

used by the National Bureau of Standards in the USA. The results of this EEC intercomparison showed agreement of the order of  $\pm 0.1$  per cent.

The paper by Dr J. Gyory of Hungary was on tests carried out at the Vegyepszer works to determine the uncertainty of a prover's base volume. The paper could be seen to highlight the different approaches set by the American Petroleum Institute (API), the Physikalisches Technische Bundesanstalt (PTB) in Western Germany and the Hungarian Office of Measures. The latter's is based on a GOST standard of the Soviet Union. After hearing the presentation and discussion and studying the paper one is led to conclude that this subject deserves fresh consideration; proof of absolute accuracies of better than 0.1% cannot be demonstrated by the API method while that stipulated by the GOST standard requires enormous cost and time without substantial improvement

in the level of accuracy achieved. The author concludes that provers should be calibrated by 11 consecutive round-trip measurements and these must show a repeatability of  $\pm 0.02\%$  to combine with the rest of the checks if the upper limit of  $\pm 0.08\%$  at the statistical 95% level is to be achieved.

In addition to the paper sessions, there were technical visits, a Technical Committee meeting, and a superb autumn to ensure that this Hungarian conference was both a useful and a pleasurable event. Preprints in book form were made available to participants by the IMEKO Secretariat, Budapest; the Proceedings are to be published by Akademiai Kiado in Budapest with the support of the North Holland Publishing Co in early 1984.

The next FLOMEKO is now being planned for Melbourne in 1985.

E. A. Spencer




# CALENDAR

<b>International Conference on Flow Measurement in The Water Industry</b>	10-12 April 1984 East Kilbride, UK	P. Collier, Conference Organiser, National Engineering Laboratory, East Kilbride, Glasgow G75 0QU, UK
<b>Computational Methods in Design of Turbine Machinery (Rotating)</b>	10-12 April 1984 Birmingham, UK	The Institution of Mechanical Engineers, 1 Birdcage Walk, Westminster, London SW1H 9JJ, UK
<b>Second Symposium on Thermotechnical Measurements</b>	16-18 April 1984 Budapest, Hungary	MATE Secretariat, H-1372 Budapest, POB 451, Hungary
<b>Shell and Tube Heat Exchangers</b>	May 1984 New Jersey, USA	The Center for Professional Advancement, PO Box H, East Brunswick, NJ 08816-0257, USA
<b>Mathematics of Finite Elements &amp; Applications</b>	1-4 May 1984 Brunel, UK	The Secretary, The Institute of Computational Mathematics, Brunel University, Uxbridge, Middlesex UB8 3PH, UK
<b>5th International Heat Pipe Conference</b>	14-17 May 1984 Tsukuba, Japan	Professor K. Oshima, The Institute of Space & Astronautical Science, Komaba 4, Meguro-ku, Tokyo 153, Japan
<b>IEA Conference on Heat Pumps: Current Situation and Future Prospects</b>	22-25 May 1984 Graz, Austria	Dipl Ing Hochegger, Energiesparhaus Graz, 8010 Graz Peterstrasse 45, Austria
<b>29th International Gas Turbine Conference and Exhibit</b>	3-7 June 1984 Amsterdam, The Netherlands	International Gas Turbine Center, 4250 Perimeter Park South, Suite 108, Atlanta, GA 30341, USA
<b>World Conference on Thermal Analysis</b>	4-5 June 1984 Amsterdam, The Netherlands	Alena Enterprises of Canada, PO Box 1797, Cornwell K6H 5V7, Ontario, Canada
<b>5th IMACS International Symposium on Computer Methods for Partial Differential Equations</b>	19-21 June 1984 Bethlehem, PA, USA	Professor W. E. Schiesser, Dept of Chemical Engineering, Whitaker Lab 5, Lehigh University, Bethlehem, PA 18015, USA
<b>International Symposium on Two-Phase Annular and Dispersed Flows</b>	24-29 June 1984 Pisa, Italy	Paolo Andreussi, Dipartimento di Ingegneria Chimica, Universita di Pisa, Via Diotislavi 2, 56100 Pisa, Italy
<b>2nd International Symposium on Applications of Laser Anemometry to Fluid Mechanics</b>	2-4 July 1984 Lisbon, Portugal	Professor D. G. F. Durao, Department of Mechanical Engineering, Instituto Superior Tecnico, Avenida Rovisco Pais, 1096 Lisbon, Portugal
<b>NATO Advanced Study Institute: Natural Convection—Fundamentals and Applications</b>	16-27 July 1984 Izmir, Turkey	Dr S. Kakac, Department of Mechanical Engineering, University of Miami, Coral Gables, FL 33124, USA
<b>22nd ASME/AIChE National Heat Transfer Conference</b>	5-8 August 1984 Niagara Falls, NY, USA	ASME, 345 East 47th Street, New York, NY 10017, USA

