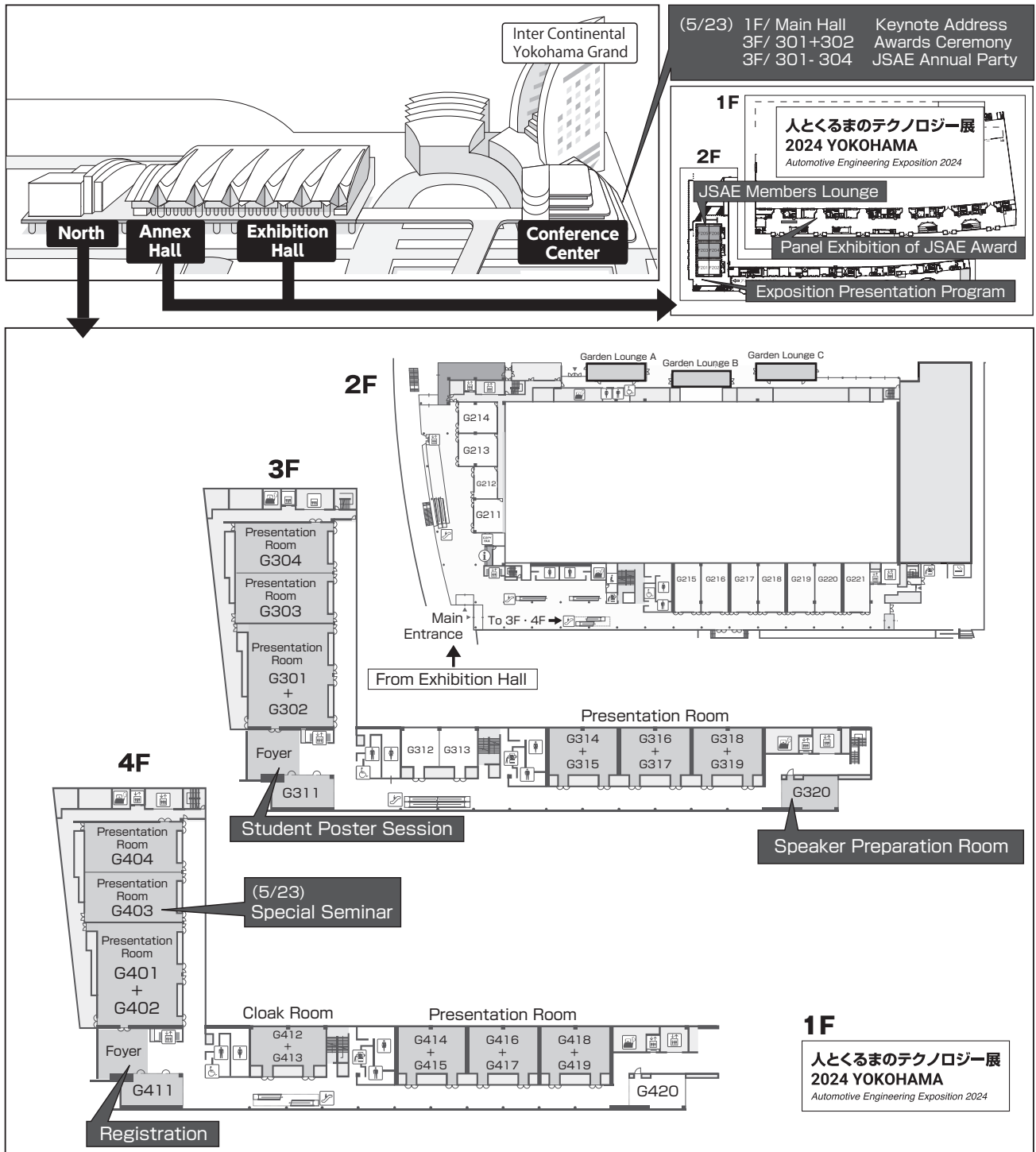


2024 JSAE Annual Congress (Spring)

Wednesday, May 22 - Friday, May 24 2024 / Pacifico Yokohama

Final Program

Floor Map



YOUR PARTNER IN SIMULATION AND VALIDATION

dSPACE

Omar, Product Manager at 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 2024 YOKOHAMA booth No. **183**
Automotive Engineering Exposition 2024 YOKOHAMA

2024 JSAE Annual Congress (Spring)

Period : Wednesday, May 22 to Friday, May 24, 2024

Venue : PACIFICO YOKOHAMA

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Session Program Wednesday, May 22	12-20
Session Program Thursday, May 23	21-27
Session Program Friday, May 24	28-36

Supported by Yokohama Convention & Visitors Bureau

Wednesday, May 22 Congress Timetable

Room	Pacifico Yokohama North						
	G301+G302 (3F)	G303 (3F)	G304 (3F)	G314+G315 (3F)	G316+G317 (3F)	G318+G319 (3F)	G401+G402 (4F)
9:00	9:30						
9:30	The Latest Noise, Vibration and Sound Technology I 001 002 003 [004] No. 1 (OS)	Vehicle Dynamics and Control I 013 014 015 016 No. 4 (OS)	Thermal and Fluid Engineering for Carbon Neutral Society -Computational Fluid Dynamics (CFD)- 025 026 027 10min. Break 028 029 [030] No. 7 (OS)		Fuel Cell Vehicle -Fuel Cell Stacks, Systems and Components- 041 042 043 10min. Break 044 [045] [046] No. 10 (OS)	Electric Road System I (Dynamic Charge System, Dynamic Power Supply System) 056 058 057 059 No. 13 (OS)	Advanced Gasoline Engine Systems and Technologies I 067 [068] 069 070 No. 16 (OS)
	11:10					11:10	
	12:10					12:10	
13:00	The Latest Noise, Vibration and Sound Technology II 005 [007] [006] No. 2 (OS)	Vehicle Dynamics and Control II 017 018 [019] No. 5 (OS)	12:10 13:10 Thermal and Fluid Engineering for Carbon Neutral Society -Fluid Dynamics- [031] [032] 033 10min. Break 034 035 036 No. 8 (OS)		12:10 13:10 New Development of The Energy Storage System Technology I 047 048 049 10min. Break 050 051 052 No. 11 (OS)	Electric Road System II (Dynamic Charge System, Dynamic Power Supply System) 060 062 061 [063] No. 14 (OS)	Advanced Gasoline Engine Systems and Technologies II 071 072 073 074 [075] No. 17 (OS)
	13:25					13:50	
	14:05					14:30	
15:00	The Latest Noise, Vibration and Sound Technology III 008 009 010 011 012 No. 3 (OS)	Vehicle Dynamics and Control III 020 021 022 023 024 No. 6 (OS)				Advanced Power Electronics Component Technologies for Future Vehicles [064] [065] 066 No. 15 (OS)	14:15 14:55 Advanced Gasoline Engine Systems and Technologies III 076 [077] 078 079 080 No. 18 (OS)
	16:10					15:45	
17:00							
18:00							
					16:30 New Development of The Energy Storage System Technology II [053] [054] [055] No. 12 17:45	17:00	

- * Time allocated for a presentation is 25 minutes; 15 minutes for presentation and 10 minutes for Q&A.
- * Program subject to change.
- * Boxed numbers denote English presentations.
- * (OS) is the organized session focused on the specific themes.

						Conference Center	Exhibition Hall / North 1F
G403 (4F)	G404 (4F)	G414+G415 (4F)	G416+G417 (4F)	G418+G419 (4F)	G311 Foyer (3F)		
9:30							
Driver Perception, Cognition, and Emotion 081 082 083 No. 19 (OS) 10:45	Cars That Think and Communicate -Beyond Autonomous Driving- 093 094 095 10 min. Break 096 097 098 No. 22 (OS) 12:10	Next-Generation Advanced Production Engineering for Automotive Material I 108 109 110 111 112 No. 25 (OS)	Social Change and Next Generation Mobility I 121 122 123 124 125 No. 28 (OS)	Fundamental Technology for Safety 129 130 131 132 No. 30 11:10	7th Student Poster Session	10:00	
11:35						12:10	
12:35						12:10	
13:10						12:35	
Driver State Monitoring 084 085 086 087 No. 20 (OS)	Research on the Recognition Technology Required for Automated Driving I 099 101 100 102 No. 23 (OS)	Next-Generation Advanced Production Engineering for Automotive Material II 113 115 114 116 No. 26 (OS) 14:15 14:55	Social Change and Next Generation Mobility II 126 127 128 No. 29 (OS) 13:50	Intelligent Safety Vehicle I 133 134 135 136 137 No. 31 14:15 14:55		16:00	
14:50						16:00	
15:30						16:00	
Analysis and Modeling of Driver Behavior 088 089 090 091 092 No. 21 (OS)	Research on the Recognition Technology Required for Automated Driving II 103 104 105 106 107 No. 24 (OS)	Metal and Ceramic Materials 117 118 119 120 No. 27 16:35		Automotive Security Technology 138 139 140 141 142 No. 32 (OS) 17:00			
17:35							
							18:00

Engine・After treatment・Powertrain	Body・Chassis・Production machining	ITS・Human Engineering	Parts・Materials	CAE/NV・Measurement・Fluid	HV・PHV・EV	Safety	Others
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Thursday, May 23 Congress Timetable

Room	Pacifico Yokohama North						
	G301+G302 (3F)	G303 (3F)	G304 (3F)	G314+G315 (3F)	G316+G317 (3F)	G318+G319 (3F)	G401+G402 (4F)
9:00	9:30						
9:30	The Latest Noise, Vibration and Sound Technology IV 143 144 145 146 No. 33 (OS) 11:10	The New Technology for the Drivetrain Systems I 152 153 154 155 156 No. 35 (OS) 11:35	The Latest Technology Trends in Automotive Energy 162 163 164 165 No. 37 (OS) 11:10	Vehicle Development I 172 173 174 175 176 No. 39 11:35	Wireless Power Transfer Technologies -Static and Dynamic Wireless Power Transfer- 181 182 183 10 min. Break 184 185 186 No. 41 (OS) 12:10	Thermal and Fluid Engineering for Carbon Neutral Society -Thermal Technology Contributing to Carbon Neutrality- 191 194 192 195 193 No. 43 (OS) 11:35	Advanced Diesel Engine Systems and Technologies 200 201 202 10 min. Break 203 204 205 206
13:00	The Latest Noise, Vibration and Sound Technology V 147 148 149 150 151 No. 34 (OS) 14:15	The New Technology for the Drivetrain Systems II 157 158 159 160 161 No. 36 (OS) 14:40	Thermal and Fluid Engineering for Carbon Neutral Society -Cabin Environmental Technology that Balances Thermal Comfort, Air Quality and Efficiency- 037 039 038 040 No. 9 (OS) 13:50	Vehicle Development II 177 178 179 180 No. 40 14:15	Automotive Traction Motor Technology 187 188 189 190 No. 42 (OS) 14:50	Dynamics, Control and Safety of Two-Wheeled Vehicles -Motorcycles, Bicycles, and PMV- 196 198 197 199 No. 44 (OS) 14:15	Exhaust Emission Catalyst System for Carbon Neutral Society 207 208 209 10 min. Break 210 211 212 213 No. 46 (OS) 16:40
15:00							
17:00							
18:00							

- * Time allocated for a presentation is 25 minutes; 15 minutes for presentation and 10 minutes for Q&A.
- * Program subject to change.
- * Boxed numbers denote English presentations.
- * (OS) is the organized session focused on the specific themes.

						Conference Center	Exhibition Hall / North 1F		
G403 (4F)	G404 (4F)	G414+G415 (4F)	G416+G417 (4F)	G418+G419 (4F)	G311 Foyer (3F)				
9:30									
Active Safety and Advanced Driver Assistance Systems I 214 215 216 No. 47 (OS) 10:45	New Movement of Model Distribution and Model Based Development I 221 223 222 224 No. 49 (OS) 11:10	Next-Generation Advanced Production Engineering for Automotive Material III 230 231 232 10 min. Break 233 234 235 No. 51 (OS) 12:10	xEV System Design 241 242 No. 53 10:20	Road Traffic Safety 243 244 245 10 min. Break 246 247 248 No. 54 12:10	7th Student Poster Session	10:00	Automotive Engineering Exposition 2024 YOKOHAMA		
Active Safety and Advanced Driver Assistance Systems II 217 218 219 220 No. 48 (OS) 13:50	New Movement of Model Distribution and Model Based Development II 225 226 227 228 229 No. 50 (OS) 14:15	Organic and Polymer Materials 236 237 238 239 240 No. 52 15:15	Safety Education ・ Sensor for Safety 249 250 251 252 253 No. 55 15:15	13:00				Award Ceremony 3F 301+302	14:00
Special Seminar Regarding the publication of JASO M609 and JASO TP91001 16:45									
						Keynote Address 1F Main Hall	18:00		
								JSAE Annual Party 3F 301-304	19:45

Speaker : Hiroki Nakajima
(Toyota Motor Corporation)

Engine・After treatment・Powertrain	Body・Chassis・Production machining	ITS・Human Engineering	Parts・Materials	CAE/NV・Measurement・Fluid	HV・PHV・EV	Safety	Others
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Friday, May 24 Congress Timetable

Room	Pacifico Yokohama North						
	G301+G302 (3F)	G303 (3F)	G304 (3F)	G314+G315 (3F)	G316+G317 (3F)	G318+G319 (3F)	G401+G402 (4F)
9:00							
9:30	9:30 xEV I 254 255 256 257 258 No. 56 (OS) 11:35 9:30 MBD Guaranteed for Model Distribution Conforming to International StandardsStandard I -Support Technology for Digital Validation and Visualization of Carbon Footprint- 267 269 271 268 270 No. 59 (OS) 11:35 9:30 Effect of Automobile Emission on Atmospheric Environment 278 280 279 281 No. 61 (OS) 11:10 9:30 Vehicle Development III 289 290 291 292 293 No. 63 11:35 9:30 New Technologies for Advanced Measurements and Diagnostics 301 302 303 304 305 No. 66 (OS) 11:35 9:30 CN Technology for Gas Engine 314 315 316 317 318 No. 69 (OS) 11:35						
13:00	12:35 xEV II 259 260 261 262 263 No. 57 (OS) 14:40 12:35 MBD Guaranteed for Model Distribution Conforming to International StandardsStandard II -Support Technology for Digital Validation and Visualization of Carbon Footprint- 272 273 274 275 276 277 No. 60 (OS) 15:15 12:35 Vehicle Development IV 294 295 296 297 298 No. 64 14:40 12:35 Advanced Technologies for Automotive Body Structure I 306 308 307 309 No. 67 (OS) 14:15 12:35 Research on Combination between Combustion and Fuel for CO2 Reduction (AOI Project) 319 320 321 10 min. Break 322 323 324 No. 70 (OS) 15:15						
15:00	15:20 xEV III 264 265 266 No. 58 (OS) 16:35 15:20 Fuels, Lubricants and Tribology That Contribute to Carbon Neutrality 282 283 284 10 min. Break 285 286 287 288 No. 62 (OS) 18:00 15:20 Vehicle Development V 299 300 No. 65 16:10 15:20 Advanced Technologies for Automotive Body Structure II 310 312 311 313 No. 68 (OS) 16:35						
17:00							
18:00							

- * Time allocated for a presentation is 25 minutes; 15 minutes for presentation and 10 minutes for Q&A.
- * Program subject to change.
- * Boxed numbers denote English presentations.
- * (OS) is the organized session focused on the specific themes.

