

7th RESIDUAL STRESS WORKSHOP

31st March – 3rd April 2020
Bristol, UK



Lectures



Demonstrations



Visits



Networking

Learn about the latest developments and guidelines

FEA Modeling

X-ray

Synchrotron X-ray

Neutron Diffraction

Ultrasonic

Magnetic

Centre-hole drilling

Ring coring

Deep-hole drilling

Slitting

Contour

Sectioning

Sachs Boring

Objective:

Develop your understanding of the main residual stress measurement and modelling techniques through a series of lectures, laboratory demonstrations, facility visits and in-depth discussions.

Fully updated and new content for 2020, e.g. Additive Manufacturing

Book online now at: www.veqter.co.uk/events

“I like most the practical demos, theory and example applications (e.g. aerospace)”

“The lectures and practical workshops are excellent, with a chance to see the techniques in practice. I also enjoyed the visit to Oxford [ENGIN-X & JEEP]”

“I liked having access to the facilities and equipment, as well networking and learning from experienced people in a friendly environment”

Aim and Scope:

The importance of accurately accounting for residual stresses in component integrity assessments is well-known, and universally accepted. Equally, the need to validate numerical predictions of residual stress (RS) against high quality measurement data is now viewed as a necessity.

This four-day workshop will develop your understanding of the main residual stress measurement and modelling techniques enabling you to better define your test programmes, and interrogate and interpret the results as a well informed user. In facilitating this, acknowledged experts, leaders and pioneers in residual stress measurements and modelling will convey the basics, details and application “know how” of the most important and widely used techniques. The measurement and modelling aspects will then be brought together in a “case study” lecture to provide further insight.

The applicability and usefulness of the techniques in industrial problems will finally be considered, putting theory into practice and so helping you improve your project outcomes by learning from others.

Programme and Format:

The workshop is restricted to 30 delegates to ensure that core technical material may be delivered in a stimulating and lively environment at a personal level. Starting at 9.30am on Tuesday 31st March 2020 and finishing at 2.30pm on Friday 3rd April 2020, the workshop will be based around a series of 50-minute lectures and laboratory demonstrations, with no more than eight delegates in each lab group and will take place at the University of Bristol and VEQTER’s own laboratory. Delegates will be provided with a full set of bound course notes to aid their learning. The event dinner, which takes place mid-week, provides the opportunity to network informally with other delegates and speakers alike, to further support your workshop experience.

Lecture topics:

- Principles & Impact of Residual Stresses
- Incremental Centre-Hole Drilling
- Ring Coring
- X-Ray Diffraction
- Synchrotron Diffraction
- Neutron Diffraction
- Contour
- Slitting
- Deep-Hole Drilling
- Ultrasound
- Residual Stress Modelling
- Aerospace Applications
- Nuclear Power Applications
- Oil & Gas Applications
- Additive Manufacturing

Laboratory demonstrations:

- Contour
- Deep-Hole Drilling
- Incremental Centre-Hole Drilling
- Ring Coring
- Slitting
- Ultrasonic
- X-ray Diffraction

Facility visits:

- ENGIN-X (Neutron Diffraction)
- JEEP (Synchrotron Diffraction)



ENGIN-X and JEEP are the UK’s Neutron and Synchrotron Diffraction instruments located in Oxfordshire. The visits will provide a rare opportunity for delegates to view the facilities and appreciate the practicalities involved in carrying out these high energy diffraction techniques.



Expert Speakers:

Prof Chris Truman, University of Bristol
Principles & Impact of Residual Stresses

Dr Xavier Ficquet, VEQTER Ltd
Ultrasound

Dr Jeremy Robinson, University of Limerick
Applications within the Aerospace Industry

Dr Axel Steuwer, University of Malta
Neutron and Synchrotron Diffraction

Dr Andrzej Wojtas, Metlab
X-ray Diffraction

TBC

ICHD & Ring-Coring

Dr Cory Hamelin, EDF
FEA Modelling of RSMs

Dr Ed Kingston, VEQTER Ltd
Deep-Hole Drilling

Dr Miguel Yescas, AREVA NP
Applications within the Nuclear Industry

Dr Per Lindström, Linnaeus University
Applications within the Oil & Gas Industry

Dr Karim Serasli, VEQTER Ltd
Contour & Slitting

TBC

Additive Manufacturing

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To register, please visit:

www.veqter.co.uk/events

Venue and Accommodation:

The lectures and lab demonstrations will primarily take place within the University of Bristol's Queen's Building. Further lab demonstrations will be provided at VEQTER's facilities (transport will be provided).

Maps of the University and transport links can be found at:

The visits to ENGIN-X and JEEP at the Rutherford Appleton Laboratory in Oxfordshire will take place on Wednesday 1st April (transport will be provided).

Fees and Registration details:

- Registration before 14th February 2020
£1,500 +VAT
- Registration on/after 14th February 2020
£1,750 +VAT



Fees include:

- Informal evening reception on Monday 30th March 2020 at tbc
- Tuition and laboratory demonstrations
- A fully bound set of course notes
- All lunches and refreshments
- Transport to ENGIN-X, JEEP & VEQTER
- Event dinner at tbc

Accommodation is not included in the registration fee, however a list of hotels close to the University can be sent to you upon request.