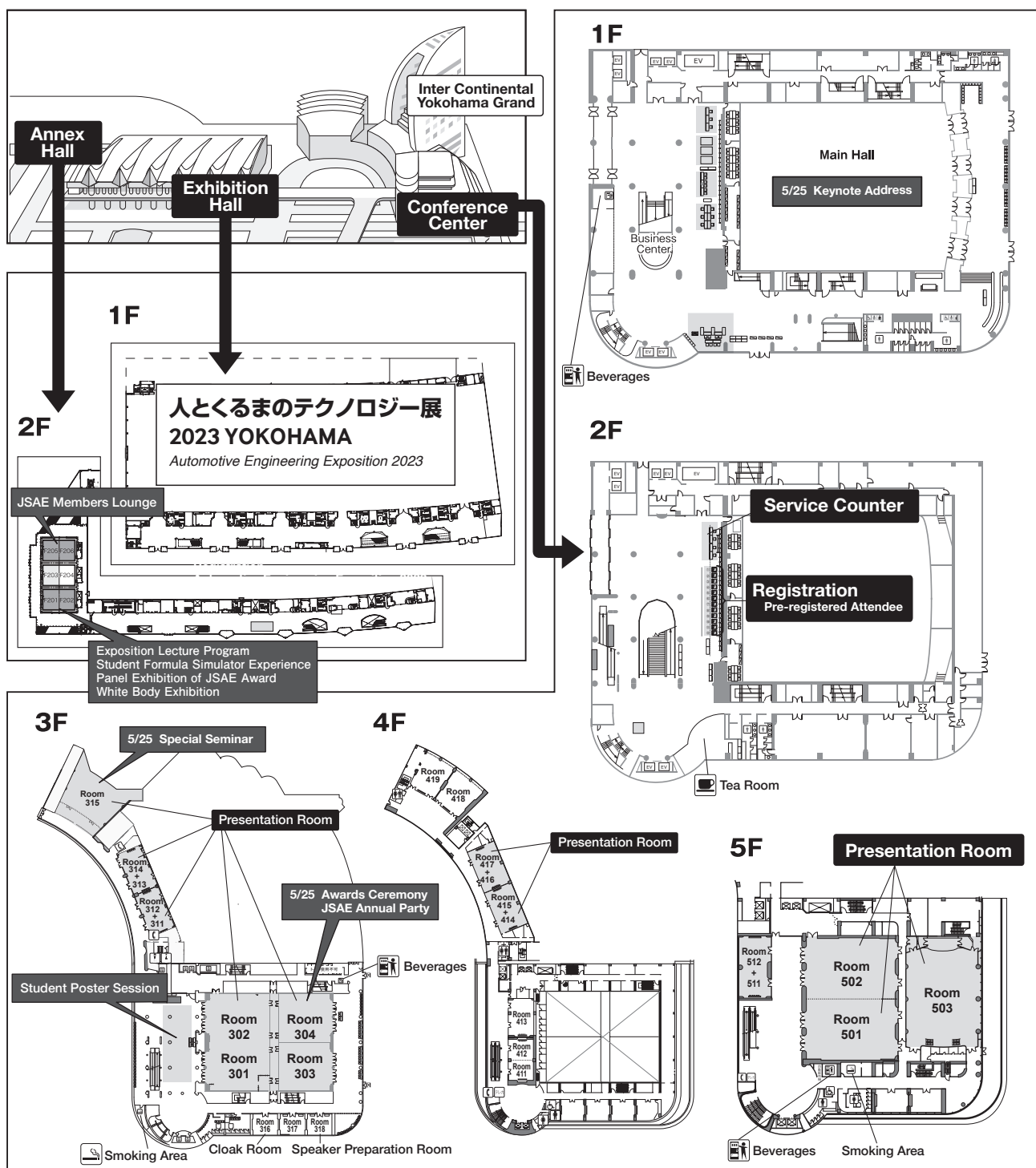


2023 JSAE Annual Congress (Spring)

Wednesday, May 24 – Friday, May 26 2023 / Pacifico Yokohama

Final Program

Floor Map



2023 JSAE Annual Congress (Spring)

Period : Wednesday, May 24 to Friday, May 26, 2023

Venue : PACIFICO YOKOHAMA

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Timetable Wednesday, May 24	2,3
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Friday, May 26	6,7
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Other Events	10

Wednesday, May 24 Congress Timetable

Room		Pacifico Yokohama Conference Center						
		301 (3F)	302 (3F)	303 (3F)	304 (3F)	311+312 (3F)	313+314 (3F)	315 (3F)
9:30		Catalyst System for Exhaust 001 002 003	New Technologies for Advanced Measurements and Diagnostics I 012 013 014	Vehicle Dynamics and Control I 023 024 025	Research on the Recognition Technology Required for Automated Driving Technology (Levels 3 and 4) I 039 040 041 042	Engineering Ethics Today 052 053 054		Metal Material I 063 064 065 066
	10 min. Break	004 005 006	015 No. 3 (OS) No. of presentation: 4	10 min. Break 026 027 028	No. 9 (OS) No. of presentation: 4	No. 12 (OS) No. of presentation: 3		No. 15 No. of presentation: 4
13:00		No. 1 (OS) No. of presentation: 6	11:10	No. 6 (OS) No. of presentation: 6	11:10			No. 15 No. of presentation: 4
		12:10	12:10	12:10	12:10			12:10
15:00		13:10	New Technologies for Advanced Measurements and Diagnostics II 016 017 018	13:10	Research on the Recognition Technology Required for Automated Driving Technology (Levels 3 and 4) II 043 044 045 046 047	MBD Guaranteed for Compatibility and Distribution by International Standard I -Support Technology for Digital Validation- 055 056 057 058		Metal Material II 067 068 069 070 071
		Effect of Automobile Emission on Atmospheric Environment 007 008 009 010 011	No. 4 (OS) No. of presentation: 3	Vehicle Dynamics and Control II 029 030 031 032 033	No. 10 (OS) No. of presentation: 5	No. 13 (OS) No. of presentation: 4		No. 16 No. of presentation: 5
17:00		No. 2 (OS) No. of presentation: 5	13:25	No. 7 (OS) No. of presentation: 5	14:15	13:50		No. 16 No. of presentation: 5
		15:15	14:05	15:15	14:55	14:30		14:15
18:00		15:15	The New Technology for the Drivetrain Systems 019 020 021 022	15:55	Research on the Recognition Technology Required for Automated Driving Technology (Levels 3 and 4) III 048 049 050 051	MBD Guaranteed for Compatibility and Distribution by International Standard II -Support Technology for Digital Validation- 059 060 061 062		Lubrication Technology for Carbon-Neutral Society 072 073 074 075 076
		No. 5 (OS) No. of presentation: 4	15:45	15:55	No. 11 (OS) No. of presentation: 4	No. 14 (OS) No. of presentation: 4		No. 17 (OS) No. of presentation: 5
			Vehicle Dynamics and Control III 034 035 036 037 038	16:35	16:10			17:00
			No. 8 (OS) No. of presentation: 5	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.
- * Online participation is available for each session.



You can view the session list from the QR code on the left.
<https://gakkai-web.net/jsae/s/2023/program/data/en/program.html>

As of May, 2023

							Exhibition Hall
414+415 (4F)	416+417 (4F)	501 (5F)	502 (5F)	503 (5F)	Main Hall (1F)	Foyer (3F)	
Thermal and Fluid Engineering for Carbon Neutral Society -Thermal Technology Contributing to Carbon Neutrality I- 077 078 079 10 min. Break	Interface between Design (Styling) and Technology 092 093 094 095 No. 21 (OS) No. of presentation: 4	The Latest Noise and Vibration Technologies and Sound Design Technologies I 106 107 108 109 No. 24 (OS) No. of presentation: 4	Analysis and modeling of Driver Behavior 122 123 124 125 126 No. 27 (OS) No. of presentation: 5	Advanced Gasoline Engine Systems and Technologies I 136 137 138 139 No. 30 (OS) No. of presentation: 4			
080 081 082 No. 18 (OS) No. of presentation: 6	11:10		11:35	11:10		10:00	
12:10	12:10		12:35	12:00		5th Student Poster Session	
13:10	Advanced Design and Evaluation Technologies on Safety and Reliability of Automotive Body Structure I 096 097 098 099 100 No. 22 (OS) No. of presentation: 5	The Latest Noise and Vibration Technologies and Sound Design Technologies II 110 111 112 10 min. Break 113 114 115 No. 25 (OS) No. of presentation: 6	Human-Machine Interface for Driver Assistance System I 127 128 129 130 No. 28 (OS) No. of presentation: 4	Advanced Gasoline Engine Systems and Technologies II 140 141 142 143 144 No. 31 (OS) No. of presentation: 5			Automotive Engineering Exposition 2023 YOKOHAMA
14:15	14:15		14:15	14:05			
14:55	14:55	14:50	14:55	14:35			
15:50	Advanced Design and Evaluation Technologies on Safety and Reliability of Automotive Body Structure II 101 102 103 104 105 No. 23 (OS) No. of presentation: 5	15:30	Human-Machine Interface for Driver Assistance System II 131 132 133 134 135 No. 29 (OS) No. of presentation: 5	Advanced Gasoline Engine Systems and Technologies III 145 146 147 148 No. 32 (OS) No. of presentation: 4			
16:30	17:00		17:00	16:15			
The Latest Technology Trends in Automotive Energy 089 090 091 No. 20 (OS) No. of presentation: 3	17:00	10 min. Break		16:45			
17:45	17:00	119 120 121 No. 26 (OS) No. of presentation: 6	17:00	Advanced Gasoline Engine Systems and Technologies IV 149 150 151 152 No. 33 (OS) No. of presentation: 4	16:00		
		18:10		18:25			
					18:00		

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

Thursday, May 25 Congress Timetable

Room	Pacifico Yokohama Conference Center							
	301 (3F)	302 (3F)	303 (3F)	304 (3F)	311+312 (3F)	313+314 (3F)	315 (3F)	
9:30	Research on the Recognition Technology Required for Automated Driving Technology (Levels 3 and 4) IV 153 154 155 156 No. 34 (OS) No. of presentation: 4 11:10	Vehicle Dynamics and Control IV 157 158 159 160 161 No. 35 (OS) No. of presentation: 5 11:35			Dynamics, Control and Safety of Two-wheeled Vehicles I -Motorcycles, Bicycles, and PMV- 162 163 164 165 No. 36 (OS) No. of presentation: 4 11:10	Fuel Cell Vehicle -Fuel Cell Stacks, Systems and Components- 171 172 173 174 No. 38 (OS) No. of presentation: 4 11:10	Electric Road System (Dynamic Charge System, Dynamic Power Supply System) 179 180 181 182 183 No. 40 (OS) No. of presentation: 5 11:35	
13:00						12:10 Dynamics, Control and Safety of Two-wheeled Vehicles II -Motorcycles, Bicycles, and PMV- 176 177 166 167 168 169 170 No. 37 (OS) No. of presentation: 5 14:15	Optimization and Improvement of Body Elements 175 176 177 178 No. 39 No. of presentation: 4 13:50	12:35 Advanced Power Electronics Component Technologies for Future Vehicles 184 185 186 187 188 No. 41 (OS) No. of presentation: 5 14:40 15:00
15:00				13:45 Awards Ceremony 73rd JSAE Engineering Award 14th Engineering Education Award JSAE Engineering Level Accreditation 2022 JSAE Award Congress Excellent Technical Paper Presentation Awards 14:45				
17:00							16:45 Special Seminar Theme: Background of the publication of "JASO TP 23002"	
18:00				18:15 JSAE Annual Party 19:45				

- * 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.
- * Online participation is available for each session.



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As of May, 2023

							Exhibition Hall
414+415 (4F)	416+417 (4F)	501 (5F)	502 (5F)	503 (5F)	Main Hall (1F)	Foyer (3F)	
EV Development Technology I 189 190 191 192 No. 42 No. of presentation: 4	Social Change and Next Generation Mobility I 196 197 198 199 No. 44 (OS) No. of presentation: 4	Research on Combination between Combustion and Fuel for CO2 Reduction (AOI) I -AOI Project- 204 205 206 207 208 No. 46 (OS) No. of presentation: 5	Technologies of Evaluations and Measures for Road Traffic Noise I 214 215 216 No. 48 (OS) No. of presentation: 3	Advanced Diesel Engine Systems and Technologies I 220 221 222 223 No. 50 (OS) No. of presentation: 4	<div style="text-align: center;">10:00</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">5th Student Poster Session</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Automotive Engineering Exposition 2023 YOKOHAMA</div>		
11:10		11:35	10:45	11:10			
12:10		12:35	11:45	12:10			
EV Development Technology II 193 194 195 No. 43 No. of presentation: 3 13:25	Social Change and Next Generation Mobility II 200 201 202 203 No. 45 (OS) No. of presentation: 4 13:50	Research on Combination between Combustion and Fuel for CO2 Reduction (AOI) II -AOI Project- 209 210 211 212 213 No. 47 (OS) No. of presentation: 5 14:40	Technologies of Evaluations and Measures for Road Traffic Noise II 217 218 219 No. 49 (OS) No. of presentation: 3 13:00	Advanced Diesel Engine Systems and Technologies II 224 225 226 227 No. 51 (OS) No. of presentation: 4 13:50			
16:00						17:00	
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Speaker: Keigo Akimoto (Research Institute of Innovative Technology for the Earth) </div>					<div style="border: 1px solid black; padding: 5px; display: inline-block;"> 17:00 Keynote Address </div>	18:00	
18:00						18:00	

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

Friday, May 26 Congress Timetable

Room	Pacifico Yokohama Conference Center						
	301 (3F)	302 (3F)	303 (3F)	304 (3F)	311+312 (3F)	313+314 (3F)	315 (3F)
9:30	Driver Status/Monitoring 228 229 230 231 No. 52 No. of presentation: 4 11:10	Various Problems Related to Recycling Technology for Automotive Materials 242 243 244 245 246 No. 55 (OS) No. of presentation: 5 12:00	Cars That Think and Communicate I -Beyond Autonomous Driving- 257 258 259 ----- 10 min. Break ----- 260 261 262 No. 58 (OS) No. of presentation: 6 12:10	xEV I 273 274 275 276 277 No. 61 (OS) No. of presentation: 5 11:35	Automotive Security Technology 286 287 288 289 290 No. 64 (OS) No. of presentation: 5 12:00	Vehicle Development Technology I 301 302 303 ----- 10 min. Break ----- 304 305 306 No. 67 No. of presentation: 6 12:10	Next-Generation Advanced Production Engineering I 312 313 314 ----- 10 min. Break ----- 315 316 317 318 No. 69 (OS) No. of presentation: 7 12:35
13:00	Prospects of Sustainable Automotive Society I 232 233 234 235 236 No. 53 (OS) No. of presentation: 5 14:15	13:00 New Development of Model Distribution and Model Based Development I 247 248 249 250 251 No. 56 (OS) No. of presentation: 5 15:05	13:10 Cars That Think and Communicate II -Beyond Autonomous Driving- 263 264 265 266 No. 59 (OS) No. of presentation: 4 14:50	12:35 xEV II 278 279 280 281 No. 62 (OS) No. of presentation: 4 14:15	13:00 Polymer Material I 291 292 293 294 295 No. 65 No. of presentation: 5 15:05	13:10 Vehicle Development Technology II 307 308 309 310 311 No. 68 No. of presentation: 5 15:15	13:35 Next-Generation Advanced Production Engineering II 319 320 321 ----- 10 min. Break ----- 322 323 324 325 No. 70 (OS) No. of presentation: 7 16:40
15:00	14:55 Prospects of Sustainable Automotive Society II 237 238 239 240 241 No. 54 (OS) No. of presentation: 5 17:00	15:45 New Development of Model Distribution and Model Based Development II 252 253 254 255 256 No. 57 (OS) No. of presentation: 5 17:50	15:30 Tire/Road Characteristics, Contact Properties and Related Technologies -Tire Mechanisms Toward the Future- 267 268 269 ----- 10 min. Break ----- 270 271 272 No. 60 (OS) No. of presentation: 6 18:10	14:55 xEV III 282 283 284 285 No. 63 (OS) No. of presentation: 4 16:35	15:45 Polymer Material II 296 297 298 299 300 No. 66 No. of presentation: 5 17:50		
17:00							
18:00							17:20 Perceptual/Cognitive of Driver 326 327 No. 71 No. of presentation: 2 18:10

- * Time allocated for a presentation is 25 minutes; 15 minutes for presentation and 10 minutes for Q&A.
- * Program subject to change.
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As of May, 2023

