

# International Journal of Multiphase Flow

exists for publishing theoretical and experimental investigations of multiphase flow which are of relevance and permanent interest

## EDITORS

### G. Hetsroni

Department of Mechanical Engineering, Technion, Israel Institute of Technology, Haifa, Israel

### H. C. Simpson

Department of Thermodynamics and Fluid Mechanics, University of Strathclyde, 75 Montrose Street, Glasgow G1 1XJ, Scotland

## ASSOCIATE EDITORS

### J. A. Bouré

S.T.T., Centre d'Etudes Nucleaires  
B.P. 85, Centre de Tri  
38041 Grenoble Cedex  
France  
(Basic problems in high Reynolds number boiling fluids)

### G. F. Hewitt

H.T.F.S., A.E.R.E.  
Harwell, Didcot, Oxon  
England  
(Experimental techniques, boiling fluids, condensing fluids)

### F. Mayinger

Lehrstuhl A für Thermodynamik  
Arcisstrasse 21, 8000 München 2  
West Germany

### H. Brenner

Department of Chemical Engineering  
Massachusetts Institute of Technology  
Cambridge, MA 02139, U.S.A.  
(Laminar multiphase flow)

### Y. Katto

Department of Mechanical Engineering  
University of Tokyo, Japan  
(Boiling fluids, critical multiphase flow turbulent multiphase flows)

### V. N. Nikolaevskii

Institute of Physics of the Earth  
U.S.S.R. Academy of Science  
Moscow, 123242  
U.S.S.R.

## EDITORIAL ADVISORY BOARD

K. Akagawa, Kobe, Japan

J. M. Delhaye, Grenoble, France

O. Molerus, Erlangen, Germany

S. Banerjee, McMaster, Canada

A. E. Dukler, Houston, Tex.

P. R. Owen, London, U.K.

S. George Bankoff, Evanston, Ill.

Norman Epstein, Vancouver, Can.

R. L. Peskin, Rutgers, N.J.

K. Becker, Stockholm

Hans K. Fauske, Argonne, Ill.

R. Semeria, Grenoble

D. Chisholm, Glasgow, U.K.

P. Griffith, Cambridge, Mass.

S. L. Soo, Urbana, Ill.

J. G. Collier, Harwell, U.K.

J. Madejski, Warsaw, Poland

Graham B. Wallis, Hanover, N.H.

## EDITORIAL ASSISTANT

### J. M. Hellman

Westinghouse NFD  
Box 355  
Pittsburgh, PA 15230, U.S.A.

**Publishing Office:** European Publishing Corporation Ltd., 84-86 Malahide Road, Coolock, Dublin 5, Republic of Ireland (Phone Dublin 475377; Telex 25670)

**Subscription and Advertising Offices:** Headington Hill Hall, Oxford OX3 0BW (Phone Oxford 64881; Telex 83177)

Published bi-monthly

## SUBSCRIPTION RATES (1982)

For libraries, university departments, government laboratories, industrial and other multiple-reader institutions, \$175.00 U.S. (Two-year rate 1982-83: U.S. \$332.50) (including postage and insurance).

Specially reduced rates to individuals: In the interests of maximizing the dissemination of the research results published in this important international journal we have established a two-tier price structure. Any individual whose institution takes out a library subscription, may purchase a second or additional subscription for personal use at the much reduced rate of U.S. \$45.00 per annum.

## MICROFORM SUBSCRIPTIONS AND BACK ISSUES

Back issues of all previously published volumes are available in the regular editions and on microfilm and microfiche. Current subscriptions are available on microfiche simultaneously with the paper edition and on microfilm on completion of the annual index at the end of the subscription year.

Copyright © 1982 Pergamon Press Ltd.  
and  
Elsevier Scientific Publishing Company

Subscription enquiries from customers in North America should be sent to: Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, U.S.A., and for the remainder of the world to: Pergamon Press Ltd., Headington Hill Hall, Oxford OX3 0BW, England.

It is a condition of publication that manuscripts submitted to this journal have not been published and will not be simultaneously submitted or published elsewhere. By submitting a manuscript, the authors agree that the copyright for their article is transferred to the publisher if and when the article is accepted for publication. However, assignment of copyright is not required from authors who work for organisations which do not permit such assignment. The copyright covers the exclusive rights to reproduce and distribute the article, including reprints, photographic reproductions, microform or any other reproductions of similar nature and translations. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, electrostatic, magnetic tape, mechanical, photocopying, recording or otherwise, without permission in writing from the copyright holder.

## U.S. COPYRIGHT LAW APPLICABLE TO USERS IN THE U.S.A.

The Article Fee Code on the first page of an article in this journal indicates the copyright owner's consent that, in the U.S.A., copies may be made for personal or internal use provided the stated fee for copying, beyond that permitted by Section 107 or 108 of the United States Copyright Law, is paid. The appropriate remittance should be forwarded with a copy of the first page of the article to the Copyright Clearance Center Inc., 21 Congress Street, Salem, MA 01970, U.S.A. If a code does not appear, copies of the article may be made without charge, provided permission is obtained from the publisher. The copyright owner's consent does not extend to copying for general distribution, for promotion, for creating new works, or for resale. Specific written permission must be obtained from the publisher for such copying. In case of doubt please contact your nearest Pergamon office.

Pergamon Press Ltd., Headington Hill Hall, Oxford OX3 0BW, England

Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, New York 10523, U.S.A.

Elsevier Scientific Publishing Company, Jan van Galenstraat 335, P.O. Box 330, Amsterdam, The Netherlands