						Conference Center	Exhibition Hall / North 1F
G403 (4F)	G404 (4F)	G414+G415 (4F)	G416+G417 (4F)	G418+G419 (4F)	G311 Foyer (3F)		
9:30						7th Student Poster Session	9:00
The Value of Recycling in the Circular Economy 325 326 327 328 329 No. 71 (OS)	Technologies of Evaluations and Measures for Road Traffic Noise 339 340 341 342 343 No. 74 (OS)	Development and Evaluation Technology for Sensor 348 349 [350] No. 76 10:45	Analysis of Real World Accidents and Safety Measures I -Causes of Accident and Safety Issues- 359 361 360 362 No. 79 (OS)	Prospects of Sustainable Automotive Society [373] 374 375 376 No. 82 (OS)	10:00		Automotive Engineering Exposition 2024 YOKOHAMA
11:35							
12:10							
12:35							
Human-Machine Interface for Driver Assistance System I [330] 331 332 333 [334] No. 72 (OS)	Tire/Road Characteristics, Contact Properties and Related Technologies -Tire Mechanisms Toward the Future- 344 346 345 347 No. 75 (OS)	Intelligent Safety Vehicle II 351 352 353 [354] No. 77	Analysis of Real World Accidents and Safety Measures II -Causes of Accident and Safety Issues- 363 365 364 366 No. 80 (OS)	Intersection of Design and Technology 377 [378] [379] 380 381 No. 83 (OS)			
13:50							
14:15							
14:30							
14:40							
14:55							
15:20							
Human-Machine Interface for Driver Assistance System II 335 336 [337] [338] No. 73 (OS)	Industry-Academia Collaboration and Human Resource Development in Automotive Control 166 167 168 10 min. Break 169 170 171 No. 38 (OS)	Automatic Collision Notification System 355 356 357 [358] No. 78 (OS) 16:10	Crash Safety (Occupant and VRU Protection) [367] [368] 369 10 min. Break 370 371 372 No. 81 (OS)	Engineering Ethics Today 382 383 384 10 min. Break 385 386 387 No. 84 (OS)	16:00		
17:00							16:00
17:35							

- | | | | | | | | |
|-----------------------------------|-----------------------------------|-----------------------|-----------------|--------------------------|-----------|--------|--------|
| 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/2024haru/english/index.php>

All events are in Japanese unless otherwise specified

Events	Notes	May 22	May 23	May 24
Technical Sessions	Registration Required / Charged	●	●	●
Award Ceremony 74th JSAE Engineering Award 15th Engineering Education Award JSAE Engineering Level Accreditation 2023 Excellent Technical Paper Presentation Awards			●	
Keynote Address	Registration Required / Free		●	
JSAE Annual Party	Registration Required / Charged		●	
7th Student Poster Session	Registration Required / Free	●	●	●
Special Seminar	Registration Required / Free		●	
Automotive Engineering Exposition 2024 YOKOHAMA	Registration Required / Free	●	●	●

Free Wi-Fi	SSID: FREE-PACIFICO 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 21

Registration	North 4F G411+Foyer	15:00~17:00
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Wednesday, May 22

Registration	North 4F G411+Foyer	8:00~18:00
Service Counter	North 4F G411+Foyer	8:00~18:00
Cloak Room	North 4F G412+G413	8:00~18:30
Speaker Preparation Room	North 3F G320	8:00~17:00
JSAE Members Lounge	Annex Hall 2F F205+206	9:00~18:00

Thursday, May 23

Registration	North 4F G411+Foyer	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 Room	North 3F G320	8:30~13:00
JSAE Members Lounge	Annex Hall 2F F205+206	9:00~18:00

Friday, May 24

Registration	North 4F G411+Foyer	8:30~17:00
Service Counter	North 4F G411+Foyer	8:30~18:00
Cloak Room	North 4F G412+G413	8:30~18:30
Speaker Preparation Room	North 3F G320	8:30~17:00
JSAE Members Lounge	Annex Hall 2F F205+206	9:00~18:00

※ Please see the map on the front page.

OTHER EVENTS

Award Ceremony

74th JSAE Engineering Award
15th Engineering Education Award
JSAE Engineering Level Accreditation
2023 JSAE Award Congress Excellent Technical Paper Presentation Awards

Thursday, May 23 13:00 ~ 14:00 301+302, 3F, Conference Center

(Language: Japanese)

Keynote Address

Registration Required/Free Admission

Thursday, May 23, 17:00 ~ 18:00 Main Hall, 1F, Conference Center

(Language: Japanese)

Hiroki Nakajima
Toyota Motor Corporation

Let's change the future of cars together

The automotive industry is shifting toward a "mobility company" in this once-in-a-century period of profound transformation to increase added value with collaboration by many industries in order to realize a sustainable society.

I want to discuss direction of increasing the value of cars to realize a society based on circular energy and to connect seamlessly with cities and lives, etc.



JSAE Annual Party

Registration Required/Charged

Thursday, May 23, 18:15 ~ 19:45 301-304, 3F, Conference Center

7th Student Poster Session

Registration Required/Free Admission

Wednesday, May 22 ~ Friday, May 24, G311+Foyer, 3F, North

(Language: Japanese)

Special Seminar

Registration Required/Free Admission

Thursday, May 23, 15:00 ~ 16:45 G403, 4F, North

(Language: Japanese)

Theme: Regarding the publication of JASO M609 and JASO TP91001

Automotive Engineering Exposition 2024 YOKOHAMA

Registration Required/Free Admission

Wednesday, May 22 ~ Friday, May 24, Exhibition Hall, North 1F

Prior registration is required to participate in the exposition.

Please check the exposition website for details.



MEMO

[illegible]

JSAE Annual Congress Spring, Technical Session Program

- This program is based on the data as of April 19th, 2024.
- The abstracts of the presentations are available on the timetable of the website.
[<https://gakkai-web.net/jsae/s/2024/program/data/en/time-table.html>]
- <OS> is the organized session focused on the specific themes.
- There may be withdrawn presentations.
- Boxed numbers denote English presentations.

G301+G302 (3F)

【9:30~11:10】

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

001 Development of Input Method for Driving Road Surface Excitation Force in Road Noise CAE

Satoshi Hoshika · Takuya Aogaki · Shigemitsu Takahashi ·
Shusaku Iba · Hisayoshi Matsuoka (Nissan Motor)
Tatsuya Suma · Hiromichi Ebisawa (Estech)

002 Prediction of Vehicle Traveling Noise by Tire Noise Source Modeling

Hiroshi Fujii (The Yokohama Rubber)
Noriki Iwanaga
(Research Center of Computational Mechanics)

003 Vibration Propagation from Main Body Structural Members to Floor Panels

-Basics for Better Road Noise-
Masao Ishihama (Ishihamagiken Consulting)

004 Development of Dual Compound Insulator Improving Vehicle R&H Trade off Performance

Seungjae Oh · Jinhee Lee (Hyundai Motor)

【12:10~13:25】

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

005 Feature Extraction of Engine Sound with Time Variability by Machine Learning

Yota Oshima · Soichiro Tanabe · Takeshi Toi
(Chuo University)

006 A Study on Machine Learning and Preprocessing of Parts Operating Sound Data to Establish Quantitative Standards Evaluation for Automotive Parts Noise

Sang Heon Wang · Nak Kyoung Kong · Dong Eun Cha ·
Ho Wan Jang (Hyundai Motor)

007 Prediction of High Frequency Noises of an EV using Machine Learning

-Machine Learning for the Prediction of Both Structure-Borne and Airborne Noises-

Ji Woo Yoo · Yong Dae Kim (Hyundai Motor)
Kwangsoo Yoon · Chanhee Jeong · Hyosik Jung ·
Dohyeon Oh (Hexagon Korea)

【14:05~16:10】

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

008 Vibration Measurement with Images of Automobile Engine and Body using Compressed Sensing and Order Analysis

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

009 Development of Low Vibration Crankshaft in Outboard Motor Equipped with New V8 Type Engine

Kentaro Takanishi (Honda Motor)
Tatsuya Kuroda · Takashi Kondo (Honda R&D)
Gaku Naoe (Honda Motor)

010 Characteristic Analysis of Power Plant Eigenmodes Deteriorating the Sound Quality of Engine Combustion Noise

Keizo Konishi (Honda R&D)
Kenji Torii · Chihiro Nishikawa (Honda Motor)

011 A Method for Calculating Power Plant Transfer Functions for Enhancing Engine Sound Quality

Chihiro Nishikawa · Kenji Torii (Honda Motor)
Keizo Konishi (Honda R&D)
Hideto Tamaki (AutoTechnic Japan)
Ryo Yamaguchi (Honda Motor)

012 Guidelines for Structural Design to Realize Power Plant Eigenmodes that Enhance Engine Sound Quality

Kenji Torii (Honda Motor)
Keizo Konishi (Honda R&D)
Chihiro Nishikawa (Honda Motor)
Hideto Tamaki (Auto Technic Japan)
Yuichi Matsumura (Gifu University)
Takuya Yoshimura (Tokyo Metropolitan University)

G303 (3F)

【9:30~11:10】

4 Vehicle Dynamics and Control I
<OS> Yoshikazu Hattori
(Toyota Central Research and Development Laboratories)

- 013 Theoretical Considerations on Restoration and Damping in Yaw Resonance
-The essence of resonance and damping described by two degrees of freedom of the angle of lateral sliding of the two positions-
Hideki Sakai (Kindai University)
- 014 Dynamic Roll Center Height and Design
Kouta Tanizaki · Hideki Sakai (Kindai University)
- 015 Effects of Changes in Specifications Associated with Vehicle Electrification on Steering Characteristic Evaluation
Motoharu Hattori · Masato Abe · Yoshio Kano · Masaki Yamamoto · Makoto Yamakado (Kanagawa Institute of Technology)
- 016 A Study on Vehicle Cornering Characteristics using Model Considering Differential Mechanism in Rear Wheel
Ikkei Kobayashi · Yusuke Ebashi · Hayato Yamada · Jumpei Kuroda · Daigo Uchino (Tokai University)
Kazuki Ogawa (Aichi University of Technology)
Keigo Ikeda (Hokkaido University of Science)
Mohamad Heerwan Peeie (University Malaysia Pahang)
Hideaki Kato · Takayoshi Narita (Tokai University)

【12:10~13:25】

5 Vehicle Dynamics and Control II
<OS> Junya Takahashi (Hitachi)

- 017 Suspension Characteristics Model for Vehicle Dynamics Design
Motoshi Ohki (Toyota Motor)
- 018 Consideration on Effect of Transient Load Transfer Characteristics of Race Car on Dynamic Performance
Yusuke Ebashi · Ikkei Kobayashi · Hayato Yamada · Jumpei Kuroda · Daigo Uchino (Tokai University)
Kazuki Ogawa (Aichi University of Technology)
Keigo Ikeda (Hokkaido University of Science)
Mohamad Peeie Heerwan (University Malaysia Pahang)
Hideaki Kato · Takayoshi Narita (Tokai University)
- 019 Ride Comfort Development using Target Cascading Method based on System Level Testing of Body and Suspension
Seungmin Kwon · Bumsuk Kim · Seonghun Kim · Yongsun Yi · Jongho Ko (Hyundai Motor)

【14:05~16:10】

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

- 020 Development of Vehicle Motion Control Method using Driving Force of In-Wheel Motors
Masaru Yamasaki · Toshiyuki Ajima · Wataru Hatsuse (Hitachi)
- 021 Front/Rear Driving Force Distribution Control Based on Tire Workload Considering Vehicle Behavior in the Turning Limit
Kohei Sakaguchi · Takuma Takeuchi · Etsuo Katsuyama (Toyota Motor)
- 022 Cornering Stability Enhancement Utilizing Restoring Yaw Moment Generated by LSD's Driving Torque Distribution
Koki Yamamoto · Naoki Hiraga · Koji Takahashi · Daisuke Umetsu (Mazda)
Makoto Yamakado · Masato Abe (Kanagawa Institute of Technology)
Isao Hirota (GKN Driveline Japan)
- 023 Optimal Trajectory Generation of Competition Vehicles using Intra-Convex Domain Constraint
Masanori Harada · Yoshihide Arai · Takashi Sago · Yuki Ueyama (National Defense Academy of Japan)
- 024 Study on Vehicle Stability Control for Towing Vehicles using Trailer Parameter Estimation
Kota Kaga (J-QuAD DYNAMICS)
Terutaka Tamaizumi (JTEKT)
Atsuto Hirota (Advics)
Nobuhiro Nitta (J-QuAD DYNAMICS)

G304 (3F)

【9:30~12:10】

7 Thermal and Fluid Engineering for Carbon Neutral Society
-Computational Fluid Dynamics (CFD)-
<OS> Takuji Nakashima (Hiroshima University)

- 025 Development of CFD Method to Predict Drag Differences Due to Tire Profiles by Reproducing Rotational Deformation
Shusei Tanaka · Sae Takahashi · Jun Ikeda · Kosuke Nakasato (Nissan Motor)
- 026 Mechanism of Low Reynolds Number Oscillatory Flow Past Ahmed body
Yusuke Atsumi · Suguru Shiratori · Itsuhei Kohri · Hideaki Nagano · Kenjiro Shimano (Tokyo City University)
- 027 Development of Analyzing Method of Condensation Water Splashing on Electric Parts in a Vehicle by using MPS Method
Yasuhiro Ohshima · Hisao Nishimori · Yusuke Imai · Hiroshi Kamatani (Toyota Motor)

028 Feasibility Study of Automated Design Method for Air Conditioning Ducts (First Report)

-Shape Optimization under Multi-Objective Function and Multi-Design Variable Conditions-

Hiroshi Tanaka · Hiromune Kanamori ·
Hiroyuki Umetani (Toyota Systems)
Kenichi Ichinose (Toyota Motor)

029 Feasibility Study of Automated Design Method for Air Conditioning Ducts (Second Report)

-Reduction Study of Computational Load by Using AI Methods-

Hiromune Kanamori · Hiroshi Tanaka · Hiroyuki Umetani
(Toyota Systems)

030 Implementation of an Aerodynamic Reduced Order Model (ROM) based on Geometric Deep Learning (GDL) for Quick Design Review

Bhanu Prakash Samala · Jiri Hajek · Paul Marston ·
Rahul Varadhan · Enric Aramburu
(IDIADA Automotive Technology)

【13:10~15:50】

8 Thermal and Fluid Engineering for Carbon Neutral Society -Fluid Dynamics-

<OS> Kota Fukuda (Tokai University)

031 A Study on A-PLR Side Flow Noise Reduction According to Windshield Side Molding

Nak Kyung Kong · Kyunghwan Kim · Heung Gi Kim ·
Byung Woo Lee (Hyundai Motor)

032 Investigation on the Multidisciplinary Design for Simultaneous Reduction of Wind Noise and Squeak of the Door Inner Belt Weatherstrip in Electric Vehicles

Sanghyun Lee (Hyundai Motor/Sungkyunkwan University)
Bumyong Yoon (Sungkyunkwan University)
Seunghyun Cho (Samsung Electronics)
Sanghyun Lee · Kyoung Min Hong (Hwaseung Material)
Jonghwan Suhr (Sungkyunkwan University)

033 Effect of Turbulence Intensity on the Aerodynamic Performance of Test Specimens in Wind Tunnel Testing

Ken Terakawa · Satoshi Inazumi (Japan Wind Tunnel Testing)

034 PHEV Thermal Management System of Fast Charging Time Reduction

Takayuki Shimauchi · Hidekazu Hirabayashi (Toyota Motor)

035 Development of Aerodynamics Noise Prediction System using Generative AI for Vehicle Body Shape Flow

Yuta Ito · Kohei Shintani · Yohei Morikuni · Tomotaka Sugai ·
Shiro Yasuoka (Toyota Motor)

036 Effect of Bulk Viscosity Coefficient on Vehicle Aerodynamic Noise Analysis by using LBM

Akiyoshi Iida (Toyohashi University of Technology)
Yoshinobu Yamade (Mizuho Research & Technologies)
Masashi Miyazawa (Honda R&D)
Tsukasa Yoshinaga (Osaka University)
Chisachi Kato (The University of Tokyo)

【9:30~12:10】

10 Fuel Cell Vehicle

-Fuel Cell Stacks, Systems and Components-

<OS> Kotaro Ikeda (Toyota Motor)

041 A Study on A-PLR Side Flow Noise Reduction According to Windshield Side Molding

Hiroyasu Ozaki · Asao Uenodai · Kaoru Yamazaki ·
Shuto Maniwa · Takayuki Ogawa (Honda R&D)

042 Investigation on the Multidisciplinary Design for Simultaneous Reduction of Wind Noise and Squeak of the Door Inner Belt Weatherstrip in Electric Vehicles

Choichi Ishikawa · Manabu Iwaida · Hideharu Naito ·
Shigeru Inai · Hiromichi Yoshida (Honda R&D)
Nobuyoshi Muromoto (Honda Motor)

043 A Study on the Effect of Multivariable Control for Performance Improvement of a Fuel Cell Hybrid Test Train

Takashi Yoneyama (Railway Technical Research Institute)
Shun Yoshioka · Yida Bao · Minhao Wen · Wei-Hsiang Yang ·
Yushi Kamiya (Waseda University)
Takayuki Kashiwagi · Kenichi Ogawa · Manato Kaneko ·
Manato Kanzaki (Railway Technical Research Institute)

044 Characteristics of Fuel Cell Models Used in Model-Based Development and its Application to Simulation (Second Report)

Kazuhiko Kurokawa · Tomoaki Takagi (MCOR)
Tinh Nhan Nguyen (Sync Partners)
Kensuke Tsukahara · Yuji Yajima (MCOR)

045 A Study on the Risk Reduction Technology of Self-Ignition of High-Pressure Hydrogen Gas for Improving Fire Safety on the FCEV

Dongsun Lee · Jeonghyun Ham · Haepin Choi (Hyundai Motor)