							Exhibition Hall
414+415 (4F)	416+417 (4F)	501 (5F)	502 (5F)	503 (5F)	Main Hall (1F)	Foyer (3F)	
Thermal and Fluid Engineering for Carbon Neutral Society -Computational Fluid Dynamics (CFD)- [328] 329 330 331 [332]	Crash Safety (Safety for Occupants and Vulnerable Road Users) 343 344 345 346 No. 76 (OS) No. of presentation: 4	The Latest Noise and Vibration Technologies and Sound Design Technologies IV 353 354 355 No. 79 (OS) No. of presentation: 3	Active Safety and Advanced Driver Assistance Systems I 366 367 368 No. 82 (OS) No. of presentation: 3	Gaseous-Fuel Engines and Carbon Neutral Technology for Gaseous-Fuel I 380 381 382 10 min. Break [383] 384 385 No. 85 (OS) No. of presentation: 6			10:00
No. 72 (OS) No. of presentation: 5	11:10	10:45					5th Student Poster Session
11:35	12:10	11:45				Automotive Engineering Exposition 2023 YOKOHAMA	
12:35	Analysis of Real World Accidents and Safety Measures -Causes of Accident and Safety Issues- 347 348 [349]	The Latest Noise and Vibration Technologies and Sound Design Technologies V 356 [357] 358 359 360	Active Safety and Advanced Driver Assistance Systems II 369 370 [371] 372 373	12:10			
Thermal and Fluid Engineering for Carbon Neutral Society -Fluid Dynamics- 333 334 335 336	No. 77 (OS) No. of presentation: 3	No. 80 (OS) No. of presentation: 5	No. 83 (OS) No. of presentation: 5	13:10			
No. 73 (OS) No. of presentation: 4	13:25			Gaseous-Fuel Engines and Carbon Neutral Technology for Gaseous-Fuel II [386] 387 [388]			
14:15	14:05	13:50		10 min. Break 389 [390] [391]			
14:55	Biomechanics 350 351 352	14:30		No. 86 (OS) No. of presentation: 6			
Thermal and Fluid Engineering for Carbon Neutral Society-HVAC and Vehicle Cabin Environment Technology for Balancing Thermal Comfort, Air Quality and the Efficiency I- 337 338 [339]	No. 78 (OS) No. of presentation: 3	Noise and Vibration 361 [362] 363 [364] [365]	Active Safety and Advanced Driver Assistance Systems III 374 375 376 10 min. Break 377 378 379	15:50			
No. 74 (OS) No. of presentation: 3	15:20	No. 81 No. of presentation: 5					
16:10		16:35					
16:50		No. 84 (OS) No. of presentation: 6					
Thermal and Fluid Engineering for Carbon Neutral Society-HVAC and Vehicle Cabin Environment Technology for Balancing Thermal Comfort, Air Quality and the Efficiency II- 340 341 [342]	No. 75 (OS) No. of presentation: 3						
18:05						16:00	
							17:00

- 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/2023haru/english/>

All events are in Japanese unless otherwise specified

Events	Notes	May 24	May 25	May 26
Technical Sessions	Registration Required / Charged	●	●	●
Award Ceremony 73rd JSAE Engineering Award 14th Engineering Education Award JSAE Engineering Level Accreditation 2022 Excellent Technical Paper Presentation Awards			●	
Keynote Address	Registration Required / Free		●	
JSAE Annual Party	Registration Required / Charged		●	
5th Student Poster Session	Registration Required / Free	●	●	●
Automotive Engineering Exposition 2023 YOKOHAMA	Registration Required / Free	●	●	●
Special Seminar	Registration Required / Free		●	

Free Wi-Fi	SSID:FREE-PACIFICO PASSWORD:none
Smoking Area	3F, 5F, Conference Center
Beverages	1F, 3F, 5F, Conference Center
Convenience Store	1F, 2F, Exhibition Hall
Business Center	1F, Conference Center / 2F, Exhibition Hall

※ Please see the map on the front page.

Opening Hours

Wednesday, May 24

8:00

Registration	2F Entrance Hall	18:00
Service Counter	2F Entrance Hall	18:00
Cloak Room	3F 316, 317	18:45
Speaker Preparation Room	3F 318	17:00
JSAE Members Lounge	Annex Hall 2F F205+206	10:00~18:00

Thursday, May 25

8:30

Registration	2F Entrance Hall	18:00
Service Counter	2F Entrance Hall	18:00
Cloak Room	3F 316, 317	18:15 20:00 <small>Party cloak Room</small>
Speaker Preparation Room	3F 318	13:00
JSAE Members Lounge	Annex Hall 2F F205+206	10:00~18:00

Friday, May 26

8:30

Registration	2F Entrance Hall	17:00
Service Counter	2F Entrance Hall	18:00
Cloak Room	3F 316, 317	18:30
Speaker Preparation Room	3F 318	17:00
JSAE Members Lounge	Annex Hall 2F F205+206	10:00~17:00

※ Please see the map on the front page.

OTHER EVENTS

Award Ceremony

73rd JSAE Engineering Award
14th Engineering Education Award
JSAE Engineering Level Accreditation
2022 JSAE Award Congress Excellent Technical Paper Presentation Awards

Thursday, May 25 13:45 ~ 14:45 303+304, 3F, Conference Center

(Language: Japanese)

Keynote Address

Registration Required/Free Admission

Thursday, May 25, 17:00 ~ 18:00 Main Hall, 1F, Conference Center

(Language: Japanese)

Keigo Akimoto

Research Institute of Innovative Technology for the Earth

Outlook of road transport sector toward carbon neutrality by 2050

Automobiles vehicles are facing big changes, including electrification and, more broadly, CASE, toward carbon neutrality by 2050. The outlooks will be discussed from the viewpoints not only of light duty vehicles, but also road transport sector and whole energy systems including energy supply systems.



JSAE Annual Party

Registration Required/Charged

Thursday, May 25, 18:15 ~ 19:45 303+304, 3F, Conference Center

*Registration has closed.

5th Student Poster Session

Registration Required/Free Admission

Wednesday, May 24 ~ Friday, May 26, 3F, Conference Center

(Language: Japanese)

Automotive Engineering Exposition 2023 YOKOHAMA

Registration Required/Free Admission

Wednesday, May 24 ~ Friday, May 26 10:00 ~ Exhibition Hall

Prior registration is required to participate in the exposition.

Please check the exposition website for details.



Special Seminar

Registration Required/Free Admission

Thursday, May 25, 15:00 ~ 16:45 315, 3F, Conference Center

(Language: Japanese)

Theme: Background of the publication of "JASO TP 23002"

JSAE Annual Congress Spring, Technical Session Program

- This program is based on the data as of April 27, 2023.
- The abstracts of the presentations are available on the timetable of the website.
[https://www.jsae.or.jp/2023haru/english/outline.php]
- <OS> is the organized session focused on the specific themes.
- There may be withdrawn presentations.
- Boxed numbers denote English presentations.

301 (3F)

[9:30~12:10]

1 Catalyst System for Exhaust
<OS> Susumu Sato (Tokyo Institute of Technology)

- 001 A Study on Improving Methane Purification Performance of a Three-Way Catalyst by Lean / Rich Lambda Oscillation
Tovofumi Tsuda · Kazuya Miura · Kazuya Yamahira · Yuya Ito · Shota Yokoo · Fumikazu Kimata (Suzuki Motor)
- 002 Study of Gas Diffusion Mechanism inside Catalyst Materials and its Application to the Development of Three-Way Catalysts
Yasuhiro Matsumura · Mie Hirahara · Akane Masui · Masahiko Shigetsu · Hiroshi Yamada (Mazda)
- 003 Quantitative Analysis of Urea Deposit Formation Process in a Urea-SCR System
Kentaro Inasaki · Tatsuya Maejima · Kanako Nishimura · Eriko Matsumura (Doshisha University)
- 004 Simulation of PM Deposition and Regeneration in Particulate Filters using a One-Dimensional Model -Optimum Oxidation Conditions for PM in GPF-
Maki Nakamura · Koji Yokota · Masakuni Ozawa (Nagoya University)
- 005 Development of Hybrid System with Suction Air Heating Device and Vacuum Insulated DPF
Minoru Tsuda · Masateru Ishida · Dai Yamanishi · Junichi Ohara · Kazuyuki Maeda (National fisheries university)
- 006 Effects of Ambient Temperature and Humidity on Exhaust Emissions from Light Duty Vehicles during Real Driving Tests
Noritsune Kawaharada · Nobunori Okui (NALTEC)

[13:10~15:15]

2 Effect of Automobile Emission on Atmospheric Environment
<OS> Yuji Fujitani (National Institute for Environmental Studies)

- 007 Direct Air Capture by Moisture Swing Adsorption -Effect of Water Quality on CO₂ Adsorption Characteristic-
Satoshi Sakaida · Ryosuke Sakuma · Takumi Tanaka · Yasuyuki Sakai · Kotaro Tanaka · Mitsuru Konno (Ibaraki University)

- 008 Study on NH₃ Emission from On-Road Driving Gasoline Vehicle

Susumu Sato · Chanpaya Eang · Jiaxin Chen (Tokyo Institute of Technology)
Kotaro Tanaka (Ibaraki University)
Takeshi Tange (NGK Spark Plug)

- 009 Effect of Pilot Fuel Injection on Graphitic Crystallite Size and Oxidation Reactivity of Soot Particles from Diesel Engine

Kazuki Inaba · Takuto Hamasaki · Kazuhiro Hayashida (Kitami Institute of Technology)

- 010 The Error Factor of Engine Exhaust Measurement CPC due to the Instability of 10 nm Calibration Particle

Kentaro Kojima (AIST/HORIBA)
Hiromu Sakurai · Yoshiko Murashima (AIST)
Yoshinori Otsuki (HORIBA)
Kenji Kondo (HORIBA Europe)

- 011 Performance Optimized Brake Wear Emission Testing Environment

Christoph Weidinger · Sampsa Martikainen · Christian Wanek-Rudiger · Andreas Rainer (AVL List)

302 (3F)

[9:30~11:10]

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

- 012 Development of Model Based Testing of RDE for Heavy-Duty Vehicles (2nd Report)

-Configuration and Estimation of RDE-HILS for MBT-
Nobunori Okui (NALTEC)
Kosuke Maesoma (Onosokki)

- 013 Performance Requirements of Chassis Dynamometer Test System that Reproduces Driving Conditions and its Evaluation Method (3rd Report)

-Examination of Slip Behavior Analysis Method and Applicability to Slip Control Measures in Tests using a Chassis Dynamometer System-
Isamu Inoue (Ono Sokki)
Akira Noda · Noriaki Nakate (JATA)
Toshinobu Furuta (Meidensha)
Yasuhiro Ogawa (HORIBA)

- 014 Development of Bench Test Method for Powertrain Control Technologies using Road Information from Navigation System

Hiroaki Uchikawa · Takayuki Hori · Takamichi Shimazaki · Kenta Ujimori · Taisuke Ikari · Yasuhiro Yamauchi · Shintaro Ohshio · Atsushi Teraji · Azusa Ito · Chiyeung Man (Nissan Motor)

- 015 Challenges and Development Approach for EU7 On-Board Monitoring

Peter Goetschl · Kurt Klumaier · Reinahrd Merl · Toru Nishizawa (AVL List)

【12:10~13:25】

4 New Technologies for Advanced Measurements and Diagnostics II

<OS> Takayuki Fuyuto (Toyota Central R&D Labs.)

- 016 Estimation Method of Mass Burnt Fraction 50% Crank Angle using Low Frequency Components Include in Cylinder Pressure

Keiichi Nagashima (Honda R&D)
Kazuo Tsuchiya (Meiji University)

- 017 A Study on the Method of Calculating Wheel Force for Commercial Vehicles using Machine Learning

Jihoon Moon · Hongsuk Chang · Yongsok Jang (Hyundai Motor)

- 018 Accuracy Improvement of Cylinder Head Gasket Seal Performance Prediction Technology for Model-Based Development

Toshiyuki Tanaka · Yutaka Nishikawa · Tsuyoshi Hiramatsu · Ryou Tabata (Nippon Gasket)

【14:05~15:45】

5 The New Technology for the Drivetrain Systems

<OS> Yasukazu Sato (Yokohama National University)

- 019 Model-Based Methodology for Co-Design of Refrigerated Light-Duty e-Truck
-EV Powertrain Co-Design Based on Modular Energy Management Strategy-

Avedis Agop Dadikozyan · Paul Rudolphus Mentink (TNO)
Steven Wilkins (TNO/Technical University of Eindhoven)

- 020 Consideration on Tooth Surface Lubrication Behavior of High-Speed Rotating Gears (Second Report)

Kazuki Sakai · Tomoyuki Hara · Kensuke Suzuki · Kaori Sakai (UNIVANCE)

- 021 The Mechanism Causing Hydrogen Embrittlement Flaking of Bearings

Hiroyuki Maruyama · Kazuhiro Hayakawa · Kouhei Toyohara · Hiromu Soya · Yoshiteru Kanayama (JATCO)
Katsuaki Sasaki (NTN)

- 022 Integrated Drive Module Platform Development for Next Generation EVs

Gabriel Alejandro Domingues · Rolf Blissenbach · Aleksandar Mateski · Eric Bourniche · Adrien Bossi (BorgWarner)

【9:30~12:10】

6 Vehicle Dynamics and Control I

<OS> Pongsathorn Raksincharoensak (Tokyo University of Agriculture and Technology)

- 023 Study of State Estimation using Neural Machine Translation for Semi-Active Suspension

Akihito Yamamoto · Ichiji Yamada · Shigeki Suzuki · Wataru Tanaka · Riku Wakita (AISIN)
Shusuke Ishino (AISIN Software)

- 024 Study on Roll Angle Control Based on Passenger Comfort Index

Yasuyuki Tanabe · Yuichiro Minakuchi · Yoshinori Kono · Kyoichi Tagami · Hiroo Teruuchi (Hitachi Astemo)

- 025 Ride Comfort Analysis Considering Suspension / Tires, and Drivetrain Inertia and Rigidity

Shingo Koumura (Toyota Motor)

- 026 Principle of Twist Beam Suspension Kinematics and that Calculation Method using Simple Link Model

Tetsuji Nishimura · Kouhei Watabe (Honda Motor)

- 027 Principle of Translation of Lateral Force to Vertical Force on Contact Point in Twist Beam Suspension

Tetsuji Nishimura · Kouhei Watabe (Honda Motor)

- 028 Suggest of Set-Based Design Method Based Differential Evolution and Application to Design of Suspension

Koji Nishikawa · Kohei Shintani · Motofumi Iwata · Kohta Miyaki (Toyota Motor)

【13:10~15:15】

7 Vehicle Dynamics and Control II

<OS> Etsuo Katsuyama (Toyota Motor)

- 029 Obstacle Avoidance Maneuver using Clock-Based Real-Time Optimal Control

Masanori Harada · Takashi Sago · Yoshihide Arai · Yuki Ueyama (National Defense Academy of Japan)

- 030 Obstacle Avoidance Maneuver using DNN Optimal Feedback Control

Takashi Sago · Yoshihide Arai · Yuki Ueyama · Masanori Harada (National Defense Academy of Japan)

- 031 Automation of Parameter Adaptation of the Automated Driving Vehicle Control using Adaptive Control

Kohei Kumazaki · Kimihiko Nakano (The University of Tokyo)

- 032 Research on Automated Driving Path and Speed Planning Method using Vehicle Preview Information

Takumi Komiya · Masato Abe · Yoshio Kano · Makoto Yamakado (Kanagawa Institute of Technology)
Yu Sato · Kentaro Ueno (Hitachi Astemo)
Yusuke Tanaka (Isuzu Motors)

- 033 A Development of Torque Vectoring System for High Performance Electric Vehicle

Yohan Kim · Sunggon Byun · Jieun Kim · Jinho Kim (Hyundai Motor)

【15:55~18:00】

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

- 034 Study on the Methods to Damp the Vehicle Motion at High Speeds
Masaaki Minakawa · Yasuji Shibahata · Masaki Yamamoto · Yoshio Kano · Makoto Yamakado · Masato Abe (Kanagawa Institute of Technology)
- 035 Effect of Front/Rear Driving Force Distribution on Cornering Characteristics
Masaki Yamamoto (kanagawa Institute of Technology) · Akira Higuchi (Toyota Motor)
- 036 Effect of Longitudinal Tire Force Acting as Lateral Force on Vehicle Dynamics
 -Proposal of Driving Force Distribution Control Simulating Isotropic Tires-
Etsuo Katsuyama (Toyota Motor)
- 037 Study on Oscillation Suppression Control Method of Automotive Drivetrains Based on Tire-Speed Observer
Kenta Maeda (Hitachi) · Naoki Shinohara · Satoshi Kaneko · Hiroki Sonoda · Keisuke Suzuki (Hitachi Astemo)
- 038 A Study of Real-Time Model by using Machine Learning Techniques for a Driving Simulator
Koji Tachioka · Keiji Hara · Makoto Nagano · Yusuke Takara · Yoshihiro Wakabayashi · Nobuyuki Himeno (Estech) · Daisuke Tomoyasu (Information Services International-Dentsu) · Hiromichi Ebisawa (Estech)

304 (3F)

【9:30~11:10】

9 Research on the Recognition Technology Required for Automated Driving Technology (Levels 3 and 4) I
 <OS> Takayoshi Yamashita (Chubu University)