<b>19th Intersociety Energy Conversion Engineering Conference</b>	19-24 August 1984 San Francisco CA, USA	Dr G. Graves, M/S 102, Los Alamos Science Laboratory, PO Box 1663, Los Alamos, NM 87545, USA
<b>12th Symposium of the International Association for Hydraulic Research—IAHR (Hydraulic machinery in the energy related industries)</b>	27-30 August 1984 Stirling, UK	Conference Section, National Engineering Laboratory, East Kilbride, Glasgow G75 0QU, UK
<b>10th International Conference on the Properties of Steam</b>	2-7 September 1984 Moscow, USSR	H. J. White, Office of Standard Reference Data, National Bureau of Standards, Washington DC20234, USA
<b>CHISA '84: International Congress of Chemical Engineering</b>	3-7 September 1984 Prague Czechoslovakia	Congress Secretariat, Attention: Dr J. Skarka, 8th Congress CHISA '84, PO Box 857, CS 111 21, Praha 1, Czechoslovakia
<b>9th European Thermophysical Properties Conference</b>	17-21 September Manchester, UK	Dr Roy Taylor, Department of Metallurgy, University of Manchester, Grosvenor Street, Manchester M1 7HS, UK
<b>International Conference on Direct Fired Heat Pumps</b>	19-21 September 1984 Bristol, UK	P. W. Fitt, Department of Mechanical Engineering, University of Bristol, Queen's Building, University Walk, Bristol BS8 1TR, UK
<b>Teaching Thermodynamics to Engineers</b>	20-21 September Cambridge, UK	Dr J. D. Lewins, University Engineering Department, Trumpington Street, Cambridge CB2 1PZ, UK
<b>2nd International Symposium on Large Scale Applications of Heat Pumps</b>	25-27 September 1984 York, UK	BHRA Fluid Engineering Centre, Cranfield, Bedford MK43 0AJ, UK
<b>Centrifugal Machinery Symposium (part of ASME Winter Annual Meeting)</b>	9-13 December 1984 New Orleans, USA	ASME, 345 E 47th Street, New York, NY 10017, USA
<b>Small Hydro-Power Fluid Machinery Symposium (part of ASME Winter Annual Meeting)</b>	9-13 December 1984 New Orleans, USA	ASME, 345 E 47th Street, New York, NY 10017, USA
<b>International Symposium on Cavitation Inception (part of ASME Winter Annual Meeting)</b>	9-13 December 1984 New Orleans, LA, USA	Dr Blaine R. Parkin, Applied Research Laboratory, PO Box 30, State College, PA 16801, USA
<b>Symposium on Multidimensional Fluid Transients (part of ASME Winter Annual Meeting)</b>	9-13 December, 1984 New Orleans, LA, USA	C. Samuel Martin, School of Civil Engineering, Georgia Institute of Technology, Atlanta, GA 30332, USA
<b>Unsteady Flow, Surge and Stall in Turbomachinery (part of ASME Winter Annual Meeting)</b>	9-13 December 1984 New Orleans, LA, USA	Dr D. Japikse, Concepts ETI Inc, PO Box 643, Norwich, Vermont 05044, USA
<b>Forum on Flows in Internal Combustion Engines (part of ASME Winter Annual Meeting)</b>	9-13 December 1984 New Orleans, LA, USA	Dr T. Uzkan, Electro-Motive Division of General Motors, Department 870, 9301 W. 55th Street, LaGrange, IL 60525, USA
<b>Forum on Unsteady Flows (part of ASME Winter Annual Meeting)</b>	9-13 December, 1984 New Orleans, LA, USA	Dr P. H. Rothe, Chairman, Forum on Unsteady Flows, Creare Incorporated, PO Box 71, Hanover, NH 03755, USA
<b>Mass Flow Measurements (part of ASME Winter Annual Meeting)</b>	9-13 December 1984 New Orleans, LA, USA	Dr T. R. Heidrick, Alberta Research Council, 11315-87th Avenue, Edmonton, Alberta 16G 2C2, Canada
<b>Symposium of Flow-induced Vibration (part of ASME Winter Annual Meeting)</b>	9-13 December 1984 New Orleans, LA, USA	Michael P. Paidoussis, Department of Mechanical Engineering, McGill University, 817 Sherbrooke Street West, Montreal, Quebec H3A 2K6, Canada
<b>International Conference in Advances in Numerical Methods in Engineering: Theory and Applications</b>	7-11 January 1985 Swansea, UK	J. Middleton, Department of Civil Engineering, University College of Swansea, Swansea SA2 8PP, UK
<b>30th International Gas Turbine Conference and Exhibit</b>	17-21 March 1985 Houston, TX, USA	International Gas Turbine Center, ASME Gas Turbine Division, Suite 108, 4250 Perimeter Park South, Atlanta, GA 30341, USA
<b>10th IMEKO Congress</b>	22-26 April 1985 Prague, Czechoslovakia	10th IMEKO World Congress Secretariat, House of Technology, Gorkeho nam 23, 112 82 Prague 1, Czechoslovakia
<b>1985 Fluids Engineering Conference (Joint ASME/ASCE Mechanics Conference)</b>	24-26 June 1985 Albuquerque, NM, USA	Fluids Engineering Division, ASME, 345 East 47th Street, New York, NY 10017, USA
<b>20th Intersociety Energy Conversion Engineering Conference</b>	19-23 August 1985 Miami, FL, USA	G. P. Townsend, United Technologies Corp., Windsor Locks, CT 06096, USA