046 Development of Tank Inspection Technique for Monitoring Accumulated Damage of Hydrogen Tank

Yong-Joo Cho (Hyundai Motor)
Jung-Ryul Lee · Kyunghwan Kim (KAIST)

【13:10~15:50】

11 New Development of The Energy Storage System Technology I

<OS> Daichi Imamura (JARI)

047 Recovery and Lifespan Extension of Lead Acid Battery by Carbon Nanotubes (First Report)

Takashi Kimura (Kijiku Consulting)
Kuniyasu Sasaki (Desion)
Takeshi Kawagoshi (Core Business)

048 Systematic Experimental Study and Model Construction of Reversible Degradation of Lithium-Ion Batteries

Takashi Yamamoto · Hiroki Fujita (Mazda)

049 In-Service State of Health Estimator for On-Board Battery Storage Systems (Part 3)
Kohei Maruchi · Takahiro Yamamoto · Hisaaki Hatano · Atsushi Inamura (Toshiba)

050 Pre-Feasibility Study on Detecting Increased Risk of Thermal Runaway for Batteries using the Charging Curve Analysis as a Non-Destructive Diagnostic Method
Kenichiroh Koshika (NTSEL)
 Hideki Tsuruga (JET)
 Tomokazu Morita (Toshiba)
 Keizoh Honda (JET)

051 Verification of Non-Destructive Diagnosis of Battery Internal State using charging Curve Analysis for SOH/SOS Estimation of EV Batteries
Tomokazu Morita (Toshiba)
 Hideki Tsuruga · Keizoh Honda (JET)
 Kenichiroh Koshika (NTSEL)

052 Consideration of Charging Stations using Natural Energy -Effective Use of LMO-
Masato Shirakata (Shirakataconsultants)
 Shinnichi Saitou (Fine Eco Solution)
 Yusuke Kume (KMTec)
 Shinji Maezono (Mobility Energy Circulation)

【16:30~17:45】

12 New Development of The Energy Storage System Technology II
 Manabu Watanabe (Nissan Motor)

053 AI-Based Digital Twin - Anomaly Detection and Diagnostics for HV Battery Behavior and Performance
 Thomas Alexander Kristan (Graz University of Technology)
 Milan Zivadinovic · Christian Rupert Rehrl (AVL List)
 Roman Kern (Graz University of Technology)
Alwin Tuschkan (AVL List)

054 Charge Planning Tool for Heavy-Duty Electric Vehicle Fleets
Alenka Beckers · Robinson Medina · Steven Wilkins (TNO/Powertrains)

055 Next Generation Battery Packs Ready for the Battery Passport
Erik Hoedemaekers · Steven Wilkins · Sjoerd Rongen (TNO)

G318+G319 (3F)

【9:30~11:10】

13 Electric Road System I (Dynamic Charge System, Dynamic Power Supply System)
 <OS> Takamitsu Tajima (Honda R&D)

056 Resilience and Economy Regarding Mobility Energy and the Advantage of Dynamic Charge in This Context
Keiichi Koseki · Kotaro Tanaka (Ibaraki University)

057 Effectivity of Trolley Technology in Converting Mining Dump Trucks to EVs
Jun Ikeda · Yohei Nakate · Kiminori Saitou · Takayuki Satou (Hitachi Construction Machinery)

058 Current Status and Issues of Dynamic Power Supply in the Railway Sector
Yoshihisa Hojo (Toyo Denki Seizo)

059 Development of an EV with a Large-Scale Photovoltaic System
Hidenori Mizuno · Katsuto Tanahashi · Takumi Takashima · Takashi Oozeki (AIST)
 Toshio Hirota (Waseda University/AIST)

【12:10~13:50】

14 Electric Road System II (Dynamic Charge System, Dynamic Power Supply System)
 <OS> Hitoshi Tsunashima (Nihon University)

060 Study on Effective Use of Regenerative Electric Power using 450kW Electric Road System
Kazuki Shimamura · Hina Tamiya (JARI)
 Takamitsu Tajima (Honda R&D)

061 Introduction of Current Collectors Used in Electric Railway, Their Characteristics, and Test Method
Tatsuya Koyama (Railway Technical Research Institute)

062 Introduction of Sliding Contact Materials Used in Current Collecting System of Electric Railway and Their Wear Property
Yoshitaka Kubota (Railway Technical Research Institute)

063 Overview and Technical Evaluation of Dynamic Conductive Road Charging Technologies
Saleh Ali · Volker Pickert (Newcastle University)
 Mohammed Alharbi (Taibah University)

【14:30~15:45】

15 Advanced Power Electronics Component Technologies for Future Vehicles
 <OS> Satoshi Yasuda (Toyota Motor)

064 Advanced Inverter Topologies Drive Efficient BEV Architectures
Ayman Ayad · Philip Brockerhoff (Vitesco Technologies)
 Takuya Mimori (Vitesco Technologies Japan)

065 Next Generation Cells for Future Battery Systems
 Hendrick Loebberding · Matthias Rudolph · Jannis Kuepper · Michael Stapelbroek (FEV Europe)
 Thomas Huelshorst (FEV Group)

066 Power Loss Reduction Method by Power Route Distribution for In-Vehicle Power Net
Hiroshi Nakano · Nobuyasu Kanekawa (Hitachi)
 Kentaro Jumonji (Hitachi Astemo)

G401+G402 (4F)

【9:30~11:10】

16 Advanced Gasoline Engine Systems and Technologies I
<OS> Toshiaki Kitagawa (Kyushu University)

067 CO₂ Separation and Capture from Combustion Engine Exhaust Gas using Physical Adsorption Method
-Impact of Surface Properties of Absorbent on CO₂ Adsorption and Desorption Characteristics-
Tadanori Yanai · Naotaka Wakaoka · Satoshi Yamazaki (Shizuoka Institute of Science and Technology)

068 Commercial Hydrogen Engine with 50% BTE
Anton Arnberger (AVL List)
Andre Ferrarese (Tupy)
Patrick Gratzl (AVL List)

069 Developments of a Vibration-Free I.C. Piston Engine Based on a “Basement and Radial” Configuration Design
-Firing Engine Operation of the 1st Prototype Engine and Design Theory for the Compact 2nd Prototype Engine-
Haruki Ushimaru · Momoka Komeda · Gen Takase · Ryosuke Hibi · Yojiro Ishino (Nagoya Institute of Technology)

070 Study of the Reaction Mechanism of Hydrocarbons with High Blending Octane Number
-Characteristics of Reaction Products Compared with Primary Reference Fuel-
Hidetaka Ishii · Fumiya Kawashima · Michio Nakano (Nippon Institute of Technology)

【12:10~14:15】

17 Advanced Gasoline Engine Systems and Technologies II
<OS> Daijiro Tanaka (Yamaha Motor)

071 Development of Thermal Barrier Coating using Low Thermal Conductivity Material for Piston
Ryoko Yamanoi · Kazuki Ogiwara · Teppei Tano (Art Metal Mfg.)
Shohei Hosoo (NT&I)
Yasushi Murakami (Shinshu University)

072 Study of HC Trap System to Reduce HC Emissions during Engine Cold-Start
Hiroki Takeori · Koji Nemoto · Yuki Oku · Ryohei Ikutomo · Takeshi Mori (Honda R&D)
Keita Nakao · Toyohiro Usui · Ryo Mitsunashi · Naoto Nakazawa (TOSOH)
Yuichi Matsuo (Honda R&D)

073 Mechanism Validation of Random PN Emission Occurrence without Depending on Engine Control
Hiroya Okada · Yoshiro Shiina · Tomohiro Nakayama · Takafumi Tado · Natsuki Takahata · Kenta Kimoto · Masao Onoue · Kunihiko Suganuma (SUBARU)

074 Improvement of Thermal Efficiency for K-car Engine Applying Specification Exploration with Quality Engineering Tool

Norifumi Mizushima (AIST)
Kyohei Yamaguchi (Kokushikan University)
Youichi Iiyama · Yuji Kado (JAXA)

075 Hydrogen Combustion Engine Hybridization: Challenges and Solutions Towards Optimal Efficiency and Lowest Emissions

Joel Op De Beeck · Badr-Din Lahmoumi · Jezer Costa · Krzysztof Potaczek · Marcos Carvalho-Barreto · Nissrine Harbil · Toshihiko Minami · Maungu Sandra (Plastic Omnium)

【14:55~17:00】

18 Advanced Gasoline Engine Systems and Technologies III
<OS> Takashi Kondo (Honda Motor)

076 Model-Based Research of Series Hybrid Powertrain Fuel Efficiency

Tomohisa Kumagai
(The Research association of Automotive Internal Combustion Engines)
Masaki Naruke · Tomohiro Kanda · Takayuki Ito · Takaaki Kitamura (JARI)

077 The Optimization of Cooling System of Engine with Integrated Thermal Management Module
Changjoo Lee (Hyundai Motor)

078 2.4L Turbocharged Gasoline Engine for New Body-on-Frame Truck Application
Keiichi Goto · Akihiro Ikeda · Alistair Bridge · Yasuyuki Takaki · Noriyuki Yamada · Haruhito Fujimura (Toyota Motor)

079 V6 3.5L-Turbocharged Gasoline Engine Development for New Premium Off-Road SUV
Hiroshi Kuma · Akihiro Ikeda · Yuya Yoshikawa · Hiroyuki Asahina · Haruto Ura (Toyota Motor)
Toshihiro Sugitani (IHI)

080 Development for 8C New Rotary Engine
Kiyotaka Tanaka · Hiroyuki Hidaka · Takeshi Yokoo · Hiroki Morimoto · Toru Miyamoto · Katsuya Nakajima · Takuya Kikuchi · Yugou Sunagare · Tetsuya Nomoto · Yoshito Wakabayashi (Mazda)

G403 (4F)

【9:30~10:45】

19 Driver Perception, Cognition, and Emotion
<OS> Ryuzo Hayashi (Tokyo University of Science)

081 Generation Method of Visual Information to Reduce Motion Sickness Based on its Computational Model
Yujiro Tamura · Takahiro Wada · Hailong Liu (NAIST)

082 Effect of Visual Information on Motion Sickness Mitigation
Yoshimi Kobayashi · Yuto Korogi · Akihito Kamiya (Toyota Motor)
Ryo Kodama · Nobushige Fujieda (Toyota Central R&D Labs.)

- 083 Effect of Image Features on Visibility in Rear Vision by Camera Monitoring System (CMS)
Ryunosuke Kiyota · Riku Adachi (Keio University)
 Seishi Takagi · Chiharu Sasaki · Kento Mera (Penstone)
 Miwa Nakanishi (Keio University)

【13:10~14:50】

20 Driver State Monitoring
 <OS> Toshihiro Hiraoka (JARI)

- 084 Analysis of Driver Stress Coping Styles Caused by Driving Environment and Driving Characteristics
Tomoro Okajima · Kent Nagumo · Akio Nozawa (Aoyama Gakuin University)

- 085 Estimating the Gazing Point of Drivers using Machine Learning with High Generalizing Accuracy
Yui Miyoshi · Yuji Matsuki (Fukuoka Institute of Technology)

- 086 Measurement Method and Evaluation of Occupant's Back during Seating
Hotaka Wakasugi · Shuta Imai · Nobuaki Nakazawa · Shinya Okamoto · Hisato Fukuda (Gunma University)
 Tsutomu Iwase (Gunma University/SUBARU)
 Shunpei Nakamura · Kyohei Uchikata · Masami Handa · Yusuke Takagi (SUBARU)

- 087 Generality Evaluation of Human Behavior Model in Driving Based on Recurrent Neural Network
Suzuka Seki · Jun Ishikawa (Tokyo Denki University)

【15:30~17:35】

21 Analysis and Modeling of Driver Behavior
 <OS> Motoki Shino (Tokyo Institute of Technology)

- 088 Relationship between Collision Avoidance Emergency Braking Frequency Measured with Drive Recorder of Elderly Drivers and Driving Instructor's Evaluation of Driving in Urban Areas
 -Study on Driver Characteristics for Delaying Driving Cessation (40)-
Takashi Yonekawa · Hirofumi Aoki (Nagoya University)
 Kan Shimazaki (Kindai University)
 Masae Kojima · Sueharu Nagiri · Satsuki Yamauchi · Kunitomo Aoki · Akio Hirano (Nagoya University)

- 089 Effects of Visual Field Training on Driving Performance and Dynamic Useful Field of View in Elderly Drivers
 -Study on Driver Characteristics for Delaying Driving Cessation (42) -
Kunitomo Aoki · Akio Hirano (Nagoya University)
 Hidenori Horita · Kazumasa Onda · Kazuhiko Yamashita (Suzuki Motor)
 Sueharu Nagiri · Takasi Yonekawa · Hirofumi Aoki (Nagoya University)
 Makoto Inagami (Gunma University)
 Hiroshi Kishi (Nagoya University)

- 090 Classifying Elderly Drivers and Their Features by using a Simplified Questionnaire Comprehensively Captures Driving Characteristics (SQ-CCDC)
 -Study on Driver Characteristics for Delaying Driving Cessation (41)-

Masae Kojima (Nagoya University)
 Kojiro Shojima

(National Center for University Entrance Examinations)
 Hirofumi Aoki · Takashi Yonekawa (Nagoya University)

- 091 Evaluation of the Influence of Information to Encourage Early Detection of Pedestrians for Right Turning Driver's Behavior at Signalized Intersections
Chinami Fukui · Sho Takahashi · Toru Hagiwara (Hokkaido University)
 Hidekatsu Hamaoka (Akita University)

- 092 Concerning the Relation of Camera Specification of Digital Inner Mirror to Accident Risk in Lane-Change Task
Takuya Izumiguchi · Kento Mera · Chiharu Sasaki · Hideki Shinsaka · Seishi Takagi (Penstone)
 Tohru Yoshioka · Keisuke Suzuki (Kagawa University)

G404 (4F)

【9:30~12:10】

22 Cars That Think and Communicate
 -Beyond Autonomous Driving-
 <OS> Yuichiro Toda (Okayama University)

- 093 AUTOSAR Activities for Realizing SDV
Masahiro Goto (AUTOSAR)

- 094 Infrastructure Sensor Installation Support System for Geofenced Autonomous Driving
Yuto Imanishi (Hitachi)
 Yasuhiro Fuse (Hitachi Astemo)

- 095 Improvement of Movement Efficiency for Autonomous Vehicle by Model Predictive Control Considering Operational Design Domain
Teppe Saitoh · Ryu Narikawa · Shinji Ishihara (Hitachi)

- 096 Development of Reinforcement Learning System for Urban Driving Task
Wei-Fen Hsieh · Katsuo Semmyo · Shin Sakamoto · Masahiko Watanabe (NTT DATA Automobility Research Center)

- 097 AI-Enhanced Energy Management in Centralized E/E Architecture
Thomas Zipper · Martin Schlecker · Lin Li (AVL Software and Functions)

- 098 Environmental Magnetic Field Map Generation and Localization Method for Autonomous Vehicles on Roads
Kyoya Ishii · Keisuke Shimono · Yoshihiro Suda (The University of Tokyo)
 Takayuki Ando · Hirotaka Mukumoto (Aichi Steel)

【13:10~14:50】

23 Research on the Recognition Technology Required for Automated Driving I

<OS> Keisuke Yoneda (Kanazawa University)

099 Disparity Estimation Based on Feature Map Correlation using Contrastive Learning

Takeru Ninomiya · Takeshi Endo · Hideaki Kido (Hitachi)
Kota Irie (Hitachi Astemo)

100 Research on Small Object Detection on Deep Learning in Autonomous Driving

Enhi Sen (dSPACE Japan)
Ryota Yagami (Nagaoka University of Technology)

101 Study on Method of Development of Driving-Decisions Model for Automated Bus Traveling Fixed Route

Daichi Minagawa · Manabu Omae (Keio University)

102 Necessity of an Estimation Function of Driver's Driving Willingness in Autonomous Driving Systems

Toshiya Arakawa · Kazuya Itakura
(Nippon Institute of Technology)
Jun Tajima (Misaki Design)

【15:30~17:35】

24 Research on the Recognition Technology Required for Automated Driving II

<OS> Akisue Kuramoto (Tokyo Institute of Technology)

103 Study on Robust Self-Localization against Seasonal Environmental Changes for Automated Vehicles

Shun Nishimura · Manabu Omae (Keio University)

104 Implementing Localization using 4D Imaging Radar

Sota Izumi · Naoki Suganuma · Keisuke Yoneda · Ryo Yanase ·
Mohammad Amro Aldibaja (Kanazawa University)