- 039 Development of Method for Estimating Shape of Parking Vehicles from Only Range and Doppler Information of Millimeter-Wave Radar
Tokihiko Akita · Takuya Sato (Toyota Technological Institute) · Yusuke Akamine · Katsuhiko Kondo (SOKEN)
- 040 Pedestrian Classification Method by Millimeter Wave Radar
Tooru Sahara · Takuya Homma · Jun Kuroda · Youhei Murakami · Satoshi Kawaji · Yuu Kashima · Yudai Matsue (Kyocera) · Toshio Ito (Shibaura Institute of Technology)
- 041 Sound Source Localization Method for Sirens of Emergency Vehicles using On-Board Microphones
Ryuki Yamamoto · Ryo Yanase · Keisuke Yoneda · Naoki Suganuma (Kanazawa University)

- 042 The Flashing Light Detection using Optical Flow for Autonomous Driving
Hiroataka Sugiyama · Keisuke Yoneda · Ryo Yanase · Naoki Suganuma · Masayuki Miyama (Kanazawa University)

【12:10~14:15】

10 Research on the Recognition Technology Required for Automated Driving Technology (Levels 3 and 4) II
 <OS> Akisue Kuramoto (Tokyo Institute of Technology)

- 043 Study on Recognition Performance of ADAS Functions using Stereo Cameras in Rainy Environments
Masao Nakagawa · Hiroyuki Yamamoto (NALTEC)
- 044 Silicon Photonics Technology for Next Generation Solid-State LiDAR Systems
Marcus Dahlem (IMEC)
- 045 New Vehicle in the Loop Verification Tests using Actual Vehicle for Autonomous Driving
Akiyuki Kogetsu · Hiroki Hanaoka · Shota Abe · Koichi Matsumoto (dSPACE Japan) · Takuma Nagashio · Kosuke Maesoma (Ono Sokki)
- 046 Consistency Verification between Real and CG Environments in Object Detection using an In-Vehicle Camera
Takayoshi Yamashita · Hidenori Itaya · Tsubasa Hirakawa · Hironobu Fujiyoshi (Chubu university) · Koji Nagase · Shotaro Koyama · Hideo Hinoue (Kanagawa Institute of Technology)
- 047 Low Speed Car Parking Manoeuvring using Deep Reinforcement Learning
Khin Khin Kyi (KMITL) · Jartuwat Rajruangrabin (NSTDA) · Supat Kittiratsatcha (KMITL) · Masaki Yamakita (Tokyo Institute of Technology) · Wasinee Terapattommakol (NSTDA)

【14:55~16:35】

11 Research on the Recognition Technology Required for Automated Driving Technology (Levels 3 and 4) III
 <OS> Junichi Meguro (Meijo University)

- 048 A Study of Deep-Learning Pedestrian Detection using Visible and Far-Infrared Multispectral Images under Drifting Ambient Light and Temperature
Masato Okuda · Masaya Hojyo · Kota Yoshida · Takeshi Fujino (Ritsumeikan University)
- 049 Validation of Semi-Supervised Learning for Object Detection from In-Vehicle Camera Images
Shinichi Hoketsu · Takayoshi Yamashita · Hironobu Fujiyoshi · Tsubasa Hirakawa (Chubu University)
- 050 Development of High-Speed Construction Method of Infrastructure Sensing System for Symbiosis Safety of Human and Autonomous Vehicles
Tsuyoshi Kitamura · So Sasatani · Haruki Matono (Hitachi)

- 051 Improve Accuracy of Pointpillars' Detection of Pedestrians and Cyclists with Sensor Fusion
Keigo Hariya · Keisuke Yoneda · Ryo Yanase · Naoki Suganuma (Kanazawa University)

311+312 (3F)

[9:30~11:10]

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

[OS Keynote Address]

- 052 A Description of Education Program of Ethical-Engineer
Yasuki Motozawa (Shiga University of Medical Science)

- 053 Microethics: Autonomous Vehicles and the Law
Masao Ito (NIL)

- 054 Relationship between the Simplified Questionnaire - Comprehensively Captures Driving Characteristics (SQ-CCDC) and Psychological Factors
 -Study on Driver Characteristics for Delaying Driving Cessation (39)-
Masae Kojima (Nagoya University)
 Kojiro Shojima (National Center for University Entrance Examinations)
 Hirofumi Aoki · Satsuki Yamauchi · Takashi Yonekawa · Kan Shimazaki · Takahiro Tanaka (Nagoya University)

[12:10~13:50]

13 MBD Guaranteed for Compatibility and Distribution by International Standard I
 -Support Technology for Digital Validation-
 <OS> Osamu Seya (TechnoPro)

[OS Keynote Address]

- 055 MBD Guaranteed for Compatibility and Distribution by International Standard: General Remarks
 -Support Technology for Digital Validation-
Toshiiji Kato (Doshisha University)
 Kimitoshi Tsuji (Digital Twins)

- 056 Implementation of 1-D High Voltage Battery Thermal Model to Meti EV Model
 -High Voltage Battery Thermal Model during Charging and Discharging-
Kimitoshi Tsuji (Digital Twins)
 Yoshiyuki Koyama (Koyama Garage)
 Tsunehiro Saito (AGC)

- 057 Development of Electric Vehicle Cabin Thermal Model by using International Standard Language (Sixth Report)
 -Simulation of AER (All Electric Range) by the EV Model with Published Vehicle Specifications-
Tsunehiro Saito (AGC)
 Hiroyuki Tanaka (Mitsubishi Motors)
 Hideto Noyama (Mitsubishi Heavy Industries Thermal Systems)
 Ken Iwatsuki (AISIN)
 Shota Inudo (SUBARU)
 Kimitoshi Tsuji (Digital Twins)

- 058 Optimized Location Design of Thermal Interfacial Material by using Semiconductor Model
Kazunari Hashimoto (DENSO)
 Ryo Kawakami · Ryuta Yasui (Tokyo Institute of Technology)
 Haruki Takei (Siemens)
 Kazuyoshi Fushinobu (Tokyo Institute of Technology)
 Kimio Monno · Takuya Shinoda · Keita Omi (DENSO)

[14:30~16:10]

14 MBD Guaranteed for Compatibility and Distribution by International Standard II
 -Support Technology for Digital Validation-
 <OS> Junichi Ichihara (AZAPA)

- 059 Proposal for Heat Loss Calculation by Dynamic Actuator Modeling
Masashi Inaba (DENSO)
 Hiroki Nakamizo (Tokyo Institute of Technology)
 Takashi Okura (DENSO)
 Wataru Hijikata · Ryuta Yasui · Hiroki Takahara · Kazuyoshi Fushinobu · Hideaki Fujita (Tokyo Institute of Technology)
 Takuya Shinoda · Keita Omi (DENSO)

- 060 New Standard DXRC: Thermal Analysis Model for Semiconductor Packages
Haruki Takei (Siemens)
 Hiroki Nakamizo · Ryuta Yasui (Tokyo Institute of Technology)
 Qun Yuan (Siemens)
 Naoto Taoka (IDAJ)
 Takuya Shinoda (DENSO)

- 061 Next Generation DXRC Modeling for BGA Packages to Streamline ECU Design
Hiroki Nakamizo · Ryuta Yasui (Tokyo Institute of Technology)
 Haruki Takei · Qun Yuan (Siemens)
 Naoto Taoka · Hiromitsu Nishikori (IDAJ)
 Takuya Shinoda (DENSO)

- 062 Proposal for Improving Accuracy of Board Thermal Model Compatible with VHDL-AMS
Yoshinori Aruga (KOA)
 Masanari Ueda (Siemsn EDA Japan)
 Daisaku Mukaiyama (Rubycon)
 Hiroki Namamizo · Ryuta Yasui (Tokyo Institute of Technology)
 Haruki Takei (Siemens)
 Naoto Taoka (IDAJ)
 Masashi Inaba · Takuya Shinoda (DENSO)

315 (3F)

[9:30~11:10]

15 Metal Material I
 Tomokatsu Katagiri (JFE Steel)

- 063 Technology to Improve the Endurance of Coated Dies in Press Working of Ultra-High Tensile Strength Steel
Nanako Seki · Daishi Takahasgi · Souichiro Nishino (Ibaraki University)
 Shinya Tanaka · Masaya Kumakawa (TOCALO)
 Minoru Kouta (Yamanoi Seiki)

064 Development of the Die Coatings Suitable for Hot Stamping
Kento Tamura · Daishi Takahashi · Souichiro Nishino
 (Ibaraki University)
 Shinya Tanaka · Masaya Kumakawa · Hiroki Yokota
 (TOCALO)
 Yukitaka Sumiya (Japan Coating Center)
 Minoru Kouta (Yamanoi Seiki)

065 Multi Part Integration Approach for Body Structure using
 Breakthrough Laser Welded Blanks Solutions with the 2nd
 Generation of High Bending Coated Steel for Hot Stamping
Jesse Paegle · Masahito Katsukura · Ludovic Dormegnny ·
 Clement Philippot · Pascal Dietsch · Yves Drouadaine ·
 Arnaud Cocu · Alice Dumont · Dominique Cornette ·
 Vincent Barelli (ArcelorMittal)

066 Notch Bending Fatigue Analyses on a Steel Sheet Based
 on Fracture Mechanics
Gyoko Oh (Tokyo Roki)

【12:10~14:15】

16 Metal Material II
 Susumu Miura (Nissan Motor)

067 Effects of Aluminum Laser Welding Conditions and Quality
 Factors on Weld Strength
Junyeong Jeong · Taeheun Jin · Kyungbo Kim ·
 Sang-Cheon Park · Heungjun Oh (Hyundai Motor)

068 Effect of Heating on Mechanical Properties in Warm and
 Hot Tube Gas Forming of Aluminum Alloy Tube without
 Post-Heat Treatment
 Tomoyoshi Maeno · Yuta Sugiyama
 (Yokohama National University)
 Ryohei Ikeda · Masashi Kawakami · Kimihiro Nogita ·
 Norieda Ueno (Sumitomo Heavy Industries)

069 Clarification of Damage Mechanism of Dies in Press
 Working of Aluminum Alloy
Ryu Yoshiura · Daishi Takahashi · Souichiro Nishino
 (Ibaraki University)
 Shinya Tanaka · Masaya Kumakawa · Hiroki Yokota
 (TOCALO)
 Minoru Kouta (Yamanoi Seiki)

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

071 Seam Welding and Joint Strength Evaluation of Stainless
 Steel Foil Materials
Ryo Konno · Souichiro Nishino (Ibaraki University)
 Seiya Yoshikawa (ART-HIKARI)
 Tetsuya Nogami · Masaki Kihara · Reina Araya (NOGAMI)

【14:55~17:00】

17 Lubrication Technology for Carbon-Neutral Society
 <OS> Daisuke Kawano (Osaka Sangyo University)

072 Diesel Engine Performance by Improving Cylinder Bore
 under Firing Conditions: 1st Report
 -Performance Prediction of Ideal Cylindrical Bore
 Accompanied Thermal Expansion by Utilizing CAE-
Taiga Hibi · Takuro Mita · Kenichi Yamashita
 (Isuzu Advanced Engineering Center)

073 Diesel Engine Performance by Improving Cylinder Bore
 under Firing Conditions: 2nd Report
 -Effect on Engine Performance by Cylindrical Bore-
Takuro Mita · Taiga Hibi · Kenichi Yamashita
 (Isuzu Advanced Engineering Center)

074 The Influence of Piston Design Parameters on Oil Film
 Formation
Yasuhiro Ishikawa (Isuzu Advanced Engineering Center)
 Akemi Ito · Akio Kawamura (Tokyo City University)
 Kennichi Yamashita (Isuzu Advanced Engineering Center)

075 Analysis of Additive Degradation in Actual Engine Oil using
 LC-MS
Toshimitsu Numata · Sawa Araki · Yuriko Fujii ·
 Kiyotaka Nakamura (Nissan ARC)

076 A Study on the Mechanism of Piston Ring Rotation of an
 Engine
Kaito Kanemoto · Akemi Ito · Kazuki Tsukamoto
 (Tokyo City University)

414+415 (4F)

【9:30~12:10】

18 Thermal and Fluid Engineering for Carbon Neutral Society
 -Thermal Technology Contributing to Carbon Neutrality I-
 <OS> Gentaro Yamanaka (Toyota Central R&D Labs.)

077 Development of Chemical Heat Storage Material for
 Effective Use of Exhaust Heat from Automobiles
Junichi Ryu · Ryuki Okuyama · Shuya Ezawa ·
 Naoki Kobayashi (Chiba University)

078 Influence of Ambient Components and Vortex Generators
 on Forced Air Cooling of Engine ECU
Ryota Yamaguchi · Kazuaki Inaba · Ryuta Yasui
 (Tokyo Institute of Technology)
 Masafumi Umeno · Takuya Shinoda (DENSO)
 Hiroki Nakamizo (Tokyo Institute of Technology)

079 Construction of Thermal Boundary Surrogate Model using
 Multiple Regression Analysis and Deep Learning for
 Prediction of Coolant Temperature
Tomohumi Shimokawa · Manabu Okuyama ·
 Kosuke Sogawa · Norio Kawaguchi ·
 Masakatsu Takahashi · Yuji Shimada (Toyota Motor)

080 Thin and High Energy Battery Pack by Integrating
 Temperature Control System and Battery Floor
Kazufumi Takeuchi · Keisuke Wakabayashi ·
 Masanori Takagi · Naoto Todoroki (Nissan Motor)

- 081 Hybrid Thermal Runaway Mitigation Strategy for Lithium-Ion Batteries in Automotive Applications: Evaluating the Role of Phase Change Materials
David Mcareavey (Queen's University)
 Richard Stocker · Michele Braglia (HORIBA Mira)
 Peter Nockemann · Oana Istrate · Stephen Glover (Queen's University)

- 082 Development of LIB Internal Thermal Modeling Technology
Kiyoshi Oji · Saeko Tomioka · Atsushi Yoshimoto · Toru Yasunaga · Akira Shoji · Hiroki Fujita (Mazda)

[13:10~15:50]

- 19 Thermal and Fluid Engineering for Carbon Neutral Society -Thermal Technology Contributing to Carbon Neutrality II-
 <OS> Satoshi Someya (AIST)

- 083 Low Friction and On-Demand Thermal Management for a High-Efficiency Internal Combustion Engine in a Net Zero CO₂ Hybrid Powertrain
Thomas Arnold · Jan Boehme · Matthias Krause · Mirko Leesch · Masataka Aoki (IAV)

- 084 Development and Evaluation of Compact and Lightweight Heat Exchanger using 3D Printer
Shimpei Saito · Soumei Baba · Naoki Takada · Satoshi Someya (AIST)

- 085 Utilization of Automobile Waste Heat as Electricity by Thermoelectrics
Michihiro Ohta (AIST)
 Yoshinori Tsuchiya (The Research association of Automotive Internal Combustion Engines)
 Masaki Naruke (JARI)
 Kazuki Imasato · Kishor Kumar Johari · Takao Ishida · Atsushi Yamamoto (AIST)

- 086 Development of a Compact Rankine Cycle Generator with an Integrated-Component Structure (First Report: Proposal of Structure Based on Conceptual Design)
Katsuyuki Tanaka · Kouyou Arino · Chigusa Nakagawa · Shosuke Mori · Tetsuhiro Wakiyama (Nihon University)

- 087 Research of Waste Heat Recovery Rankine Cycle System for Heavy Duty Trucks
Hitoshi Aizono · Susumu Fukunaga · Tomofuyu Matsuuki · Masaki Asano · Makoto Abe · Kota Kato · Hirofumi Yoshinaga (Isuzu Advanced Engineering Center)

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

[16:30~17:45]

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

- 089 Blending of Hydrotreated Vegetable Oil on Spray and Combustion Characteristics of Fatty Acid Methyl Esters
Shoi Koshikawa · Eriko Matsumura · Jiro Senda (Doshisha University)

- 090 Development of Internal Combustion Engine and Fuel Composition to Achieve Early Low-Carbonization of Automobiles
Naoyoshi Matsubara · Koji Kitano · Nozomi Yokoo · Koichi Nakata (Toyota Motor)
 Akira Miyoshi (Hiroshima University)
 Ken Obata (ENEOS)
 Mamoru Nomura (Idemitsu Kosan)
 Takanori Fujimoto (Cosmo Oil)

- 091 Effects of Fuel Components on Thermal Efficiency in Super Lean Burn S.I. Engine
Kazuki Kaneko · Naoyoshi Matsubara · Koji Kitano · Nozomi Yokoo · Nakata Nakata (Toyota Motor)
 Yuki Yasutake · Taketora Naiki · Manabu Watanabe · Ken Obata (ENEOS)

416+417 (4F)

[9:30~11:10]

- 21 Interface between Design (Styling) and Technology
 <OS> Shinji Takashima (Advanced Institute of Industrial Technology)

- 092 Technology and Styling to Reduce the Environmental Impact of K-Car
Takeyuki Suzuki (Suzuki Motor)

- 093 Styling Development by Crystal LED Display
 Teruhiko Iwasaki · Marina Tamura (Phiaro Corporation)

- 094 Sustainable Automotive Interior Textiles
Yuri Yoshida (AUNDE ISRI JAPAN)

- 095 Full-Digital Art and Design Education in the Global Age
 Chihlin Chiang · Randy Kadarman · Masahiko Matsuura (GK Dynamics)

