

# **International Automotive Body Congress (IABC 2023 LIVONIA)**

Presentations

Proceedings

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**Editors:**

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Wednesday, September 27, 2023

AM Session	Plenary Session: Challenges to Transitioning to Mass-Scale Electrifications Session Chair: Randy Frank Vice President Scout Motors	PM Session	Plenary Session: Challenges to Transitioning to Mass-Scale Electrifications (cont.) Session Chair: Randy Frank Vice President Scout Motors
Time	Maple Room	Time	Maple Room
9:30 am	<b>IABC 2023: A 30 Year of Automotive Engineering Excellence –Mechanics, Molecules and Mobility 233</b> M. Nasim Uddin, PhD President <i>Global Automotive Management Council</i>	1:00 pm	<b>Evolving Aluminum Technology for Vehicle Closures and Structures 325</b> <b>JP McGuire</b> Global Director – Automotive, Commercial Transportation/Industrial, and Brazing Product Technology <b>Brian Tucker</b> Global Director – Automotive and Brazing Marketing <i>Arconic</i>
10:00 am	<b>30 Year of Automotive Technology – Changes, Challenges and Opportunities 257</b> Jean-Martin Van der Hoeven Vice President & Chief Marketing Officer <i>ArcelorMittal - Global Automotive &amp; Mobility Solutions</i>	1:30 pm	<b>Aluminum, the Fast track to Carbon Neutrality 8</b> <b>Jamie Zinser</b> Vice President <i>Novelis</i>
10:30 am	<b>'Ideneering' in dynamic scenarios 1</b> <b>Antonio Casu</b> Chief Executive Officer <i>Italdesign</i>	2:00 pm	<b>Randy Frank</b> Vice President <i>Scout Motors</i>
11:00 am	<b>Break</b>	2:30 pm	<b>Break</b>
11:15 am	<b>Steel: The sustainable material for future mobility 206</b> N/A <b>Peter Leblanc</b> Chief Marketing Officer <i>ArcelorMittal</i>		<b>Vehicle Electrifications - Products and Pathways</b> Session Chair: <b>Jamil Alwan, PhD</b> Technical Specialist <i>Ford Motor Company</i> <b>Katsuhiko Sugiyama</b> Director <i>Nissan</i>
		3:00 pm	<b>HUMMER EV Battery and Vehicle Integration</b> Andy Oury – <b>Keynote 84</b> Engineering Technical Leader <i>General Motors</i>
		3:30 pm	<b>Latest progress of UHSS and Car Body for Electric Vehicle (BCB EV Pro) 364</b> Han Fei, PhD, Chief Researcher, Mario Padovani, Managing Director <i>Baosteel</i>
11:45 am	<b>Rethinking The Automobile: The Role of Generalists, Specialists, and Innovation in Electric Vehicle Design 314</b> <b>Brian Castillo</b> Technical Fellow - Innovation <i>General Motors</i>	4:00 pm	<b>Lightweighting Through Plastic Composites to Increase EV Range 268</b> Matt Parkinson, PhD Head of Technical Development, Engineering Plastics <i>BASF Performance Materials</i>
		4:30 pm	<b>Investigations into a Steel Protection Shield for Battery Packs 128</b> Yannis Kheyati <i>ArcelorMittal</i>
12:15 pm	<b>Adjournment &amp; Lunch in Exhibit Hall</b> GAMC Directors and Plenary Speakers Lunch in Exhibit Hall	5:00 pm	<b>Adjournment &amp; Reception in Exhibit Hall</b>

