

# Automotive Body Optimization Workshop

## Automotive Body Optimization using GENESIS & Design Studio

### What will be covered:

- Overview of GENESIS Software Features and Capabilities
- Optimization Techniques to Improve Torsional Rigidity of Car Bodies
- Methods to Improve Bending/Torsion/Selected Natural Frequencies of Car Bodies
- Tracking Specific Modes for Improvement
- Finding Optimal Locations for Reinforcements and/or Bead Patterns
- Techniques to Obtain Design Targets
- Importance of Inertia Relief in Topology Optimization
- Incorporating Manufacturing Constraints into the Car Body Design
- Optimizing for Crashworthiness: Coupling GENESIS with LS-DYNA
- Use of Design Studio for Easy Pre and Post Processing

### About:

GENESIS is a fully integrated finite element analysis and design optimization software package, written by leading experts in structural optimization. Shape, sizing, topography, topometry, and topology optimizations are available to the user.

Design Studio for GENESIS is a design oriented pre- and post-processor graphical interface for GENESIS. Design Studio allows users to display finite element models and to easily create GENESIS design data. It allows users to display analysis as well as optimization results.

### Registration Information

If you have any questions regarding the workshop content, please contact [Phani Adduri](mailto:padduri@vrand.com) (e-mail: [padduri@vrand.com](mailto:padduri@vrand.com)) (phone: 248-596-1611 x101) or for registration questions please contact [Jennifer Krejci](mailto:jennifer@vrand.com) (email: [jennifer@vrand.com](mailto:jennifer@vrand.com)) (phone: 719-473-4611 x100). Early registration is encouraged due to limited seating.

### Cost:

FREE

### Location:

41700 Gardenbrook, Suite 115, Novi MI 48375