105 Robust Map Matching for Environmental Changes using CNN

Kota Jimbo · Naoki Suganuma · Keisuke Yoneda · Ryo Yanase ·
Mohammad Amro Aldibaja (Kanazawa University)

106 Multi-Agent Approach for AD/ADAS Cross-Country Virtual Validation

Reza Rezaei · Ravibhai Vaghasiya · Jacob Grandmontagne ·
Morteza Molaei · Frank Reifenrath (IAV)

107 SIL, HIL, OTA – A Study on Different Usages of Simulation and Validation

Andreas Himmler (dSPACE)
Hiroki Hanaoka · Takashi Yamada (dSPACE Japan)

G414+G415 (4F)

【9:30~11:35】

25 Next-Generation Advanced Production Engineering for Automotive Material I

<OS> Takashi Matsumura (Tokyo Denki University)

108 Application Development of Al-Si Coated Material to Direct Resistance Heating in the Steel Tube Air Forming Process (Second Report)

Masashi Kawakami · Ryohei Ikeda · Kimihiro Nogiwa ·
Norieda Ueno · Hiroyuki Kan · Hiroyuki Kumeno
(Sumitomo Heavy Industries)

109 Establishing Technology to Enhance Stability of Press Production of Titanium Fuel Tanks for Motorcycles

Motoaki Takashima · Yuta Shimada · Satoshi Akiniwa
(Honda Motor)

110 A Study on Bonding Force of Laser-Patterned Metals and Thermoplastic Composite using Automated Fiber Placement

Junyeong Jeong · Youn Il Jung (Hyundai Motor)
Haengseon Choi (SECO)
Changkyoo Park
(Seoul National University of Science and Technology)
Maruo Kaznobu (GLOBAL POLYACETAL)
Yasunari Kuratani (KADO)
Jeongseok Kang (Korea Carbon Industry Promotion Agency)

111 Mechanism Elucidation of Appearance Defects in Interior Resin Part by “Simulation Coupling Fluid Analysis and Thermal Elastoplastic Structural Analysis”

Akihide Nakata · Tatsumi Onishi · Lihao Shu (Kasai Kogyo)

112 Spiral Cutter for Motor Housing to Promote EV -DX for Tool Development Contributing to Carbon Neutrality and Its Application-

Shosei Goto (Kyocera)

【12:35~14:15】

26 Next-Generation Advanced Production Engineering for Automotive Material II

<OS> Jun Ichinose (Fasotec)

113 Control Effects of Thermal Deformation by Machine Tool using Environmental Characteristics of the Factory

Naohiko Suzuki · Shouta Shinmoto · Yusuke Nanbu ·
Yoshiaki Ishino (Takamatsu Machinery)

114 Enhancing the Efficiency of Remote Support for Off-Board Diagnostics

Shogo Sawasaki (Honda Motor)

115 Development of Element Technologies for Integrated Hot-Stamping Parts

Naoki Kimoto · Masahiro Kubo · Kenta Ikegami ·
Satoshi Shirakami · Hiroshi Yoshida · Toru Yonebayashi ·
Tasuku Zeniya (Nippon Steel)

- 116 Strength Improvement of CFRTF by Mixing Long and Short Fibers**
Mutsuki Hamada · Taichi Umedu · Souichiro Nishino
 (Ibaraki University)
 Hidemaru Sootome
 (Industrial Technology Innovation Center of Ibaraki Prefecture)

【14:55~16:35】

27 Metal and Ceramic Materials
 Hidemi Kato (Tohoku University)

- 117 Prediction of Critical Threshold Stress Intensity Range for Crack Growth**
Gyoko Oh (Tokyo Roki)

- 118 Development of Non-Heat Trated Aluminum Alloy for Body Structure Applied Integrated Casting**
Jae Sun Lim · Dong Ha Kang · Tae Seong Lim · Jun Beom Lee (Hyundai Motor)

- 119 Reduction of Heavy Rare Earths by Composite Magnets for IPM Motors**
Shunsuke Takahashi · Yutaka Sasaki (Hino Motors)

- 120 Prevention of Temperature Reduce of Exhaust Gas Catalyst with Latent Heat Storage Material**
Junji Ito · Tetsuro Naito · Koichi Yamaguchi · Kazuyuki Shiratori (Nissan Motor)

G416+G417 (4F)

【9:30~11:35】

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

- 121 The Introduction of the Regulations and the Policies for Automated Driving in Japan**
Hirotooshi Inayoshi (MLIT)

- 122 Methods for Supporting Resident-Led Community Place Creation, and the Value of the Community Place for Residents**
 -Action Research for High-rise Housing Development Residents of Nagoya City-
Yoko Kumai (Toyota Central R&D Labs.)
 Chikako Goto · Sae Konodo (The University of Tokyo)
 Hideo Nakane · Narihito Tatsuda (Toyota Central R&D Labs.)
 Naoko Cho (The University of Tokyo)
 Teruhiko Yoshimura (Nihon Fukushi University)
 Hideki Koizumi (The University of Tokyo)

- 123 Reuse of Automotive Drive Motors in Offshore Wind Power Generation in Japan (Report 2)**
 -Framework for Inter-Sectoral Cooperation Towards Full Energy Self-Sufficiency-
Masahiko Teramoto (Environmental Veterans Firm)

- 124 A Study on the Community Analysis of Bacteria/Fungi in Vehicles**
Taehee Lee · Daeun Sung (Hyundai Motor)

- 125 Development of Synchronous Reluctance Generator for Biomass Power**
Azusa Takahashi · Tatsuya Higashi · Takeshi Serizawa
 (Daihatsu Motor)
 Wataru Kitagawa · Takaharu Takeshita
 (Nagoya Institute of Technology)
 Mikito Kawamura · Junichi Asama (Shizuoka University)

【12:35~13:50】

29 Social Change and Next Generation Mobility II
 <OS> Takahiro Suzuki (Reitaku University)

- 126 Logged Data and Simulation Exploitation for ADAS Validation**
Son Tong · Balakrishnan Ayyanar · Kohei Noma · Reiji Takeuchi · Theo Geluk · Daisuke Nagahata
 (Siemens Digital Industries Software)

- 127 Navigating the Global Evolution of Autonomous Mobile Robots in Public Areas**
 Tim Brockmeyer · Rolf Adomat · Sebastian L. Weiss · Stephan Cieler (Continental Automotive Technologies)
 Hatf Tahvildari · Yuanrun Teng (Continental Automotive)

- 128 Path Planning for Ultra-Compact Mobility Based on Pedestrian Sensitivity and Risk Potential Models**
Toshiyuki Sugimachi · Kotaro Nishihata · Yuichi Sueshige · Hideo Miyachi · Toshiaki Sakurai · Tetsuo Maki
 (Tokyo City University)
 Yoshihiro Suda (The University of Tokyo)

G418+G419 (4F)

【9:30~11:10】

30 Fundamental Technology for Safety
 Sota Yamamoto (Shibaura Institute of Technology)

- 129 A Study on Rear Bumper Back Beam for Modular Architecture**
Hongheui Lee (Hyundai Motor)

- 130 UN Regulation No. 155 on Vehicle Cyber-Security. Technical Service Perspective and Challenges**
Oriol Flix Viñas · Carlos Lujan Tutusaus · Andrés Aranda Martínez (Applus+ IDIADA)

- 131 Enhanced Material Model for Composite Crash Performance at Ply Level**
 -*MAT_262 Evolution-
Alfredo Alameda · Alejandro Dominguez · Eduardo Martin-Santos (Applus+ IDIADA)
 Tomohiko Max Miura (TOYOTA GAZOO Racing Europe)

- 132 Development of Technology for Predicting Fracture of Point Joints during Collision**
Yoko Okawa · Shota Chinzei (Kobe Steel)

【12:10~14:15】

31 Intelligent Safety Vehicle I
Kazumasa Kato (Magna International Japan)

133 A Study on the Experimental Evaluation of Electric Vehicle Charging Door Heating Module using Composite Material
Gyuho Shim · Jongheon Lee · Cheoljin Park Park · Teawon Kim · Jaegun Kim (SECO ECOPLASTIC)
Geonhee Cheon (SECO SEOJIN)

134 Development of Mass-Production Technology for Moving Consoles to Create Various Convenience Spaces in Vehicle Interiors
Dongjin Park · Jongheon Lee · Heaju Park (SECO ECOPLASTIC)

135 Type-Approval Requirements for ADS in Europe
Andrés Aranda Martínez · Carlos Lujan Tutusaus · Oriol Flix Viñas (Applus+ IDIADA)

136 Scenario Categories for Autonomous Baggage Transport at Amsterdam Schiphol Airport
-A Practical Implementation of TNO StreetWise Methodology-
Olaf Op Den Camp · Erwin De Gelder · Abhishek Kalose · Saarang Gaggar (TNO)

137 Visualization of Scenario-Based Risk Quantification of Automated Driving Systems
Erwin De Gelder · Olaf Op Den Camp · Sytze Kalisvaart (TNO)
Hannes Schneider (AVL)

【14:55~17:00】

32 Automotive Security Technology
<OS> Yoshiaki Ishizuka (Marelli)

138 Encrypted Control Technology for Concealing Communications and Controls as a Cybersecurity Countermeasure
Takaharu Yamada (dSPACE Japan)
Kiminao Kogiso (The University of Electro-Communications)

139 Cybersecurity Assessment in Controller Area Network Architectures
Adrian Fernandez (IDIADA Automotive Technology)

140 Cybersecurity Assessment of the Charging Process between Vehicle and Charging Point
Miguel Martinez (IDIADA Automotive Technology)

141 Automotive Cybersecurity Assessment
Manel Rodriguez-Recasens (IDIADA Automotive Technology)

142 Post-Quantum Cryptography on Embedded ECUs
Philipp Jungklass · Claude-Pascal Stoeber-Schmidt · Randolph Barg · Henrik Hansen · Marco Siebert (IAV)

G301+G302 (3F)

【9:30~11:10】

33 The Latest Noise, Vibration and Sound Technology IV
<OS> Hirotaka Shiozaki (Mitsubishi Motors)

143 Fundamental Study for 6 DOF Contribution Analysis in Operation Employing Virtual Point

Junji Yoshida · Kenta Hara (Osaka Institute of Technology)

144 Breakdown of Elements and Optimization with Model Based Development (MBD)
-To Manage both Environmental Performance and Body vibration of Cars-

Hidefumi Muranaka · Ryo Takahashi · Toshihiro Hayashi ·
 Daisuke Tsukahara · Kiyofumi Sato · Tatsuya Okuno ·
 Hajime Ooba (SUBARU)

145 A Finite Element-Poroelastic Element Direct Frequency Approach to Vibro-Acoustic Simulation in Fully Trimmed Car Models

Willem Van Hal · Kamel Amichi · Massimiliano Calloni (ESI)

146 Pressure Pulsation Prediction Model for Control Brake Actuator with Compound Pipeline

Yohei Koike · Masashi Komada (Toyota Motor)
 Masahiro Yano · Nobuhiko Yoshioka (Advics)

【12:10~14:15】

34 The Latest Noise, Vibration and Sound Technology V
<OS> Michiaki Sekine (NALTEC)

147 A Study on the Cause and Improvement of Hood Rattle

Eunmin Kim · InSun Baik · HooSang Part · SangIl Lee ·
 JongWook Moon (Hyundai Motor)

148 Study of Effective Interior Noise Reduction using Detailed Door Model Analysis Technology Development to Visualize Noise Transfer Flow by HSEA

Ichiro Fukumoto · Norihisa Nakajima (Kasai Kogyo)
 Shinichi Kokabu (K and A JPN)

149 Control Technology of Car Quality by Driving Sound: Evaluation of Car Quality using Sound Texture Models

Yuki Nakatani · Tetsunori Hada · Takaya Katsuragawa ·
 Naoko Yorozu · Masayuki Watanabe (Mazda)

150 Control Technology of Car Quality by Driving Sound: Improved by Controlling the Modulation Transfer Characteristics of the Vehicle Body

Tetsunori Hada · Yuki Nakatani · Naoko Yorozu (Mazda)

151 Analysis of Disc-Brake Squeal Considering Lining Wear (Part 2)

Tokunosuke Ikegami · Katsuhiko Uchiyama ·
 Yoshiyuki Yamaguchi (Nisshinbo Brake)

G303 (3F)

【9:30~11:35】

35 The New Technology for the Drivetrain Systems I
<OS> Kazuya Arakawa (Toyota Motor)

152 A Study on High Rotational Speed Traction Drive -Measurement and improvement of traction coefficient up to 50,000 rpm-

Yuechen Jia · Takeshi Yamamoto · Itsuki Maehira ·
 So Kokubo (Tokai University)

153 Study of the Cooling Effect on the Roller Surface by Increasing the Oil Feed Rate in a High Peripheral Speed Traction Drive and its Cooling Modeling by Thermo-Fluid Analysis

Shunki Boku · Yuki Kawamoto · Katsuyoshi Sato ·
 Masayuki Ochiai (Tokai University)

154 Development of Magnetostrictive Torque Sensor System

-Development of Compact Torque Sensor System Capable of Mounting in Vehicle Powertrain-

Kimiko Nakai · Kota Fukuda · Satoshi Oyama (NSK)

155 Development of Insulation Bearing in Motor Support Bearing Application (First Report)

Jinchul Han · Takuya Iwasawa (Schaeffler Technologies)
Seiya Nishizawa (Schaeffler Japan)

156 Elucidating the Mechanism of Hydraulic Noise using CFD

Masaru Shimada (JATCO Engineering)

【12:35~14:40】

36 The New Technology for the Drivetrain Systems II
<OS> Tatsuhito Aihara (Hosei University)

157 Investigation of Factors of Shifting Speed during Up/Down of Metal V-Belt Type CVT under No-Loading Condition

Yuichirou Mori · Kazuya Okubo · Kiyotaka Obunai
 (Doshisha University)

158 A Practical Prediction Method for Oil Delivery Distribution by Shaft Center Lubrication

Takafumi Kawamura
 (Computational Fluid Dynamics Consulting)
 Takuma Kato (Chiba Institute of Technology)

159 On the Gas-Liquid Two-Phase Flows Driven by a Simple Rotating Body

Kazuyasu Sugiyama (Osaka University)
 Tomoaki Watamura (The University of Tokyo)

160 Comparison of Various Computational Methods for Gear Stirring

Takafumi Kawamura
(Computational Fluid Dynamics Consulting)
Tomoaki Watamura (University of Tokyo)
Kazuyasu Sugiyama (Osaka University)
Masaru Shimada (JATCO Engineering)
Tadashi Yamada (Toyota Motor)
Masanori Kato (Honda R & D)
Daiki Saegusa (Honda Motor)
Akira Nakashima (Mazda)

161 Development of Powertrain Unit Equipped with Transmission for Small BEVs

Misaki Minoha · Maki Hashimoto · Ryoichi Imai ·
Yutaka Kimoto · Kazutoshi Nakayama ·
Shinya Oomori (Exedy)

G304 (3F)

【9:30~11:10】

37 The Latest Technology Trends in Automotive Energy <OS> Hikari Todoroki (KPMG Consulting)

162 The Estimation of Greenhouse Gas Emissions from Hydrogen, Synthetic Fuels and Biofuels Considering Well-to-Wheel in Japan

Ryo Tominaga · Ren Takasuga · Shoi Koshikawa ·
Eriko Matsumura · Jiro Senda (Doshisha University)

163 Tailored Cooling and Charge Motion Concept for Spark Ignited Hydrogen Combustion Engine to Achieve Highest Efficiency and Power Density

Lukas Virnich · Dieter Van Der Put (FEV)
Tsuyoshi Horiba (FEV Japan)

164 Future Truck 2030+

Hubertus Ulmer · Joerg Mickleit · Robert Mollik ·
Chris-Kilian Mueller · Thaddaeus Delebinski (IAV)

165 Aerodynamic Design of Commercial Vehicles -A Lever for Reducing Carbon Emissions and Increasing Operation Range-

Hubertus Ulmer · Stefan Reetz · Armando Estrada ·
Thaddaeus Delebinski (IAV)

【12:10~13:50】

9 Thermal and Fluid Engineering for Carbon Neutral Society -Cabin Environmental Technology that Balances Thermal Comfort, Air Quality and Efficiency- <OS> Koichiro Iwai (Toyota Central R&D Labs.)

