

BULLETIN



BRITISH SOCIETY OF RHEOLOGY

1982, Vol. 25, No. 2/3

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Hon. Editor:

Dr. C. R. DIMOND,
Morgan Thermic Ltd.,
Technological Centre,
Bewdley Road,
Stourport-on-Severn.



FOREWORD

As this is my last issue before retirement from Council I would like to take this opportunity of thanking all those people who have contributed to the Bulletin over the past three and a half years. It is only with those people's help and effort that the Bulletin can continue to be published. I was only yesterday looking through the bound copies of the Bulletin and noticed the large increase in content from about 1963, from a few-page newsletter to a substantial document with some technical content. In view of the few people who do contribute to the Bulletin it made me wonder what form of Bulletin the membership as a whole would like to see. I'm sure my successor would, as I did, value correspondence and comment from the silent majority in the Society from both this country and abroad.

OFFICERS AND MEMBERS OF COUNCIL

President: PROFESSOR J. R. A. PEARSON, Department of Chemical Engineering and Chemical Technology, Imperial College of Science and Technology, London.

Secretary: DR. C. J. S. PETRIE, Department of Engineering Mathematics, University of Newcastle upon Tyne, Newcastle upon Tyne NE1 7RU (Telephone 0632-328511, Ext. 2230 — work, 0632-855131 — home).

Treasurer: MR. T. A. STRIVENS, Physics Section, Research and Development Department, ICI (Paints Division) Limited, Wexham Road, Slough, Berkshire SL2 5DS.

Membership Secretary: DR. D. C-H. CHENG, Warren Spring Laboratory, Stevenage, Hertfordshire SG1 2BX.

Abstracts Editor: DR. D. R. OLIVER, Department of Chemical Engineering, University of Birmingham, P.O. Box 363, Birmingham B15 2TT.

Bulletin Editor: DR. C. R. DIMOND, Morgan Thermic Ltd., Technological Centre, Bewdley Road, Stourport-on-Severn.

Ordinary Members:

DR. T. E. R. JONES, School of Mathematical Sciences, Plymouth Polytechnic, Plymouth.

DR. H. A. BARNES, Unilever Ltd., Port Sunlight, Cheshire.

MR. A. EVANS, Department of Surgery, Royal Victoria Infirmary, Newcastle upon Tyne.

M. J. ASTON, Department of Applied Mathematics, University College of Wales, Penglais, Aberystwyth.

DR. M. R. MACKLEY, Department of Chemical Engineering, University of Cambridge, Pembroke Street, Cambridge.

MR. B. ROBERTS, Pafra Ltd., Bentalls, Basildon, Essex.

**THE BRITISH SOCIETY OF RHEOLOGY
THE SOCIETY OF PETROLEUM ENGINEERS
(U.K. SECTION)**

SECOND CALL FOR PAPERS

The British Society of Rheology and the Society of Petroleum Engineers are planning a joint meeting on the subject:

“RHEOLOGY IN CRUDE OIL PRODUCTION”

The conference will be held at Imperial College, London, in the period 13th-15th April, 1983.

For the purpose of the conference, production refers to processes by which crude is taken from the earth and brought to the surface. It includes all aspects of the drilling of wells and of the driving of oil through the rock and up to the storage tanks. The following topics are of interest to both Societies:

- | | |
|-----------------------------------|--|
| — Drilling technology | — to include drilling fluids and casing cements. |
| — Flow through porous media | — to include multiphase flow and emulsion flow. |
| — Enhanced recovery | — to include polymer flooding, foam and emulsion drives. |
| — Well production and stimulation | — to include drag reduction and fracturing fluids. |

The organisers are seeking papers of a practical nature from those with direct experience of production methods as well as papers describing theoretical and laboratory work. It is expected that the majority of the practical contributions will come from members of S.P.E.

It is not intended to publish the papers officially so authors will be free to publish in journals of their choice. A booklet of abstracts will be presented to all registered participants and the same abstracts will be published in Rheology Abstracts.

