GLOBAL GT CONFERENCE
AGENDA 2021
Presentation Days: Oct 19 - Oct 21, 2021
Seminar Days: Oct 22 - Nov 8, 2021
# Main Session | Session Chair - Jon Zenker

- **Jon Zenker, GT** - Welcome
- **Dimple Shah, GT** - Opening address from GT’s CEO
- **CV Raman, Maruti Suzuki** - Keynote address
- **Dan Marsh, GT** - Extending the range of GT-SUITE simulations for our clients

## Alternative Powertrain/Fuel Cell

**Session Chair - Jake How**

- **09:30/15:30/19:00**
  - **Universitat Politècnica de València, CMT - Motores Térmicos**
    - **Marcos Lopez-Juarez**
    - Fuel cell system degradation and performance optimization through stack sizing and dynamic limitations for automotive applications

- **09:50/15:50/19:20**
  - **Ford Otosan**
    - Elif Gözen & Sencer Bolu
    - Thermal Management Model Development & Fuel Cell Powertrain Optimization in Coach Application

## After treatment/Emissions

**Session Chair - Jon Brown**

- **09:30/15:30/19:00**
  - **Punch Torino**
    - Filippo Aglietti
    - Artificial Neural Network based models for Diesel emission prediction

- **09:50/15:50/19:20**
  - **Mercedes Benz Research & Development India**
    - Krishna Challa
    - Real Time 1-D Cabin Thermal Management Model For HVAC Controls Verification And Validation

## HVAC & Cabin

**Session Chair - Marek Lehocky**

- **09:30/15:30/19:00**
  - **3M**
    - Andrew Penning
    - Studying and Optimizing Products using GT-SUITE Cabin Simulation

- **09:50/15:50/19:20**
  - **TVS Motor Company**
    - Deepak Mandloi
    - 3M Andrew Penning
    - Solution driven coupling of TAITherm & GT-SUITE with 3D-CFD Tools

## GT Applications Sessions | 6 in parallel

- **10:30/16:30/20:00**
  - **Thermal Management**
    - **Brad Holcomb**
  - **Optimization and Cloud Computing**
    - **Ryan Dudgeon & Andrew Lee**
  - **Vehicle Modeling**
    - **Phil Mireault**
  - **Sil, Mil & GT-POWERxRT**
    - **Daniel Schimmel & Pantelis D.**
  - **Power Converter Design**
    - **Nicolas Videau & Francois B.**
  - **Electric Aircraft**
    - **Jon Harrison**

- **10:50/16:50/20:20**
  - **Break**

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Note: The above agenda schedule is in the preliminary stage and might be subject to changes.
DAY 1 - TUESDAY, OCTOBER 19

**Second Session**

**11:00/17:00/20:30**

**xEV Modeling**
Session Chair - Jon Zeman

Numerical Assessment of Adaptive-ECMS Strategies for a Gasoline Hybrid Electric Vehicle on Type Approval and RDE Driving Cycles

**Engine Performance**
Session Chair - Tom Wanat

The Tour engine – A novel split-cycle engine with the potential for high efficiency and low emissions

**Tour Engines Inc**
Oded Tour

**11:20/17:20/20:50**

**FEV North America**
Satyum Joshi

System Level Modeling Approach for Evaluation of Hybrid, Electric and Fuel Cell Powertrain Solutions in Medium Heavy-Duty Vehicles

**FEV**

System Level Modeling Approach for Evaluation of Hybrid, Electric and Fuel Cell Powertrain Solutions in Medium Heavy-Duty Vehicles

**FEV North America**
Satyum Joshi

An evaluation of process to model Hydro treated Vegetable Oil (HVO) using GT-POWER

**Cummins**
Shakti Saurabh

Vehicle thermal model

**AKKA**
Jan Fiala

**11:40/17:40/21:10**

**Linamar Corporation**
Bogdan Havrisciuc

A Simulation Study Showing the Efficiency Differences Between Direct Drive, Central Drive and eAxle Architectures for Medium Duty Commercial Vehicles

**Porsche Engineering Services-GmbH**
Vincenzo Bevilacqua

Development of a Concept to Achieve Lambda 1 for a High-Performance Spark Ignition Engine

