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Please register me for  
**'Preserving Profits with Automation  
of Filtration Technologies'**

- £140 Non-member  
 £100 Member of The Filtration Society  
 £70 Student/Retired (proof required)

Please send information on membership of the Society:

- Student membership  
 Individual membership  
 Corporate Association

### Payment method

- Cheque enclosed for £.....  
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Please send or fax this form **WITH PAYMENT** to:  
**The Filtration Society, 5 Henry Dane Way, Newbold  
Coleorton, Coalville, Leicestershire LE67 8PP  
(fax +44 (0)1530 223124)**

*Cheques should be made payable to **The Filtration Society**.  
Charges include VAT, lunch and refreshments. A VAT invoice will  
be issued on receipt of payment. 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.*

## Preserving Profits with Automation of Filtration Technologies

This international one day seminar is for business managers and production people with financial objectives. The event will be held at the Heath Conference Centre in Runcorn, within easy access from Manchester International Airport.

Strategically all businesses are under pressure to reduce costs to be either more competitive and sell more product, or to increase profits to the stakeholders. If not under pressure to reduce costs, then the strategy could be to differentiate the product to a higher specification and quality, thus increasing the sales margin and profitability.

The operation of separations equipment can be labour intensive, with high consumables costs, and incorrect user operation or equipment malfunction may directly impact on process economics

AUTOMATION is a strategic competence for preserving and increasing profitability; the use of automation and instrumentation continues to develop rapidly. It is highly desirable to regularly question whether the best available technology (BAT) is being employed for not only controlling filtration and separation equipment in production processes, but also for the maintenance of this equipment.

This international seminar will review and discuss automation and control technologies applied to filter plant. Presentations will compare through case studies the impact of technology on better plant performance, reducing plant operating costs, reducing environmental impact, saving labour costs, and enabling timely interventions to avoid breakdowns and failures. All these factors lead to increased plant profitability.

**Attendance at Filtration Society meetings is open to all – members, non-members, and non-UK delegates. All delegates will receive a comprehensive set of bound notes. The meeting notes have proved to be very popular and are an up-to-date reference source. Places are limited for this meeting so early registration is advised.**



