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Presentations

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International Automotive Body Congress (IABC 2024)
Automotive Design in Materials (ADIM)
September 25-26, 2024,
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(734) 546-0450

Laurel Manor
39000 Schoolcraft Road
Livonia, Michigan 48150
Registration: 8:30am – 9:00am

Wednesday September 25th, 2024

AM Session	**Plenary Theme: Digitization to Electrifications - Road Ahead** Chair: Darren Van Houzen Side Closures Architect. *General Motors*	**PM Session**	**Session: Product Introductions** Chair: Derek L. Patterson Global Chief Body Architect *General Motors*
Time	**Room Maple**	**Time**	**Room Maple**
9:00 am	**Introduction and Opening Remarks** **M. Nasim Uddin, PhD,** President *Global Automotive Management Council*	**1:30 pm**	**Introductions & Keynote Address** **Derek L. Patterson** Global Chief Body Architect General Motors
		2:00 pm	**Structures and Closures development. Silverado/Sierra EV with a focus on the Multiflex Midgate** Mushtaque Ahmed. Manilee Romero 20 Jamie Weber *General Motors*
9:30 am	**GM's Virtual Revolution** **Jason Fischer** 1 Executive Director, Virtual Performance, Advanced Manufacturing & Materials (VPAMM) *General Motors*	**2:30pm**	**Progressive Engineering for Humanity - Power Trunk Opening System for the 7th Generation Grandeur** Kyeongjun Lim 48 *Hyundai*
10:00 am	**Driving Automotive Value Through Aluminum** **Jamie Zinser** 40 Vice President Automotive – North America *Novelis*	**3:00 pm**	**Break in Exhibit Hall** **Next Generation EV HSCB Steel Based Concept of**
10:30 am	**Break in Exhibit Hall**		
11:00 am	**Christian Gianni** Senior Vice President and Chief Technology Officer *US Steel* 60	**3:30 pm**	**Electric Vehicle** Dae Young Kim, PhD Donghyun Kim, Uk Heo, PhD 69 Hosun Lee, Kyoungju Sohn Dong Yul Lee *Hyundai Steel*
11:30 am	**BEV, HEV, ICE – Lightweighting Design in Aluminum Continues** **JP McGuire** 78 Global Director *Arconic*	**4:00 pm**	**Development of Powered Tailgate Solutions for Light and Medium Duty Truck** 87 Michael Mueller *HOERBIGER Antriebstechnik Holding GmbH*
12:00 pm	**Future Strategy and Case Study for Closure System** **Kyoungtaek Kwak** 94 Global Director *Hyundai*	**4:30 pm**	**Less is More – Application of aluminum to Genesis GV70 EV BIW** Mario Greco, *Novelis Automotive* 101
12:30 pm	**Lunch in Exhibit Hall Sponsored By** COMMONWEALTH Rolled Products	**5:00 pm**	**Networking Reception in Exhibit Hall Sponsored By** COMMONWEALTH Rolled Products
		6:00 pm	**Adjournment**

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Thursday September 26th, 2024 – Morning Sessions

AM Session	**Session: Advanced Materials Applications** Chair: Jason J. Coryell, EGM Advanced Material Technology & Virtualization, *General Motors*	**AM Session**	**Session: Materials Modelling and Optimization I** Chair: Yang Li, PhD, Research Scientist *Ford Motor Company*
Time	**Room Maple**	**Time**	**Room Cherry**
9:00 am	**Opening Remarks** **Jason J. Coryell**, EGM Advanced Material Technology & Virtualization, *General Motors* 110	**9:00 am**	**Application of Transfer Path Analysis for Evaluating the Influence of Window Constructions on the Interior Noise Contributions of Road and Wind Noise for A Battery Electric Vehicle** Jeffery Pruet, Brett Stirzinger Kiran Govindswamy, PhD 121 *FEV North America* W. Keith Fisher, PhD *Corning Incorporated*
9:30 am	**Development of low carbon steel sheets for automotive outer panels based on the 'EAF+BF' combined process** Sang Hun Shin, PhD *Hyundai Steel R&D Center* 132		
10:00 am	**Replacing Die-Cast Aluminum with PPA Plastic Composite Materials** Matthew Parkinson, PhD 147 *BASF*	**9:30 am**	**Low Cycle Fatigue Behavior and Modeling of 1.4837Nb Austenitic Stainless Steel** Yi Liu, PhD, Devin Hess, PhD Qigui Wang, PhD, Jason Coryell 141 *General Motors*
10:30 am	**Break in Exhibit Hall**		
11:00 am	**Application of casting aluminum alloy in new vehicle design to increase sustainability decreasing weight** Jacopo Tatti, PhD, Bryan Macek, Justin Hunt 175 *Stellantis*	**10:00**	**Cohesive Zone Material Model Characterization to Capture Adhesive Material Failure** Liqiang Lin, PhD,Tingting Zhang, PhD, Kathy Wang, PhD *General Motors* 164
11:30 am	**Enhancing Efficiency with Two Component Adhesive Technology Advancements** Eric Cole *DuPont Automotive Adhesives* 201	**10:30 am**	**Break in Exhibit Hall**
		11:00 am	**The Relationship of Strain Rate and Triaxiality** Trey Leonard, PhD *Standard Mechanics, LLC* 187
		11:30 am	**Roping Quantitative Evaluation Using Non-Destructive Metrics on Bare and Painted Exposed Aluminum Automotive Body Sheet** Tamer O. Girgis, PhD *COMMONWEALTH ROLLED PRODUCTS* 211
12:00 pm	**Leveraging Fracture Toughness and Corrosion Resistance in the Development of High-Strength Steels Suitable for Light-Weight Sustainable Automotive Chassis and Frame Applications.** Arjan Rijkenberg, PhD, Toni Chezan, PhD, Arnoud de Vooys, PhD,Paul Bellina, PhD Moe Ziaran 226 *Tata Steel*	**12:00 pm**	**Effects of phosphate coating and lubricants on frictional properties and formability of low carbon steels** Hua-Chu (Michael) Shih, PhD Mykal Madrid 237 *United States Steel Corporation* Alex Khutorsky *Hyundai-Kia America*
12:30 pm	**Lunch in Exhibit Hall Sponsored by** Novelis		**Lunch in Exhibit Hall Sponsored by** Novelis

