

International Automotive Body Congress (IABC 2024 TURIN)

Presentations

Turin, Italy
5-6 June 2024

Editors:

**M Nasim Uddin
Rafiq Uddin**

ISBN: 978-1-7138-9910-5

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2024) by Global Automotive Management Council (GAMC)
All rights reserved.

Printed with permission by Curran Associates, Inc. (2024)

For permission requests, please contact Global Automotive Management Council (GAMC)
at the address below.

Global Automotive Management Council (GAMC)
M. Nasim Uddin
49559 Lantern Way
Canton, MI 48188

Phone: (734) 546-0450

nasimu@gamcinc.com

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

IABC Turin 2024

Day 1

9:30 am - 11:00 am Plenary Session

Session Chair: Antonio Casu
Italdesign

The Impact of AI on the Automotive Styling Design Process...1

Hu Jinchun
General Manager
JAC Italy Design Center

[Presentation](#)

Reducing Complexity and Carbon Footprint in Electrification...12

Olivier Hudin
Technical & Service Director
ArcelorMittal

[Presentation](#)

The Future of Urban Mobility...21

Gianluca Forneris
Chief Executive Officer
CECOMP

[Presentation](#)

11:30 am - 1:00 pm Plenary Session

Session Chair: Antonio Casu
Italdesign

How to prepare for the automobile “re-evolution”...33

2:00 pm - 3:30 pm - Technical Sessions, Materials Solutions - Sub-Assembly Integration

Session Chair: Michele Maria Tedesco
Stellantis

Development of Lightweight Truck Load Wheel using High Strength Steels...71

Hyuk sun Kwon
PhD
Posco

[Presentation](#)

MBW® 1900 AS Pro – a high-performance hot stamping grade with potential for further reduction in carbon footprint...87

Michael Linnepe
ThyssenKrupp

[Presentation](#)

SILVAL alloys - Premium recycling aluminum alloys for a decarbonized and sustainable automotive industry...98

Ruggero Zambelli
RAFFMETAL

[Presentation](#)

4:00 pm - 5:00 pm - Materials Solutions - Sub-Assembly Integration

Session Chair: Alessandro Scattina
Politecnico di Torino

Improved Toughness of Lightweight Hollow Extrusions Using Hollow Section Internal

9:30 am - 11:00 am Plenary Session

Session Chair: Antonio Casu
Italdesign

Gianfranco Pizzuto
Founder & Chief Executive Officer
Automobili Estrema

[Presentation](#)

**CO2e Analysis Case Studies of a
New Cost Driver...38**

Stefano Patisso
Chief Technical Officer (CTO)
MEC srl

[Presentation](#)

**Electrification of the suspension to
improve comfort, safety, and vehicle
efficiency - KEYNOTE....57**

Nicola Amati
PhD
Renato Galluzzi
PhD
Andrea Tonoli
PhD
Gennaro Sorrentino, PhD
Politecnico di Torino

[Presentation](#)

**2:00 pm - 3:30 pm - Technical Sessions,
Materials Solutions - Sub-Assembly Integration**

Session Chair: Michele Maria Tedesco
Stellantis

Cooling...115

Ala'aldin Alafaghani
PhD
Daniel Cooper
PhD
University of Michigan

[Presentation](#)

**Secondary Flat Aluminum: towards the
lightweight and decarbonization of automotive
BIW components...133**

Jean Lamontanara
PhD
MA | Gruppo CLN

[Presentation](#)

**Formability characteristics of advanced HSLA
steels...152**

Hardy Mohrbacher
PhD
NiobelCon BV
Caio Pisano
CBMM Europe
Bernardo Barile
CBMM Europe

[Presentation](#)

Day 2

9:00 am - 10:30 pm - Digital Manufacturing & Emerging Technologies

Session Chair: Mario Padovani

Baosteel

Stellantis Erwin® validation & application...161

Jacopo Tatti
Stellantis
Régis Alain
Gaming Engineering

[Presentation](#)

Advancements in Coil Fed Laser Blanking Technology...178

Jay Finn
Sales Engineer / LaserCoil Product Manager
Nidec Automatic Feed Company

[Presentation](#)

11:00 am - 12:30 pm - Digital Manufacturing & Emerging Technologies

Session Chair: Giovanni Castiglione
Porsche

Baomarc's automotive parts manufacturing technology – roll forming technology, and the application and prospects of magnesium alloys in automotive parts...198

1:30 pm - 3:00 pm - Vehicle Battery and RESS Integration

Jesse Paegle

ArcelorMittal

Antonio Mara *Stellantis*

Battery system in the chassis: thermal management and modularity...242

Angelo Bonfitto
Saulius Pasktys
Marco Maritano
Politecnico di Torino

[Presentation](#)

Development of novel battery system for a new, fully autonomous Mobility as a Service (MaaS) vehicle...251

Neil McGregor
Ricardo Engineering

[Presentation](#)

In-wheel motors for traction and vehicle stability Control...263

Nicola Amati
PhD
Lui Miguel Castellanos
PhD
Andrea Tonoli
PhD
Raffaele Manca
PhD,
Politecnico di Torino

[Presentation](#)

3:30 pm - 5:00 pm - Vehicle Battery and RESS Integration

Session Chair: Michele Maria

9:00 am - 10:30 pm - Digital Manufacturing & Emerging Technologies

Session Chair: Mario Padovani

Baosteel

Zhuang Jianjun
Chairman
Boamarc

[Presentation](#)

Application of casting aluminum in new vehicle design to increase sustainability decreasing weight...215

Jacopo Tatti
Stellantis

[Presentation](#)

Structural Thermal Interface Materials for Repairable and Efficient Thermal Management Solutions...228

Barbora Jurickova
DuPont Automotive

[Presentation](#)

1:30 pm - 3:00 pm - Vehicle Battery and RESS Integration

Jesse Paegle

ArcelorMittal

Antonio Mara *Stellantis*

Tedesco
Stellantis

Electrification: innovative technologies for underbody manufacturing and de-manufacturing...272

Giovanni Di Stefano
Comau

[Presentation](#)

Solution of High Strength Steel Battery Pack and EVI Cases for Electric Vehicle...281

Han Fei
PhD
Baosteel

[Presentation](#)

Steel-based concept body of future electric SUV...300

Dae Young Kim
PhD
Hyundai Steel

[Presentation](#)