**Robert Bosch Engineering and Business Solution Pvt LTD**
Shanmuka Reddy

Towing use case Simulation of a Bev with Limited Thermal Management

**12:00/18:00/21:30**

**Safran**
Cyril Gautier

Design sensitivity to voltage level and SiC MOSFET voltage range of Aircraft DC/AC active rectifier for PMSM generator

**University of Wisconsin-Madison**
Aravindh Babu

Stabilizing Gasoline Compression Ignition through Cylinder Deactivation

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DAY 2 - WEDNESDAY, OCTOBER 20 | First Session

Main Session | Session Chair - Jon Zenker
08:00/14:00/17:30  Jon Zenker, GT - Welcome and Opening Address
08:05/14:05/17:35  Philip Stephenson, PACCAR - Keynote address
08:20/14:20/17:50  Seokbin Hong, Hyundai - Multi-Domain Battery Electric Vehicle Modelling in GT-SUITE
08:50/14:50/18:20  Guillaume Baysset, Renault - Automated architectures generation and evaluation for Hybrid Vehicles (HEV) cooling system

Break

Mechanics | Session Chair - Greg Fialek
09:30/15:30/19:00  New Approach in Turbocharger Variable Turbine Kinematic Simulation
Garrett Advancing Motion  Juraj Pospisil

Controls / Calibration / Real Time | Session Chair - Daniel Schimmel
09:50/15:50/19:20  Implementation of a Real Time GT-POWER-ER-xRT Engine Model in Virtual Test Bench (VTB)

Thermal Management | Session Chair - Brad Holcomb
09:50/15:50/19:20  BEV advanced thermal architectures - global systemic-simulation to optimize vehicle performance, consumption & cabin comfort
Stellantis  Fabrice Chardel

GT Applications Sessions | 6 in parallel
10:30/16:30/20:00  Pump & Compressors - Rodrigo Aihara
Graphical Applications & GT-Automation - Pete Nyugen, Joe Wimmer, Kevin Ruggendorf & Jared Cromas
Mechanics - Jake How
Fuel Cell - Jared Cromas

Break

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DAY 2 - WEDNESDAY, OCTOBER 20 | Second Session

11:00/17:00/20:30

**xEV Modeling**
Session Chair - Jon Zeman

Simple Comparison of Solutions for GHG Reduction in Transport
Jan Macek
Czech Technical University in Prague

**Engine Performance**
Session Chair - Tom Wanat

Air Intake System Optimization for Intake Orifice Noise and Stringent Transmissions Loss
Subi Mandal
Integrated Simulation Technologies Pvt Ltd

**Lubrication**
Session Chair - Gautham Ramachandran

Sensitivity analysis of Oil pump relief valve and Piston cooling nozzle sizing for heavy duty diesel engines
Chinamay Damle
Kirloskar oil engines limited
Pune

11:20/17:20/20:50

Evaluation of concept and calibration of alternative heavy-duty power trains under real working cycles
Marian Menning
IAV GmbH

Tailored Air-Handling-System & Variable Valve Strategy Development for Low-NOxGasoline Compression Ignition in a Heavy-Duty Diesel Engine
Praveen Kumar
Aramco Americas

11:40/17:40/21:10

Mild Hybrid Electrification in Heavy Duty Trucks
Ömer Akyünci
Ford Otosan

Assessment of virtual calibration potential for last generation of automotive Common Rail diesel engines
Federico Millo
Politecnico di Torino

Standardization of Bearing Modelling Approach for Crankshaft (Mechanical) and Lube (Flow) Bearing Analysis
Alankar Motade
Cummins

12:00/18:00/21:30

Comprehensive and Real Time Simulation for eVTOL Aircraft-Diagnosing coupled airframe-propulsion dynamic instabilities
Matthew Hasbun
Advanced Rotorcraft Technology, Inc

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DAY 3 - THURSDAY, OCTOBER 21 | First Session

