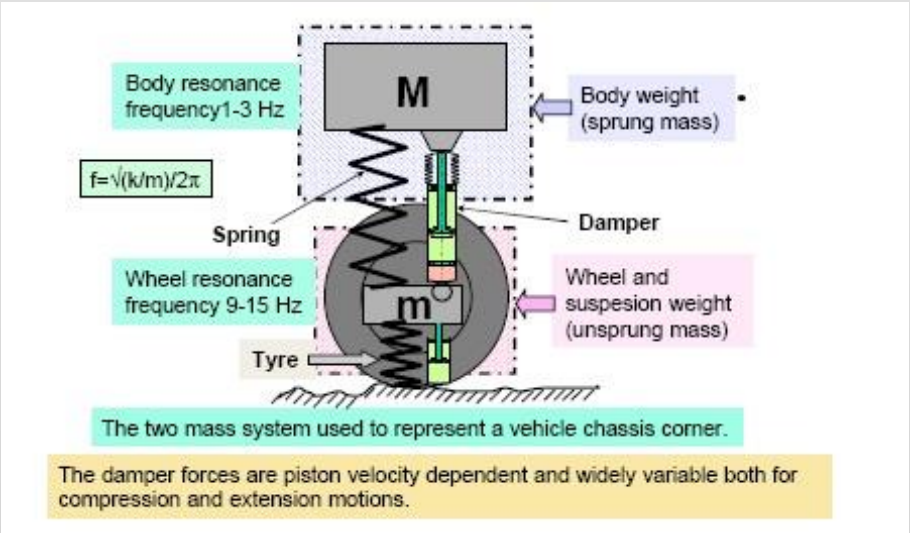
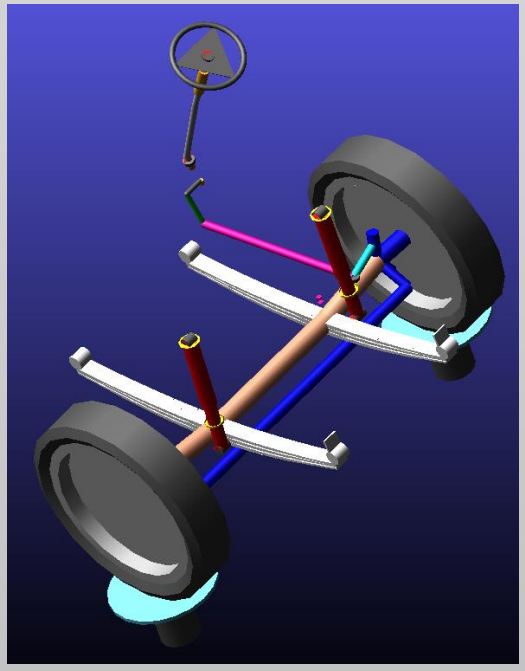
SAEINDIA
SOUTHERN SECTION

SAEINDIA Southern Section Toptech Program





Automotive Suspension Systems

On 15th & 16th December 2017

at Hotel Ambica Empire, Chennai

Time: 9.00 A.M to 5.00 P.M

About the Course

This course takes the Participants through suspension design and development from concepts to calculations. It would cover almost all facets of suspension design and development. Course would be through instruction and case-studies. There would be Q&A sessions at the end of every session. The participants are encouraged to bring their own problems for discussions.

Course Objectives

Indian customers have become discerning. Vehicle attributes are now being sought for, even in a commercial vehicle scenario. Suspension systems in automobiles play an important role in several fronts – to assure safe handling of vehicles, provide good ride comfort and make sure that people and goods are safely transported. There are lots of options available today in terms of suspension configuration and design. However, it takes engineering experience and acumen to decide the most appropriate one that offers the right characteristics in a cost-effective manner. For example, suspension design philosophy for passenger transportation differs from goods application. This program is designed to comprehensively offer the underpinnings of suspension design and application so that engineers are provided a platform from which advanced study becomes easy.

Benefits of Attending the Course

The course is offered by an experienced professional who has understood automobiles from various perspectives over the last four decades. Practical and real life scenarios with interesting case studies would benefit both the experienced as well as novice engineers. The two days of lecture would cover almost all facets of suspension design and development, starting from simple concepts leading all the way up to state-of-art numerical simulations. The course would be suitable for engineers aspiring to specialize in suspensions as well as experienced professionals and managers who are eager to know as to “what is next” in this field.

Course Content

Day 1:

Fundamentals of Design and Analysis

Introduction to various suspension types, applications, interface with other automotive aggregates, deep dive into components such as springs, shock absorbers, anti-roll bars, etc., design challenges typical in suspension design and development, packaging considerations, state-of-art CAD and CAE (FEA, MBD, etc.) methods, hand calculations.

Day 2:

Analysis and Computations, Case studies, Q&A session

Ground up suspension development from a vehicle perspective, suspension parameters such as caster, camber, toe, bump steer, brake steer, etc., testing and validation methods, materials used in suspension, surface treatment methods such as shot peening, heat treatment, bolts and other fasteners, suspensions and tire-wear, failure modes, new and alternate materials, Case-studies, vendor interface, basics of value engineering. Emerging concepts – semi-active, active, electronic controls, stability, magneto-rheological fluid, etc.

