

THE IMPACT DAMAGE, PROTECTION, SIMULATION AND EVALUATION EXHIBITION.

Institution of
**MECHANICAL
ENGINEERS**

Structural Technology and
Materials Group
Exhibition

28 November 2012
Bristol
www.imeche.org/events/S1734



**FEATURING
PRESENTATIONS
FROM ALTAIR,
ESI UK, SIMULIA
AND ANSYS**

Exhibitors



ARUP



WHY YOU SHOULD BE THERE

This gathering of the top simulation-software companies and validation-test houses provides an excellent opportunity to assess the latest and best tools available today.

The expo features companies displaying the latest ground-breaking analysis tools, as well as test techniques and practical advice on getting products to market.

The whole process will be covered, from initial concept to validation-testing and analysis to sales demonstrations of product capability.

This all-day exhibition will be supplemented by 4 presentations from industry experts.

These presentations will run parallel to the exhibition in a separate space.

If you're a customer, in one day you'll meet all the major software industry players eager to demonstrate the latest software simulation, testing and validation techniques.

You'll also see demonstrations on how to minimise the cost of test rigs and prototypes, in order to get the most out of the prototypes and testing you need.

BENEFITS OF ATTENDANCE:

- Customers can compare and quiz the top software and test-facility providers on capability, cost and availability
- Feed back your company's software needs to the organisations that build the packages
- Gain from hearing four presentations from top software companies, and join the exhibitors and your fellow delegates for a networking lunch

| | |
|--------------------|--|
| WHEN | 28 November 2012 |
| WHERE | BAWA, 589 Southmead Road, Bristol, BS34 7RG |
| BOOK ONLINE | www.imeche.org/events/S1734 |

PARTNER ORGANISATIONS

**Institution of
MECHANICAL
ENGINEERS**

Iom³
The Institute of Materials,
Minerals and Mining

NAFEMS

EXHIBITION OPPORTUNITIES

GET INVOLVED

Attending this event as either an exhibitor or sponsor will give you the opportunity to display your solutions, services and products to the right people at the right time.

This is an excellent way to enhance your company profile and communicate effectively to your target audience.

BENEFITS OF SPONSORING

- Showcase new products
- Raise awareness of your operation
- Improve perception of your brand
- Influence other organisations' spending plans

For sponsorship and exhibition enquiries, please contact **Jason Williams** on +44 (0)20 7973 1273 or j_williams@imeche.org



THIS EXHIBITION – AND ITS PARALLEL PRESENTATIONS – REPRESENTS A GOLDEN OPPORTUNITY TO FIND OUT WHAT THE TOP SOFTWARE AND TEST-FACILITY PROVIDERS ARE DOING TO MEET CUSTOMER'S NEEDS, AND DISCUSS COSTS, CAPABILITY AND AVAILABILITY.

RICHARD DAVEY

CHAIRMAN OF THE STRUCTURAL TECHNOLOGY AND MATERIALS GROUP, IMECHE

EXHIBITION 9:00-16:00

CONFIRMED EXHIBITORS INCLUDE:



Altair's HyperWorks CAE platform allows businesses to create superior, market-leading products efficiently and cost effectively.

ARUP

Oasys Ltd is the software house of Arup and distributor of the LS-DYNA software. The Oasys Suite of software, exclusively written for LS-DYNA, is at the leading edge of the pre- and post-processing markets and is used worldwide.



SIMULIA makes virtual testing a standard business practice that improves product performance, reduces physical prototypes, and drives innovation.

