



Steel Structures

Fatigue Analysis, Design and Application

Fatigue of steel members and connections can lead to damage to structures and potentially catastrophic failure. Fatigue failure can often be hidden from view and needs careful attention both in the design stage and fabrication stage to avoid issues. Whether it is in the mining or commercial building sectors, fatigue plays a part. For example, it has been stated that more than 75 percent of failures in welded components are due to fatigue. This seminar aims to provide attendees with an understanding of basis of fatigue analysis to AS 4100 and introduce other international design codes where the geometry is outside its scope.

Seminar Content

- Introduction to fatigue and durability
- The factors affecting fatigue life
- Physics of fatigue and the development of analysis methods
- Basis and application of AS 4100
- Application of FEA under AS 4100
- Intro to fatigue analysis to AS 1210 and ASME Section VIII, Div.2, Pt.5 Pressure Vessels
- Introduction to fatigue analysis - European and American structural codes
- Application of fatigue analysis to measured strain gauge data and FEA simulation results
- Fatigue strength improvement for weldments
- Case studies

Who Should Attend?

The suggested audience for this seminar includes; Designers, Structural Engineers, Mechanical Engineers, Welding Engineers, Forensic Engineers.

Presenter

Senior Mechanical Engineer at FE Consultants, **Patrick Meehan** specialises in the design of steel structures including tanks, pressure vessels and associated steel structures. He has designed many of these structures for industry ranging in complexity from simple analytical designs through to design by analysis using finite element modelling. This work has extended to both design for cyclic loading and investigations to determine the cause of fatigue failure and redesign for elimination of future issues.

12.00 pm for 12.30 pm start to 5.00 pm finish

Engineers attending this seminar may gain CPD points to meet Engineers Australia requirements.

EA Members who are not ASI members should email margritc@steel.org.au with current proof of membership to obtain the promotion code to access the EA Member reduced fee.

WTIA members who are not ASI members should contact margritc@steel.org.au with current proof of membership to obtain the promotion code to access the WTIA Member reduced fee.



Patrick Meehan

Seminar Package

Seminar Notes (PDF)

Afternoon Tea

Light lunch on arrival

Seminar Fee (incl GST)

\$350 ASI Member

\$425 WTIA/EA Member

\$495 Non-Member

Location	Date	Venue
Brisbane	Monday 20 November	Brisbane Convention & Exhibition Centre, Cnr. Merivale & Glenelg Streets, South Bank
Sydney	Tuesday 21 November	Rydges North Sydney, 54 McLaren Street, North Sydney
Melbourne	Wednesday 22 November	Pullman Melbourne Albert Park, 65 Queens Road, Albert Park
Adelaide	Tuesday 28 November	Education Development Centre, 4 Milner Street, Hindmarsh
Perth	Wednesday 29 November	Royal Perth Golf Club, Labouchere Road, South Perth

Register online at: <http://steel.org.au/events/asi-events>