



heat transfer society

**HALF DAY CONFERENCE &
PRESIDENTS NIGHT**

17th NOVEMBER 2026

Dr.-Ing. Hans Ulrich Zettler, The Society President

**“Fooling with Fouling - Thirty Years of Trying to Understand,
Mitigate and Manage One of Heat Transfer’s Most Persistent
Problems”**

Fouling costs industry money, wastes energy, increases CO₂ emissions and keeps engineers busy cleaning heat exchangers. Yet, after decades of research, it remains one of the most persistent challenges in heat transfer. Why is it so difficult to predict, prevent and manage — and what have we actually learned?

Drawing on thirty years of experience in heat transfer research and industrial practice, this presentation explores the successes, failures and unanswered questions in our ongoing battle with fouling. From the limitations of traditional design assumptions to emerging approaches in surface modification, monitoring and mitigation, we will examine what works, what does not, and where the biggest opportunities lie.

Beyond the science, we will look at the real cost of fouling: lost production, higher energy bills, unnecessary maintenance and avoidable CO₂ emissions. Could better fouling management deliver significant economic and environmental benefits — and are we overlooking one of industry’s most practical opportunities to improve both?

Expect scientific insights, industrial lessons, a few uncomfortable truths and, inevitably, some humour. After all, thirty years of fooling with fouling teaches you one thing: heat exchangers rarely behave exactly as we would like — but perhaps we can finally learn to outsmart them.

www.hts.org.uk

If undelivered, please return to Simon Parsons, 25 Parkside Avenue, Bromley, Kent BR1 2EJ
Enquiries: David Norton, Tel: 01444 237575, Email: dnorton@bihl.com

HALF DAY CONFERENCE

“Local Sovereignty in Engineering AI: Building Secure, Bare-Metal RAG Pipelines for Proprietary Research”

Chris Hart - Graham Hart (Process Technology) Ltd

This presentation outlines the architectural transition from legacy document indexing to an autonomous, self-hosted Agentic Retrieval-Augmented Generation (RAG) pipeline for chemical engineering and heat transfer R&D. Operating entirely on-premise, the system addresses strict enterprise data privacy requirements and complex client NDAs. It details the journey from basic keyword searching and web interfaces to an advanced local ecosystem. By combining high-performance semantic retrieval with sub-agent execution loops, this setup bridges the gap between massive technical literature management and autonomous multi-step reasoning.

“Pushing the Boundaries of Heat Transfer: hiTRAN Enhancement from Boiling to Supercritical Flow”

Dr Peter Droegemueller – CALGAVIN LIMITED

Boiling heat transfer presents significant challenges in industrial heat exchangers, from extended subcooled heating zones and flow instabilities in thermosiphon reboilers to departure from nucleate boiling (DNB), transition boiling and mist flow in vaporizers. This presentation explores how hiTRAN wire matrix technology can overcome some of these limitations and extend equipment performance and operability.

Recent experimental research demonstrates substantial improvements in thermosiphon performance, including enhanced circulation stability and substantial increases in heat flux.

At the high vapour quality end e.g. in industrial vaporizer applications hiTRAN can mitigate the effects of transition boiling and mist flow.

Finally, the presentation looks ahead to the opportunities and challenges of heat transfer enhancement under supercritical conditions.

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“AI in Heat Transfer: What Works, What Doesn't and What's Next”

Francesco Coletti – HEXXCELL

Artificial intelligence promises to transform heat exchanger design, monitoring and operation, but which applications deliver meaningful benefits, and where do its limitations become critical? This presentation cuts through the hype to explain the role of AI in heat transfer engineering, examining what different approaches can achieve, where they struggle and how they relate to established engineering methods. Drawing on research and industrial case studies, it explores what makes AI useful in practice, how prediction accuracy affects operational decisions, and what it takes to turn promising models into measurable improvements in plant performance.

“Hydrogen Firing in Fired Heaters”

Jonathan Peters – BIH

BIH's presentation will examine the de-carbonisation strategies being considered in the refining industry with specific emphasis on the use of cleaner fuel gases and high hydrogen fuels in fired heaters

Program

1:00 pm - Welcome Drinks

2:00 pm - Half-Day Conference Opens

6:00 pm - Buffet Served

7:00 pm - The Society President

9:00 pm - Close

Sponsored by **HTRI**

Venue is **Barley Mow**, 104 Horseferry Rd, London SW1P 2EE

Nearest station: St James Park (Circle, District Line).

Please register your attendance: [HERE](#)

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Members are encouraged to share this notice with any colleagues or contacts who may have interest in this discussion.

Future events

- ❖ 19th March 2027, 61st HTS Annual Dinner - Grand Connaught Rooms, 61-65 Great Queen St, London WC2B 5DA.

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