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Thursday September 26th, 2024 – Afternoon Sessions

PM Session	**Session: Materials Processing and Manufacturing** Chair: Robert Miller, Senior Manager, *Stellantis*	**PM Session**	**Session: Materials Modelling and Optimization** II Chair: Sudip Bhattacharjee, PhD, Supervisor, *Ford Motor Company*
Time	**Room Maple**	**Time**	**Room Cherry**
1:30 pm	**Laser Cutting Technology Advancement - Detailing Advantages of Coil Fed Laser Blanking** Jay Finn *Nidec Automatic Feed Company* 245	**1:30 pm**	**Through – Process Material Modeling in Ultra-large Aluminum Casting Development** Qigui Wang, PhD, Andy Wang, PhD *General Motors* 267
2:00 pm	**Low volume design solutions applied to the Bumper Systems of the Cadillac CELESTIQ** Trevor Winch *General Motors* 281	**2:00 pm**	**Material Modeling of Non-Metallic Materials** Vesna Savic, PhD *General Motors* 288 Gokula Krishnan M, Karthigan Ganesan, Rajamanickam VS *Tata Consultancy Service*
2:30 pm	**Paint Bake Effect on Gen3 Weld Strength Compared to Other AHSS** Richard Wolf 296 *US Steel*	**2:30 pm**	**Microstructure Characterization and Corrosion Performance of Ti/Zr Pretreated 5xxx and 6xxx Aluminum Series Alloys for Automotive Applications** Pascal Gauthier, Tao Wang, PhD *Rio Tinto Aluminum* 313 Tamer Girgis, PhD *Commonwealth Rolled Products*
3:00 pm	**Break in Exhibit Hall**	**3:00 pm**	**Break in Exhibit Hall**
3:30 pm	**Challenges in FLC Determination and Applications to Maximize Aluminum Stamping Feasibility** Raj Dasu, Cody Puckett, Jeff Allison Zhi Deng, PhD 324 *Commonwealth Rolled Products*	**3:30 pm**	**Aluminum Sheet Solutions to Combat Li-ion Battery Thermal Runaway** Julio Malpica, Alex Orlando 333 *Novelis*
4:00 pm	**Digital Twin Meets Reality: Next Generation AI-Driven Inspection & Alignment** Bernhard Hoffmann 347 *Bernhoff LLC* Pete Grabowski *SKILLREAL*	**4:00 pm**	**Fire Resistance Performance of Steel Solutions for Battery Housing** Tarek Krim, Yannis Kheyati 356 *ArcelorMittal*
		4:30 pm	**Corrosion Protection for HV Battery Shield** Tarek Krim 376 *ArcelorMittal*
4:30 pm	**Ensuring Process Robustness for Hot Stamped Laser Welded Blank Applications** Nachiket Gokhale 366 *ArcelorMittal Tailored Blanks Americas*	**5:00 pm**	**Adjournment**
5:00 pm	**Wrap up and Concluding Remarks**	**5:00 pm**	**Wrap up and Concluding Remarks**
5:30 pm	**Adjournment**	**5:30 pm**	**Adjournment**