037 Development of Antifogging Window Technology to Reduce Air Conditioning Energy Consumption for Battery Electric Vehicles

Daiji Katsura · Tetsuya Maeda · Hiroto Matsui ·
Tetsuya Sugimoto · Hiroya Ochiai · Hiroaki Masuoka (Mazda)

038 Development of Glass Heat Sensation Index Considering Short and Long Wave Radiation Wavelength Characteristics

Yoshiichi Ozeki · Miyoko Oiwake · Reika Miura ·
Shinya Tanaka (AGC)
Akihisa Nomoto (University of California)
Yuyuko Watanabe · Hikari Ryuuzaki · Shin-Ichi Tanabe
(Waseda University)

039 Refrigerant Permeability Evaluation of Low GWP Refrigerant R-474A

Shohei Ajioka · Yasutaka Negishi · Tsubasa Nakaue ·
Kentaro Shibata · Daisuke Karube (Daikin Industries)

040 Implementation of an Aerodynamic Reduced Order Model (ROM) based on Geometric Deep Learning (GDL) for Quick Design Review

Hideaki Nagano · Shota Morisaki · Itsuhei Kohri
(Tokyo City University)
Yoshiichi Ozeki · Miyoko Oiwake (AGC)
Suguru Shiratori · Kenjiro Shimano (Tokyo City University)

G314+G315 (3F)

【9:30~11:35】

39 Vehicle Development I Tetsuo Maki (Tokyo City University)

172 A Study on the Low Friction Method of U-joint in R-MDPS System

Jong Min Kim · Tae Kyun Kim · Yoo Sin Kang ·
Hyung Seok Kim · Ho Young Kim (Hyundai Motor)
Jeong Ho Kuk · Jae Young Noh (Namyang Nexmo)

173 Vehicle Concept Model Optimization using Skeletonization Algorithm

Hong Kyoung Seong (Hyundai Motor)

174 A Study of Space Structure Node Joint and Interlocking Connection for Micro Factory

Do Hoi Kim · Sung Woo Kim (Hyundai Motor)
Dong Ho Kang · Bahman Morefi
(Hyundai Motor Europe Technica Center)

175 A Study on Plastic Hybrid Door System for Various Specifications

Je Won Choi · Sang Young Im · Jang Hoo Kim (Hyundai Motor)

176 Develop One Surface Frameless Flush Door -Watertight Resistant Frameless Door-

Hyeong Geun Jo · Kyung Doek Seo · Sang Il Lee ·
Young Uk Yoon · Dong Min Jeon · Dae Chul Kim ·
You Chan Park · Hoo Sang Park · In Sun Baik (Hyundai Motor)

【12:35~14:15】

40 Vehicle Development II Daisuke Ito (Kansai University)

177 Study of HILS Development for Vehicle Automation Test using Robots, Motors

Hojin Jy · Soyun Lee · Dan Kim (Hyundai AutoEver)

178 Study of HILS Test using CAN Log Data from Vehicle
Junku Lee · Dawon Jung · Jieun Whang (Hyundai AutoEver)

179 Development of Seat Comfort Evaluation Based on Virtual Human Models
Baekhee Lee (Hyundai Motor)
 Byoung-Keon Daniel Park
 (University of Michigan Transportation Research Institute)

180 Evaluation Study on the Optimal Implementation Conditions of Indoor Lighting Considering Customer Psychological/Physiological Responses
Daeseon Lee · Cheol Min Park (Hyundai Motor)

G316+G317 (3F)

【9:30~12:10】

41 Wireless Power Transfer Technologies
 -Static and Dynamic Wireless Power Transfer-
 <OS> Yukio Yokoi (Takushoku University)

181 User-Friendly Wireless Charging with Capacitive Coupling in Electric Scooters (First Report)
Shinji Abe · Ryoya Honda · Yuki Aoyagi · Ryuya Kurosawa · Kazuo Matsuno · Minoru Mizutani (Power Wave)

182 Radiated Emission Reduction of Wireless Power Transfer System with Flying Capacitor ARCP Converter
Rintaro Kusui · Keisuke Kusaka · Hiroki Watanabe · Jun-Ichi Itoh (Nagaoka University of Technology)

183 Proposal of Overhead Reduction for Dynamic Wireless Power Transfer System
Atsuo Hatono (Nippon Institute of Technology)

184 Required Battery Capacity of EVs Assuming Optimal Locations of In-Motion Wireless Power Transfer System
Yudai Honma · Daisuke Hasegawa · Katsuhiro Hata · Takashi Oguchi (The University of Tokyo)

185 150kW Dynamic Wireless Power Transfer Inverter Control Technology
 Jin Katsuya · Shuji Kawano · Kenichiro Takahashi (Honda R&D)

186 Report on the Burial of 2023 Years Coils for Dynamic Wireless Power Transfer on Asphalt Roads Equivalent to N6 Traffic Volume
Takehiro Imura · Takahiro Yamahara · Naoya Sasa · Ichitaku Kaku · Yoichi Hori (Tokyo University of Science)
 Hiroyuki Mashito · Nagato Abe (Toa Road)

【13:10~14:50】

42 Automotive Traction Motor Technology
 <OS> Hideaki Arita (Mitsubishi Electric)

187 Magnetostriction Effect in Motor Vibration and Acoustic Noise
 -Finite Element Analysis and Experimental Investigation-
Yifei Cai · Naoki Saikawa · Akira Chiba (Tokyo Institute of Technology)
 Souichiro Yoshizaki (JFE Steel)

188 Experimental Considerations on Circulating Current Losses of Armature Windings in Permanent Magnet Synchronous Motors

Hiroaki Makino · Daisuke Mori · Makoto Matsushita (Toshiba Infrastructure Systems & Solutions)

189 Research on Halbach Array Automotive Permanent Magnet Motor using Laminated Neodymium Magnets
Ryujiro Gombi · Taketsune Nakamura · Emiko Tsuru (Kyoto University)
 Tetsuhiko Mizoguchi · Masato Sagawa (NDFEB)
 Alberto Castellazzi · Shinichi Domae (Kyoto University of Advanced Science)

190 Development of a Vibration and Acoustic Analysis Methodology for Electric Drive System using Wave Based Technique

Hong Ryul Kim (Hyundai Motor)

G318+G319 (3F)

【9:30~11:35】

43 Thermal and Fluid Engineering for Carbon Neutral Society
 -Thermal Technology Contributing to Carbon Neutrality-
 <OS> Satoshi Someya (Tokyo Denki University)

191 Investigation of Waste Heat Recovery Systems for a Series Hybrid Electric Vehicle with a Lean Burn SI Engine (Second Report)
Masaki Naruke · Takaaki Kitamura (JARI)

192 Improved Mechanical Properties and Conversion Efficiency of Thermoelectric Power Generator for Automobile
Michihiro Ohta · Kishor Kumar Johari (AIST)
 Masaki Naruke (JARI)
 Yoshinori Tsuchiya
 (The Research association of Automotive Internal Combustion Engines)
 Kazuki Imasato · Sauerchnig Philipp · Takao Ishida · Atsushi Yamamoto (AIST)

193 Development of a Compact Rankine Cycle Generator with an Integrated-Component Structure (Fifth Report: Reconsideration of Pump and Waste Heat Recovery Section)
Katsuyuki Tanaka · Takashi Izumida · Nana Tonooka · Hiroki Kato · Chigusa Nakagawa · Tetsuhiro Wakiyama · Kenya Ohtsuka (Nihon University)

194 Study of Optimal Thermal Management System for Battery Based on Vehicle System 1D Simulation Model
Yuya Hato · Toshio Hirota · Yushi Kamiya (Waseda University)
 Kiyotaka Sato (Mazda)

195 A Study on the Diagnostic Logic of Insufficient Coolant using Coolant Temperature Sensor
Suho Lee (Hyundai Motor)

【12:35~14:15】

**44 Dynamics, Control and Safety of Two-Wheeled Vehicles
-Motorcycles, Bicycles, and PMV-**

<OS> Tomoya Kitani (Shizuoka University)

**196 Novel Measuring System using Omnidirectional
Cameras and Spherical Mirrors and its Application for a
Motorcycle Dynamics**

Junji Hirasawa (Ibaraki College of Technology)

**197 Effect of Frame Deformation on Motorcycle Dynamics
(First Report)**

Kazunobu Sakamoto · Masahiro Kusakari · Yuki Nakatani ·
Hiroshi Kitagawa (Yamaha Motor)

**198 Analysis of the Effect of Frame Flexibility on the Weave
Mode of Motorcycles**

-Example of Multiple Frame Flexibility Effects-

Reiya Haraoka · Takahiko Yoshino · Tsuyoshi Katayama
(Kurume Institute of Technology)

**199 Analysis of the Influence of Aerodynamic Forces On the
Stability of High-Speed Weave Mode of Motorcycles**

Tsuyoshi Katayama · Reiya Haraoka · Ayaka Gytoku ·
Takahiko Yoshino (Kurume Institute of Technology)

G401+G402 (4F)

【9:30~12:35】

45 Advanced Diesel Engine Systems and Technologies

<OS> Takeshi Negishi (UD Trucks)

**200 NOx Reduction Strategy using Direct Water Injection in
a Diesel Engine (First Report)**

-Proposal of an In-Cylinder Water Stratification
Concept at a Medium-Low Load-

Kazuhisa Inagaki (Toyota Central R&D Labs.)
Tutomu Kawae (Toyota Industries)
Teruaki Kondo · Kazuaki Nishikawa
(Toyota Central R&D Labs.)
Yo Usui (Toyota Industries)

**201 Study of Improving Indicated Thermal Efficiency with
Higher Supercharging and Optimized Supercharging
System on Heavy Duty Diesel Engine**

Hiroaki Saito · Munemasa Hashimoto · Yoshinori Ishii
(Isuzu Advanced Engineering Center)

**202 Development and Application of Piston Temperature
Estimation Method for a Diesel Engine**

Takuro Mita (Isuzu Advanced Engineering Center)
Yorimasa Tsubota (Isuzu Motors)

**203 Development of High-Response Heat Insulation
Material Technology in Engine Combustion Chamber
to Improve the Fuel Economy (3rd Report)**

-Development of Paint Model of Heat Insulation
Coating and Confirmation of the Heat Insulation Effect
of a Diesel Engine-

Masaya Minato · Ken Sakamoto · Yoshitaka Wada ·
Shinji Kadoshima · Yuki Nakanishi · Tutomu Shigenaga ·
Takuya Noda · Kiyotomo Igawa · Kengo Nakashima ·
Sangkyu Kim (Mazda)

**204 Combustion Process Analysis of Hydrogen/Diesel Dual-
Fuel Engine by Numerical Simulation**

Takafumi Kamino · Kenji Hiraoka · Takafumi Tentora ·
Gin Morita (Yanmar Holdings)

**205 Combustion Analysis of the Hydrogen/Diesel Dual Fuel
Engine with the Single Cylinder Engine Testing**

Gin Morita · Takafumi Tentora · Kenji Hiraoka ·
Takafumi Kamino · Toru Takemoto (Yanmar Holdings)

**206 A Study on the Optimization of Low-Temperature Low
Pressure Circuit (LPC) Performance of Diesel Vehicles**

Keun Soo Kim · Jung Hoon Park · Cheol Lee ·
Seung Yub Lee (Hyundai Motor)

【13:35~16:40】

**46 Exhaust Emission Catalyst System for Carbon Neutral
Society**

<OS> Masaaki Haneda (Nagoya Institute of Technology)

**207 A Study on Improving Methane Purification
Performance of a Three-Way Catalyst by Lean / Rich
Lambda Oscillation (2nd Report)**

Toyofumi Tsuda · Kazuya Miura · Yuya Ito · Shota Yokoo ·
Fumikazu Kimata (Suzuki Motor)

**208 Air Path and Exhaust Aftertreatment Optimization for
Medium-Duty Hydrogen Engines**

Martin Weber · Thomas Spannaus · Hubertus Ulmer ·
Thaddaeus Delebinski (IAV)

**209 Analysis of Heated Urea Water Solution Spray in Urea
Selective Reduction Catalyst Systems**

Kentarō Inasaki · Yuta Kikugawa · Kanako Nishimura ·
Eriko Matsumura (Doshisha University)

**210 Analysis of Factors Affecting N₂O Formation and
Proposal of System Design Guidelines in the Urea SCR
System**

Kasumi Yoneyama · Kenji Fujii · Teppei Ohori ·
Hisashi Ozawa · Naoya Ishikawa
(Isuzu Advanced Engineering Center)
Hiroshi Anoda (Isuzu Motors)

**211 Development of GPF Based on Capillary GPF Model for
Euro7 Regulation**

Sungmu Choi · Jiho Cho · Sangmin Lee (Hyundai Motor)

**212 Development of Technology for Predicting the Activity
of Exhaust Gas Purification Catalysts by the First
Principle Calculations**

Miura Kazuya (Suzuki Motor)
Hiroki Kusaba · Tomoya Miyoshi (Kumamoto University)
Hiroshi Yoshida (Kanazawa University)
Hiroyuki Tsuchizaki (Suzuki Motor)
Masato Machida (Kumamoto University)

**213 Study on PN Characteristics by Type of Damaged DPF
for Diesel Vehicles Operating in the IDLE Condition**

Jaeeun Yoo · Giyoung Park · Sujeong Jang · Seangwock Lee
(Kookmin University)

G403 (4F)

【9:30~10:45】

47 Active Safety and Advanced Driver Assistance Systems I
<OS> Kenta Maeda (Hitachi)

214 Study on Driver's Driving Behavior Depending on the Occurrence Location of Tire Blowout
Masahiko Aki · Takumi Iume · Koki Kunieda · Koya Soeno · Shinichiro Horiuchi (Nihon University)

215 Feature Analysis of Taxi Drivers in Traffic Accident Data to Use Autonomous Vehicle Safety Assurance Study
Masami Aga
(Tokyo University of Agriculture and Technology)
Yoshiaki Matsuo · Ryuji Funayama (Woven by Toyota)
Toru Kiuchi
(Institute for Traffic Accident Research and Data Analysis)
Masao Nagai (Tokyo University of Agriculture and Technology)

216 Study of the Appropriate Bicycle-Approach-Notification Timing Presented in Car-to-Bicyclist V2X System
Asuka Harada · Hitoshi Kanamori (Nagoya University)
Yasunobu Yokoi (Toyota Motor)
Yuki Yoshihara · Nihan Karatas · Takahiro Tanaka (Nagoya University)

【12:10~13:50】

48 Active Safety and Advanced Driver Assistance Systems II
<OS> Yuichi Omoda (JARI)

217 Development of an Automatic Calculation Method for Infrastructure Support Sensor Placement to Eliminate Blind Spots at Intersections
Takahiro Sakai · Teppei Saitoh (Hitachi)

218 Long Baseline Stereo Camera for Adaptive Driving Beam Evaluation
Shunya Kumano · Nao Ikeda · Yumi Yamada · Yusuke Ueda · Naoki Kawasaki (SOKEN)
Kiichiro Kawakami (Toyota Motor)

219 Proposal of a Steering Assist System Considering Individual Driver's Operational Input Constraints
Daisuke Nagasaka (J-QuAD DYNAMICS)
Akira Ito · Hiroyuki Okuda (Nagoya University)
Sigenori Ichinose · Yosuke Omori · Katsumasa Koike · Yusuke Fujii (J-QuAD DYNAMICS)

220 Autonomous Emergency Braking Performance in Electric Vehicles and Influence on the Japan New Car Assessment Program (JNCAP)
Alvaro Esquer Molina · Marc Llao (IDIADA Automotive Technology)

G404 (4F)

【9:30~11:10】

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

221 Modularization of Vehicle Simulation Model for Efficient Digital Development
Yukihiro Adachi (Toyota Motor)

222 SIL-HIL Hybrid Simulation Environment for Automotive Software Validation
Katsuya Tsuzuki (dSPACE Japan)
Andre Hildebrandt (dSPACE)
Rafael Yunis (dSPACE Engineering d.o.o.)
Fabian Bronner · Martin Ruehl (dSPACE)

223 Cross-Company Collaborative Model-Based Development using FMi3.0 and SSP Traceability Specification
Dai Araki (Toshiba Digital Solutions)

224 Study of the Method for Refinement of Design Parameters Considering Tolerances by MBD
Junichi Ichimura (The Open University of Japan)

【12:10~14:15】

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

225 The Evolution of Power Unit Development Process through MBD (First Report)
-Standardization of 1D-Model and Application in Power Unit Development-
Kenichiro Ogata · Go Toshizane · Satoshi Watanabe · Akihiro Katsuura · Minako Tsuji · Hiromu Iwase · Takumi Matsumoto (Honda Motor)

226 The Evolution of Power Unit Development Process through MBD (Second Report)
-Development and Application of a Coupled Simulation Environment for Engine Control System Development and Calibration using Engine Plant Model-
Akihiro Katsuura · Minako Tsuji · Kenichiro Ogata · Hidekazu Hironobu (Honda Motor)