Prospective authors should send a 100-word abstract, plus additional description if it will help the organisers make their choice, as soon as possible but no later than 1st November, 1982, to:

Dr. T. E. R. Jones (B.S.R.)
Department of Mathematics
Plymouth Polytechnic
Drake Circus
PLYMOUTH
PL4 8AA

British Society of Rheology
and
Deutsche Rheologische Gesellschaft
in association with
EFCE Working Party on Non-Newtonian Fluid Processing

CONFERENCE ON ENGINEERING RHEOLOGY

13-17 September 1983 (Provisional Dates)
Imperial College of Science and Technology
London, U.K.

SECOND CALL FOR PAPERS

This conference is conceived as the third in the series on Chemical Engineering Rheology. The first was held in Salford, U.K. (1974), and the second in Aachen, West Germany (1979).

The aim of the conference is to bring together research workers and industrial engineers concerned with the flow, transportation, handling and processing of rheologically complex materials, including the characterisation of flow properties for engineering applications.

Intended authors should send title and summary of proposed papers to:

Dr. D. C-H Cheng
Warren Spring Laboratory
(Ref: 116/43)
P.O. Box 20
Gunnels Wood Road
STEVENAGE
Hertfordshire
SG1 2BX
U.K.

as soon as possible. Formal abstracts will be required by 31st December, 1982.

Authors from West Germany and Continental Europe should send details to:

Prof. Dr. K. Kirschke
Deutsche Rheologische Gesellschaft
Unter den Eichen 87
D1000 Berlin 45
West Germany

The official conference language is English. The organising committee does not propose to publish the proceedings of the conference.

INTERNATIONAL WORKSHOP — JANUARY 1983

Programme

This workshop follows the Ross Priory's meeting held in May 1981. The general subjects are the experimental and theoretical aspects of extensional flows, and the behaviour of fluids or particles subjected to such flows. The programme will include four to six review lectures, about 30 communications, and two general discussions.

A sightseeing tour is planned to the Alsatian vineyard and Colmar.

Location and Accommodation

The workshop will be held at La Bresse at the "Pont du Metty" holiday house. Participants and accompanying persons will be accommodated (full board) in comfortable but not luxurious rooms with two or three beds (very few single). The house has indoor swimming pool, sauna, ping pong, bar, and outdoor skating rink. Full board and additional expenses will be charged at cost price (= 200 FF per day).

La Brasse is a holiday resort in the Vosges Mountains (60 km from Mulhouse and 90 km from Basel) which offers a large variety of alpine and cross-country ski slopes.

Registration

The persons who want to attend this workshop are invited to submit an original paper or to indicate their interest in the subject. The invited participants will be limited to fifty.

No registration fees will be collected.

The detailed abstracts of the accepted papers will be forwarded to the participants.

Languages

French and English.

Calendar

Registration deadline: 30th September, 1982.

Registration acceptance: 30th October, 1982.

Detailed abstracts and an account of 400 FF on the accommodation fees **must** have been collected at Mulhouse before: 30th November, 1982.

Organised under the behalf of:
CENTRE NATIONAL
DE LA RECHERCHE SCIENTIFIQUE

by professors:

C. WOLFF and D. SIGLI (France)

in collaboration with:

Dr. J. FERGUSON and Professor K. WALTERS (Great Britain)

Address:

Table Ronde C.N.R.S., E.N.S.I.T.M., 11 rue A. Werner
68093 Mulhouse Cedex, France

Telephone:
(89) 42.46.22

Telex:
881 865 INTEXFRA - MULHS

Mention:
Attn. Prof. C. WOLFF

MEMBERSHIP NEWS

The following applications for membership were approved at the March Council Meeting:

David Neville Gore
CChem, FRSC, FPS
fetasa DEFGJLM

Miss Diane J. Whaley
BSc
fea FGJ

Ali Al-Zubaidi
BSc, ACGI
fetsa BD

Prof. Garth L. Wilkes
BS, MS, PhD
pesa BCDM

Jonathan Brett Emerson
BA, Dipl Management Studies
pea DFGJO

Dr. Philip Stephen Hope
BA, MSc, PhD, MInstP
fetasa CD

"Poynings"
Pilgrims Close
Westhumble
Dorking, Surrey RH5 6AR
Gestetner Manufacturing Ltd.
P.O. Box 466
London N17 9LT
Brunel University
Non-Metallic Materials Department
Uxbridge
Middlesex UB8 3PH
Virginia Polytechnic and
State University
Department of Chemical Engineering
Blacksburg
Virginia 24061 U.S.A.
Metal Box Ltd.
R & D Division
Denchworth Road
Wantage, Oxon OX12 9BP
BP Chemicals Ltd.
Sully
Penarth
South Glamorgan CF6 2YU