[12:10~14:15]

- 22 Advanced Design and Evaluation Technologies on Safety and Reliability of Automotive Body Structure I
 <OS> Yoshihiko Uematsu (Gifu University)

- 096 Investigation of the Effects of Adhesive Edge Shape on Fatigue Strength of Adhesive Bonded Specimens
Atsushi Shimazaki (Toyota Mortor Kyushu)
 Takaaki Inoue (Sunstar Engineering)
 Hiroyuki Oguma (National Institute for Materials Science)
 Takahiro Suzuki (Toyota Body)
 Akihiko Tatsumi (Kobe Steel)
 Naoaki Munemura (JFE Steel)

- 097 Investigation of the Effects of Adherend Material and Thickness on the Fatigue Strength of Adhesive Bonded Joints with Dissimilar Materials (Steel/Aluminum Alloy)
Kouhei Yamamoto (Yamaha Motor)
 Takahiro Miyawaki (Mitsubishi Motors)
 Teppei Ooe (Mazda)
 Masashi Inoue (Toyota Industries)
 Hiroyuki Oguma (National Institute for Materials Science)

098 Evaluation of Fatigue Characteristics of CFRP Bonding Materials by Urethane Adhesive
Masayuki Osada (Hiroshima University)
 Toshiaki Nakamaru (Nissan Motor)
 Hiroyuki Akebono · Atsushi Sugeta (Hiroshima University)

099 Study of Fatigue Test Method for Structure Specimen Simulating CFRP Body
Kosuke Sato (Nissan Motor)
 Keiichi Kimura (Honda Motor)
 Noriyuki Kawai (Mazda)
 Hirofumi Saiki (Nissan Shatai)
 Hiroyuki Ishihara (Sunstar Engineering)
 Toshiaki Nakamaru · Takuya Yuasa (Nissan Motor)
 Takeshi Ogawa (Aoyama Gakuin University)

100 Isogeometric Analysis of Fracture Problem -Reproduction of Crack Propagation-
Kiichi Furuhashi (University of Yamanashi)
 Kei Nagasaka · Idemitsu Masuda (Suzuki Motor)
 Hozumi Oshika · Mizuki Hoshino (University of Yamanashi)
 Yuta Yokoyama (University of Yamanashi/Diver Technology)
 Hirofumi Sugiyama (University of Yamanashi)
 Shigenobu Okazawa (University of Yamanashi/Diver Technology)

【14:55~17:00】

23 Advanced Design and Evaluation Technologies on Safety and Reliability of Automotive Body Structure II
 <OS> Shinji Hashimura (Shibaura Institute of Technology)

101 Consideration of General Waveform Creation Method for Road Simulator Durability Test
 -Influence of Suspension Characteristics on Input Loads with Vertical 2 Degrees of Freedom Numerical Simulation-
Koji Shikanai (Toyota Motor)
 Akihito Itakura (Suzuki Motor)
 Ryo Okabe (Mitsubishi Motors)
 Keita Nakadeguchi (Press Kogyo)
 Atsushi Yagi (Toyota Auto Body)
 Hiroyuki Iguchi (Toyota Motor)
 Toshiyuki Hashizume (MTS JAPAN)
 Hisami Oishi · Rei Sudo · Kouki Kiyota (Kogakuin University)

102 Consideration of General Waveform Creation Method for Road Simulator Durability Test
 -Part2. Investigation of Input Level of Market Normal Road and Examination of Road Surface Waveform Generation Method-
Kouki Satou (SUBARU)
 Atsuhito Nakamura (Mitsubishi Fuso Truck and Bus)
 Kohei Mino · Yasufumi Jo (Honda Motor)
 Katsunori Takahashi (Daihatsu Motor)
 Akihito Itakura (Suzuki Motor)
 Hiroyuki Iguchi (Toyota Motor)
 Toshiyuki Hashizume (MTS JAPAN)
 Hisami Oishi · Rei Sudo (Kogakuin University)

103 Comparison of Impact Model using Damper-Mass System with Spring-Mass System
Kai Kurihara · Xin Yuan · Toru Yamazaki (Kanagawa University)

104 Study on Impact Performance Design Based on Energy Transmissibility
Xin Yuan · Toru Yamazaki · Kai Kurihara · Aoi Kimata (Kanagawa University)
 Yukinobu Nakamura (Information Services International-Dentsu)

105 Development of Trade-Off Study Technique between Vehicle Body in White Mass and Stiffness using Multi-Objective Design Exploration Algorithm
Masaaki Morita · Yoshio Fujita · Shigeki Kojima · Tomoya Ono · Kosho Kawahara (Toyota Motor)

501 (5F)

【9:30~11:10】

24 The Latest Noise and Vibration Technologies and Sound Design Technologies I
 <OS> Michiaki Sekine (NTSEL)

106 Shin - Sound Quality Evaluation
 -Application of Image Recognition A.I. into NVH and Sound Quality Evaluation-
Norio Kubo (Yokohama Institute of Acoustics)

107 Study of Engine Operating Point Optimization Incorporating Human Cognitive Processing
Shimpei Nagae · Masaya Gotou · Takaaki Yamanaka · Ayumi Komiya · Toshio Enomoto (Nissan Motor)

108 “Exhilarating” Engine Sound Verification and Attractiveness Evaluation By Randomized Controlled Trial
Takashi Kondo (Honda R&D)

109 Proposal of a Background Noise Baseline for EV Acceleration in Consideration of Unsteady Masking Characteristics
Kazuma Shibahashi · Tatsuya Kanazawa · Masahiko Kondo · Takeshi Toi (Chuo University)

【12:10~14:50】

25 The Latest Noise and Vibration Technologies and Sound Design Technologies II
 <OS> Kazuhito Misaji (Nihon University)

110 A Numerical Study of the Effects of Unit Cell Shape and Membrane Presence on Biot-Allard Model Parameters and Sound Absorption Performance of Poroelastic Materials
Kunikazu Hirose · Shun Murakami · Satoshi Ishikawa (IDAJ)

111 Study of Micro Structure for Foam with Non-Woven Sheet to Enhance Acoustic Performance
Takashi Yamamoto (Kogakuin University)
 Yukihiro Fujiwara (AGC)

112 Design Optimization for Improving Acoustic Performance of Laminated Sound-Absorbing Materials
Yukihiro Fujiwara (AGC)
 Takashi Yamamoto (Kogakuin University)

113 Floor Vibration Reduction Technology during Engine Startup for 100% Electric Drive HEV System
Toshiyuki Koga · Hirotaka Kaneko · Hirotsugu Furuya (Nissan Motor)

114 Quietness Improvement Development for C Segment MINIVAN with NEW 100% Electric Drive Hybrid System
Sejong Oh · Toshio Enomoto · Toshihisa Kuwata · Masahiro Kanayama · Shinichi Suganuma (Nissan Motor)

115 System Characteristics Design of New e:HEV for Achieving Vibration Performance at Engine Startup
Satoshi Watanabe · Tetsuya Iide · Nobuaki Ito · Yuichi Nakazato · Shogo Kobayashi (Honda Motor) · Tahara Koichi (Auto Technic Japan)

【15:30~18:10】

26 The Latest Noise and Vibration Technologies and Sound Design Technologies III
 <OS> Hirotaka Shiozaki (Mitsubishi Motors)

116 Analysis of High-Frequency Combustion Noise Generation Mechanism in Gasoline Engine with Pre-Chamber (2nd Report)
 -Evaluation Method for In-Cylinder Pressure Oscillations in Combustion Chamber Resonance Frequency Band-
Keizo Konishi (Honda R&D) · Kenji Torii (Honda Motor) · Noritaka Kimura · Hiroki Kobayashi · Daisuke Okada (Honda R&D)

117 Analysis of High-Frequency Combustion Noise Generation Mechanism in Gasoline Engine with Pre-Chamber (3rd Report)
 -Mechanism Analysis of Acoustic Resonance Excitation in Combustion Chamber by Jet Flame-
Kenji Torii (Honda Motor) · Yusuke Shintani · Noritaka Kimura · Hiroki Kobayashi · Keizo Konishi (Honda R&D)

118 An Analysis of the Causes of In-Cylinder Pressure Vibration in a SI Engine
Tatsuya Kuboyama · Naruki Ezawa (Chiba University) · Toshio Yamada (Sustainable Engine Research Center) · Yasuo Moriyoshi (Chiba University)

119 Study of the Effect of Engine Speed on Transmission Characteristics of Combustion-Induced Vibration using Wavelet Cross-Correlation Analysis Method
Natsuki Takahashi · Shun Nakagawa · Masato Mikami (Yamaguchi University)

120 Numerical Study of the Effect of Joint Model of the Small End of the Connecting Rod on Characteristics of Combustion-Induced Vibration of a Diesel Engine
Shun Nakagawa (Yamaguchi University) · Hitoshi Ogudhi (Japan Coast Guard Academy) · Masato Mikami (Yamaguchi University)

121 New Sports Car Sound Development
Satoshi Tejima · Toshio Enomoto · Toshihisa Kuwata · Kinji Mori (Nissan Motor)

【9:30~11:35】

27 Analysis and modeling of Driver Behavior
 <OS> Hiroyuki Sakai (Toyota Central R&D Labs.)

122 Analysis of Relationship between Cognitive Functional Assessment Score and Attention Behavior of Turning Right at the Intersection in Aged Drivers (2nd Report)
Shinichiro Goto · Masayasu Atsumi (Soka University) · Kaechang Park (Kochi Kenshin Clinic)

123 Effect of Seating Posture for Human Body Behavior on Driving
Shinya Takeuchi · Yasuhito Tsuyoshi (Toyota Boshoku)

124 Analysis of Road Certification Tests Evaluation of Elderly Drivers Urban Driving by Driving Instructor -Study on Driver Characteristics for Delaying Driving Cessation (38)-
Takashi Yonekawa · Hirofumi Aoki (Nagoya University) · Kan Shimazaki (Kindai University) · Masae Kojima · Hiroko Shinkai · Makoto Inagami · Sueharu Nagiri · Satsuki Yamauchi · Kunitomo Aoki · Akio Hirano (Nagoya University)

125 Study on Sensing Driver's Arousal by using Millimeter Wave Radar
Sawane Suemura · Toshio Ito (Shibaura Institute of Technology) · Jun Kuroda · Toru Sahara · Youhei Murakami (Kyocera)

126 Measurement and Evaluation of Spinal Curvature in Sitting on a Seat
Hotaka Wakasugi · Shuta Imai · Nobuaki Nakazawa · Shinya Okamoto · Hisato Fukuda · Tsutomu Iwase (Gunma University) · Shunpei Nkamura · Kyohei Uchikata · Masami Handa · Yusuke Takagi (SUBARU)

【12:35~14:15】

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

127 A Method to Improve Seat Comfort Based on the Pressure Sensitivity Distribution
Kenta Shintani · Kazuhito Kato · Takeshi Nakamura (NHK Spring)

128 Information Provisions to Promote Smooth Merging Behavior for Drivers on Expressway
 Rena Kawai · Sho Takahashi (Hokkaido University) · Toru Hagiwara (Hokkaido University)

129 Study on Driving Characteristics and Interface of Remote Pilot of Vehicle (Third Report)
 -Driving Characteristics of Remote Pilot of Vehicle Based on Physiological Signals using Driving Simulator-
Toshiyuki Sugimachi · Koutarou Ishikawa (Tokyo City University) · Jongseong Gwak · Yoshihiro Suda (The University of Tokyo) · Toshiaki Sakurai · Tetsuo Maki (Tokyo City University)

- 130 Study on the Method to Improving Driver Vigilance by using Plasmacluster Ions

Rika Nagasawa · Toshio Ito
(Shibaura Institute of Technology)
Hiroaki Okano · Hirokazu Funamori (Sharp)

[14:55~17:00]

- 29 Human-Machine Interface for Driver Assistance System II
<OS> Tetsuya Kaneko (Osaka Sangyo University)

- 131 Study on the Acceptability of Inter-Driver Interaction System Based on Vehicle-To-Network Communication
Hayato Mizuma · Hiroshi Kato · Kohei Miwa · Kazunari Nawa (Toyota Motor)

- 132 Visualization of Stray Light due to Sunlight for HUD using Multiple Optical Simulators
Takashi Ishikawa · Ryosuke Nakajima (Ansys Japan)

- 133 User Experience Software Assets for Automotive Application
Christof Menzenbach · Holger Beilstein · Michael Fischer · Heinz Abel (Continental Automotive Technologies)

- 134 Influence of Uncertainty in Request for Peripheral Monitoring on Trust in and Acceptance of Conditional Driving Automation and Take-Over Behavior
Sakura Akahoshi · Yuichi Saito · Makoto Itoh (University of Tsukuba)

- 135 Intervention Request Planning with Operator Capability Model for Human-Automation Cooperative Recognition
Atsushi Kuribatashi (Nagoya University)
Eijiro Takeuchi (TierIV)
Callbaro Alexander (Nagoya University)
Yoshio Ishiguro (The University of Tokyo)
Kazuya Takeda (Nagoya University)

503 (5F)

[9:30~11:10]

- 30 Advanced Gasoline Engine Systems and Technologies I
<OS> Kazuhiro Akihama (Nihon University)

- 136 Fuel Design Concept to Improve Both Combustion Stability and Antiknocking Property Focusing on Ignition and Combustion Characteristics of Ethane
Atsushi Fukuda · Shoya Inoue · Hyuga Sakai · Kazunari Kuwahara (Osaka Institute of Technology)

- 137 Effects of Pre-Chamber Specifications on Engine Performance at Lean Burn Operation in a Pre-Chamber Engine with Fuel Reformed Gas
Fuchao Shen · Masaya Totsuka · Tatsuya Kuboyama (Chiba University)
Toshio Yamada (Sustainable Engine Research Center)
Yasuo Moriyoshi (Chiba University)
Takashi Yoshida (IHI)

- 138 Improvement of the Combustion of an Ammonia Fuel Engine by Ignition Energy Increase
Mitsuhiro Izumi · Hiroyuki Kimura · Tsutomu Kusuhara (Diamond & Zebra Electric)

- 139 Three-Stage Scenarios Based on Relatively-Silent Pulsed Focusing Engines with Nearly-Complete Insulation Effect (Fugine) and Engine-Verseology

Ken Naitoh (Waseda University)

[12:00~14:05]

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

- 140 Development of a Prediction Model of Soot Particle Size Distribution Applicable for Design Calculations of Internal Combustion Engines (Second Report)
-Effect of the Fuel Injection Timing on Soot Emissions-
Jun Hashimoto (Oita University)
Tatsuya Kuboyama (Chiba University)
Kazuhiro Akihama (Nihon University)

- 141 Development of Engine Torque Detection System for Hev Engine by using MG Resolver Sensor
-High Accuracy Misfire Detection Control Equivalent to CPS Enhance Spark Retard Timing-
Takashi Suzuki · Nobuhiro Kotake · Koichiro Muta · Suguru Kumazawa · Shinichi Mitani · Miwa Hinoshita · Kazuma Oguchi · Kenji Gotoda · Hideki Itoga (Toyota Motor)

- 142 Development of High-Response Heat Insulation Material Technology in Engine Combustion Chamber to Improve the Fuel Economy (2nd Report)
Shinji Kadoshima · Kazuaki Yamamoto · Kenta Okada (Mazda)
Hiroyuki Koga (Hiroshima University)

- 143 A Method to Estimate the Cycle-By-Cycle Amount of the Fuel Attached to Inner Wall, and Feed-Forward Injection Control at Engine Startup
Kyotaro Saino · Tadashi Kosho (A&D)

- 144 A Study on Cold Emission Reduction of Direct-Injection Gasoline Engine by Controlling the In-Cylinder Gas Properties (3rd Report)
Junki Hori · Yuta Sasaki · Takeaki Kudo · Masatoshi Seto · Ryo Kiyosue · Tatsuya Fujikawa · Masahisa Yamakawa (Mazda)

[14:35~16:15]

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

- 145 Development of Super Lean Burn Engine with 50% Thermal Efficiency to Achieve Carbon Neutrality
Koshiro Kimura · Hiroyuki Sakai · Tetsuo Omura · Daishi Takahashi (Toyota Motor)

- 146 Development of New 3.3L Inline-6-Cylinder Gasoline Turbo Engine
Naohiro Yamaguchi · Mitsutaka Yamaya · Yoshitomo Matsuo · Mikinori Ohashi · Kazuhiko Yamamoto (Mazda)

147 Newly Developed L4 2.0L Turbocharged Gasoline Engine
-Contribution to Carbon Neutral Society by Improvement of
Internal Combustion Engines-
Alistair Bridge · Akihiro Ikeda · Kotaro Suzuki
(Toyota Motor)

148 The New 1.4L Engine Development for 100% Electric Drive
HEV
Kenji Yamamoto · Shosaku Ando · Soichiro Kamei
(Nissan Automotive Technology)