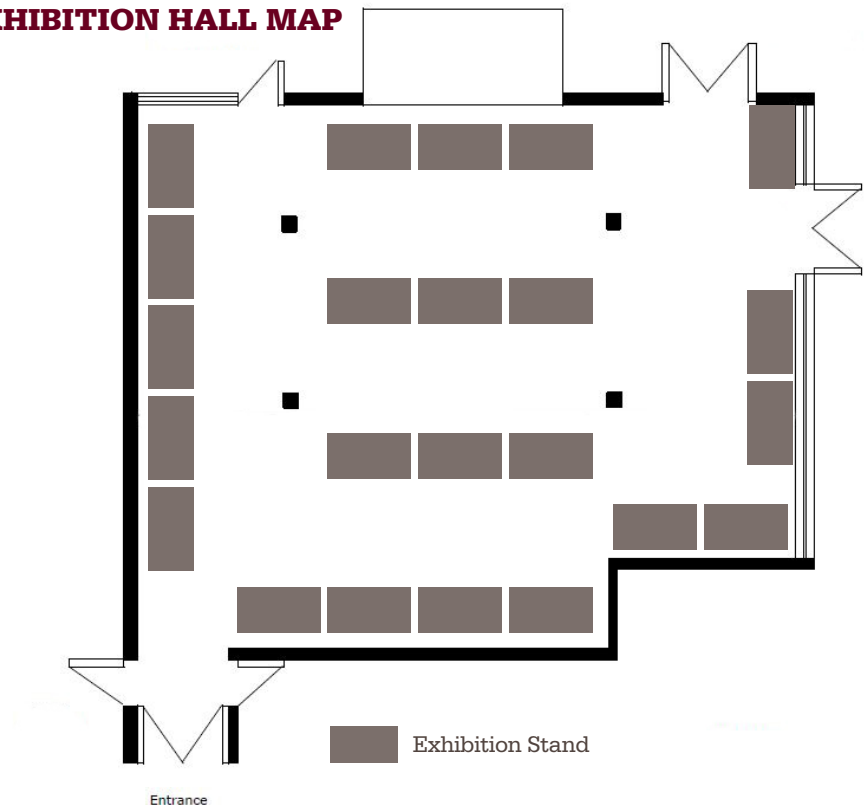


ANSYS brings clarity and insight to customers' most complex design challenges through fast, accurate and reliable simulation. Their technology enables organizations to predict with confidence that their products will thrive in the real world



ESI Group is a global supplier of end-to-end virtual prototyping software and solutions, incorporating the physics of materials for manufacturing industries. It provides virtual test applications and solutions to realistically simulate a product's behaviour.

EXHIBITION HALL MAP



BOOK YOUR EXHIBITION STAND

Contact Jason Williams

on +44 (0)20 7973 1273 or j_williams@imeche.org

SPEAKERS AND CONTRIBUTORS



PAUL SHARP

BENG CENG MIMECHE,
HYPERWORKS SPECIALIST - RADIOSS,
ALTAIR UK

Paul has 14 years of experience in the virtual simulation of non-linear events such as vehicle crash and impact.

DR RAJAB SAID

TECHNICAL BUSINESS DEVELOPMENT
MANAGER, ESI UK

Rajab has more than 20 years' experience in Computational Simulation. He has worked at Swansea University as Senior Research Assistant and Technical Manager at the Centre of Excellence at the Civil and Computational Engineering Centre.



ALEXANDER PETT

MENG AIMECHE,
ANSYS AUTODYN AND EXPLICIT
DYNAMICS SPECIALIST, ANSYS UK
Alexander has 5 years' experience in the use of ANSYS Explicit tools to simulate highly non-linear events such as ballistic impact, natural fragmentation and drop tests.

STEPHEN KING

SENIOR TECHNICAL SPECIALIST, SIMULIA
Stephen's previous experience includes BICC Supertension Cables, SIA computer services and HKS. He has been using and supporting the use of Abaqus software for over 30 years.

PRESENTATIONS (Optional attendance)

| | | | |
|--|--------------|--|--|
| | | TO RUN CONCURRENTLY WITH THE ON-GOING EXHIBITION | |
| WELCOME WEDNESDAY 28/11 | 10:25 | WELCOMING REMARKS AND OPENING ADDRESS | |
| | 10:30 | EXPLORING THE RESULTS CLOUD: HOW ROBUST ARE YOUR SIMULATIONS, HOW ROBUST IS YOUR DESIGN? Paul Sharp, BEng CEng MIMechE, Hyperworks Specialist - Radioss, Altair UK <ul style="list-style-type: none"> • What is the "Results Cloud" and does it matter? • Geometrical, physical and numerical sources of scatter • Best practice suggestions for analysts to explore results scatter in the explicit impact simulation domain • Considerations of how to "design in" simulation and test repeatability using a simple component example • Case study of an exploration into variability in a full vehicle crash test result | |
| | 11:00 | IMPACT SIMULATION AS A PART OF VIRTUAL PROTOTYPING Dr Rajab Said, Technical Business Development Manager, ESI UK <ul style="list-style-type: none"> • Integrating virtual manufacturing and virtual performance • Use of virtual models to simulate manufacturing, assembly processes, validate designs against standard tests, and to optimise performance in general • Case studies from automotive, aerospace and other sectors | |
| | 11:30 | CLOSE OF MORNING PRESENTATIONS Exhibition continues | |
| | 13:00 | LUNCH BREAK | |

| | | | |
|--|--------------|---|--|
| | 14:00 | REALISTIC SIMULATION OF IMPACT EVENTS Stephen King, Senior Technical Specialist, SIMULIA <ul style="list-style-type: none"> • Latest technology in Abaqus-unified FEA for high-speed impact events • Case studies: bird strike, composite crushing, damage and failure • Using new Abaqus Smooth Particle Hydrodynamic capabilities | |
| | 14:30 | SIMULATION OF HIGHLY-NONLINEAR, SHORT-DURATION TRANSIENT EVENTS (DROP TESTS AND BALLISTIC IMPACT) Alexander Pett, MEng AIMEchE, ANSYS Autodyn and Explicit Dynamics Specialist, ANSYS UK <ul style="list-style-type: none"> • Implicit codes are ill-suited in simulating these kind of events • The advantages of an explicit methodology • Simplifications and assumptions normally made • Additional material data needed for these high-strain-rate events, and getting hold of such data | |
| | 15:00 | CLOSE OF AFTERNOON PRESENTATIONS Exhibition continues until 4pm | |