Australian Membership News

The following new members have joined the Australian Branch as of October 1981:

Mr. D. S. King B, G, K	Australian Portland Cement Ltd. P.O. Box 120 Geelong, Victoria, 3220
Mr. R. C. Kuns G, H	Tioxide (Aust) Pty Ltd. P.O. Box 184 Burnie, Tas., 7320
Mr. K. W. Lee D	Chemical Engineering Department Monash University Clayton, Victoria, 3168
Dr. T. J. Mason G, H, M	Commonwealth Serum Lab. 45 Poplar Road Parkville, Victoria, 3052
Mr. G. Morgan G, H	Blackwell IXL P.O. Box 818 Geelong, Victoria, 3220
Dr. N. Phan-Thien D, G, N	Mechanical Engineering Department Sydney University N.S.W., 2006
Mr. R. Phillips L	Rowntree Hoadley Ltd. 1585 Hume Highway Cambellfield, Victoria, 3061
Mr. H. B. Phuoc C, D, N	22A Failigh Avenue Killara, N.S.W., 2071
Mr. S. Singh G, H	Comalco Ltd. 95 Collins Street Melbourne, Victoria, 3000
Dr. P. H. T. Uhlherr G, H	Department Chemical Engineering Monash University Clayton, Victoria, 3168
Mr. A. G. Willard A, G, H	School of Mining Engineering University of N.S.W. P.O. Box 1 Kensington, N.S.W., 2033
Mr. P. McNamara G	Comalco Research Centre 15 Edgars Road Thomastown, Victoria, 3074
Mr. A. D. Oliver L	Uncle Ben's of Australia P.O. Box 153 Wodonga, Victoria, 3690

Change in location

Mr. M. Hibberd has recently moved to Germany to work for a few years, at Abteilung Chemietechnik, Lehrstuhl für Strömungsmechanik, Universität Dortmund.

Resignation

Mr. F. J. Lubbock, Beaumaris, Victoria.

Death

We regret to record the sudden death of Prof. J. A. Hersey, Sigma Industrial Professor in Pharmaceutics at the Victorian College of Pharmacy, Parkville, Victoria, and Chairman and Director of the Institute of Drug Technology Ltd.

Resignations

D. A. Nellist, Winsford, Cheshire.
Prof. G. V. F. Seaman, Oregon Health Sciences University, U.S.A.
Dr. C. T. Hill, MIT, Cambridge, Mass, U.S.A.
Dr. M. F. Culpin, University of Stirling.
Prof. J. M. Alexander, University College of Swansea.
W. M. Price, ECC International Ltd., St. Austell, Cornwall.
Dr. H. L. D. Pugh, Frenchay, Bristol.
Dr. D. W. Hadley, Reading University.
Prof. Dr. J. Overbeek, Rijksuniversiteit Utrecht, Holland.
Dr. H. J. Wilson, University of Birmingham.
P. A. Arundel, ICI Pharmaceuticals Division, Macclesfield, Cheshire.
Dr. P. M. Hazzledine, Oxford University.

The following applications for membership were approved at the July Council Meeting:

Norman William Crane	24 Greenwood Road
Degree in Science and Technology	Thames Ditton
pta GO	Surrey

Mr. Crane is with Thames Water Authority, Broadway Buildings, St. James, Westminster, London.

Resignations

Dr. I. Wagstaff, Rijnsburg, Holland.
Prof. R. J. Gordon, University of Florida, Gainesville, U.S.A.
Dr. D. K. Gooden, University of Liverpool.
J. S. M. Gourlay, Sandringham, Victoria, Australia.