【16:45~18:25】

33 Advanced Gasoline Engine Systems and Technologies IV
<OS> Satoaki Ichi (Kawasaki Motors)

149 In-Cylinder Heat Transfer Prediction of Gasoline Engine
using Machine Learning
Takuma Katsuragawa · Kazuma Kobayashi ·
Masayasu Nagado · Takeshi Tsuda · Masakazu Harashima
(SUBARU)

150 Fast and Precise Calibration of Automotive Internal
Combustion Engines using Machine Learning-Based
Probabilistic Modelling and Regression
Shinji Yoneshima · Chris Motor · Samuel Willis ·
Victor Picheny (Secondmind)

151 Separation Method of Knocking Sound from Engine
Radiation Noise using Deep Learning (Part 2)
Taro Kasahara · Hikaru Watabe · Taichi Ikeda ·
Michio Murase (Ono Sokki)
Tatsuya Kuboyama (Chiba University)

152 Development of Knock Limit Ignition Timing Prediction
Model for SI Engine Combined with Statistical Model and
In-Cylinder 0-Dimensional Calculation
Shinichi Kakami (Honda R&D)
Shunichi Kubota (Honda Motor)
Hiromitsu Matsuda (Honda R&D)
Toru Takabayashi (Honda Motor)
Masaki Suzuki (Honda R&D)

301 (3F)

[9:30~11:10]

34 Research on the Recognition Technology Required for Automated Driving Technology (Levels 3 and 4) IV

<OS> Naoki Suganuma (Kanazawa University)

153 Predicting Satellite Positioning Performance by Modeling Satellite Positioning Errors using 3D Building Data

Miyu Otake · Kaito Kondo · Tomohumi Fujino (Meijo University)

Aoki Takanose (Nagoya University)

Hiroataka Kato · Junichi Meguro (Meijo University)

154 A Study of Improving GNSS Vehicle Localization Based on Estimating Error of Code Double Difference using Machine Learning

Hiroataka Kato · Junichi Meguro (Meijo University)

155 Ego and Surrounding Vehicles Trajectory Estimation for Safety Evaluation of Driving Scenarios

Daiki Ikami · Lan Huy Nguyen · Sora Tabata · Ryuto Yamakawa · Hiroshi Mouri

(Tokyo University of Agriculture and Technology)

156 Autonomous Vehicle State Estimation using Environmental Magnetic Field

Kyoya Ishii · Keisuke Shimono · Yoshihiro Suda (The University of Tokyo)

Takayuki Ando · Hiroataka Mukumoto · Tomohiko Nagao (Aichi Steel)

302 (3F)

[9:30~11:35]

35 Vehicle Dynamics and Control IV

<OS> Junya Takahashi (Hitachi)

157 Effect of Differences in Load Dependence of Cornering Stiffness on Pitching while Cornering

Hideki Sakai (Kindai University)

158 The Effects of Suspension Jacking on Vehicle Behavior

Shingo Koakutsu · Kosuke Sawagashira · Yohei Kondo (Honda Motor)

Yasuji Shibahata (Vlabo)

159 Influence of Vehicle Body Vibration Damper on Driver's Evaluation of Steering Characteristics

Ryousuke Uchida · Sho Yamanouchi · Masato Abe · Yoshio Kano · Masaki Yamamoto · Makoto Yamakado

(Kanagawa Institute of Technology)

Kenji Yabe · Shin Hirano (HKS)

160 Analysis of Response Relationship between Slip Angle, Yaw Rate and Roll Angle by Energy Transmissibility

Akihito Kurokawa · Toru Yamazaki · Kazurou Iwata · Kai Kurihara (Kanagawa University)

Masanori Kawagoe (Mitsubishi Motors)

Yukinobu Nakamura (Information Services International-Dentsu)

161 Evaluation of Steering Performance Considering Hub Bearing Characteristics Based on Energy Transmissibility

Kazuki Watanabe · Toru Yamazaki · Akihito Kurokawa · Kazurou Iwata (Kanagawa University)

Shunichi Oshima (NSK)

Kai Kurihara (Kanagawa University)

Yukinobu Nakamura (Information Services International-Dentsu)

311+312 (3F)

[9:30~11:10]

36 Dynamics, Control and Safety of Two-wheeled Vehicles I -Motorcycles, Bicycles, and PMV-

<OS> Tomoya Kitani (Shizuoka University)

162 Robust Control Strategy for Robotic Motorcycle without Falling down at Low-Speed Driving

Mitsuo Tsuchiya (Yamaha Motor)

Susumu Hara (Nagoya University)

Tetsuya Kimuta · Nao Tsurumi (Yamaha Motor)

163 Design and Implementation of an Automatic Brake Lever and Pedal Actuation System for an Innovative Whole Motorcycle HIL Testbed

Niccolo Taroni · Giorgio Belosi (Soluzioni Ingegneria)

Marco Ezio Pezzola

(Alma Mater Studiorum University Bologna)

164 Motorcycle Stability in Longitudinal Braking and Accelerating Manoeuvres

Marco Ezio Pezzola · Elisabetta Leo · Gianluca Vaini

(Soluzioni Ingegneria)

165 Analysis of Factors Affecting Single Motorcycle Accidents in Hilly and Mountainous Areas

So Takechi · Rina Ishikawa · Yuki Sugiyama ·

Hiroshi Kuniyuki (Suwa University of Science)

[12:10~14:15]

37 Dynamics, Control and Safety of Two-wheeled Vehicles II -Motorcycles, Bicycles, and PMV-

<OS> Masaru Asakawa (Hitachi Astemo)

166 Position Measurement using Multi Omnidirectional Camera for Motorcycles

Junji Hirasawa

(National Institute of Technology (KOSEN), Ibaraki College)

167 A Study of Suspension Geometry for Suppressing Pitching during Turning in Personal Mobility Vehicles (PMVs) with Inward Tilt Mechanism

Tetsunori Haraguchi (Nihon University/Nagoya University)

Tetsuya Kaneko (Osaka Sangyo University)

Ichiro Kageyama (Nihon University)

168 Reproducing the Motorcycle Equation of Motion with Lumped Stiffness on Multi-Body Dynamics Model

Takashi Terayama · Shota Yamaguchi · Hiroshi Kitagawa ·

Noboru Yabe (Yamaha Motor)

169 Weave Mode Analysis using Rear Frame Torsional Flexibility Model of Motorcycle

Tsuyoshi Katayama · Takahiko Yoshino

(Kurume Institute of Technology)

- 170 Vibration Frequency Analysis of High-Speed Weave Mode
Reiya Haraoka · Koichiro Nagao · Takahiko Yoshino ·
 Tsuyoshi Katayama (Kurume Institute of Tecnology)

313+314 (3F)

[9:30~11:10]

- 38 Fuel Cell Vehicle
 -Fuel Cell Stacks, Systems and Components-
 <OS> Shigeki Oyama (Honda R&D)

- 171 Study of Hydrogen Embrittlement Properties of Austenitic
 Stainless Steels
Yuri Matsume · Ryoji Suzuki · Masatoshi Kagara ·
 Noriaki Katori (Hino Motors)

- 172 Development of Technologies for Hydrogen Use of a
 New Stainless Steel with Reduced Amount of Nickel and
 Molybdenum
Masaharu Hatano · Mitsuki Sugeoi
 (Nippon Steel Stainless Steel)

- 173 In-The-Loop Testing of Fuel Cell Control Units
 -A Study-
Christian Waechter · Norbert Meyer (dSPACE)
 Soenke Goessling · Matthias Bahr (ZBT)
 Maximilian Wick · Simon Mertes (RWTH Aachen)

- 174 A Study on Cabin Heating Performance of Fuel Cell
 Electric Vehicle using COD Heater
Ohtak Kwon (Hyundai Motor)

[12:10~13:50]

- 39 Optimization and Improvement of Body Elements
 Yasuhiro Matsui (NTSEL)

- 175 Developed a Push-Push Lock-Unlocked Fuel Door Opener
 with a Hooking Heart-Cam Structure
 -Push-Push Lock-Unlocked Fuel Door Opner-
Seong Muk Lee · Kyung Dug Seo · Sun Ho Heo ·
 Eui Chan Cho (Hyundai Automotive)

- 176 Development of Time Series Regression Method and an
 Application to Engine Calibration
Ryota Akishino · Takashi Shimada · Kohei Shintani ·
 Hiroki Mima (Toyota Motor)

- 177 Multi-Material Topology Optimization Method to Minimize
 the Mass while Meeting Body Stiffness, Crashworthiness
 and NVH Requirements Simultaneously
Sakayu Terada (Mazda)
 Yuji Wada (Tokyo Institute of Technology)
 Kohei Yuge (Seikei University)
 Naomi Wada · Isamu Kizaki · Koji Hashida (Mazda)

- 178 A Development of Various Moving Console according
 to the Mechanism to Passenger of Future Autonomous
 Vehicle
Gyuhoo Shim · Jongheon Lee · Cheoljin Park ·
 Teawon Kim · Heaju Park (SECO ECOPLASTIC)
 Geonhee Cheon (SECO SEOJIN)

[9:30~11:35]

- 40 Electric Road System (Dynamic Charge System, Dynamic
 Power Supply System)
 <OS> Junya Yamakawa (National Defense Academy)

- 179 Determination of the Need for Charging Infrastructure
 to Handle a Direct Electric Road Freight Transport in
 Germany in 2030
Leon Filip Kiefer · Michael Lehmann · Matthias Gather ·
 Mats Werchohlad (Erfurt University of Applied Sciences)

[OS Keynote Address]

- 180 Supplying Power to Swedens 1st Public Electric Road
 System
Mats Alakula · David Palsson · Samuel Henley
 (Lund University)

- 181 Using Wheels as a Concept for Dynamic Conductive Road
 Charging
Saleh Abdulalam Ali · Volker Pickert Pickert
 (Newcastle University)
 Mohammed Abdulghani Alharbi (Taibah University)
 Handong Lee Lee (North Umbria University)

- 182 Research on a Method of Installing 450kW Electric Road
 System on a Highway (2nd Report)
Kazuki Shimamura · Hina Tamiya (JARI)
 Takamitsu Tajima (Honda R&D)

- 183 Vehicle Regeneration Control Technology during 450-kW
 Dynamic Charging
Takamitsu Tajima · Wataru Noguchi · Hiroka Shigi
 (Honda R&D)

[12:35~14:40]

- 41 Advanced Power Electronics Component Technologies for
 Future Vehicles
 <OS> Kenta Emori (Nissan Motor)

- 184 Driving Method of Power Transmission Coil Array for
 Dynamic Wireless Charging
Kouki Onimaru · Kouji Mitsuhashi · Kraisor Throngnumchai
 (Kanagawa institute of Technology)

- 185 Basic Study of AC/DC Converters for Onboard Chargers
Yoshiki Amano · Daisuke Endo · Hiroaki Matsumori ·
 Takashi Kosaka (Nagoya Institute of Technology)
 Kenichi Nagayoshi · Kenichi Watanabe (Toyota Industries)

- 186 A simple Ff Compensation Method for 1 Pulse Mode Torque
 Feedback Control of PMSM
Keiichiro Kondo (Waseda University)
 Naoteru Kawamura (Seikei University)

- 187 Development of the Traction Motor and Generator for the
 Mid-Size Hybrid Vehicles
Masato Kawano · Satoshi Fujishiro · Tatsuya Ohzu
 (Honda Motor)

188 Functional Integrated Electronics for HV Architectures
(Second Report)

Stefan Schmalz · Philip Brockerhoff · Ayman Ayad ·
Waldemar Heimann · Takuya Mimori
(Vitesco Technologies)

414+415 (4F)

[9:30~11:10]

42 EV Development Technology I

Sekine Yasufumi (Fukuyama University)

189 Study on Ventilation Volume of EV in the Case of Transport
for COVID-19 Patient (Part2)

Koichi Oshino (No Occupation)

190 Concept Selection and Trade Studies for Electric
Powertrain Development using Model-Based Systems
Engineering

Tushar Dattatray Sambharam · Hemesh Patil ·
Vishal Naik Bolnekar · Himangshu Bora · Tushit Desai ·
Ankit Adhiya · Prem Andrade · Shital Joshi ·
Ashok Khondge (Ansys)

191 Development of a Battery Cell Busbar Shape with
Concurrent Multi-Functional Performance

Dexu Zhang · Kohei Shintani · Kohei Takase · Kazuhisa Ori ·
Satoshi Tabara · Hiroaki Iwata · Ritsuko Yasui ·
Motofumi Iwata (Toyota Motor)

192 Investigation of the High Energy Absorption Member with
Wave Structure for Battery Protection of Electric Vehicle

Seiya Mashii · Yasuhiro Ito (Nippon Steel)

[12:10~13:25]

43 EV Development Technology II

Yasufumi Sekine (Fukuyama University)

193 Summarizing Relation between Battery Degradation
and EV Safety and Evaluating Battery Safety with Laser
Irradiation

Kenichiroh Koshika (NTSEL)
Hideki Tsuruga · Keizoh Honda (JET)

194 Visualization of Heat Generation and Deformation Behavior
of Automotive Lithium-Ion Batteries and Their Simulation
Modeling

Yasuhito Aoki · Nobuhiro Matoba · Ryo Endo
(Toray Research Center)
Shinichi Amano · Hiromichi Ohira (JSOL)

195 Matching Performance and Market Trend in Harsh
Automotive Environments

-Guidelines to Choose the Right Power Device Technology-
Martina Giuffrida · Giusy Gambino · Filippo Scrimizzi
(STMicroelectronics)

416+417 (4F)

[9:30~11:10]

44 Social Change and Next Generation Mobility I

<OS> Takahiro Suzuki (Tohoku University)

196 A Study on Research Trends of Automated Driving
Systems and the Impacts of Collaboration Activities in
Japan

Keisuke Shimono · Shoichi Suzuki · Manabu Umeda ·
Takahiko Uchimura · Yoshihiro Suda
(The University of Tokyo)

197 Evaluation of Cooperative Automated Vehicles for Arterial
Roads on Traffic Flow

Hisatomo Hanabusa (i-Transport Lab.)
Takashi Kobayashi (NALTEC)

198 Impact Assessment of Minimal Risk Maneuver of an
Automated Vehicle on Traffic Flow

Junji Yoshino
(School of Engineering, the University of Tokyo)
Toshihiro Hiraoka (JARI)
Keisuke Shimono · Manabu Umeda · Yoshihiro Suda
(The University of Tokyo)

199 Development of Evaluation Method for Possibility of
Combining Delivery and Passengers Trip

Takashi Kobayashi (NALTEC)
Hisatomo Hanabusa (i-Transport Lab.)

[12:10~13:50]

45 Social Change and Next Generation Mobility II

<OS> Toshiyuki Sugimachi (Tokyo City University)

200 Domestic Trends of Safety Regulations on Electric
Scooters

Hiroaki Kunisada · Ryuichi Ito (MLIT)

201 Influence of Sensor Detection Characteristics of Automated
Buses on Velocity for Safety

Takaki Yoshikawa · Ryosuke Matsumi · Hiroshi Yoshitake
(The University of Tokyo)
Yoshio Matsuura · Masaya Segawa
(Advanced Smart Mobility)
Motoki Shino (The University of Tokyo)

202 Reuse of Automotive Drive Motors in Offshore Wind Power
Generation in Japan

Masahiko Teramoto (EVF, Environmental Veterans Firm)

203 The Traffic Jam Control Method for Realization of the
Society Where the Passage of Emergency Vehicles is
Never Blocked

-A Countermeasure against Emergency Logistics-
Hideaki Oku (O.K. Tech. Lab.)