Find out more about our speakers at www.imeche.org/events/S1734

- This programme is subject to change.
- The Institution is not responsible for the views or opinions expressed by individual speakers.

FORWARD THINKING

We are the market leader among professional engineering bodies. We've been supporting engineers since 1847 and have 100,000 members in over 120 countries, working in the world's most dynamic and important industries. Our comprehensive events programme brings you the latest research and best practice from industry and academia.

OTHER EVENTS TO LOOK FOR:

24 October 2012, Belfast

HOW TO SOLVE FRICTION, WEAR AND LUBRICATION PROBLEMS.

Understand the basics of wear, lubrication, contact mechanics and friction needed to find solutions to your wear and lubrication problems. Your opportunity to solve real-life challenges and learn more about FLW tools and methods.

www.imeche.org/events/S1690

1 November 2012, Manchester

RESIDUAL STRESSES: WHEN DO THEY MATTER?

Develop your knowledge of measurement by neutron diffraction methods. Understand the process of stress-relief cracking and share experience with practitioners and experts in the field.

www.imeche.org/events/S1712

21 November 2012, Southampton

TRIBOLOGY AT SEA.

How could you use tribological principles more effectively in marine environments? When at sea, only a few lubricated systems are considered a priority – so discover how better knowledge of tribology can improve how you work.

www.imeche.org/events/S1691

If you are interested in any of these events, please contact **Jason Williams** on +44 (0)20 7973 1273 or j_williams@imeche.org

FOLLOW OUR WEEKLY UPDATES ON WWW.IMECHE.ORG

JOURNALS

Professional Engineering Publishing is the publisher for the Institution of Mechanical Engineers. For more information about our magazines, journals and conference proceedings visit www.uk.sagepub.com/imeche

You may be interested in:

Journal of Materials Engineering
(Proceedings of the Institution of Mechanical Engineers, Part L).

IMechE members benefit from a significant discount on this publication and others.

To find out more contact **Subscriptions** on +44 (0)1952 214050 or email subscriptions@imeche.org

MEMBERSHIP

Whether you're a student, apprentice, graduate, qualified engineer or just have an interest in engineering, Institution membership offers the highest professional prestige. Professional registration is a valuable investment for any engineer who is serious about their career.

Find out which level you're best suited for at www.imeche.org/membership or email us on membership@imeche.org.

GET INVOLVED

Whether you're new to the profession or well established, volunteering is a great way to gain new skills, knowledge and experience. As an Ambassador you have the chance to represent your profession and give something back to the engineering community as well as inspiring the next generation.

See www.imeche.org/volunteering for more information or go to nearyou.imeche.org to find engineering events hosted by volunteers in your area.

One Birdcage Walk
Westminster
London
SW1H 9JJ

T +44 (0)20 7222 7899

www.imeche.org

**Institution of
MECHANICAL
ENGINEERS**

Improving the world through engineering

BOOKING FORM

STRUCTURAL TECHNOLOGY
AND MATERIALS GROUP
THE IMPACT DAMAGE, PROTECTION,
SIMULATION AND EVALUATION
EXHIBITION
28 NOVEMBER 2012
S1734

REGISTRATION Please complete in capitals.

| | |
|---------------------------------------|-----------------------|
| Family Name | Title (Mr, Mrs, Miss) |
| First Name | Job Title |
| Membership No | Institution |
| Name of Organisation (for name badge) | |
| Address for correspondence | |
| | |
| Town/City | |
| Postcode | |
| Contact Telephone | |
| Email | |
| Do you have any special requirements? | |
| | |

How did you hear about this event? ☐ Direct mail ☐ Website ☐ Colleague ☐ Other

FEES AND CHARGES Please complete the appropriate box.

Registration fees include entry to the sessions, refreshments, lunch, and a copy of the event proceedings.

| DELEGATE FEES | Fee | VAT | Total | £ |
|---------------|--------|-------|--------|-------|
| Delegates | £30.00 | £6.00 | £36.00 | _____ |

| EXTRA ITEMS | Fee | VAT | Total | £ |
|----------------------------------|--------|-------|--------------|-------|
| Invoice Charging (if applicable) | £10.00 | £2.00 | £12.00 | _____ |
| | | | Total | _____ |

PAYMENT DETAILS

Payment must accompany this registration form. Registration will be confirmed only on receipt of full payment.