Membership ceased by Rule 4(d)

A. M. Abbas, Cosmocord Ltd., Waltham Cross, Hertfordshire.
W. G. Bontinck, Belgium.
A. J. Bowman, Dental Hospital, Newcastle upon Tyne.
Prof. N. O. Clark, Par, Cornwall.
S. D. Carlill, Royal Free Hospital School of Medicine, London.
H. Coster, Borg Warner Chemicals, Amsterdam, Holland.
W. M. Griffith, UCW, Aberystwyth.
Dr. M. G. Hansen, GEC Corporate R & D Center, Schenectady, N.Y., U.S.A.
I. M. S. Kaffak, Loughborough University of Technology.
Dr. Y. Ozturk, Istanbul, Turkey.
Dr. R. Stenson, MOD(PE) PERME, Waltham Abbey, Essex.
Dr. R. Turian, Texas Technical University, Lubbock, U.S.A.

DOCUMENTATION RHEOLOGY

I have just received a copy of Documentation Rheology No. 47, 1981, Issue 0340-8388, from the Deutsche Rheologische Gesellschaft (DRG), which contains over 5,000 references under the main titles:

1. Fundamentals of Rheology and Rheology of Materials
2. Rheology of Processing
3. Rheology of Friction and Lubrication
4. Rheology in Damping and Sealing Elements

PRESS RELEASE — HEAT AND FLUID FLOW

Increasing understanding of heat transfer and fluid flow continues to be crucial to improving the efficiency of a broad range of mechanical and process plant, for example conventional and nuclear power generators, turbines, evaporators, heat exchangers, pumps and compressors. Relaunched and revitalised, The International Journal of Heat and Fluid Flow will help enhance that understanding.

As is apparent from the enclosed sample copy, the journal publishes top quality papers on engineering thermodynamics, heat transfer, fluid mechanics, and their application through design and development. Relevant developments in instrumentation and data processing are also covered.

The quarterly journal contains authoritative review articles, original papers and short reports, plus reviews and news of forthcoming events. Expert editorial advisers throughout the world help ensure the timeliness, quality and international character of the journal.

For further information please contact Mr. Chris Evans, Managing Editor, Butterworth Scientific Ltd., P.O. Box 63, Westbury House, Bury Street, Guildford, Surrey, U.K., GU2 5BH.

NEW EQUIPMENT

Rheovibron

Measures linear viscoelastic response of solid materials subjected to small-amplitude oscillatory deformation at controlled frequency. The material properties determined are complex modulus (E^*) and loss factor ($\tan \delta$) over a range of temperature and frequency. These are useful for finding major (T_g) and minor (T_β , δ , etc.) transitions, estimating crystallinity, determining effect of plasticisers and many more. The sensitivity of the instrument makes it especially useful for testing thin films and fibres.

Capillary Rheometer

Sieglaff-McKelvey Rheometer is designed to be operated as both a constant pressure device or a constant rate instrument. Develops complete flow curves of shear rate versus shear stress or apparent viscosity versus shear rate or stress over several decades of flow. Measures flow behaviour in the rate ranges usually encountered in extrusion and injection molding of parts. Interchangeable barrels and capillaries simplify cleaning and greatly extend the ranges of the instrument. Precise temperature control to 800°F. Uses only a few grams of material per run.

Imass Inc.

3 King Philip Path (Demonstration Center), P.O. Box 134
Hingham, MA 02018-0134 U.S.A.
Phone (617) 749-5728 Cable: Imass-Hingham MA

NEW BOOKS

Finite Elements in Fluids Volumes 1, 2 and 3

Edited by R. H. Gallagher, University of Arizona, Tucson
O. C. Zienkiewicz, University of Wales, Swansea
J. T. Oden, University of Texas
M. Morandi-Cecchi, Istituto Elaborazione della Informazione, Pisa
(Vol. 3 only)
and C. Taylor, University of Wales, Swansea

Volume 1: Viscous Flow and Hydrodynamics

0471 29045 9	304 pages	July 1975	\$61.05/£22.20
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Volume 2:

Mathematical Foundations, Aerodynamics and Lubrication

0471 29046 7	300 pages	July 1975	\$61.05/£22.20
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Volume 3

0471 99630 0	408 pages	October 1978	\$61.05/£22.20
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Published by John Wiley and Sons Ltd.

DIARY

1982

September 21 - 23. Rheology and Microstructure, Cambridge.

1983

January 24 - 28. International Workshop on Extensional Flows,
Mulhouse, La Bresse, France.

April 13 - 15. Rheology in Crude Oil Production, Imperial College.

September 13 - 17. Engineering Rheology, Imperial College.