501 (5F)

[9:30~11:35]

- 46 Research on Combination between Combustion and Fuel for CO₂ Reduction (AOI) I
-AOI Project-
<OS> Iijima Akira (Nihon University)

[OS Keynote Address]

- 204 Joint Research on CO₂ Reduction between Petroleum Association of Japan and Japan Automobile Manufacturers Association (AOI Project)
Hideaki Sugano · Takashi Kaneko (ENEOS)
Masato Matsuki (Honda Motor)
Takashi Akimoto (Idemitsu Kosan)
Tomoaki Kakihara (Isuzu Motors)
Tsutomu Kikuchi (Nissan Motor)
Hitoshi Hayashi · Kiyoo Hirose (Toyota Motor)

- 205 Effect of Olefine Content in Gasoline on Lean Limit of High-Compression Spark Ignition Engine
Yuya Ohmori · Dittapoom Shinabuth · Katsuki Kitajima · Tomoya Ono · Kaito Yasui · Satoshi Sakaida · Kotaro Tanaka · Mitsuru Konno · Akira Kurumada (Ibaraki University)

- 206 Investigation into the Effect of Fuel Composition on Spark Ignition Engine Performance
Zhiyuan Wang · Yasuo Moriyoshi · Tatsuya Kuboyama (Chiba University)

- 207 Effects of Fuel Components on Combustion Stability in Multi-Cylinder Gasoline Engines
Masaki Naruke · Takayuki Ito (JARI)

- 208 Effects of Paraffinic Fuels with Different Distillation Curves on Combustion and Exhaust Emission Characteristics by Utilizing a Heavy-Duty Diesel Engine in Higher Compression Ratios
Noboru Uchida (New ACE Institute)
Takashi Tanaka (Persol Research and Development)
Fumihiro Kawaharazuka · Toshiaki Shinozaki (New ACE Institute)

[12:35~14:40]

- 47 Research on Combination between Combustion and Fuel for CO₂ Reduction (AOI) II
-AOI Project-
<OS> Hidenori Kosaka (Tokyo Institute of Technology)

- 209 Evaluation of New Fuel Components and New Surrogates for Next-Generation Gasoline Development using a High-Pressure Shock Tube
Tatsumi Ueda · Misato Miura · Ryohei Hirai · Kazuo Takahashi (Sophia University)

- 210 Effect of Olefines on Ignition Characteristics of Gasoline
Taiga Furushima · Yuto Miyauchi · Shinji Ishii · Satoshi Sakaida · Kotaro Tanaka · Mitsuru Konno (Ibaraki University)

- 211 Laminar Burning Velocity and Markstein Lengths of Premixed Flames of C5 – C8 Hydrocarbon Fuels
Ekenechukwu Chijioko Okafor · Tomoki Ikeda · Yusuke Kubota · Yuji Taguchi · Yuhi Okamoto · Toya Takahashi · Toshiaki Kitagawa (Kyushu University)

- 212 Effects of Olefinic and Oxygen Components in Gasoline Surrogate Fuel on Laminar Burning Velocity
Hidefumi Kataoka (Osaka Metropolitan University)
Shota Nakatani · Hiroto Kobayashi (Osaka Prefecture University)
Kento Masui (Osaka Metropolitan University)
Yuki Shimizu (Osaka Prefecture University)
Daisuke Segawa (Osaka Metropolitan University)

- 213 Chemical Kinetics Analysis on the Effect of Ethanol and ETBE Blending on the Autoignition of Gasoline
Yasuyuki Sakai (Ibaraki University)
Akira Miyoshi (Hiroshima University)

502 (5F)

[9:30~10:45]

- 48 Technologies of Evaluations and Measures for Road Traffic Noise I
<OS> Yamauchi Katsuya (Kyushu University)

- 214 Basic Study on the Estimation of Road Traffic Noise by using Aerial Photographs
Shinichi Sakamoto · Xinyi Zhang · Wenrui Xu · Miki Yonemura (The University of Tokyo)

- 215 Effects and Regional Differences of Automobile Noise Regulations
Makiko Kadoya (INCE-Japan)

- 216 Development of Road Traffic Data Acquisition System using Deep Learning
Manyong Jeong (National Institute of Technology, Numazu College)
Toru Yamazaki · Yoshihiro Shirahashi · Kai Kurihara (Kanagawa University)
Hiroyuki Houzu (NALTEC)
Zyun Zaha · Syo Takano (Kanagawa University)
Koretsika Nagai (National Institute of Technology, Numazu College)

[11:45~13:00]

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

- 217 Exterior Structural Method to Achieve Both Reduction of Road Traffic Noise and Enrichment of Sensory Sound for Rider
Hisanori Saito · Hiroki Kuno · Takahiro Ito · Ryo Tatara · Yuya Kanzaki · Daisuke Hamada · Tomoichiro Suzuki (Yamaha Motor)

- 218 Effect of Muffler Type on Subjective Acceptability of Vehicle's Pass-By Noise
Hirovuki Houzu · Michiaki Sekine · Ichiro Sakamoto (NALTEC)

- 219 Examination of Affecting Factors on Community Reactions to Road Traffic Noise

Yui Komi (Kanagawa University)
Shigenori Yokoshima (Kanagawa University/
Kanagawa Prefectural Environmental Science Center)
Makoto Morinaga (Kanagawa University)
Sohei Tsujimura (Ibaraki University)
Katsuya Yamauchi (Kyushu University)
Toru Yamazaki · Yoshihiro Shirahashi
(Kanagawa University)

- 226 Study on applying Machine Learning to Calibrate Turbocharger Model Parameters for Workload Reduction and Accuracy Improvement (3rd. Report)

Yusuke Umehara · Kei Izawa · Taito Iizuka ·
Kaname Naganuma · Minoru Nakazawa
(Kanazawa Institute of Technology)
Yuta Takahashi · Hitoshi Matsui (Isuzu Motors)

- 227 A Study of Sensor Value Prediction by using Neural Network Models

Koshiro Wada · Kenichi Morizane ·
Nobuo Yunoki · Kenta Kobayashi (Mazda)

503 (5F)

[9:30~11:10]

50 Advanced Diesel Engine Systems and Technologies I
<OS> Yoshio Zama (Gunma University)

- 220 A Study of Soot Formation Process in a Jet-Jet Interaction Region of Diesel Spray Flames by LII Measurement

Daichi Inoue · Shinnosuke Aoyagi · Naoto Horibe ·
Jun Hayashi · Hiroshi Kawanabe (Kyoto University)

- 221 Improvement of Diesel Combustion by In-Cylinder Air Injection

Kazuya Miyashita · Shinya Furukawa ·
Munemasa Hashimoto · Yoshinori Ishii ·
Kenichi Yamashita (Isuzu Advanced Engineering Center)

- 222 Infrared High-Speed Thermography of Riblet-Structured Wall Surface Impinged by Diesel Spray Flame

Fumika Shimizu · Tatsuki Takahashi · Hiroyuki Kinoshita ·
Areno Naganawa · Masato Morooka · Rizal Mahmud ·
Tetsuya Aizawa (Meiji University)

- 223 Potential of a Dual-Fuel Engine using Carbon Neutral Fuel Ignited with Diesel Pilot (First Report)
-Exploring the Ultimate Performances of Thermal Efficiency and Engine-Out NOx in a Diesel-Hydrogen Dual Fuel Engine by using 3D-CFD-

Kazuhisa Inagaki (Toyota Central R&D Labs.)
Yoshihiro Hotta (Toyota Industries)

[12:10~13:50]

51 Advanced Diesel Engine Systems and Technologies II
<OS> Naoto Horibe (Kyoto University)

- 224 Study on Modeling of Turbulence in Nozzle Flow for Primary Breakup Process in Diesel Sprays

Dai Matsuda · Ippei Kimura · Eriko Matsumura · Jiro Senda
(Doshisha University)

- 225 Droplet Breakup Model in Spray Combustion Simulation Based on Measurements of Droplet Disintegration Mechanisms

Tomohiro Yamashita · Dai Matsuda · Ippei Kimura · Kanako Nishimura · Eriko Matsumura · Jiro Senda
(Doshisha University)

301 (3F)

【9:30~11:10】

52 Driver Status/Monitoring

Mieko Ohsuga (Osaka Institute of Technology)

228 In-Cabin Heartbeat Interval Estimation Technology using a Millimeter-Wave Sensor

Tetsuya Takamatsu · Jun Kuroda · Youhei Murakami (Kyocera)

Toshio Ito (Shibaura Institute of Technology)

229 Estimating the Gazing Point of a Driver with Eyeglasses via Machine Learning

Yui Miyoshi · Yuji Matsuki (Fukuoka Institute of Technology)

230 Occupant Detection Technology in Car using a Millimeter Wave Sensor

Yudai Matsue · Jun Kuroda · Youhei Murakami ·

Tooru Sahara · Takuya Honma (Kyocera)

Toshio Ito (Shibaura Institute of Technology)

231 Study on Driver Arousal Maintenance using Biometric Data

Yoshiki Tanaka · Toshio Ito · Yoshiaki Obana (Shibaura Institute of Technology)

Syouta Masuda (Murakami)

【12:10~14:15】

53 Prospects of Sustainable Automotive Society I

<OS> Yoshio Maeda (Waseda University)

232 Issues in Microalgae Biofuel Production and Efforts to Solve Them

Shinichiro Maeda · Koroki Takehisa (Mazda)

Kumiko Okazaki · Tomokazu Kurita (Hiroshima University)

Masako Iwai · Hiroyuki Ohta

(Tokyo Institute of Technology/Phytolipid Technologies)

Yoshitaka Nishiyama (Saitama University)

Takashi Yamamoto · Atsushi Sakamoto

(Hiroshima University)

Hiroyuki Yamashita (Mazda)

233 LCA Comparison of Hybrid and BEV on Heavy-Duty Trucks -CO₂ Emissions of Production and Per Payload by Battery Installation-

Masaki Kujira · Ayane Sasaki (Isuzu Motors)

Hiroshi Yagita (Nippon Institute of Technology)

Akihisa Fukai (Former Kanto Gakuin University)

Yasuhiro Oi · Junichi Kasai · Keiichiro Sano ·

Katsuhiko Takeda (Kanto Gakuin University)

234 Automotive Life Cycle Assessment (LCA)

Tomoya Ijima (MLIT)

235 Estimation of CO₂ Emissions from Car Air Conditioner Use in 2035 and Proposals

Shigeru Kawano · Kohei Rokushima (DENSO)

236 Characterization of Electric Vehicle Based on the Data of Driving Records for Long-Term (2011~2022)

Shigeru Tanaka · Tomoko Hara (ST Partners)

【14:55~17:00】

54 Prospects of Sustainable Automotive Society II

<OS> Terutoshi Tomoda (Soken)

237 Research on How Cities and Transportation Should be in Light of the Spread of Autonomous Vehicle

Tsuyoshi Baba (The Institute of Behavioral Sciences)

238 A Study of Electric Power Reserve Prediction of Electric Vehicles for applying to the Electric Power Market

Maho Tsujikawa · Yui Nishio · Yosuke Naito (Honda Motor)

239 Development Process of Power Unit Connected Technology using External Information for Traffic Simulation

Yuto Otsuki · Kazuya Yokota · Miyo Kitamura (Honda Motor)

240 E-Mobility Digital Twin Designing Electric Vehicle, Charging Infrastructure, and Energy System Integration

Yutaka Ota · Shinya Yoshizawa · Katsuya Sakai · Masaya Takashima · Koji Kagawa · Akihiro Iwata (Osaka University)

241 What is Sustainable Automobile Culture?

Seio Nakajima (Waseda University)

302 (3F)

【9:30~12:00】

55 Various Problems Related to Recycling Technology for Automotive Materials

<OS> Hitoshi Ohya (The University of Kitakyushu)

【OS Keynote Address】

242 Transition of Automobile Recycling

Takashi Furuyama

(Tohoku University of Community Service and Science)

243 Development of Aluminum Sheet for Automobile Body Containing 50% Aluminum Scraps

Yuki Yamazaki · Hidetaka Nakanishi · Takeshi Nagai (UACJ)

Chihiro Asai · Go Kuramoto · Naoki Nishikawa (Toyota Motor)

244 Recycling Process of Aluminum using Molten Salt Electrolysis

Hongmin Zhu · Kyosuke Watanabe · Xin Lu · Osamu Takeda (Tohoku University)

245 Production Technology of Steel Materials from Steel Scrap and related Issues

Hiroyuki Matsuura (The University of Tokyo)

246 Composition Analysis of Recycled Polypropylene with Different Quality

Hirotaka Shioji · Nobuhiro Matoba · Hironobu Uchiyama · Norihiro Mochizuki · Yoshitomo Furushima · Wakako Hara ·

Kanako Kawaguchi · Akiyoshi Ota · Takayuki Hirano ·

Toru Yamanaka (Toray Research Center)

【13:00~15:05】

56 New Development of Model Distribution and Model Based Development I

<OS> Yutaka Hirano (HIRANO Research Labo)

- 247 Efficient Validation of AD/ADAS Functions through Combination of Test Methods
Dominik Doerr · Karsten Kruegel · Gregor Hordys (dSPACE)
Katsuya Tsuzuki (dSPACE Japan)
- 248 Hybrid Aircraft's Multi Domain System Simulation with FMI
Kensuke Shibuya · Takamitsu Yamahigashi · Koichi Shigematsu · Jun Imaoka · Masayoshi Yamamoto (Nagoya University)
- 249 High-Speed Distributed Parallel Simulation Method using FMI
Dai Araki (Toshiba Digital Solutions)
- 250 Applications of Plant Model and System Coupling Based on FMI Utilization Guidelines
Takayuki Sekisue · Naoya Hashiguchi (ANSYS Japan)
- 251 Development of Ipmsm Model using Modelica Language and its Application to xEV Model
Norifumi Mizushima · Mitsuharu Oguma (AIST)

【15:45~17:50】

57 New Development of Model Distribution and Model Based Development II

<OS> Masakazu Mukai (Kogakuin University)

- 252 Prediction Method of Performance and Control System Influence Caused by Product Dispersions in Model Based Development
Hiroshi Oiwa · Toru Kusakari · Kyoung-Gon Choi (AVL JAPAN)
- 253 Proposal of Quantitative Evaluation Method for Emergent Accidents by Integrating Physical Modeling and STAMP/STPA
Junichi Ichimura · Takako Nakatani (The Open University of Japan)
- 254 Example of Software Development Method and Model-Based Design in Motor Control Development
Yu Takano · Keigo Yamada · Takumi Araki · Nobuo Morimura · Yuuto Fujii · Hajime Ishii · Nobuaki Kobayashi · Shinichiro Nakahira · Sachio Wada (SUBARU)
- 255 Variant and Product Architecture for Software-Defined-Vehicles using a MBSE Approach
Stephan Riediger (FEV)
Martin Stebler · Florian Beer (Bosch)
Kumar Vijay Konenki (FEV)
Masato Ugaki · Marian Marx (FEV Japan)

256 Ai-Based Virtual Development Methodology for Holistic System Optimization

Reza Rezaei · David Kovacs · Frank Reifenrath · Martin Weber · Thaddaeus Delebinski (IAV)

303 (3F)

【9:30~12:10】

58 Cars That Think and Communicate I
-Beyond Autonomous Driving-

<OS> Yuichiro Toda (Okayama University)

- 257 Study on Simulation for Smooth Traffic using Interactive Communication
Tomoka Koyama · Mizuo Oda · Teruhiko Yoneyama (Kozo Keikaku Engineering)
Hiroshi Kato · Kohei Miwa · Kazunari Nawa (Toyota Motor)
- 258 Trust Estimation in Autonomous Vehicles using Measurements of Pedestrian Behavior
Ryota Masuda (The University of Tokyo)
Shintaro Ono (Fukuoka University)
Toshihiro Hiraoka (JARI)
Yoshihiro Suda (The University of Tokyo)
- 259 Evaluation Method of Automotive ESD Protection Device and Evaluation of ESD Absorber
Ken Yanai · Yasuhiko Sasaki · Takeshi Fujii · Ryosuke Usui (Panasonic Industry)
- 260 2.5D Evolutionary Strategy SLAM for Personal Mobility
Mahiro Watanabe · Takenori Obo · Naoyuki Kubota (Tokyo Metropolitan University)
- 261 Path Following for Low Speed Vehicles (2nd Report)
Saoto Tsuchiya (FUTU-RE)

262 Development of Unmanned Target for ADAS Scenarios

Patphom Boonrawd · Nattawoot Depaiwa (KMITL)
Chadchai Srisurangkul (NSTDA)
Masaki Yamakita (Tokyo Tech)

【13:10~14:50】

59 Cars That Think and Communicate II
-Beyond Autonomous Driving-

<OS> Naoyuki Kubota (Tokyo Metropolitan University)

- 263 Background Removal Algorithm for Millimeter-Wave Sensors
Takuya Homma · Tooru Sahara · Jun Kuroda · Yuu Kashima · Youhei Murakami · Satoshi Kawaji (Kyocera)
Toshio Ito (Shibaura Institute of Technology)
- 264 Technologies for Realizing Software Defined Vehicle -Focusing Interface Aspects-
Masahiro Goto (Autosar)
- 265 Verification of the Required Amount of Data for Fine-Tuning a YOLOv5 Model and Evaluation of the Effect of Data Augmentation and Generation
Enhi Sen (dSPACE Japan)
Reon Tanaka (Nagaoka University of Technology)
- 266 Streetproof: Monitored Deployment for Safe & Social Automated Driving
Arturo Tejada · Jeroen H. Hogema · Esra Van Dam · Jan L. Souman · Emilia Silvas (TNO)

【15:30~18:10】

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

267 On Road and on Field Agricultural Tractor Tires on Board Identification
Elisabetta Leo · Claudio Maroni · Marco Ezio Pezzola (Soluzioni Ingegneria)

268 Study on Measurement for Friction Characteristics on Actual Road Surface
-Improving the Accuracy of Road Friction Characteristics Estimation Method for Actual Road Measurement-
Yukiyo Kuriyagawa · Atsushi Watanabe · Ichiro Kageyama · Tetsunori Hraguchi (Nihon University)
Tetsuya Kaneko (Osaka Sangyo University)
Minoru Nishio (Absolute)

269 Application of Continuous Measurement Method for Road Friction on Fluctuating Road Surface
Ichiro Kageyama
(Consortium on Advanced Road-Friction Database)
Atsushi Watanabe · Yukiyo Kuriyagawa · Tetsunori Haraguchi (Nihon University)
Tetsuya Kaneko (Osaka Sangyo University)
Minoru Nishio (Absolute)
Gaku Matsumoto (Nihon Michelin Tire)

270 The Application to the Standing Wave Phenomenon Analysis of the Radial Tire and a High-Speed Breakdown Test (The Second Report)
Yoshiki Kanaya · Yuki Harada (Sumitomo Rubber Industries)

