

Fatigue Analysis: CAE Based Random Response

With a particular emphasis on automotive, aerospace, rail & heavy-duty ground
transportation systems

TORINO, 12/03/2018

Summary: **EXEMPLAR** in collaboration with **Dr Neil Bishop** will present the technical and practical background needed to implement the latest advances in random response analysis and fatigue/durability calculations including advanced mixed loading techniques (mixed random, deterministic and mean loads), large system modeling (virtually unlimited model sizes), large multiple input systems with correlation, and the latest stress and fatigue analysis methods not available elsewhere. The theoretical aspects of the course will be interwoven with hand calculations and computer demonstrations of the techniques.

AGENDA

- 14: 00 Exemplar welcome & introduction
- 14:30P What is the Frequency Domain and Why We Should Use It?
- 15:00PM: CAE fatigue VIBRATION – A New Way of Doing Random Response and Fatigue with Particular Reference to Multi Input.
- Coffee break
- 15:30PM: Single Input Base Shake Example Fatigue and Collisions Detection – Exhaust Model.
- 16: 00 : Multi Input – Multi Event Example – Full Vehicle.
- 17:00: Close and Q&A

Exemplar: Our works in the sector of innovative societies and in the field of virtual simulation developing vertical tools software. We sell products for CAE offering added-value services, courses on tools and methods and developing dedicated software. The Seminar, focused on Fatigue Analysis, has organized together with **Dr Neil Bishop**. He has been teaching fatigue life estimation techniques and dynamics to undergraduates, postgraduates and design engineers for the last 20 years. His teaching style reflects the philosophy that dynamics analysis and fatigue life estimation techniques (and FEA) should be accessible to all design engineers, not just the specialists. Dr. Bishop also has a vast experience of industrial problems, and solutions, through his (worldwide) experiences with major automotive, aerospace, and other major industrial companies. He co-authored the NAFEMS publication "Finite Element Based Fatigue Calculations". He recently directed an R&D project for the US Air Force dealing with acoustic fatigue.

Registration: e-mail: exemplar@exemplar.com i

indicating Name, Company, E-mail Address, Telephone and Cell Phone number for contacts; OR call 011.435051.

Participation Fee: none.

Location: Hotel NH Torino Centro - Area: City Center - Address: C.so Vittorio Emanuele, 104 Turin - Italy (zip 10121)

How to arrive to NH Torino Centro

Directions from the Torino Airport - Caselle

Aerobus shuttle: Take the SADEM bus that links the city centre and Turin Airport. Get off at Porta Nuova railway station and then take the underground toward Fermi for 2 stops. Get off at Vinzaglio stop. You will find the hotel 110 metres away.

From Porta Nuova railway station:

Take the underground toward Fermi for 2 stops. Get off at Vinzaglio stop. You will find the hotel 110 metres away.

Closest metro station: Vinzaglio

By car

The hotel's GPS Coordinates: 45.0678833°N 7.66534379999996°E

Parking cannot be reserved in advance. Indoor.