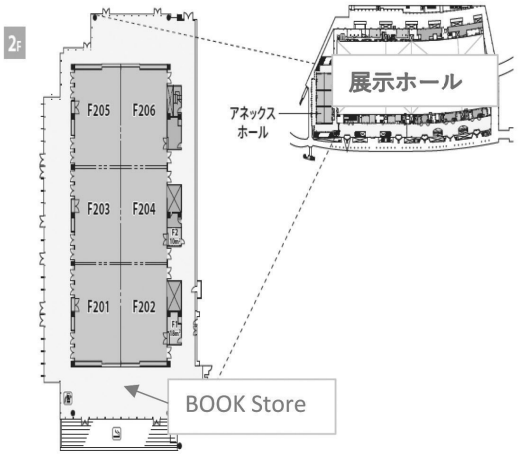

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開設時間：8:00 ～ 18:00 (21 日)
8:30 ～ 18:00 (22 日)
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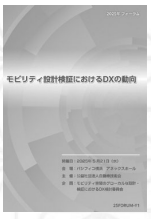

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