271 Proposal of a Vehicle Driving Model that Can Express Driving Situations under the Poor Grounding Property of Tire
Soichiro Matsumoto · Mitsuyuki Saito · Hinata Kusuba (Hiroshima City University)

272 Research of Tire Tread Specifications Affecting Cornering Stiffness Characteristics
Takayuki Toyoshima · Takayuki Toyoshima (Honda R&D)
Matsuzawa Toshiaki · Takeshi Hotaka (Honda Motor)

304 (3F)

【9:30~11:35】

61 xEV I
<OS> Koichiro Muta (Toyota Motor)

273 Development of Second Generation New Hybrid Powertrain for Minivan
Daisuke Niiyama · Toshiyuki Kokubu · Shunsuke Shigemoto (Nissan Motor)

274 Development of Plug-in Hybrid System for FR Large Vehicle Group
Akitomo Kume · Yasuaki Fukuoka · Tetsuya Kono · Tomokuni Kusunoki · Tsuyoshi Goto · Masayuki Okazaki · Nobuhiro Nakagami · Shintaro Harugaichi · Tatsunori Yokote · Keiichi Miyamoto (Mazda)

275 Bench Calibration Method for Fuel Economy Parameter Optimization of Hybrid Electric Vehicle
Youta Morinaga · Shigeko Kawaguchi · Toru Nishizawa · Takahiro Noyori (AVL Japan)
Tsugutaka Kamono · Hironaga Hasuike (Suzuki Motor)

276 Optimization of WLTC Fuel Consumption in PHEV Vehiclefuel Consumption in PHEV Vehicle
Yasuo Morivoshi · Kazuki Takamiya · Sangmyeong Kim (Chiba University)
Tatsuya Kuboyama (Chiba University)

277 Physics-Informed Neural Networks for Battery Response Prediction
Andrew Forde · Stephen Glover · Peter Nockemann (Queen's University Belfast)
Richard Stocker · Michele Braglia (HORIBA Mira)

【12:35~14:15】

62 xEV II
<OS> Yasuo Matsunaga (Aisan Industry)

278 Dry-Type Dual Clutch Transmissions for Electric Vehicles Introducing Two Types of New Dual Clutch Structures and the Accompanying Patents
Masakatsu Kono (KONO Engineering)

279 A Study of Two-Motor EV System applying Double-Pinion Planetary Gear Transmission
Noritaka Matsuo (Matsuo Engineering Office)

280 Development of Front Drive Unit for e:HEV for Mid-Size Vehicles
Takuro Kamada · Shogo Kobayashi · Katsunori Akiyama · Hiroyuki Murakami (Honda Motor)

281 High Performance, Efficient and Sustainable Electric Drive System for Future E-Mobility
Hans Aulin · Mitsuru Ishihara (BorgWarner)

【14:55~16:35】

63 xEV III
<OS> Toshiyuki Ajima (Hitachi)

282 Evaluation of Precast Coil for Dynamic Wireless Power Transfer as Road Structure
Osamu Shimizu · Shota Yamada · Hiroshi Fujimoto (The University of Tokyo)
Koichi Tanaka · Masanori Sato (Obayashi)
Hayato Sumiya · Eisuke Takahashi · Nobuhisa Yamaguchi · Keisuke Tani (DENSO)

283 Study of Electromagnetic Field Effects in Dynamic Wireless Power Transfer System with Separated Double Circular Coils
Toshiyuki Fujita · Sakahisa Nagai · Nguen Binh-Minh · Shota Yamada · Osamu Shimizu · Hiroshi Fujimoto (The University of Tokyo)

284 Optimal Charging Strategy for a Fleet of Transportation Electric Vehicles
 -Challenges and Opportunities for Electric Truck Introduction-
 Steven Wilkins (TNO/Technical University of Eindhoven)
 Subhajeet Rath · Avedis Agop Dadikozyan · Robinson Medina (TNO)

285 Study of Actual Road Power Consumption Improvement Method for Electric Vehicle using Traffic Flow Simulation
Michael Melkior Kanugroho · Yuta Nakane · Taizo Otsuki · Akira Kato (Teikyo University)

311+312 (3F)

[9:30~12:00]

64 Automotive Security Technology
 <OS> Ryo Kurachi (Nagoya University)

[OS Keynote Address]

286 History and Prospects of Automotive Cybersecurity
Makoto Kayashima (Hitachi)

287 Iris Detection and Intention Reading by Eye Movement using Image Recognition Technology
Massar Pene (Tokai University)

288 The Evolution of Remote/Passive Keyless Entry Attacks and How We Can Mitigate Them
Shahar Shechter · David Lazar · Simiao Wang (Argus Cyber Security)

289 Validation and Testing of 60GHz In-Vehicle Radars for Child Presence and Occupant Safety
 Andreas Himmler · Alexander Trapp (dSPACE)
Hiroki Hanaoka · Takashi Yamada (dSPACE Japan)

290 Keeping Communication Transparency of Inspection Scan Tools for OBD Vehicle Inspections
 -Overview and Communication Test of Inspection Scan Tools-
Yuichi Goto · Yousaku Oda · Yoshiaki Yamamoto · Nobumitsu Sasaki (Japan Automotive Service Equipment Association)
 Hiroaki Nakashima (Create Pro)

[13:00~15:05]

65 Polymer Material I
 Takahiro Onishi (Hino Motors)

291 Development of ELV Airbag Recycled PA66
Tomohiro Kota · Takanori Kobayashi · Hitomi Furuhashi (Honda Motor)
 Ryosuke Umemura · Norihiko Furuya (Asahi Kasei)

292 Effects of Reinforcement Structure for Fiber Reinforced Plastics on Fire Resistance and Mechanical Property
Takumi Sugiura · Yuto Goto · Asami Nakai · Masayuki Okoshi (Gifu University)
 Haruhiko Nakamura · Hiroto Shigeta (DaikyoNishikawa)
 Takuya Tanigawa · Shuhei Yasuda · Junichi Ogawa · Junichiro Yamashita (Mazda)

293 A Study on the Improvement of Fade Resistance for Brake Pads
 -Analysis of the Decrease Factor in Friction Coefficient of Brake Pads at High Temperature-
Junichi Ujita · Manami Sugiura · Katsuya Okayama (Advics)
 Kenji Abe · Toru Matsushima (Toyota Motor)
 Yoshitsugu Goto (Toyota Central R&D Labs. (Hiroshima Institute of Technology))
 Mamoru Tohyama (Toyota Central R&D Labs.)

294 Effect of Crystallinity on Energy Absorption Properties of Carbon Fiber Reinforced Thermoplastic Pipes
Keisuke Takamura · Asami Nakai (Gifu University)

295 Improvement of Heat Cycle Property by using Flat Glass Fiber
Yosuke Nukui · Shunsuke Harashima (Nittoboseki)

[15:45~17:50]

66 Polymer Material II
 Kenichi Furukawa (Suzuki Motor)

296 Development of Flow Resistance Control Technology for Sound Absorbing Material Surface by Model-Based Research (MBR)
Daiji Katsura · Keisuke Yamakawa (Mazda)

297 Development of Thermal Management and Noise/Vibration Control Material Model Technology by Model-Based Research (MBR) 3rd Report
 -Establishment of Foam Control Method Model Technology for Resin Foam-
Yukie Ishizawa (Hiroshima University)
 Daiji Katsura · Keisuke Yamakawa (Mazda)
 Nozomu Hatakeyama · Ryuji Miura · Junnosuke Okajima (Tohoku University)
 Kenji Inaba (Hiroshima University)
 Daiki Sakamoto (Nanjo Auto Interior)
 Hideyuki Yukawa (Mazda)
 Shinichi Kihara (Hiroshima University)

298 Prediction of Wrinkling for Automotive Interior Skin by Forming Simulation and Study of Optimal Modeling Methods
Mao Mochizuki · Tatsumi Onishi (Kasai Kogyo)

299 μ -CT Measurements and Analyses for Carbon Fiber Reinforced Plastics during Tensile Test
Takanori Itoh · Yuusuke Nagami · Atsushi Kato (Nissan ARC)
 Akihisa Takeuchi · Masayuki Uesugi (JASRI)
 Kyosuke Hirayama (Kyoto University)
 Hiroyuki Toda (Kyushu University)

300 Visualization of the Internal Structure of Injection-Molded CFRP by CT Scan
Taichi Umezu · Souichiro Nishino (Ibaraki University)
 Hidemaru Sootome · Takuya Adachi · Toshiyuki Asano (Industrial Technology Innovation Center of Ibaraki Prefecture)
 Akinori Hoshikawa (Frontier Research Center for Applied Atomic Sciences, Ibaraki University)

313+314 (3F)

[9:30~12:10]

67 Vehicle Development Technology I
Daisuke Ito (Kansai University)

301 Spaceframe Node Design Advisor Logic Development Based Either on Fe Analyses of the Underlying Catia Models or on a Meta-Model of the Node
Do Hoi Kim (Hyundai Motor)
Rico Hasse · Sebastian Melzer (Fraunhofer IWU)

302 Development of a Virtual Seat Fitting Performance Prediction Technology
Baekhee Lee (Hyundai Motor)
Jangwoon Park (Texas A&M University)
Kihyo Jung (University of Ulsan)
Byoung-Keon D. Park (University of Michigan Transportation Research Institute)

303 A Study on Optimizing the Visibility of Automobile Clusters according to the Road Environment
Daeseon Lee (Hyundai Motor)

304 Development of High Performance and Lightweight Door Beam with Continuous Varied Closed Cross Section Structure
Kozaburo Sakamaki · Masashi Kawakami · Ryohei Ikeda · Masanori Fukuda · Norieda Ueno · Hiroyuki Kumeno · Kimihiro Nogiwa (Sumitomo Heavy Industries)

305 Development of the Front Crash Structure for a New, Fully Autonomous Mobility as a Service Passenger Vehicle using Advanced High-Strength Steel
Neil Mcgregor · Owain Davies (Ricardo)
Tudor Illies (ARRK)

306 A Establishment of Standard on Door Frame Stiffness using Polar Moment of Inertia
Sangjin Lee · Hee Chang Go · Seong Bin Choi · In Sun Baik · Do Hyun Shin (Hyundai Motor)

[13:10~15:15]

68 Vehicle Development Technology II
Toshiaki Sakurai (Tokyo City University)

307 Development of Flat-Type LPG Bombe and Research on the Way to Secure Performance
Seong Cheol Cho · Sung Won Lee (Hyundai Motor)

308 Skill Analysis of Gradient Paint in Automobile Repair Partial Painting
Shigeru Ikemoto (Body Garage Ikemoto)
Yuka Takai (Osaka Sangyo University)

309 Cavitation Erosion Improvement Method Adopted for Linear Solenoid Valve Used in Brake Fluid
Masakuni Suzuki (Toyota Motor)

310 A Numerical Study on the Effect of Sloshing Condition on the Evaporation Process of Liquid Hydrogen in a No-Vent Tank
Zhe Xu (Ansys Japan)
Vivek Kumar · Abhijit Patil (Ansys)

311 Applicability to Vehicle Steering Control of Inverse Problem of Stochastic Output Feedback Control Assuming Output-Observation Noise

Frank Mizukami · Mitsuyuki Saito (Hiroshima City University)

315 (3F)

[9:30~12:35]

69 Next-Generation Advanced Production Engineering I
<OS> Norikazu Suzuki (Chuo University)

312 Advanced Cutting Simulation for Review and Improvement of Machining Processes
Takashi Matsumura (Tokyo Denki University)

313 Development of an In-Line Two-Liquid Mixed Coating System for Motorcycle Resin Exteriors
Keiki Hayashi · Kyosuke Hashimoto · Takuji Yamahiro (Honda Motor)

314 Validation of Numerical Electrodeposition Model for Various Paints and Pretreated Steel Plates and its Application to Actual Carbody Simulation
Takeshi Kashivama (Suzuki Motor)
Kenei Shin · Akira Sato (SUBARU)
Hisashi Monchusho · Wataru Motonaga (Mazda)
Yuki Onishi (Tokyo Institute of Technology)

315 Development of Inspection Method for Machined Hole Defects in Aluminum Diecast Parts using AI Recognition of Image
Tomotaka Yamamura · Noritoshi Kimura · Satoshi Ihara (Daihatsu Motor)

316 Research of applying Image Sensing Technology for Appearance Inspection of Automobile
Mitsuru Hirayama · Daisuke Tanaka · Masashi Matsumoto · Nobuhiro Yoshikawa (Nissan Motor)

317 Development of Adhesive Spread Prediction Method for Weld Bonding of Mobility Bodies
Naoki Hirasawa · Tetsuya Hyakutake · Kakeru Sato (SOKEN)
Masaki Morino · Ryo Suzuki (Toyota Motor)

318 Development of Application of Friction Stir Spot Welding to Multi-Material Components 2nd Report
Mitsugi Fukahori · Kojiro Tanaka · Satoko Shimada · Yasuhiro Morita · Tomohito Okuyama · Junichi Ogawa · Akihide Takami (Mazda)
Yukihiro Sugimoto (Hiroshima University)
Kosuke Ogawa (Hirotec)

[13:35~16:40]

70 Next-Generation Advanced Production Engineering II
<OS> Masao Doi (Daihatsu Motor)

319 Development of a New High-Strength Aluminum Forging Process
Yuta Shimizu · Genki Horii (Toyota Motor)

320 3-D Bulk Metal Forging Simulation with Adaptive Finite Elements

Li Zhang · Yong Guo · Wei Hu · Philip Ho (ANSYS)

321 Research on Measurement Method using Stratified Sampling for Surface Texture by Low Frequency Vibration Cutting

Mikihiko Mawatari · Ichiro Yoshida (Hosei University)
Ayako Kitakaze (Citizen Watch)
Kazuhiko Sannomiya · Takaichi Nakaya (Citizen Machinery)

322 Investigation on Tool Damage Mechanism in Low-Frequency-Vibration Cutting of Difficult-to-Cut Materials

Yukio Takahashi · Genki Murata · Hiroto Teratani · Norikazu Suzuki (Chuo University)

323 Development of Press-Forming Method for High-Capacity Battery Boxes Made of Steel

Minoru Sugawara (Nippon Steel)
Takashi Yamamoto (MEITEC)
Yasuharu Tanaka (Nippon Steel)

324 Development of the Hot Stamp Technology of EV Cabin Frame Parts for Carbon Neutrality

Masahiro Kubo · Keinosuke Iguchi · Hiroshi Yoshida · Shunji Hiwatashi (Nippon Steel)

325 Development of Sharp Edge Technology for Attractive Styling

Shintaro Hamasaki · Toshihiro Terao · Kenji Matsutani · Hideo Yazaki (Honda Motor)

【17:20~18:10】

71 Perceptual/Cognitive of Driver

Toshio Ito (Shibaura Institute of Technology)

326 Differences in Driver Perceptual-Cognitive Characteristics for Thermal Stimuli by Driving Task

Jongseong Gwak (The University of Tokyo)
Yuzuru Yoshinami (Nissan)
Akinari Hirao (AIST)
Motoki Shino (The University of Tokyo)

327 Development and Assessment of a Method for Reducing Carsickness by Visual Stimuli (First Report)

Taichi Kojima
(Osaka Institute of Technology/Mitsubishi Electric)
Mieko Ohsuga · Yoshiyuki Kamakura (Osaka Institute of Technology)
Daichi Tsunemichi · Junji Hori (Mitsubishi Electric)

【9:30~11:35】

72 Thermal and Fluid Engineering for Carbon Neutral Society -Computational Fluid Dynamics (CFD)-

<OS> Kota Fukuda (Tokai University)

328 Benchmark of Aerodynamic Surrogate Models on Varying Training Datasets

Philipp Schlichter · Michaela Reck (Technical University of Munich)
Jutta Pieringer (Audi)
Thomas Indinger (Technical University of Munich)

329 Development of 3-Dimensional Shape Generative Method using VAE and its Application to CAE

Mashio Taniguchi · Kohei Shintani · Hiroaki Onodera · Tadasuke Katsuhara · Noriko Ohtsuka (Toyota Motor)

330 Development of a Water Splashing Simulation Method on Parts during Vehicle Operation by using Particle Methods without a Supercomputer

Yasuhiro Ohshima · Naoki Tanaka · Yuta Yoshimura · Hisao Nishimori (Toyota Motor)

331 Numerical Simulation of Incompressible Flow around a Vehicle using Cartesian Cut-Cell Method with Wall-Stress Model

Atsumi Furusawa · Kazuyuki Ueno · Yuki Takeda (Iwate University)

332 A Study on the Performance Improvement of Heat Exchangers Biogas Generators using CFD

Hyowon Bang · Giyoung Park · Seangwock Lee (Kookmin University)

【12:35~14:15】

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

<OS> Daisuke Azuma (Kurume Institute of Technology)

333 Unsteady Aerodynamic Characteristics of a Vehicle Subjected to Yaw-Angle Fluctuation of Incoming Flow

Taro Yamashita (Toyota Motor)
Chisachi Kato (The University of Tokyo)
Yoshinobu Yamade · Akira Konno (Mizuho Research & Technologies)