227 The Evolution of Power Unit Development Process through MBD (Third Report)
-Application of Response Surface Models to Accelerate Coupled Simulation for Engine Control System Development and Calibration-
Tsuji Minako · Akihiro Katsuura · Kenichiro Ogata · Hidekazu Hironobu (Honda Motor)

228 The Evolution of Power Unit Development Process through MBD (Forth Report)
-Driving Strength Analysis Using 1D System Model and Application in Power Unit Development-
Go Toshizane · Kenichiro Ogata · Masatoshi Okuda · Yuto Otsuki (Honda Motor)

229 Evolution of the Power Unit Development Process through MBD Fifth Report
-Construction of an Interior Noise Prediction Model Coupled with a 1D System Model-
Satoshi Watanabe · Kenichiro Ogata · Hiromu Iwase (Honda Motor)
Taketo Maeda · Kazuya Kawada (Auto Technic Japan)

G414+G415 (4F)

【9:30~12:10】

51 Next-Generation Advanced Production Engineering for Automotive Material III
<OS> Koshiro Aoki (Shibaura Institute of Technology)

230 Establishment of Resistance Seam Welding Technology for Stainless Steel Foil Materials
Shion Kovama · Ryo Konno · Souichiro Nishino (Ibaraki University)
Seiya Yoshikawa (ART-HIKARI)
Tetsuya Nogami · Reina Araya (NOGAMI)

231 Development and Performance Evaluation of Hermetic Seals using Plastic Flow Joining
Taketo Nakajima · Kaoru Mannami · Souichiro Nishino (Ibaraki University)
Ryo Tominaga · Naonori Ishii (Aoyama Seisakusho Ibaraki Factory)

232 A Study on Causes and Prevention of Wheel Bolt Loosening in Heavy Duty Vehicles
Soichi Hareyama · Ken-Ichi Manabe · Satoshi Kobayashi (Tokyo Metropolitan University)

233 Effect of Shot Peening Treatment on the Formation of Hydroxide Film and Bending Strength in Cast Magnesium Alloy
Kento Tamura · Souichiro Nishino (Ibaraki University)
Daisuke Suzuki (Yamanashi Industrial Technology Center)

234 Technology to Improve the Durability of Coating Dies in Press Working of Al Alloys
Ryu Yoshiura · Souichiro Nishino (Ibaraki University)
Yukitaka Sumiya (Japan Coating Center)
Minoru Kouta (Yamanoi Seiki)

235 PVD Coating to Improve Die Durability in Press Working of 1470MPa Class High Tensile Strength Steel
Ryutaro Kanazawa · Nanako Seki · Souichiro Nishino (Ibaraki University)
Yukitaka Sumiya (Japan Coating Center)
Minoru Kouta (Yamanoi Seiki)

【13:10~15:15】

52 Organic and Polymer Materials
Susumu Miura (Nissan Motor)

236 Virtual Experiments using Machine Learning to Establish PA6 Depolymerization Conditions and Reaction Formulation based on Real Experiments
Haruki Chiba · Shoko Namera · Shuta Suzuki · Yasushi Terasaka · Satoshi Hirawaki (Honda R&D)

237 Development of Improved Friction Performance PA6-HMWPE Blends for Interior Parts
Yonghyeon Shin · Donguk Lee (Hyundai Motor)
Jaewon Moon · Sijun Park (Korea Polyacetal)

238 Effect of Heating Temperature on Surface Modification of Silicone Hard Coat over Polycarbonate by Vacuum Ultraviolet Irradiation
Akihiro Shimizu (Ushio Inc.)
Ren Iida · Shinji Kambara (Gifu University)

239 Development of Heat Insulating Fabric Inspired by Silver Ants
Yuki Izawa · Kenji Miyazaki · Yasuhiro Ueda · Kana Tsunaba (Toyota Boshoku)
Tsuyoshi Kamitamaru · Jun Syoyama (Seiren)

240 Approach to Reduce Environmental Impact of Fiber Reinforced Plastic by using Flat Glass Fiber
Yosuke Nukui · Shunsuke Harashima (NittoboSeiki)

G416+G417 (4F)

【9:30~10:20】

53 xEV System Design
Kantaro Yoshimoto (Tokyo Denki University)

241 Application Example of MBSE for HEV Fuel Efficiency Allocation Independent of System Configuration
Hironori Yumura · Takuya Machida (SUBARU)

242 Systematic Engineering Methods Enable Fast, Cost Efficient & Target-Oriented Development of Upcoming EV (Electric Vehicle) Generations
Peter Ebner · Eder Stefan · Engelbert Loibner · Michael Maletz (AVL List)
Youta Morinaga (AVL Japan)
Josef Zehentner (AVL List)

G418+G419 (4F)

【9:30~12:10】

54 Road Traffic Safety
Yasufumi Sekine (Fukuyama University)

243 Improving Vehicle Safety in African countries
Victor Garcia Santamaria (Applus+ IDIADA)
Simone Piantini · Niccolo Baldanzini (University of Florence)

- 244 A Study on Web Framework Architecture for Infotainment System**
Ioonhyung Kim (Hyundai Motor)
- 245 Study on Ventilation Volume of EV in the Case of Transport for COVID-19 Patient (Part3)**
Koichi Oshino
- 246 Statistical Analysis of Driving Characteristics using ETC2.0 Probe Data**
Norihiko Kato · Yoshihiro Suda (The University of Tokyo)
- 247 SOTIF Development and Safety Analysis using the Safety Concept Description Language SCDL, and International Standardization of SCDL**
Nobuaki Tanaka (OTSL)
 Shuhei Yamashita (DNV Business Assurance Japan)
 Yoshiaki Shoi (ASAM Japan)
- 248 Traffic Control of Automated Guided Vehicles by Quantum Annealing**
Keigo Noguchi (Toyota Motor)
 Kanto Teranishi (Fixstars)
 Toru Takashima · Yoshinori Suga (Toyota Motor)
 Munehiro Doi · Yasuhiko Shiota (Fixstars)

【13:10～15:15】

55 Safety Education · Sensor for Safety
 Yasuhiro Matsui (NALTEC)

- 249 Development of an Onboard Unit using Both an Edge AI Device and Location Information for Safe Driving Education at Stop-Controlled Intersections in ASSIST**
Manato Ando · Kazuaki Goshi · Yasuaki Sumida ·
 Masaki Hayashi (Kyushu Sangyo University)
 Katsuya Matsunaga (Kyushu University)
- 250 Verification of Driving Characteristics of Patients with Brain Diseases using a Driving Simulator**
Masashi Ikota · Yoshiyuki Onuki · Tomoaki Ban ·
 Sasai Yoshimitu · Maiko Kikuchi · Miho Inoue ·
 Gen Kusaka (Jichi Medical University)
 Jin Kusaka (Waseda University)
 Kensuke Kawai (Jichi Medical University)
- 251 A Study on the Plan to Create a New Concept Space Based on the Purpose of Use of Electric Vehicles and Optimal Application to Vehicles**
Jungho Lim · Hyunsu Shin (Hyundai Motor)
- 252 Impact Assessment of Wet Snow Accretion on Millimeter Wave Radar Range Detectability**
Kengo Sato
 (National Research Institute for Earth Science and Disaster Resilience)
 Kentaro Kanaya · Takaaki Shibasaki · Kenichiro Imai ·
 Ichiro Nakane · Hideo Inoue · Shigeo Kimura
 (Kanagawa Institute of Technology)
- 253 A Generation Method of mmWave Radar Scattering Points on a Vehicle by Ray Tracing Simulator**
Yusuke Isono · Masakazu Ikeda (SOKEN)
 Hideo Inoue (Kanagawa Institute of technology)

G301+G302 (3F)

【9:30~11:35】

56 xEV I

<OS> Takashi Majima (IHI Inspection & Instrumentation)

254 Development of HEV Battery SOC Control by Destination Prediction
Keita Asakura · Kan Saito · Hiroyuki Tokita (Toyota Motor)

255 3.5Litter Plugin Hybrid System for the Chauffeur
Kei Mashiki · Keita Hashimoto · Takaji Kikuchi (Toyota Motor)

256 Downsizing and Cost Reduction of e-Drive-Unit by Innovative Phase Change Cooling
Christoph Danzer · Stephan Guenther · Volker Ambrosius · Philipp Moritz · Thomas Arnold · Tobias Voigt · Manfred Prueger · Michael Barth · Marc Sens · Heiko Rabba (IAV)

257 A Study on Energy Analysis and Effect of Energy Efficiency by Vehicle Factors in Certification Mode using EV Analysis Model
Sung-Jin Kim · Hyung-Jin Kim · Sang-Jae Lee · Oh-Sung Choi · Kang-Won Lee · Deok-keun Shin (Hyundai Motor)

258 Evaluation of Vibration Suppression Control for Parallel Shaft e-Axle using Test Bench System
Michi Oda (The University of Tokyo/Onosokki)
Sakahisa Nagai · Hiroshi Fujimoto (The University of Tokyo)
Koji Sato · Kana Mizoguchi · Naoki Takizawa (Onosokki)
Hidemasa Fujita · Kota Yamamoto · Tohru Urano (Mitsubishi Motors)

【12:35~14:40】

57 xEV II

<OS> Shintaro Oshio (Nissan Motor)

259 Next Generation 800V SiC High-Speed eDrive Technology for Electrified Propulsion
Mitsuru Ishihara · Harsha Nanjundaswamy · Andi Diko · Aleksandar Mateski · Aaron Sinka · Joel Deussen · James Bourn (BorgWarner)

260 Consideration on Lubrication of High-Speed Rotating Gear (Third Report)
-Case Study of Efficient Tooth Surface Lubrication Method-
Kensuke Suzuki · Tomoyuki Hara · Kaori Sakai · Masayoshi Ohno · Kazuki Sakai · Rian Setyo Adi · Junji Yamada (Univance)

261 Cool System, Lasting Power - an Outstanding E-Powertrain Meets MX Dirt Track
Thomas Arnold · Jan Boehme · Matthias Krause · Mirko Leesch · Masataka Aoki (IAV)

262 Development of Low-Loss Technology using Continuous Wave Winding
Makoto Ito · Tetsuya Suto (Hitachi)
Akeshi Takahashi (Hitachi Astemo)

263 Development of High-Density Coil Mounting Technology by Beam Welding

Tetsuya Suto · Makoto Ito (Hitachi)
Akeshi Takahashi (Hitachi Astemo)

【15:20~16:35】

58 xEV III

<OS> Osamu Shimizu (The University of Tokyo)

264 Pack2Pack Battery Testing
Karsten Mueller · Joerg Mueller · Sven Hoenicke (IAV)

265 Topology Optimization of Cooling Plates for Electric Vehicles
-A Strategy for Rollbonded Cooling Plates-
Frederik Schewe (Mubea Rollbonding Products)
Takehiko Tsukamoto (Mubea Japan)
Joerg Neubrand (Mubea KG)
Ali Elham (University of Southampton)

266 Battery Health Monitoring for Enhanced Electrical Vehicle Performance
Nikolaus Keuth · Gerhard Schagerl · Alwin Tuschkan (AVL List)

G303 (3F)

【9:30~11:35】

59 MBD Guaranteed for Model Distribution Conforming to International Standards
-Support Technology for Digital Validation and Visualization of Carbon Footprint-
<OS> Hideto Noyama (Mitsubishi Heavy Industries Thermal Systems)

【OS Keynote Address】

267 MBD Guaranteed for Compatibility and Distribution by International Standard: General Remarks
-General Remarks-
Toshiji Kato (Doshisha University)
Kimitoshi Tsuji (Digital Twins)
Masahiro Okamura (JSOL)

268 Trajectory of the Activities of the Model-Based Development Technology Sector Committee Based on international Standard Description
Junichi Ichihara (AZAPA)

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

270 Study and Proposal on OCC for Automotive Glass using EV Model (First Report)

Tsunehiro Saito (AGC)
Kimitoshi Tsuji (Digital Twins)

271 VHDL-AMS Modeling in CAN FD Network Validation

Kan Yamagishi · Makoto Mizuno · Naoto Sakurazawa
(Myway Plus)

【12:35~15:15】

60 MBD Guaranteed for Model Distribution Conforming to International Standards Standard II -Support Technology for Digital Validation and Visualization of Carbon Footprint-

<OS> Osamu Seya (TechnoPro)

272 Circuit Analysis Method using Coupled Electrical and Mechanical 1D Models in Collaboration with Tier 1 and Tier 2 Suppliers

Masashi Inaba (DENSO)
Hiroki Nakamizo · Wataru Hijikata
(Tokyo Institute of Technology)
Takao Egami (Toshiba Electronic Devices & Storage)
Daisaku Mukaiyama (Rubycon)
Yoshinori Aruga (KOA)
Hiroki Takahara · Hideaki Fujita
(Tokyo Institute of Technology)
Takuya Shinoda · Keita Omi (DENSO)

273 Effects of the Actuator Behavior due to the Low-Temperature Characteristics of the Aluminum Electrolytic Capacitors

Daisaku Mukaiyama (Rubycon)
Masanari Ueda (Siemens EDA Japan)
Yoshinori Aruga (KOA)
Masashi Inaba (DENSO)
Hiroki Nakamizo (Tokyo Institute of Technology)
Haruki Takei (Siemens)
Takao Egami (Toshiba Device Storage)
Hideki Jonokuchi (Nagoya Institute of Technology)
Takuya Shinoda (DENSO)

274 Analysis of Actuator Drive Circuits and Passive Component Operation through Tier 1 and Tier 2 Collaboration using MBD

Yoshinori Aruga (KOA)
Masashi Inaba (DENSO)
Masanari Ueda (Siemens)
Daisaku Mukaiyama (Rubycon)
Hiroki Nakamizo (Tokyo Institute of Technology)
Naoto Taoka (IDAJ)
Haruki Takei (Siemens)
Takao Egami (Toshiba Electronic Devices & Storage)
Hideki Jounokuchi (Nagoya Institute of Technology)
Takuya Shinoda (DENSO)

275 Examining the Operation of Actuator Drive Circuits that Improve the Accuracy of Semiconductor Models in MBD

Takao Egami (AC Technologies)
Masashi Inaba (DENSO)
Masanari Ueda (SIEMENS)
Takuya Shinoda (DENSO)
Yoshinori Aruga (KOA)
Daisaku Mukaiyama (Rubycon)
Yoshiko Ikeda (Toshiba Electronic Devices & Storage)
Kazunari Hashimoto (DENSO)

276 Switching Loss Issues in High Power Inverters and a Model that Takes IGBT Structure into Account and Supports Self-Heating

Noboru Takizawa

277 Robust Design for Location of Thermal Interfacial Material by using MBD

Kazunari Hashimoto (DENSO)
Ryuta Yasui (Tokyo Institute of Technology)
Masashi Inaba (DENSO)
Takao Egami (AC Technologies)
Yoshinori Aruga (KOA)
Daisaku Mukaiyama (Rubycon)
Haruki Takei (Siemens)
Kazuyoshi Fushinobu (Tokyo Institute of Technology)
Takuya Shinoda · Keita Omi (DENSO)

G304 (3F)

【9:30~11:10】

61 Effect of Automobile Emission on Atmospheric Environment

<OS> Kotaro Tanaka (Ibaraki University)

278 Development of VOC Adsorption and Odor-Eliminating Filler Derived from Scraped Sea Urchin Shells

Mizuho Nishida · Shinnosuke Okada · Toyokazu Endo
(Kasai Kogyo)

279 An Analysis of Diesel RDE NOx Emission using Driver's Accelerator Pedal Index and Distribution

Yoon Woo Lee · Ki Hyung Joo · Jay Hwee Lee · Jong Ik Chun (Hyundai Motor)

280 Consideration Regarding Drag Torque Reduction of Disc Brakes

Takashi Shimizu · Naoya Miyahara · Akinori Hirashima · Takumi Inoue (Advics)

281 Holistic Brake Development Approach under the Impact of EU7

Christof Danner · Christian Wanek-Ruediger · Sampsu Martikainen (AVL List)

【14:55~18:00】

62 Fuels, Lubricants and Tribology That Contribute to Carbon Neutrality

<OS> Kohei Katori (Idemitsu Kosan)

282 The Role of Hydrogen in the Future Energy & Mobility System

Juergen Rechberger · Bernd Reiter · Alexander Schenk (AVL List)

283 Effects of Operating Conditions and Cylinder Wall Temperature Differences on the Proportion of Condensed Water in Lubricating Oil in Premixed Hydrogen Engine

Yuji Mihara · Yuya Hirose · Masakuni Oikawa · Takumi Iwata · Dengda Zhu (Tokyo City University)
Michiyasu Owashi (Motora)

