

City University Short Course on Advanced Methods and Tools in Compressor Design

**Organised prior to the 4th International Conference
on Compressors and their Systems**

**03-04 September 2005
City University London**

Outline

This is a 2-day course for both new and established designers, design engineers, design managers and others involved in the production of positive displacement machines. In it, the role of research, throughout the entire design process, will be examined, together with methods and tools for the integrated, concurrent and fully parametrically oriented design of positive displacement compressors. It will also include a presentation of compressor development by a successful British company. Participants will be given the opportunity to evaluate new software, which integrates design tools and data for screw compressor development.

Objectives

- To help design engineers and managers develop their own methods to obtain the best results from their research in and development of positive displacement machines.
- To outline the importance of problem solving ability in design and to show how design skills can be increased with the help of design research.
- To present a newly developed integrated design tool which embodies all phases of the design of screw compressors and supports their fully parametric concurrent design.
- To give an outline of the methods and tools used for scroll compressor design by a successful British company.

Structure

Saturday, 3 September 9,00-16,00

- Briefing
- Increasing the intelligence of designing by design research
- Basic principles and methods used for the design of screw compressors
- Introduction and historical background to the design process in scroll compressor industry
- Coffee breaks and Lunch

Sunday, 4 September 9,00-17,00

- Methods of design research with industrial examples and exercises
- Design Integration for Screw Compressors – theoretical background and its application, together with an example
- Design tools, operating envelopes and examples of successful designs of refrigeration compressors
- Coffee breaks and Lunch
- Tutorial on the use of DISCO software

- International Conference on Compressors and their Systems – Reception and early registration

Lecturers

Prof Dr. Imre Horváth,

Professor of Computer Aided Design and Engineering at the Faculty of Industrial Design Engineering of the Delft University of Technology in The Netherlands and the Director of Research of the Faculty. His primary research interests are in philosophical and theoretical aspects of design research, computer support of conceptual design, new system interfaces, vague discrete modelling of shape families, multi-physics-based behavioural simulation, free-form boundary prototyping, and formalisation and structuring of design knowledge. As an educator he is currently interested in computer applications in conceptual design, integrating research into design education, and teleconferencing-based active learning.

Dr Guy Hundy, FInstR, FIMechE, CEng

Previously Director, Application Engineering of Copeland Europe and currently President of the Institute of Refrigeration. He has extensive experience of design and its application to refrigeration compressors, with particular expertise in the field of compressor performance and efficiency in commercial refrigeration, air conditioning and heat pumps.

Dr Ahmed Kovacevic, MIMechE, CEng

Senior lecturer in Mechanical Design at City University in London. His main research interest is in the integration of computer aided design of positive displacement compressors, Computational Continuum Mechanics in Positive displacement machines, Research and development of Positive displacement compressors with the main focus on screw compressors. As educator he is interested in engineering and mechanical design principles, integration of design methods and tools by use of computers and the international collaborative educational programme.

Costs

The fee for the course is £300 for conference delegates and £400 for those attending course only.

The fee includes lecture materials on CD and in the paper form, refreshments, lunches and the evaluation copy of DISCO software with the training lesson.

For more information, and to express interest in attending the course, go to:

<http://www.city-design.tk/ShortCourse>