Main Session | Session Chair - Jon Zenker

08:00/14:00/17:30 Jon Zenker, GT - Welcome and Opening Address
08:05/14:05/17:35 Christian Appel, Nikola Motors - Keynote address
08:20/14:20/17:50 Leon Löwered, CEVT - Holistic Thermal/Energy Management in EV's; Results and possibilities with the aim of not limiting your solution
08:50/14:50/18:20 Andrew Lee, GT - Faster Simulation Results via Parallel Computing in the Cloud

09:25/15:25/18:55 Break

Battery Performance & Thermal Management Session Chair - Joe Wimmer

09:30/15:30/19:00 Battery cell and pack design for electric vehicle applications
Chalmers University Majid Astaneh

09:50/15:50/19:20 Identifying the Optimal Thermal Conditions for Li-Ion Cells under Real World Aging & the need for Adaptive BTM
Valéo India Private Ltd Vignaesh Subramaniam

10:10/16:10/19:40 Synergetic application of 0/1/3D-CFD simulation approaches for the development of hydrogen-fuelled spark ignition engines
Politecnico di Torino Federico Millo

Hydrogen Combustion Session Chair - Kevin Roggendorf

09:30/15:30/19:00 Predictive Methodology for Hydrogen Combustion Engine Performance within GT-Suite
Daimler Truck Amer Avdic

KEYOU David Leimann

10:10/16:10/19:40 Fast 1D Solution of Hydraulic Systems with Fully Coupled Thermo-Hydro-Mechanical Interactions
Gamma Technologies Stephan Weber

GT Applications Sessions | 6 in parallel

10:30/16:30/20:00 Hydraulics & Lubrication - Gautham Ramchandran
- Web Applications with GT-Play - Zhenhua Huang & Nicolas V./ Francois B.

10:50/16:50/20:20 Break

Fuel Systems & Hydraulics Session Chair - Nils Framke

09:30/15:30/19:00 Prediction of filling capacity of an automotive fuel tank
Mercedes-Benz Research & Development India Pvt Ltd Atchyut Gullapalli

09:50/15:50/19:20 Exhaust Aftertreatment - Jon Brown
Politecnico di Torino Federico Millo

10:10/16:10/19:40 Acoustics & NVH - Llorenç Gomez

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DAY 3 - THURSDAY, OCTOBER 21 | Second Session

11:00/17:00/20:30

**Battery Performance & Thermal Management**
Session Chair - Peter Stopp

Electro chemical Modeling to Thermal Analysis of a High Capacity Lithium-Ion Battery Pack

Volvo AB
Masih Khoshab

**Combustion**
Session Chair - Kevin Roggendorf

Analysis and Optimisation of Prechamber Combustion Systems with GT-Suite

Mahle Powertrain
David Gurney

**Component Thermal Analysis**
Session Chair - Dig Vijay

Electric compressor for EV applications - Detailed 3D thermal analysis of E-motor

Sanden
Olivier Deroellepot

11:20/17:20/20:50

System-level battery pack modeling for thermal simulations of large battery packs in electric vehicles using GT-SUITE

Chalmers University of Technology
Anandh Ramesh Babu

1D Thermodynamic Simulation Modelling of a 6-Cylinder Diesel Engine for Fuel Economy Improvement

Ashok Leyland
Sai Kiran

Electric compressor for EV applications - Detailed 3D thermal analysis of E-motor

Sanden
Olivier Deroellepot

11:40/17:40/21:10

Investigating Lithium-ion Battery Performance with an Electro chemical-Mechanical Model

University of Michigan, GT
Joe Solomon

E-Fuels for passenger cars: analysis with GT-Suite to investigate fuel efficiency and air pollutants

German Aerospace Centre
Ines Osterle

Development and calibration of GT compound model of oil cooled Bolt BEV motor to consider 3D thermal effects

General Motors
Xiaofeng Yang

12:00/18:00/21:30

New calibration procedure of Kinetics Fit and its test while varying engine control parameters