334 Influence of Rear Shape Change of Ahmed Model on Drag (4th Report)

-Effects of On/Off Duty Ratio and Frequency on Plasma Actuators-

Yuji Ishihara · Kazuho Tanaka · Koki Kaneko (Aichi University of Technology)

335 Aerodynamics Development for Drag Reduction by Flow Control Concept at Rear End of the Vehicle

Yuki Ikawa · Shuhei Nishida · Satoshi Okamoto · Noriaki Sakaguchi (Mazda)

- 336 Energy Analysis on Transition to Oscillatory Flow around Ahmed Body of Slant Angle 31 Degree
Yusuke Atsumi · Suguru Shiratori · Itsuhei Kohri · Hideaki Nagano · Kenjiro Shimano (Tokyo City University)

【14:55~16:10】

- 74 Thermal and Fluid Engineering for Carbon Neutral Society -HVAC and Vehicle Cabin Environment Technology for Balancing Thermal Comfort, Air Quality and the Efficiency I-
 <OS> Yuzuru Yoshinami (Nissan Motor)

- 337 Comparative Analysis of the Effect of Temperature Glide on Low GWP Blend Refrigerant R-474A
Kenji Gobo · Tsubasa Nakaue · Daisuke Karube · Tatsumi Tsuchiya · Yasufu Yamada · Yasutaka Negishi (Daikin Industries)
 Ivan Rydkin (Daikin America)
 Alvaro Leon (Daikin Chemical Europe)
 Xiao Jin (Daikin Fluorochemicals)

- 338 Confirmation of the Effect of Low GWP Refrigerant R-474A on Materials in the Refrigerant Circuit
Shohei Ajioka · Yasutaka Negishi · Tsubasa Nakaue · Daisuke Karube · Alvaro Leon (Daikin Industries)

- 339 Predictive Optimization of Bus Cabin Temperatures using Passenger Button Pressing Information
Richard Woodfield · Stephen Glover · Peter Nockemann (Queen's University Belfast)
 Richard Stocker · Michele Braglia (HORIBA Mira)

【16:50~18:05】

- 75 Thermal and Fluid Engineering for Carbon Neutral Society -HVAC and Vehicle Cabin Environment Technology for Balancing Thermal Comfort, Air Quality and the Efficiency II-
 <OS> Yoshiichi Ozeki (AGC)

- 340 Development of Compact and Flat Blower Fan for HVAC
Ishii Fumiya · Yamaoka Jun · Kobayashi Ryo · Kato Shinya (DENSO)
 Masanori Yasuda (SOKEN)

- 341 Applying Perforated Panel Sound-Absorbing Structures to HVAC
Ryunosuke Akimatsu · Ayaka Tomido · Ryo Kobayashi · Shinya Kato (DENSO)

- 342 Power Savings for Electric Vehicles by Operating HVAC Unit in Partial Recirculation during Heating Mode
Gursaran Das Mathur (Highly-Marelli USA)

416+417 (4F)

【9:30~11:10】

- 76 Crash Safety (Safety for Occupants and Vulnerable Road Users)
 <OS> Ryuuji otani (Nissan Motor)

- 343 Development of Far Side Airbag Model
Tamami Hirano · Hiroshi Miyazaki · Shigeki Hayashi · Kazuo Imura (Toyota Motor)

- 344 Countermeasure Study for SUV against New Legform Impactor aPLI
Junji Kawashima · Hiroshi Miyazaki · Yu Nagata (Toyota Motor)

- 345 Proposal of an Optimal Design Method using CMA-ES for Reducing Crash Reaction Forces Considering Geometric and Boundary Nonlinearities
 Hiroaki Natsume · Kai Suto · Taisuke Ohshima (Nature Architects)

- 346 Characteristics of Elderly Driver Accidents that Can be Confirmed from Law Violations -Accident Statistical Analysis by Behavior Type of Elderly Drivers in Vehicle to Pedestrian Collisions and Vehicle to Vehicle Collisions-
Yasufumi Sekine (Fukuyama University)

【12:10~13:25】

- 77 Analysis of Real World Accidents and Safety Measures -Causes of Accident and Safety Issues-
 <OS> Hisashi Imanaga (JARI)

- 347 Improvement of Detection Accuracy of Road Surface Defects using GAN Teacher Images
Tetsu Kitani · Toshihito Ikenishi · Masato Tsuchiya (Mitsubishi Electric)

- 348 The Relationship between Traffic Accident Reduction and Advanced Emergency Braking System (AEB)
Sueharu Nagiri · Hirofumi Aoki · Takashi Yonekawa · Masae Kojima (Nagoya University)

- 349 Construction of 3D Measurement Method for Road Alignment to Create Hazard Map of Traffic Accident -Imrovent using Video Camera-
Yuva Kobayashi · Yuto Hara · Koki Shinjo · Hiroshi Kuniyuki (Suwa University of Science)

【14:05~15:20】

- 78 Biomechanics
 <OS> Yukou Takahashi (Honda R&D)

- 350 Comparison of the Dynamic Responses between THOR 5F Prototype and Hybrid-III 5f in the Frontal Impact Sled Test
Daiki Furukawa · Mitsutoshi Masuda (Toyota Motor)

- 351 Evidences Regarding the Safety of Pregnant Women Vehicle Passengers -Analysis of NASS/CDS data-
Masahito Hitosugi · Ayumu Kuwahara · Arisa Takeda · Akane Masumitsu (Shiga University of Medical Science)

- 352 An Analysis of the Kinematic Behavior of a 6-Years-Old Cyclist in Car Collisions using Finite Element Analysis
Daisuke Ito · Daichi Ishii (Kansai University)

501 (5F)

[9:30~10:45]

79 The Latest Noise and Vibration Technologies and Sound Design Technologies IV

<OS> Hisayoshi Matsuoka (Nissan Motor)

353 Sound Source Identification of In-Plane Squeal of Disc Brakes using Array Microphones and its Verification by Acoustic Simulation

Shuhei Tanamachi · Masataka Kurokawa · Katsuhiro Uchiyama · Yoshiyuki Yamaguchi (Nissan Motor)

354 The Influence of Wheel Physical Properties for Vibration of Vehicle Ride Comfort

Kouchi Hayakawa (Topy Industries)

355 Simple Prediction Method for Tire Vibration Characteristics for Use in the Early Stage of Road Noise Development

Masashi Komada · Masanori Araki · Masato Hashioka · Hideki Murakami (Toyota Motor)

[11:45~13:50]

80 The Latest Noise and Vibration Technologies and Sound Design Technologies V

<OS> Takashi Kondo (Honda R&D)

356 An Analysis on Tire Noise Radiation

Fumihiko Kosaka (Dassault Systemes) · Yuji Kodama · Hiroshi Fujii (The Yokohama Rubber)

357 Simulation of Electric Vehicle Component Encapsulation using a Coupled Finite Element (FEM) - Poroelastic Element (PEM) - Boundary Element (BEM) Approach

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

358 Vibrational Energy Propagation Mechanism at Point Joints between Frame and Panel

Keisuke Abe (SUBARU) · Toru Yamazaki (Kanagawa University)

359 Determination of Damper Positions to Reduce Vehicle Body Vibration Based on Structural Intensity

Chihiro Matsumoto · Toru Yamazaki (Kanagawa University) · Takuto Kimura (Mitsubishi Motors) · Kai Kurihara (Kanagawa University)

360 Method for Constructing Tire Model in Experiment Statistical Analysis

Ryota Okamoto · Toru Yamazaki · Kai Kurihara (Kanagawa University)

[14:30~16:35]

81 Noise and Vibration

Hiroko Tada (Honda Motor)

361 Development of Knocking Analysis Method by Psychoacoustic Analysis using Microphone Array

Etsunori Mouri · Kenjiro Shinohara (Daihatsu Motor) · Yasutaka Nakajima (RION) · Takamitsu Yasaka (Kyushu RION) · Chiaki Nishidome (CATEC)

362 Tire Noise Synthesis from Test Stand Measurements and Sea Full Vehicle Model

Rabah Hadjit (ESI) · Yumiko Sakamoto (HBK) · Kelby Weilnau (VI-grade) · Chad Musser (ESI) · Bret Engels (HBK)

363 Quantification of Wheel Transfer Force Characteristics by Measuring Hub Surface Pressure

Yusuke Yasuki (SOKEN) · Tomoyuki Ishikawa (Toyota Motor)

364 An Integrated Optimization Workflow for Achieving Light Weight Brake Caliper Geometry Meeting NVH, Safety and Casting Manufacturing Objectives

-A Holistic Methodology for the Multidisciplinary Topological Design Optimization-

Dinesh Kumar (ANSYS Software Private) · Hayuru Inoue (Hitachi Astemo) · Saurabh Patwardhan (ANSYS Software Private) · Masayuki Yamamoto (ANSYS Japan) · Vinayak Kamat · Abhijit Patil · Vinay Carpenter (ANSYS Software Private) · Teruyasu Kasahara (ANSYS Japan)

365 The Study for Root Causes and the Remedy of Front Brake Moan Noise

Sang-Mok Lee · Kyung-Jae Lee · Young-Woo Cho · Jung-Hoon Woo (Hyundai Motor)

502 (5F)

[9:30~10:45]

82 Active Safety and Advanced Driver Assistance Systems I

<OS> Yuichi Omoda (Japan Automobile Research Institute)

366 Development of a System that and that Assesses Right-Turn Behavior and Provides Feedback using an In-Vehicle Camera

Akihiro Miura · Hiroki Takeuchi · Mieko Ohsuga (Osaka Institute of Technology)

367 The Technology of Reducing the Harm Caused by Aggressive Driving

Takahiro Kohara · Koji Takeuchi · Masaaki Uechi (Toyota Motor)

368 Examination of Accident Prevention Measures due to Incorrect Brake and Accelerator Pedal Pression (Second Report)

Shohei Shimotori · Yasuo Fujii · Hiroshi Mouri (Tokyo University of Agriculture and Technology) · Tsuyoshi Sakuma · Machiko Hiramatsu (Nissan Motor)

【11:45~13:50】

83 Active Safety and Advanced Driver Assistance Systems II
<OS> Kenta Maeda (Hitachi)

- 369 Study on Lane Keeping Assistance System under Tire Blowout
Naoki Takahashi · Masahiko Aki · Shinichiro Horiuchi (Nihon University)
- 370 Study of Safe Gap Judgment Method at Expressway Merging
Takashi Kodama (Hanshin Expressway)
Yoann Pencreach (Forum8)
Shin Hashimoto · Masakazu Nakanishi · Jun Tanabe (Reginal Futures Research Center)
- 371 Efficient Validation and Verification Methods for L0 to L2+ ADAS Features
Daniel Brameshuber · Mihai Nica · Gernot Hasenbichler · Fabio Corona (AVL List)
Marijo Alilovic (AVL)
Florian Klueck · David Kaufmann (AVL List)
- 372 Advanced Safety Technology Evolution and its Traffic Accident Reduction Analysis
Masami Aga · Atsushi Watanabe · Satomi Kajiwara (Toyota Motor)
- 373 An Analysis of Drivers' Acceptance to the Information Reliability in Car-to-Bicyclist V2X System
Asuka Harada · Hitoshi Kanamori (Nagoya University)
Masami Aga · Yasunobu Yokoi (Toyota Motor)
Yuki Yoshihara · Nihan Karatas · Takahiro Tanaka (Nagoya University)

【14:30~17:10】

84 Active Safety and Advanced Driver Assistance Systems III
<OS> Tsukasa Shimizu (Toyota Central R&D Labs.)

- 374 Optimal ODD Automatic Design System Based on KPI of Autonomous Driving Service
Tepei Saitoh · Takahiro Sakai · Shinji Ishihara (Hitachi)
- 375 Development of Automatic Calculation Method for Infrastructure Sensor Placement to Minimize Blind Spot Areas from Viewpoint of Autonomous Driving System
Takahiro Sakai · Tepei Saitoh · Shinji Ishihara (Hitachi)
- 376 A Description Method of Operational Design Domain and Failure Conditions for Autonomous Driving Systems
Yasuhiro Akagi · Ryo Kanamori · Takayuki Morikawa (Nagoya University)
- 377 Development of Trajectory Planning Algorithm for Residential Narrow-Road Pass-By Scenario
Ryo Inaba · Yuki Horita · Daniel Gabriel (Hitachi)
Hidehiro Toyoda · Yoshinobu Ogasawara · Yuichi Komoriya (Hitachi Astemo)

- 379 Safety Evaluation Scenario Catalog Generation for Autonomous Driving Systems
-Traffic Disturbance Scenario Patterns on Limited Access Highways-

Hisashi Imanaga · Hiroki Nakamura (JARI)
Hideaki Sato (JAMA)

503 (5F)

【9:30~12:10】

85 Gaseous-Fuel Engines and Carbon Neutral Technology for Gaseous-Fuel I
<OS> Tsutomu Kikuchi (Nissan Motor)

- 380 Ammonia Mono-Fueled Engine System
-(1st Report) System Feasibility-
Yoshitaka Takeuchi · Takayuki Homma (Toyota Industries)
- 381 Ammonia Mono-Fueled Engine System
-(2nd Report) Power Performance and Exhaust Characteristics-
Takayuki Homma · Yoshitaka Takeuchi (Toyota Industries)
Shingo Yakushiji · Yoshitane Takashima · Takahiro Sako (Osaka Gas)
- 382 Ammonia Mono-Fueled Engine System (3rd Report)
-Cold-Start Performance-
Hiroshi Miyagawa · Tetsunori Suzuoki (Toyota Central R&D Labs.)
Norinosuke Nakatani · Takayuki Homma · Yoshitaka Takeuchi (Toyota Industries)
- 383 Overcoming Traditional Limitations of Heavy Duty Hydrogen Engine Operation using Active Pre-Chamber Technology
Michael Peter Bunce · Nathan Dallas Peters (MAHLE Powertrain)
- 384 A Study on Developing MPI Hydrogen ICE for Heavy Duty Vehicles
Daisuke Hiyama · Akemi Ito (Tokyo City University)
Takuya Yamaura (Flatfield)
Keiso Takeda (Enable)
Kaname Naganuma (Kanazawa Institute of Technology)
Ryuichi Sasaki (RIKEN)
Koichi Nishibe · Satoru Nozaki · Toshinori Nanba (Tokyo City University)
- 385 Emission Characteristics with Thermal Efficiency Improvement of MPI Hydrogen ICE for HD Vehicles
Takuya Yamaura (Flatfield)
Akemi Ito (Tokyo City University)
Kaname Naganuma (Kanazawa Institute of Technology)
Ryuichi Sasaki (RIKEN)
Keiso Takeda (Enable)
Koichi Nishibe · Daisuke Hiyama · Satoru Nozaki · Yoshinori Nanba (Tokyo City University)

【13:10~15:50】

86 Gaseous-Fuel Engines and Carbon Neutral Technology for Gaseous-Fuel II

<OS> Kenta Suzuki (Isuzu Motors)

386 Experimental Study of Hydrogen Combustion Concepts using a Heavy-Duty Single-Cylinder Setup
-Comparison of Port Fuel Injection with Spark Ignition and High Pressure Direct Injection-
Xander Seykens · Erik Doosje · Cemil Bekdemir ·
Peter Van Gompel (TNO)

387 Improvement of Mixture Formation in Hydrogen DI Engine by Utilizing Gas Jet MBD
Shiro Tanno · Sachio Mori · Yoshinori Miyamoto ·
Yoshihisa Tsukamoto · Tetsuo Omura · Daishi Takahashi
(Toyota Motor)

388 Technology Pathways for Maximizing the Efficiency of ICE Powertrains with Conventional and Future Fuels
Thomas Durand · Lukas Virnich (FEV Europe)
Dieter Van Der Put (FEV Group)
Tsuyoshi Horiba (FEV Japan)

389 Experimental Investigation of a Hydrogen Powered Heavy Duty Truck Engine
Yusuke Kondo · Yuji Kobayashi · Yohei Yoshiga
(MAHLE Engine Components Japan)
Akira Yamashita (MAHLE Japan)
Hannes Marlok · Tino Gallas (MAHLE)
Simon Schneider (MAHLE International)

390 Design Solutions for the Flexible Use of Sustainable Fuels in Commercial Applications
Anton Arnberger · Bernhard Raser · Andreas Zurk
(AVL List)

391 The CO₂ Neutral Hybrid IC Engine Providing Hydrogen, Ethanol and E-Fuel Compatibility within Current Engine Boundaries
Wolfgang Johann Schoeffmann · Paul Kapus ·
Mirko Plettenberg · Michael Howlett · Christoph Sams
(AVL List)



Announcement

2023 JSAE/SAE

Powertrains, Energy and Lubricants International Meeting

Technical Challenges for

a Carbon Neutral Society by 2050

"Powertrains, Fuels and Lubricants International Meeting," the former name of this meeting, has been changed as above in Japan.

August 29 - September 1

2023 (Registration and Welcome Party on August 28)

Kyoto, JAPAN

Venue: KYOTO TERRSA

<https://2023pel.jp>