Please indicate method of payment: ☐ Cheque ☐ Credit Card ☐ BACS ☐ Invoice (see below)

Cheques should be made payable to IMechE and crossed. Please note international delegates may pay only by credit card, BACS or banker's draft. A copy of the draft must accompany this form. It is the delegate's responsibility to pay any bank charges.

Credit Card: ☐ Visa ☐ MasterCard (please note we cannot accept American Express, Diners Club or Maestro)

| | | | | |
|---|------------|---|-------------|---|
| Card No | Valid From | / | Expiry Date | / |
| Name of Cardholder | | | | |
| Billing Address of Cardholder (if different from above) | | | | |
| | Postcode | | | |
| Amount to be Deducted | Signature | | | |

INVOICE DETAILS (UK DELEGATES ONLY)

Delegates wishing to be invoiced must provide an order number. If your company does not use order numbers please include a formal request for invoicing on your company's letterhead. A charge of £10 +VAT will be made to cover additional administration costs. Invoices are payable on receipt and no alterations to these terms will be accepted.

| | |
|--------------------------------|-----|
| Order No | |
| Contact Name | |
| Name and Address for Invoicing | |
| Postcode | |
| Tel | Fax |

BACS bank transfers can be made to: **IMechE Current Account, NatWest Charing Cross Branch.**
Sort code: **60-40-05** Acc No: **00817767** A copy of the draft must accompany this form.
Swift Code: **NWBKGB2L** IBAN Code: **GB96NWBK60400500817767**

For added convenience you can also book online at: www.imeche.org/events/S1734

Please complete and return this form to:
EVENT REGISTRATIONS
Institution of Mechanical Engineers
1 Birdcage Walk, London SW1H 9JJ
Fax +44 (0)20 7222 9881
For registration enquiries call
Tina Churcher on +44 (0)20 7973 1258
or email t_churcher@imeche.org

Please read the information listed below as each booking is subject to the Institution's standard terms and conditions.

CONDITIONS OF BOOKING
Completed application forms should be returned to the address above, along with the correct payment. Attendance at the event will be confirmed on receipt of the full balance. All participants are advised to bring a copy of their confirmation with them on the day, to ensure the fastest possible entry.

SPECIAL REQUIREMENTS
Please inform us of any special requirements, ie dietary or access, on the relevant section of this form.

CANCELLATION
For a refund (minus £25 +VAT admin charge), cancellations must be received at least 14 days prior to the event. Replacement delegates are welcome at any time. The Institution reserves the right to cancel any event. In this case, the full fee will be refunded unless a mutually convenient transfer can be arranged. In the event that the Institution postpones an event for any reason and the delegate is unable or unwilling to attend on the rescheduled date, they will receive a full refund of the fee paid.

The Institution is not responsible for any loss or damage as a result of a substitution, alteration or cancellation/postponement of an event. The Institution shall assume no liability whatsoever if this event is cancelled, rescheduled or postponed due to a fortuitous event, Act of God, unforeseen occurrence or any other event that renders performance of this conference impracticable, illegal or impossible. For purposes of this clause, a fortuitous event shall include, but not be limited to: war, fire, labour strike, extreme weather or other emergency.

Please note that while speakers and topics were confirmed at the time of publishing, circumstances beyond the control of the organisers may necessitate substitutions, alterations or cancellations of the speakers and/or topics. As such, the Institution reserves the right to alter or modify the advertised speakers and/or topics if necessary without any liability to you whatsoever. Any substitutions or alterations will be updated on the event's webpage as soon as possible.

SUPPORTING ORGANISATIONS
Members of supporting organisations can register at members' rates. See page 2.

VENUE
This event will be held at BAWA, 589 Southmead Road, Bristol, BS34 7RG.

LIABILITY
The organisers do not accept liability for any injuries or losses of any nature incurred by delegates and/or accompanying persons, nor for loss or damage to their luggage and/or personal belongings.

ACCOMMODATION
We have arranged special discounted rates at local hotels via the Corporate Team.
Tel: +44 (0) 20 7592 3050
E-mail: events@corporateteam.com
Quote ID Number: 8488
<http://www.corporateteam.com/events/8488>

ENQUIRIES
For event enquiries, please contact
Jason Williams
on +44 (0) 20 7973 1273
or email j_williams@imeche.org

The Institution of Mechanical Engineers is a registered charity (no 206882)
VAT No GB299930493.