Thursday, September 28, 2023

AM Session	Vehicle Electrifications - Products and Pathways (cont.) Session Chair: Jamil Alwan, PhD Technical Specialist Ford Motor Company Katsuhiko Sugiyama Director Nissan	AM Session	Product Design, Engineering & Sustainability Session Chair: Teresa Rinker, PhD, PE Technical Specialist General Motors Manikandan Babymony Principal Engineer Hyundai
Time	Maple Room	Time	Cherry Room
9:30 am	<b>Battery Pack Cold Plates in Steel</b> N/A Ram Iyer ArcelorMittal	9:30 am	<b>CO2 reduction? A new point of view of the Tailored Blanks products 66</b> Mario Padovani, Managing Director Baosteel Tailored Blanks
10:00 am	<b>The Shape of Things: Cylinders and Cells/ICE and BEV</b> N/A Kent Snyder, Technical Leader Ford Motor Company	10:00 am	<b>Steel: the roadmap to Net Zero Emissions</b> Marcos Corradin, Director N/A US Steel
10:30 am	<b>Break</b>	10:30 am	<b>Break</b>
11:00 am	<b>Application of Laser Cleaning for the Quality Improvement of Ultrasonically Bonded Interconnects on Advanced Battery Packs 301</b> Amin Moghaddas, PhD, Project Engineer EWI	11:00 am	<b>ArcelorMittal Multi Part Integration™ (MPI) concepts for innovative side structure Design 18</b> Nachiket Gokhale AMTB
11:30 am	<b>Advanced Laser Joining for Battery Enclosure Applications 149</b> Tim Hurley, Director The Lincoln Electric Company	11:30 am	<b>Body Material Selection in the Changing Landscape of Automotive Requirements 28</b> Christopher Kristock, VP Automotive Program American Iron and Steel Institute Jim Evangelista, Manufacturing Technology Consultant, JJE Consulting, LLC
12:00 pm	<b>Extreme-Size Hot Stamped Parts for BEVs 279</b> Dean Bartolomucci, Xavi Herrera, Paul Belanger, Gestamp	12:30 pm	<b>Adjournment &amp; Lunch</b>
12:30 pm	<b>Adjournment &amp; Lunch</b>		

Thursday, September 28, 2023

PM Session	Product Design, Engineering & Sustainability Session Chair: Teresa Rinker, PhD, PE 349 Technical Specialist General Motors Manikandan Babymony Principal Engineer Hyundai	PM Session	Advanced Manufacturing Processes Session Chair: Paul Belanger Director, North American R&D Center Gestamp
Time	Maple Room	Time	Cherry Room
1:30 pm	<b>Bumper Beam Assembly Effect on Axial Crush Strength Efficiency 62</b> Ben McClain, Ikram Mohiuddin, Jamil Alwan, PhD, Kerrie Maron, Matt Eberle, Sudip Bhattacharjee, PhD Ford	1:30 pm	<b>Detailing Some of the Little-Known Advantages of Coil Fed Laser Blanking 182</b> Jay Finn, Chief Technology Officer LaserCoil Technologies LLC
2:00 pm	<b>Draw Bead Force Optimization for Production Stamping 248</b> Hua-Chu (Michael) Shih, PhD United States Steel Corporation		
2:30 pm	<b>Evaluation of In-Service Corrosion Performance of Aluminum Alloys for Automotive Applications 47</b> Kevin Ryan Novelis	2:00 pm	<b>High Speed Laser Blanking for the Transformed Automotive Supply Base 120</b> Victor Edozien, Sai Burra, Michael Bolger BWD Technologies
3:00 pm	<b>Break</b>		
3:30 pm	<b>Strain Rate Sensitivity for Spot Welded Low Alloy Steel 220</b> Trey Leonard, PhD Standard Mechanics, LLC Jim Prencipe, Dennis Goette, Levi Massey Steel Dynamics	2:30 pm	<b>Finding Synergies Between Aluminum Flat Rolled Product and Giga Castings 38</b> Akshay Kulkarni, Alex Orlando Novelis
		3:00 pm	<b>Break</b>
4:00 pm	<b>Developing different approaches to reduce carbon emissions of our Aluminum Products 336</b> Philip Dodge, Manuel Valencia Constellium	3:30 pm	<b>Advantages of 3D Laser Vision Sensing for Robotic Welding of Electric Vehicle Components 164</b> Christopher Hill SERVO-ROBOT
		4:00 pm	<b>Mapping of Failure Criteria to Larger Parameter Space Using Design of Experiments Techniques for Database Development 293</b> Olga Eliseeva, PhD, Emma Brunst, PhD, Jerry Gould, PhD EWI
		4:30 pm	<b>Porosity mitigation in laser welding of thick Al sheets 356</b> Justin Dakka, Junjie Ma, PhD, Hui-Ping Wang, PhD, Blair Carlson, PhD, Jay Oswald, PhD General Motors
4:30 pm	<b>Adjournment</b>	5:00 pm	<b>Adjournment</b>

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