284 Development of Ammonia Mixed Combustion Engine for Automobiles

Minoru Tsuda · Masateru Ishida · Tsuyoshi Ihara ·
Dai Yamanishi · Kazuyuki Maeda
(National Fisheries University)

285 Experimental Study of Lignin Fuels for Marine Engines

Motoki Terauchi · Simon Friborg Mortensen · Anders Ivarsson
(Technical University of Denmark)

286 Development of a Method for Quantifying the Cause of Carbon Deposit Formation in Gasoline Engines

Shouta Tobe · Akihiro Suzuki (SUBARU)
Satoshi Yoshizawa · Takahide Horiguchi
(UBE Scientific Analysis Laboratory)

287 The Development of JASO GLV-2 – Next Generation Low Viscosity Automotive Gasoline Engine Oils Specification – Part1

Noriyuki Matsui · Satoru Yoshida (ENEOS)
Kazuo Yamamori (Toyota Motor)

288 The Development of JASO GLV-2 – Next Generation Low Viscosity Automotive Gasoline Engine Oils Specification – Part2

-Volatility and Shear Stability Test Procedure-

Kazuo Yamamori · Satoshi Hirano · Yuta Uematsu ·
Shunsuke Mori (Toyota Motor)
Satoru Yoshida · Noriyuki Matsui (ENEOS)
Kazuteru Kotaka · Isao Tanaka (Chevron Japan)
Jo Martinez (Chevron Oronite)

G314+G315 (3F)

【9:30~11:35】

63 Vehicle Development III

Hiroshi Kuniyuki (Suwa University of Science)

289 FMI-Based Virtual ECU Interface Structure

Eunhyung Cho · Seokjin Jang · Subin Jung · Kangyoung Lee ·
Seongho Han (Hyundai AutoEver)

290 Virtual Memory Development for Simulation of Diagnostic Communication in Virtual ECU

Kangyoung Lee · Seongho Han · Eunhyung Cho · Subin Jung ·
Seokjin Jang (Hyundai AutoEver)

291 A Study on the Cleaning System of the Automated Driving Sensor

Jongmin Park · Nakkyong Kong · Gyuwon Han ·
Jinhee Lee (Hyundai Motor)
Jongwook Lee (Dy Auto)
Minwook Park (Dy Essys)

292 3rd Generation Power Trunk Lid System

YongHyuck Im · KeunSoo Kim · KyeongJun Lim ·
SuJin Jung · MinHyung Byun · JaeHoon Chung
(Hyundai Motor)
SungTae Hong · MoonBae Tak · DooJung Kim
(PHA Automotive)

293 Life Cycle Assessment of Automotive Parts using Aluminum Scrap Material

Hiroko Kashima · Yasutaka Okubo · Sumiyo Ezaki ·
Junya Naito (Kobe Steel)
Hatsumi Yoshino (Kobelco Business Partners)

【12:35~14:40】

64 Vehicle Development IV

Toshiaki Sakurai (former Iwakimeisei University)

294 Development of All-In-One Virtual Application Process for Efficient R&H Performance Development

Jinhee Lee (Hyundai Motor)

295 Simultaneous Identification of Spring Constant and Torsional Friction in the Frequency Region Higher than the Resonance Frequency of a Two-Inertia Resonance System

Tetsuya Yada · Toshimasa Miyazaki · Padron Juan
(Nagaoka University of Technology)
Yoshihisa Hojo (Toyo Denki Seizo)

296 Development of Drivability Sensory Evaluation with Machine Learning and Quantification of Knowledge

Takafumi Asano · Kosuke Tsuchiya · Kenji Kashiwakura ·
Takuma Kawaguchi · Haruki Shimura · Ryosuke Atarashi ·
Takashi Kaneko · Ryoya Kanahori (SUBARU)

297 Conversion Method of Vibration Condition using Vibration Energy

Tomoya Shimomura · Fumikazu Matsuda ·
Toshikatsu Hatakeyama (Nissan Motor)
Katsuhiko Nakamura · Tatsuki Okunaga (IMV)

298 AI-Powered Vehicle Concept Development

-Disruptive Method to Reduce Time-to-Market and Select Right Vehicle Architecture & Technology-

Mario Oswald · Joerg Schlager (AVL List)
Kisu Lee · Sungho An (Hyundai Motor)
Stefan Kellner · Nathan De Kerpel (AVL List)

【15:20~16:10】

65 Vehicle Development V

Toshiaki Sakurai (Tokyo City University)

299 A Study on the Improvement of Startability and Fuel Efficiency of Saddle-Type Fuel Tank

Junghoon Park · Keunsoo Kim (Hyundai Motor)

300 Internal Combustion Engine Control of Hybrid System for Small Competition Vehicles

-Experimental Consideration on Installation of Throttle-by-Wire System to Improve Response-

Hayato Yamada · Yusuke Ebashi · Ikkei Kobayashi ·
Jumpei Kuroda · Daigo Uchino (Tokai University)
Kazuki Ogawa (Aichi University of Technology)
Mohamad Bin Peeie Heerwan (University Malaysia Pahang)
Hideaki Kato · Takayoshi Narita (Tokai University)

G316+G317 (3F)

【9:30~11:35】

66 New Technologies for Advanced Measurements and Diagnostics

<OS> Atsushi Shimada (Hitachi)

301 Analysis of High-Frequency Noise Due to In-Cylinder Resonance in Diesel Engines

Masanori Ishikawa · Kiyoshi Iwade (SOKEN)
Takashi Kawachi · Tsutomu Umehara · Yoshiyuki Murai
(Toyota Industries)

302 Performance Evaluation of EV Traction Batteries via Impedance Measurement

Takumi Mori · Nozomu Teranishi (Hioki E.E.)
Toshimichi Takahashi (Meidensha)

303 Implementation of Virtual Sensors for Virtualization of Wheel Force Transducers to Evaluate Actual Use of Customer Vehicles

-Virtualization of Wheel Force Transducers to Evaluate Actual Use of Customer Vehicles-

Martin Zeller · Kahlid Bouazi · Daniel Dilmetz (COMPREDICT)
Akihito Itakura · Mitsuo Harino (Suzuki Motor)

304 A Strategy of Digital Transformation for Vehicle Development Standard using Artificial Intelligence

Sang In Park · Yool Koo Kim · Ji Hye Park (Hyundai Motor)

305 Outline of JASO E018 Part-2, which Standardizes the Performance Requirements of a chassis Dynamometer Test System and its Method of reproducing Actual Driving Conditions

-Slip Behavior Evaluation Method and Applicability to Slip Control Measures in Tests using a Chassis Dynamometer-

Shohei Nakagawa (Honda Motor)
Akira Noda
(Japan Automobile Transport Technology Association)
Hisakazu Suzuki (NALTEC)
Isamu Inoue (Ono Sokki)
Yasuhiro Ogawa (Horiba)
Toshinobu Furuta (Meidensha)
Hideyuki Kuba (Mazda)
Kenji Sato (Toyota Motor)
Yasuhito Takemura (Daihatsu Motor)
Masato Taniwaki (Suzuki Motor)
Noriaki Nakate
(Japan Automobile Transport Technology Association)
Masaki Naruke (JARI)
Takayuki Fumoto (Mitsubishi Motors)
Keita Mori (SUBARU)
Keiichi Masutani (Nissan Motor)

【12:35~14:15】

67 Advanced Technologies for Automotive Body Structure I

<OS> Yoshitaka Kuriage (Suzuki Motor)

306 Fatigue Strength Evaluation of CFRP Bonding Structure by Urethane Adhesive

Toshiaki Nakamaru (Nissan Motor)
Masayuki Osada · Hiroyuki Akebono · Atsushi Sugeta
(Hiroshima University)
Yoshiki Yokote (Hino Motors)
Takamitsu Nishiya (Isuzu Motors)
Tomoyuki Kita (Press Kogyo)
Noriyuki Kawai (Mazda)
Takuya Yuasa (Nissan Motor)
Takeshi Ogawa (Aoyama Gakuin University)

307 A Development of Power Door Chinch Mechanism System for B-pillar Less Side Structure

Yongdae Seo · Hoosang Park · Jaehan Park (Hyundai Motor)
Byungdae Joeng · Taewon Kim · Dosik Moon ·
Hyeonyeong Park (PHA)

308 Contribution of Vehicle Structural Components to Passenger Compartment Deceleration in Car-to-Car Frontal Collisions

Kyoka Ota · Yuqing Zhao · Koji Mizuno (Nagoya University)
Kei Nagasaka (Suzuki Motor)

309 Development of Collision Energy Absorption Member using Fiber-Reinforced Composite Material

Atsushi Yokoyama (Kyouto Institute of Technology)
Asao Koike (Isuzu Advanced Engineering Center)
Reika Akita · Mirai Sueki (ITOCHU Techno-Solutions)
Kentaro Sakota (JSOL)
Koji Kawamura (Mitsubishi Chemical Advanced Materials)

【14:55~16:35】

68 Advanced Technologies for Automotive Body Structure II

<OS> Akihiro Takezawa (Waseda University)

310 Matrix Based Design Method of the Structure for Circular Economy

Daichi Kunishi (Toyota Motor)
Ryohei Tsuruta (Toyota Central R&D Labs.)

311 Isogeometric Analysis of Fracture Problem -Part 2: Simulation of Ductile Crack Propagation-

Ki-ichi Furuhashi (University of Yamanashi)
Kei Nagasaka · Idemitsu Masuda (Suzuki Motor)
Mizuki Hoshino · Kyohei Noguchi (University of Yamanashi)
Yuta Yokoyama (University of Yamanashi/Diver Technology)
Hirofumi Sugiyama (University of Yamanashi)
Shigenobu Okazawa
(University of Yamanashi/Diver Technology)

312 Development of the Axisymmetric Two-Dimensional Analysis Model for Rotary Friction Welding of the Steel Cylinder on the Aluminum Plate

Tomohiko Ariyoshi (ATORI CAE)

313 Strength Estimation for Resin Considering Joint by Numerical Simulation

Hirofumi Sugiyama · Ryosuke Yuzawa
(University of Yamanashi)
Shigenobu Okazawa
(University of Yamanashi/Diver Technology)

G401+G402 (4F)

[9:30~11:35]

69 CN Technology for Gas Engine

<OS> Tsutomu Kikuchi (Nissan Motor)

314 Development of Low-Pressure Direct Injection Hydrogen Engine Based on Numerical Analysis of Mixture Formation Characteristics by LES

Nobuhiro Shimmura · Kotaro Hata (Tokyo City University)
Masakuni Oikawa (Tokyo City University/HEET)
Sekai Miyamoto (Kawasaki Heavy Industries)
Yuji Mihara (Tokyo City University/HEET)
Yasuo Takagi (Tokyo City University)

315 Effect of Fuel Jet Specifications on Engine Performance in Lowered Injection Pressure in Direct Injection Hydrogen Engines

Kotaro Hata (Tokyo City University)
Nobuhiro Shimmura (Kawasaki Heavy Industries)
Masakuni Oikawa (Tokyo City University/HEET)
Sekai Miyamoto (Kawasaki Heavy Industries)
Yuji Mihara (Tokyo City University/HEET)
Yasuo Takagi (Tokyo City University)

316 Influences of Argon Fraction on Characteristics of H₂/O₂/Ar Premixed Flames

Tatsushi Nagai · Yuichi Shirayama · Mizuki Sakuma ·
Ekenechukwu C. Okafor · Toshiaki Kitagawa
(Kyushu University)

317 Examining Fuel Consumption Performance of Hydrogen-Fueled Heavy Duty Vehicle on Demonstration

Kota Takanohashi · Kaname Naganuma
(Kanazawa Institute of Technology)
Tadashi Enomoto · Takuya Yamaura (Flatfield)
Yosuke Wakaki (Hokusan)
Jun Yamashita (Tonami Transportation)
Yuto Ihara (Waseda University)
Akemi Ito (Tokyo City University)

318 Optimizing Efficiency and NO_x Emissions: Experimental Investigations of Hydrogen High-Pressure Direct Injection on a Heavy-Duty Single-Cylinder Research Engine

Robbert Willems · Xander Seykens · Erik Doosje ·
Cemil Bekdemir · Peter Van Gompel (TNO)

[12:35~15:15]

70 Research on Combination between Combustion and Fuel for CO₂ Reduction (AOI Project)

<OS> Hidenori Kosaka (Tokyo Institute of Technology)

[OS Keynote Address]

319 Joint Research on CO₂ Reduction between Petroleum Association of Japan and Japan Automobile Manufacturers Association (AOI Project 2nd Report) -Second Report-

Hideaki Sugano · Takashi Kaneko (ENEOS)
Takae Okamoto (Cosmo Oil)
Tatsuya Suzuki (Hino Motors)
Masato Matsuki (Honda Motor)
Hironori Shodai (Idemitsu Kosan)
Tomoaki Kakiyama (Isuzu Motors)
Tsutomu Kikuchi (Nissan Motor)
Ryuichiro Kamioka · Hitoshi Hayashi · Kiyoo Hirose
(Toyota Motor)

320 Effects of Light Olefins on the Properties of Gasoline Premixed Laminar and Turbulent Flames

Takato Kataoka · Tsuyoshi Ohama · Hiroshi Maeyama ·
Ekenechukwu Chijioke Okafor · Toshiaki Kitagawa
(Kyushu University)

321 Evaluation of New Fuel Components and New Surrogates for Next-Generation Gasoline Development using a High-Pressure Shock Tube (Part II)

Tomohiro Hamasaki · Riku Sugiura · Ryohei Hirai ·
Tatsumi Ueda · Kazuo Takahashi (Sophia University)

322 Effects of Different Engine Speed and Load on Lean Limit of High-Compression Ratio Spark Ignition Engine using Light Olefin Fuel

Akira Yamagiwa · Kentaro Nakagawa · Kaito Yasui ·
Yuya Ohmori · Satoshi Sakaida · Yasuyuki Sakai ·
Kotaro Tanaka (Ibaraki University)

323 Prediction of WLTC Mode Drive Fuel Consumption of Power-Split HEV and the Optimized Modeling

Fuguo Xu · Yasuo Moriyoshi · Tatsuya Kuboyama ·
Hong Huang (Chiba University)

324 Study on Effect of Synthetic Fuels with Different Properties on Heavy-Duty Diesel Engine Performance via Combustion Visualization Technique

Byungju Shin (New A.C.E Institute)
Takashi Tanaka (Persol Cross Technology)
Fumihiro Kawaharazuka · Toshiaki Shinozaki · Noboru Uchida
(New A.C.E Institute)

G403 (4F)

[9:30~11:35]

71 The Value of Recycling in the Circular Economy

<OS> Takashi Furuyama (Koeki University)

[OS Keynote Address]

325 Resource Circulation of PA6 Resin with Subcritical Water Method

Hideki Matsumoto · Koya Kato · Tsuyoshi Tominaga
(Toray Industries)

326 Utilization of Post-Consumer Recycled Resources for Development High-Performance Engineering Plastics

Shuta Iseki · Hidekazu Shoji · Yasushi Yamanaka
(Mitsubishi Chemical)

327 Establishment of Recycling of Self-Sufficient PET Bottle for Seat Skin Material -Supply Environmental-Friendly Material for Our Own Product by Ourselves-

Naoki Oshita (Toyota Motor)

328 Development of Lightweight CFRP Back Shell Seat that Also Utilizes Recycled Carbon Fiber and Natural Fiber

Kota Umemura (Toyota Boshoku)

329 The Things that Soundproofing Materials May Contribute to the Automobile Circular Economy

Yuji Watanabe · Hiroyuki Kurihara (Nihon Tokushu Toryo)

【12:35~14:40】

72 Human-Machine Interface for Driver Assistance System I <OS> Yohei Michitsuji (Ibaraki University)

330 Future Cockpit Solutions for Passenger Vehicles - Enhanced User Experience Design -Scenic View Visor Concept Combined with In2visible Surface-

Heinz Bernhard Abel · Jochen Möller · Andreas Brueninghaus · B. Leuchtenberg (Continental Automotive Technologies)

331 A Study on Information Provision from Automated Vehicles to Pedestrians at Unsignalized Pedestrian Crossing

Shunichi Wada · Sho Takahashi · Toru Hagiwara
(Hokkaido University)

332 Evaluation of Visual Alerts on a Head-Up Display that Assist in Predicting Driving Risk

Michiya Terao · Shinya Okamoto · Hisato Fukuda
(Gunma University)
Toshihiko Kozai · Tsutomu Iwase
(Gunma University/SUBARU)
Tsukasa Mikuni · Norihito Machida · Ikuo Goto (SUBARU)

333 Effect of Driver-Led Control Transition with a Take-Over Recommendation on Driver Takeover Performance in Conditional Driving Automation