Who should attend?

Students and Fresh graduates who are working in automotive Industry, Senior Engineers in consulting firms who are expected know the concepts would get benefitted. This program is designed for practicing engineers as well as academic community. Basic knowledge of automobile engineering would be preferable to quickly get acclimatized with the contents of the lecture. Engineers working in vehicle Engineering, Suspension Engineering, subsystems and component design, verification and validation will find this program very useful. Design team leaders and managers, Faculty Members of academic Institutions will also find this program highly beneficial.

Course Faculty:

Mr. B. Balaji

Around four decades of experience in almost all facets of Commercial Vehicle design and development defines Mr. Balaji.B as a professional. Armed with a B.E. Mechanical Engineering degree from College of Engineering Guindy, Anna University, tempered with a PG Diploma in Marketing Management, Balaji has served Ashok Leyland in various capacities, and Recently Retired as General Manager, Product Development at the Technical Centre located in VellivoyalChavadi, Chennai. In this role, Balaji offered the last line of development process through rigorous vehicle Validation methods on and off roads that have rendered Ashok Leyland vehicles as the most reliable in the market.

In several engineering domains ranging from vehicle design, analysis and testing, Balaji has been reckoned as a domain leader. His role in the then fledgling design and engineering services domain of the Hinduja Group exposed him to the Japanese way of vehicle development. In the Product Development department, Balaji has been acknowledged as a technology expert and mentor, and has been a permanent member of the engineering review committees.

While Balaji synergized Computer Aided Engineering and Physical testing in the organization, he is regarded as an expert in various domains such as Thermal Systems, Cooling, Air Induction, HVAC, Vehicle Dynamics, Suspension and Steering Systems Engineering, Vehicle and Component testing, Failure Analysis, Product Benchmarking and Value Analysis & Value Engineering.

With his engineering depth coupled with clarity of communication is fortified by his love to share what he learned, he has guided scores of young engineers at undergraduate and postgraduate levels. Under his tutelage, a bunch of young engineers were motivated to file for three patents in Vehicle Suspension and Thermal Systems development. Balaji has co-authored a number of technical papers in national and international conferences such as SAE, KULI user conference, NPDC and Vehicle Expos on vehicle dynamics, on thermal systems and suspension System. He is a sought-after speaker in both technical as well as philosophical subjects. He has presented papers and conducted technical sessions and workshops in SAE Top Tech Programs, CVRDE, CIRT, Mahindra Research Valley and dozens of engineering institutions.

About SAEINDIA Southern Section

SAEINDIA Southern Section is a premier society that serves the cause of mobility engineering. It is a unique society that includes professional engineers who serve different OEMS and Suppliers, academia as well as budding engineers who aspire to be part of the professionally attractive field of mobility engineers. We believe that Mobility Engineering is a knowledge rich field and that learning and sharing can be fun and rewarding. To this end, SAEISS organizes several events throughout the year, runs programme that enrich and engage and conducts lectures and symposia. It is a part of SAEINDIA.

SAEINDIA is a Premier Professional society that serves the Mobility Engineering Community engaged in the design, manufacture and service of self-propelled vehicles and systems that move in land, sea, air and space. It is an affiliate society of SAE International which is head quartered in USA and has a glorious record of over 100 years of service to the mobility community.

About Toptech Program

Theory Content

- Explaining the basic concepts
- Relating to physical products / parameters
- Analysis tools and Application
- Graphic representations
- Reference to more reading material

Application Content

- Case studies from industry

Benefit of the Participant

Benefit of the Participant	Non-Member	Member	Faculty Advisor
	₹ 13,000	₹ 10,000	₹ 4,000
Free Membership with Magazine	Yes	No	No
Discount for next program	Yes	No	No
Course materials with Softcopy	Yes	Yes	Yes
Networking Lunch with Tea & Snacks	Yes	Yes	Yes
Delegate Kits (File, Notepad, Pen)	Yes	Yes	Yes
Certificate	Yes	Yes	Yes

Please Note: Including Tax

Pay course fee through DD/Cheque or Transfer to our account

Name of the account holder	**SAEINDIA Southern Section Toptech**
Bank Account Number	**32506111653**
Bank Name & Branch	**State Bank of India, Kottur, Chennai**
MICR Number of the Bank	**600002023**
IFSC Code of the Bank	**SBIN0001669**
PAN No.	**AABAS2734H**

Please send the completed registration form along with cheque / demand draft drawn in favour of **"SAEINDIA Southern Section Toptech"** payable at Chennai

TOPTECH

SAEINDIA
SOUTHERN SECTION

RUNNING INTO FUTURISTIC AUTOMOTIVE WORLD

DELEGATE REGISTRATION FORM

Name _____

Designation _____

Company/College _____

Address _____

_____

_____

E-Mail ID _____

Telephone _____

Mobile _____

_____

Signature

Dr. N. Kulasekharan/**Toptech Program Champion**

To Contact

Mr. N. Swaminathan

SAEINDIA Southern Section

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E-mail Id: toptech@saeiss.org; Website: www.saeiss.org

Regular Participants to SAEISS TOPTECH from

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IP Rings Ltd.

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JOHN DEERE

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GM

Continental

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Simulating Reality, Delivering Certainty

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