



The  
**FILTRATION**  
Society

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# Principles of Industrial Filtration

**18 May 2011**

**A one day Short Course to be held at**

**The Heath Conference Centre,  
Runcorn, UK**

## **COURSE OUTLINE**

- 10.00 **Introduction - The Scope of Liquid Filtration**  
Overview of the course.
- 10.15 **Filter Media**  
Woven and non-woven fabrics, wirecloths and composites; properties and applications characteristics.
- 11.00 Break
- 11.20 **Principles of Sedimentation and Filtration**  
Sedimentation, clarification and cake filtration fundamentals (including compressible cakes), laboratory tests and their relevance to process scale filters, importance of correct filter media selection.
- 12.05 **Filter Cake Washing and Deliquoring**  
Fundamentals and applications principles of cake washing and cake dewatering (deliquoring).
- 12.50 **Discussion** Question and answer session.
- 13.10 Lunch
- 14.00 **Industrial Filtration Equipment**  
Overview of the technologies and principles of pressure and vacuum filters, and centrifuges.
- 15.00 Break
- 15.20 **Testing and Standards for Liquid Filtration**  
Test methods and standards that apply to filter media, liquid filtration, and filter applications.
- 16.10 **Selection and Simulation of SLS Equipment with Computer Software**  
Generic equipment types, approaches to selection and simulation, use of computer software (methodology, selection charts, and data analysis) showing simple and advanced procedures.
- 17.00 **Discussion - Question and answer session.**

This short course is a review of the processes involved in the separation of solids from liquids, which emphasises practical aspects and presents only that theoretical information which is essential to solving industrial problems. Many topics are covered in further detail in the following books:

Solid/Liquid Separation: Principles of Industrial Filtration, R.J. Wakeman and E.S. Tarleton, xii + 339 pages, Elsevier Advanced Technology, Oxford, 2005 (ISBN 1 8561 74190)

Solid/Liquid Separation: Scale-up of Industrial Equipment, ed. R.J. Wakeman and E.S. Tarleton, xvi + 454 pages, Elsevier Advanced Technology, Oxford, 2005 (ISBN 1 8561 74204)

Solid/Liquid Separation: Equipment Selection and Process Design, E.S. Tarleton and R.J. Wakeman, xv + 448 pages, Elsevier Advanced Technology, Oxford, 2007 (ISBN 1 8561 74212)

The Dictionary of Filtration and Separation, Steve Tarleton and Richard Wakeman, vi + 303 pages, Filtration Solutions, Exeter, 2008 (ISBN 978-0-9559346-0-5)

## COURSE PRESENTERS

Professor Richard Wakeman (richard@richardwakeman.co.uk) is a consultant chemical engineer with some 40 years experience of working with industry internationally. He is an Emeritus Professor of Chemical Engineering at Loughborough (UK) and a University Professor at Chun Yuan University (Taiwan). He has also been a Visiting Professor at Pardubice University (Czech Republic) and a Visiting Fellow at Mumbai University (India). He is the Honorary Secretary of The Filtration Society and a Fellow of the Institution of Chemical Engineers and the Royal Academy of Engineering.

Dr Steve Tarleton (e.s.tarleton@lboro.ac.uk) is a mechanical engineer and a Senior Lecturer in the Department of Chemical Engineering at Loughborough University, and has been Secretary of the EFCE Working Party on Filtration and Separation.

The presenters are internationally recognised experts who have both been Chairman of The Filtration Society. They have presented short courses in many countries and have experience of many varied industrial problems on most aspects of dry and wet filtration. They have co-authored several books and over 500 technical articles. Their work has been published widely and

recognised by many awards from the Institution of Chemical Engineers, The Filtration Society, and the Indian Institute of Chemical Engineers.

**The Heath Conference Centre**, Runcorn, is well served by a network of motorways and offers ample free car parking, and is within 20 minutes of Manchester and Liverpool International Airports.



## Other Filtration Society Events in 2011

- 7 June **Technical visit to BOC**, Brinsworth (Rotherham).
- 12 October **Media for Gas and Liquid Filtration** Chester, UK  
This Short Course will cover many aspects of the properties and characterisation methods for woven and non-woven filter media, together with testing methods and example applications.
- 13 October **Filter Media 5**, Chester, UK.  
This meeting will feature key elements of these developments, including the role of design of media, recent products grown from industrial R&D, and different modern filter media technologies in successful applications case studies. The continued development of filter media is key in many filtration processes and will be of particular interest to process engineers, designers, technical and R&D staff, research institutes and decision makers.
- 13 October **Annual General Meeting**  
This will follow immediately after the Filter Media 5 Conference.

**REGISTRATION FORM**

**'Principles of Industrial Filtration' Short Course  
18 May 2011.**

Name.....Company.....

Address.....

.....Post Code.....

Tel:.....Fax.....Email.....

**Short Course (18 May 2011)**

- £170** Member, student or retired     **£210** Non-member     **£35** Dictionary of Filtration and Separation (usual price £55)

Please send me information on membership of the Society:     Individual/student membership     Corporate Association

**PAYMENT METHOD**

- Cheque enclosed for £..... (made payable to The Filtration Society)                       Please invoice  
 Credit card – Please charge my Visa/Mastercard £.....      Security Code \_ \_ \_ (last 3 digits in the signature area of the card)

Card number    \_ \_ \_ \_ \_

Cardholder name.....                      Expiry..... (mmyy)

Signature.....

**Please send this form WITH PAYMENT (if applicable) to The Filtration Society, The Well House, West Hill Road, West Hill, Ottery St Mary, Devon, EX11 1UZ, UK. Or, fax the form to +44 (0)1404 814947 or email it to the Honorary Secretary at richard@richardwakeman.co.uk**

Charges include lunch, refreshments and copies of the proceedings. The Society regrets that it cannot refund the registration fee if registrants cancel within 2 weeks of the date of the meeting. Prior to that a 20% cancellation fee will apply.