Yuichi Saito · Yusaku Ichinose (University of Tsukuba)
Toshihisa Sato (AIST)
Makoto Itoh (University of Tsukuba)

334 Assessing Driver Engagement in Assisted Driving

Francesco Deiana · James Jackson · Elena Castro Gonzalez · Cristina Periago Linares (IDIADA Automotive Technology)

【15:20~17:00】

73 Human-Machine Interface for Driver Assistance System II <OS> Kazumasa Onda (Suzuki Motor)

335 Information Provision using eHMI at Rtl of Level 3 AV to Prevent Collision with Surrounding Vehicles

Masaki Kuge · Hailong Liu
(Nara Institute of Science and Technology)
Toshihiro Hiraoka (JARI)
Takahiro Wada (Nara Institute of Science and Technology)

336 Relationship between Kansei Evaluation and Sound Quality Characteristics of Operating Sound of Haptic Switch

Hajime Yasuda · Tomotaka Igarashi (Nissan Motor)
Akinari Hirao (Shibaura Institute of Technology)

337 Verification of Operability and Strength of Variable Steering Wheel through Analysis

Dongmin Kim · Hyeonmuk Kim (KOMOS)

338 Design and Implementation of Variable Steering Wheel System to Enhance Convenience and Space Utilization in Autonomous Vehicles

Hyeonmuk Kim · Dongmin Kim (KOMOS)

G404 (4F)

【9:30~11:35】

74 Technologies of Evaluations and Measures for Road Traffic Noise <OS> Yasuaki Okada (Meijo University)

【OS Keynote Address】

339 Status of Road Traffic Noise and Vehicle Noise Regulations

Yasunori Tatsuta (Ministry of the Environment)

340 Evaluation of the Relationship between Noise Level and Road Surface Characteristics

Tadashi Tsunematsu · Takayuki Mima (The Nippon Road)
Koji Kato · Masakiyo Takahira (Toyota Motor)

341 Survey Results Regarding Automobile Running Noise

Makiko Kadoya (Kanagawa University)

342 Examination on Noisiness of Time-Varying Road Traffic Noise due to Passing-by High Sound Level Vehicles -Effect of Different Vehicle Noise-

Masayuki Kito · Katsuya Yamauchi (Kyushu University)
Makoto Morinaga (Daido University)

343 Comparison in Community Response to Road Traffic Noise by Housing Classification

Shigenori Yokoshima
(Kanagawa Environmental Research Center)
Yui Komi (Kanagawa University)
Makoto Morinaga (Daido University)
Sohei Tsujimura (Ibaraki University)
Naoki Suda (Onosokki)
Yoshiki Umezaki (Creative Research and Planning)
Toru Yamazaki (Kanagawa University)

【12:35~14:15】

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

- 344 On Measurement of Road Friction Characteristics in Winter Snowy Region**
Ichiro Kageyama
 (Consortium on Advanced Road-Friction Database)
 Atsushi Watanabe · Yukiyo Kuriyagawa · Tetsunori Haraguchi (Nihon University)
 Tetsuya Kaneko (Osaka Sangyo University)
 Minoru Nishio (Absolute)
 Nobuhiro Nitta · Takashi Asai (J-QuAD DYNAMICS)

- 345 Relationship between Road Surface and Tire Slippage, and Effects Temperature on Vehicle Exterior Noise during Acceleration**
Kazuki Yamaguchi · Naoto Oishi · Takahito Sakuma (Sumitomo Rubber)

- 346 Robustness Verification of Elliptical Contact Tire Model**
Ryota Nakanishi (Sumitomo Rubber Industries)
 Masami Matsubara (Waseda University)
 Haruyuki Suzuki (Sumitomo Rubber Industries)
 Shozo Kawamura · Daiki Tajiri (Toyoohashi University of Technology)

- 347 Measurement of Tire Sidewall Deformation Shape by Phase-Locked Loop Imaging**
Masami Matsubara (Waseda University)
 Seiki Shibataka · Shozo Kawamura · Daiki Tajiri (Toyoohashi University of Technology)
 Hiroshi Tachiya (Kanazawa University)

【14:55~17:35】

- 38 Industry-Academia Collaboration and Human Resource Development in Automotive Control**
<OS> Toshihiro Aono (Hitachi)

- 166 Introduction of the Benchmark Problem of Optimal Motion and Energy Control of a 4-in-Wheel-Motor Car**
Yutaka Hirano (HIRANO Reseach Lab.)
 Rui Gao (Modelon)
 Junichi Kako (Toyota Motor)
 Fuguo Xu (Chiba University)
 Tielong Shen (Sophia University)

- 167 AI Formula**
Masaya Okada · Yuki Akimoto · Atsushi Kato · Yuji Yasui (Honda R&D)

- 168 Optimization Problem of Mobility Service in Smart Satellite City**
-SICE-JSAE- π MAP Benchmark Problem-
Yuji Yasui (Honda R&D)
 Masakazu Mukai (Kogakuin University)
 Yutaka Hirano (Hirano Research Lab)
 Toshihiro Aono (Hitachi Astemo)
 Yoshihiro Mizoguchi (Kyusyu University)
 Wenjing Cao (Sophia University)
 Shinkichi Kawai · Taisei Ito (Solize)
 Chisa Kobayashi (Honda R&D)

- 169 A Case Study of 'Mobility Service Optimization Problems using Intelligent Mobility'**
Shinkichi Kawai · Taisei Ito · Shinji Minami · Nobuki Hiramane (Solize)
 Yuji Yasui (Honda R&D)

- 170 Maximizing Smart Mobility Service Revenues through Dynamic Programming (First Report)**
Takehito Kobayashi · Wenjing Cao (Sophia University)

【OS Keynote Address】

- 171 Logical Manifestation of Specifications, Requirements and Responsibilities**
-Approaches from Software Science-
Ichiro Hasuo · James Haydon · Sota Sato · Clovis Eberhart (National Institute of Infomatics)
 Masaki Waga (Kyoto University/NII)
 Zhenya Zhang (Kyushu University/NII)
 Jeremy Dubut (AIST)
 Naoki Ueda · Yosuke Yokoyama (Mitsubishi Electric)
 Kenji Kamijo · Yoshiyuki Shinya · Takamasa Suetomi (Mazda)
 Nayuta Yanagisawa (Toyota Motor)

G414+G415 (4F)

【9:30~10:45】

- 76 Development and Evaluation Technology for Sensor**
Shin Kato (AIST)

- 348 Development of an Artificial Weather Chamber that Reproduces a Dynamic Weather Environment for Autonomous Driving Sensors (2nd Report)**
Haruki Seto · Hiroyuki Enoki · Hirokazu Tanaka (Esoec)

- 349 Proposal of Free Space Evaluation Method Considering Sensor Error Characteristics and Consistency of Detection Criteria**
Toshiyuki Adachi · Hitoshi Hayakawa · Yuji Oishi (Hitachi)
 Yoshinobu Ogasawara · Shigenori Hayase (Hitachi Astemo)

- 350 Smart Battery Health Algorithm**
-Advanced Diagnosis of 12V Lead-Acid Vehicle Batteries using a Machine Learning Approach-
Takehiro Ogawa · Ramirez Bernard · Duhart Bronson · Diaz Moises · Molinar Jose (Continental Automotive)

【12:10~13:50】

- 77 Intelligent Safety Vehicle II**
Manabu Omae (Keio University)

- 351 Nonlinear Model Predictive Control for Drifting on Low-Friction Surfaces**
Rin Yonetani · Han Wen · Hiroyuki Okuda · Takuma Yamaguchi · Tatsuya Suzuki (Nagoya University)

- 352 Lane-Changing Space Selection at Congested Merging Area**
Keiju Nishimura · Hanwool Woo (Kogakuin University)

353 Prediction of 4G LTE Throughput in Vehicles using LSTM

Xiangqing Zhang · Michikazu Umemura · Hidenori Yamashita
(AutoNetworks Technologies)

G416+G417 (4F)

【9:30~11:10】

354 A Method of Controlling a Dual-Structure Electric Steering System for Autonomous Driving

Taehong Kim (Hyundai Mobis)

78 Automatic Collision Notification System

<OS> Hirotoshi Ishikawa (HEM-Net)

355 Study on D-Call Net Effectiveness by using ITARDA Macro Database with the Emergency Transport Database (2nd Report)

Toru Kiuchi (ITARDA)
Nobuo Saito (Japan Mayday Service)
Masayuki Shirakawa (ITARDA)

356 Threshold for Activating the Doctor Dispatch System in the Advanced Automatic Collision Notification (D-Call Net) Algorithm Ver.2017

Tomokazu Motomura
(Hokusoh HEMS Nippon Medical School Chiba Hokusoh Hospital/
Nippon Medical School/D-Call Net Study Group)
Tetsuya Nishimoto (D-Call Net Study Group/Nihon University)
Hirotoshi Ishikawa (D-Call Net Study Group/HEM-Net)
Kazuki Mashiko
(Hokusoh HEMS Nippon Medical School Chiba Hokusoh Hospital/
Nippon Medical School)
Kunihiro Mashiko
(D-Call Net Study Group/HEM-Net/Minami Tama Hospital)
Yoshiaki Hara
(Hokusoh HEMS Nippon Medical School Chiba Hokusoh Hospital/
Nippon Medical School)
Nobuya Kitamura
(Kimitsu Chuo Hospital/
Japanese Society for Aeromedical Services, Doctor Helicopter Committee)

357 Quantifying the Relationship between Emergency Transport Time and Injury Severity to Improve Survival Rates

-Analysis of Australian Emergency Transport Case Data-

Kazuhiro Kubota · Tetsuya Nishimoto (Nihon University)
Giulio Ponte (University of Adelaide)

358 Accident and Injury Prediction Maps in Vehicle-to-Vehicle Collision Based on Accident and Road Information using Deep Learning

Yusuke Miyazaki · Tsubasa Miyazaki
(Tokyo Institute of Technology)
Koji Kitamura (AIST)
Fusako Sato (JARI)

79 Analysis of Real World Accidents and Safety Measures I -Causes of Accident and Safety Issues-

<OS> Katsumi Nawata (Toyota Motor)

359 An Analysis of Characteristics of Law Violations Caused by Elderly Drivers in Pedestrian to Vehicle Collisions -Accident Statistical Analysis by Verifying the Pedestrian Injury Situation and Magnification Ratio as Evaluation Coefficient-

Yasufumi Sekine (Fukuyama University)

360 Analysis of the Effect of Reducing Accidents Involving Bicyclists through the Coordination of Active Safety and Passive Safety

Yuichi Omoda · Yuji Arai · Kazunori Kikuchi ·
Ryohei Homma (JARI)
Nobuhiko Takahashi (JAMA)

361 Near-Miss Incident Classification from Dashcam Video using SlowFast Networks

Yucheng Zhang · Masataka Kato · Koichi Emura
(Panasonic Automotive Systems)
Eiji Watanabe (National Institute for Basic Biology)

362 Efficient Traffic Scene Retrieval System by Vision-Language Model and Clustering

Masafumi Tsuyuki (Hitachi)
Yoshitaka Atarashi · Trongmun Jiralerspong (Hitachi Astemo)

【12:10~13:50】

80 Analysis of Real World Accidents and Safety Measures II -Causes of Accident and Safety Issues-

<OS> Hisashi Imanaga (JARI)

363 Analysis and Modeling of Cyclist's Decision for Left-Turn Vehicle at Uncontrolled Intersection

Ryo Wakisaka · Kazunori Ban (Toyota Technical Development)
Takuma Yamaguchi · Hiroyuki Okuda · Tatsuya Suzuki
(Nagoya University)

364 Analysis of Pedestrian and Vehicle Behavior using Machine Learning for Risk Assessment of Crosswalks

Miki Hayashima · Yuji Matsuki
(Fukuoka Institute of Technology)

365 Effect of Duration and Frequency of Distraction on the Number of Rear-End Accidents

Hodaka Kita · Yuki Arai · Juan C. Gonzalez Palencia
(Gunma University)
Noriaki Takenoue (GSEC)
Kenji Amagai · Mikiya Araki (Gunma University)

366 Analysis on Operation Behavior for Emergency Stop Switch while Driver's Sudden Illness

Hiroshi Kuniyuki · Toshiaki Tanaka · Shuhei Tazawa
(Suwa University of Science)
Daisuke Ito (Kansai University)

【14:30~17:10】

81 Crash Safety (Occupant and VRU Protection)
<OS> Tomohiro Izumiyama (Mazda)

367 6D Marker: an Advanced Kinematic Tracking System for Proving Ground Tests
David Rodriguez · Jose Luis Santos · Genis Mensa · Carles Vidal (Applus+ IDIADA)

368 Emergency Braking-Induced Occupant Repositioning Implications for Restraint System Performance
Alessandro Gravina · Simona Roka · Pablo Lozano · Cesarine Vanheule (IDIADA)

369 Analysis of Rib Strain Generation in Frontal Impact at Medium Impact Velocity
Daisuke Ito · Shin Morimoto (Kansai University)

370 Safety for the Welfare-Vehicle Passengers with a Wheelchair
-Validation by Sled Tests with a Dummy-
Masahito Hitosugi · Ayumu Kuwahara (Shiga University of Medical Science)

371 Analysis of Effective Brake Deceleration Waveforms for Reducing Pedestrian Injuries in Vehicle Collisions
Rikuto Takeda · Yuqing Zhao · Koji Mizuno (Nagoya University)
Asei Wakabayashi · Mami Kawase · Toshio Hosokawa (DENSO)
Yong Han (Xiamen University of Technology)

372 Proposal for the Strength Testing of Automotive Windshields in Preparation for Changes in Pedestrian Protection Laws and Regulations
Toru Takabayashi · Jirou Nishihama (AGC)

G418+G419 (4F)

【9:30~11:10】

82 Prospects of Sustainable Automotive Society
<OS> Kiyotaka Sato (Mazda)

373 Systematization of Investment Decision through xEV Vehicle Driving Energy Analysis
Wookhyun Han · Kwangchan Ko · Yong Lee (Hyundai Motor)

374 Map-Incorporated Urban Traffic Scenario Generation with VAE
Takumi Monogami · Yunsoo Bok · Keisuke Yoneda · Naoki Suganuma (Kanazawa University)

375 Demonstration Experiment of Home Carbon Neutral System through the Use of EV & Photovoltaic Power Generation
-Validation of Efficiency for Virtual Grid-
Tsuguhiko Nakagawa (Gifu University)
Hideyuki Chisaka · Yoshikazu Miyagawa · Katsuhiko Furuya (Nichicon)

376 Nagoya University International Education Summer Intensive Program: "Latest Advanced Technology & Trends in Automobile Engineering"
Yasuhiko Sakai · Hikaru Nakamura · Susumu Hara · Reiko Furuya · Gang Zeng · Emanuel Leleito · Dina Grib · Yumiko Goda (Nagoya University)

【12:10~14:15】

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

377 Fusion of Design and Technology to Realize a Dream "Flying Car"
Kota Hishinuma (Tokyo R&D)

378 Development of Body Color Hidden Lighting for Luminous Panel
Sung Ho Park (Hyundai Motor)

379 A Design-Centered Approach for Sustainable Transformation and User Adoption of Shared Services
Emilia Romero Tienda · Adrià Ferrer (Applus+ IDIADA)

380 Design Research Development in India using UX Method
Yoshiharu Miyachi (Shizuoka University of art and culture)
Kohei Oda (Trinity)

381 Development of the Next-Generation Quadruped Mobility
Tetsuya Ozasa · Masayasu Date (Suzuki Motor)

【14:55~17:35】

84 Engineering Ethics Today
<OS> Akira Higashimata (Nissan Motor)

【OS Keynote Address】

382 Engineering-Ethics against Contemporary Paternalism
Yasuki Motozawa (Shiga University of Medical Science)

383 Brand-New Technology is Accepted by the Society -Essence for the Self Determination of a Person-
Masahito Hitosugi (Shiga University of Medical Science)

384 Science, Technology, and Society in the Context of Acceptance and Diversity
Norihisa Miki (Keio University)

385 Three Layers of Ethics: Considering Ethics in Autonomous Vehicles
Masao Ito (NIL)

386 Social Acceptance of Autonomous Driving Based on Safety Assurance
Atsushi Baba · Akemi Kanehara · Katsuyoshi Nishii (DENSO)

387 Promoting Safe Driving Awareness in Elderly Drivers through Mobile App Feedback: An Analysis of On-Road Behavioral Changes
Yuiko Kumagai (Honda Motor)
Mitsuki Kimura (Honda Motor China Technology)
Daisuke Inoue · Ryo Takebayashi (Honda Motor)

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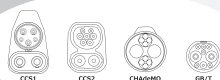
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