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<http://www.filtsoc.com>



# Preserving Profits with Automation of Filtration Technologies

4 October 2007

**A one day technical meeting  
and exhibition**

**to be held at**

**The Heath Conference Centre  
Runcorn**

**followed by  
The Filtration Society AGM**

## TECHNICAL PROGRAMME

- 9.00-9.30 Registration with coffee
- 9.30-9.35 Introduction
- 9.35-10.10 **Automation in Filtration Systems: How Telemetry can Improve Operating Margins**  
**Doug Harris, UK Manager, Scientific and Laboratory Services, Pall Industrial**  
The use of automation allows better planning of labour resource interventions or avoids unexpected process upsets. More sophisticated automation, in combination with the selection of the right separations technology, may reduce or eliminate the need for manual intervention in normal operation. At the highest level, systems can be augmented with remote monitoring and telemetry, allowing installations to send operating data and requests for assistance to a central location. Case studies will be presented to describe the various approaches taken, and outline some of the cost benefits that may be achieved both by the process owner and by the equipment vendor.
- 10.10-10.45 **Use of Conditioning Monitoring System to Achieve Enhanced Reliability and Optimal Efficiency of Separators and Decanters**  
**Raymond Smalley, Operations Manager, Westfalia Separator Ltd**  
Reliability of equipment is most important in the process industry; optimal utilization of production plants is achieved through maximum availability. The increasing complexity of machines calls for measuring methods that permit an objective assessment. Vibration diagnosis is one such method. It helps operators to diagnose damage at an early stage and enables them to initiate measures while the plant is still operative. Machine noise is measured by sensors and evaluated by a vibration monitor. This paper describes how the technology has been applied to optimise service intervals of separators and decanters to reduce downtime and maintenance costs, enabling corrective action, avoiding costly breakdown situations, and safely extending service intervals.
- 10.45-11.25 Coffee Break + visiting exhibition
- 11.25-12.00 **On-line Monitoring and Optimisation of Baghouse Filter Operations to Reduce Operating Costs and Minimise Particulate Emissions**  
**William Averdieck, Managing Director, PCME Ltd**  
Improvements in reducing particulate emissions are achieved by fitting high performance baghouse filter dust collectors. Emissions are highly abated provided the baghouse filter operates to its design condition, and control aims to effectively monitor for changes in the conditions associated with filter leakage and bag rupture. This paper focuses on use of on-line Electrodynamic type particulate monitors to continuously monitor for changes in the performance of bag filters. Using a case study of tobacco processing, the paper documents how this information has permitted the operator to extend bag life and reduce the amount spent on replacement bags, and shows that continuous monitoring satisfies requirements resulting from PPC (UK), IPPC (Europe) and MACT (US) environmental legislation.
- 12.00-12.35 **Filter Cleaning Systems Control Efficiency**  
**Andrea Dotti, Product Manager, Tyco Environmental Systems**  
Reverse pulse fabric filter dust collectors represent considerable capital investment, but it is the running cost that becomes the concern of plant operators. Key operating costs include energy costs associated with operating the pulse cleaning system and dust collector fan, and the cost of replacement filter elements. Both energy and replacement costs are directly affected by the pulse cleaning system control. Optimisation of the control system through differential pressure feedback or hybrid systems results in reduced pulse cleaning cycles while maintaining the filter's design differential pressure, reducing the energy consumed, and increasing the filter life. This paper examines the types of filter cleaning system controls and their impact on the operating costs of the filter unit.
- 12.35-13.50 Lunch + visiting exhibition
- 13.50-14.25 **Computer Software for the Automated Specification of Solid/Liquid Separation Equipment**  
**Steve Tarleton, Department of Chemical Engineering, Loughborough University**  
Filter specification is often performed through rules-of-thumb and equipment is rarely specified without extensive laboratory and pilot scale tests. The lack of a standard approach may also lead to the poor specification and sizing of filters with the result that required production rates may not always be achieved. This paper details aspects of Filter Design Software<sup>®</sup> (FDS) software for the automated selection, analysis and simulation of solid/liquid separation equipment. The software was developed in collaboration with major companies to provide a comprehensive calculation, education and training tool. Using the capabilities and advantages of FDS, an example selection procedure will be demonstrated and the operation of a filter simulated.
- 14.25-15.00 **Pressure Filter Process Optimizers and Data Acquisition Systems (DAX)**  
**Lena Kaipia, Product Manager, Larox Corporation, Finland**  
The Larox Product Family includes a series of optional accessories for enhanced process control and optimization. This presentation will discuss the effects of these features on the performance of filters, mainly from the operational point of view. Process Optimizers are a selection of modules installed into the filter control unit. The user gets a filtering system with a tailor-made combination of functions. Process Optimizing modules (e.g. cake thickness measurement, filtrate conductivity monitoring or drying air flow control) optimize the filtration process, save raw materials or detect failures, giving better performance and lower operational costs. Remote access is realised via existing PC networks and secured Internet connections.
- 15.00-15.30 Tea break + visiting exhibition
- 15.30-16.05 **Automated Filtration Process for the Separation of Toxic Chemical Waste Products**  
**Peter Wirtz, General Manager, GKD Gebr. Kufferath, Geramny and Russell Kaschula, Managing Director, GKD (UK) Ltd**  
Automated filtration processes add value to products and processes by reducing costs. A chemical plant in Germany required a filtration process that would manage effluent contaminated with mercury. Automation was required to handle large volumes of this material collected from the process and from surface water from the surrounds of the production area. Minimum human intervention was a requirement due to Health & Safety issues. A fully automated GKD MAXflow filter system provided the solution with significant cost savings in both process costs and environmental impact. The customer was able to clearly calculate the rate of return from this filter process by taking into account process savings, waste disposal efficiencies and manpower reductions.
- 16.05-16.15 Meeting closure
- 16.15 The Filtration Society AGM