Ecole Centrale de Nante
Georges El Hajj

Note: The above agenda schedule is in the preliminary stage and might be subject to changes.
<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME (EDT)</th>
<th>SEMINAR TOPICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fri, Oct 22</td>
<td>03:30AM - 06:00AM</td>
<td>Vehicle and xEV</td>
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<tr>
<td>Fri, Oct 22</td>
<td>09:30AM - 12:00PM</td>
<td>Vehicle and xEV</td>
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<tr>
<td>Mon, Oct 25</td>
<td>03:30AM - 06:00AM</td>
<td>Battery Modeling with GT-SUITE and GT-AutoLion</td>
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<tr>
<td>Mon, Oct 25</td>
<td>09:30AM - 12:00PM</td>
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<tr>
<td>Tue, Oct 26</td>
<td>03:30AM - 06:00AM</td>
<td>Thermal Management Systems and Component Modeling</td>
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<td>Tue, Oct 26</td>
<td>09:30AM - 12:00PM</td>
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<tr>
<td>Wed, Oct 27</td>
<td>03:30AM - 06:00AM</td>
<td>Detailed Pumps, Compressors and Expanders</td>
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<tr>
<td>Wed, Oct 27</td>
<td>09:30AM - 12:00PM</td>
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<tr>
<td>Thu, Oct 28</td>
<td>03:30AM - 06:00AM</td>
<td>Mechanical Dynamics and Predictive Friction</td>
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<tr>
<td>Thu, Oct 28</td>
<td>09:30AM - 12:00PM</td>
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<tr>
<td>Fri, Oct 29</td>
<td>03:30AM - 06:00AM</td>
<td>Collaboration with GUI and Web Interfaces</td>
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<td>09:30AM - 12:00PM</td>
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<td>Tue, Nov 2</td>
<td>04:30AM - 07:00AM</td>
<td>Advances in Thermal Management for XIL</td>
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<td>Tue, Nov 2</td>
<td>09:30AM - 12:00PM</td>
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<tr>
<td>Wed, Nov 3</td>
<td>04:30AM - 07:00AM</td>
<td>Use of GT-POWER-xRT for Hardware-, Software- and Model-in-the-Loop Development</td>
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<tr>
<td>Wed, Nov 3</td>
<td>09:30AM - 12:00PM</td>
<td>Use of GT-POWER-xRT for Hardware-, Software- and Model-in-the-Loop Development</td>
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<tr>
<td>Thu, Nov 4</td>
<td>04:30AM - 07:00AM</td>
<td>Hydraulics and Lubrication of Powertrains and Vehicles</td>
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<td>09:30AM - 12:00PM</td>
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<td>Fri, Nov 5</td>
<td>04:30AM - 07:00AM</td>
<td>Thermal Management: HVAC and Cabin Comfort</td>
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<td>09:30AM - 12:00PM</td>
<td>Thermal Management: HVAC and Cabin Comfort</td>
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<td>Mon, Nov 8</td>
<td>03:30AM - 06:00AM</td>
<td>Addressing NVH Challenges in Electric Powertrains</td>
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<td>09:30AM - 12:00PM</td>
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<td>Fri, Oct 22</td>
<td>03:30AM - 06:00AM</td>
<td>Combustion Modeling in GT-POWER &amp; ACT</td>
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<td>09:30AM - 12:00PM</td>
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<tr>
<td>Mon, Oct 25</td>
<td>03:30AM - 05:00AM</td>
<td>New Features of Exhaust After treatment Modeling</td>
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<td>Mon, Oct 25</td>
<td>09:30AM - 11:00AM</td>
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<tr>
<td>Wed, Oct 27</td>
<td>03:30AM - 06:00AM</td>
<td>Advancements of Fuel Cell System Modeling</td>
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<td>Electric Powertrain modeling with PowerForge and GT-SUITE</td>
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Presentation Days - OCTOBER 19 - 21:
Technical presentations will be held over multiple half-day sessions, with presentations held in the PM for attendees in Europe and India and in the AM for attendees joining from North America. Check back later for more detailed agenda information for the various-presentation sessions.

Seminar Days - OCTOBER 22 - NOVEMBER 8:
Learn how GT-SUITE solves unique challenges in a wide range of applications including full vehicle modeling, battery simulation, virtual calibration, and more! During these days, we will host a series of seminars on specific applications, each lasting 2-3 hours.

Scan the QR code or click the link below to register for the event

https://globalgtconference2021.gtisoft.com/home