COMPUTING IN MEDICINE

STRATHCLYDE BIOENGINEERING SEMINARS

COMPUTING IN MEDICINE

*Proceedings of a seminar on computing
applied to medicine, held at the University
of Strathclyde, Glasgow, in August 1981*

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PREFACE

The fourth in the series of Strathclyde Bioengineering Seminars was held in August 1981 and considered the wide and highly topical subject of computing applied to medicine. Seminars in the present series were preceded by two broad-spectrum symposia held in 1964 and 1972. The series has covered the areas of Tissue Viability and its Clinical Applications, Extracorporeal Blood Treatment Systems, and Rehabilitation of the Disabled. These seminars were published by the Macmillan Press under the titles of *Bedsore Biomechanics* (July 1976), *Artificial Organs* (July 1977) and *Disability* (December 1979).

The present volume and the associated seminar mark a milestone both for the series and for bioengineering. Professor R. M. Kenedi, who initiated the series, organised the meetings and edited their proceedings, retired from the University of Strathclyde in 1980 and took up the post of Associate Director (Engineering) in Hong Kong Polytechnic. Prior to his departure from Glasgow, Professor Kenedi initiated the preparation for this meeting and it was with great pleasure that we were able to welcome him back to introduce the Adam Thomson Lecture given by Mr Jack Perkins, and to participate in the seminar and its functions.

Dr Monica M. Jordan, one of the editors of this volume, was a member of the Bioengineering Unit until February 1980, when she took up a post in the National Institute of Medical Research, Mill Hill, London. She has been involved at a high level in the planning and organisation of this meeting, both before and after her translation.

The present seminar, the fourth in the series, was held in August 1981 and related to research and development in applications of computers and microprocessors in the field of medical practice. Special sessions included signal and image analysis, medical statistics, teaching, and modelling of physiological systems. It was attended by 190 registrants from the United Kingdom, Australia, Canada, Denmark, Eire, the Faroe Islands, France, Hong Kong, India, Israel, Italy, Japan, Mexico, Netherlands, Norway, Portugal, Turkey, USA and West Germany.

The details for the sections are given in the contents list and the companies and organisations participating in the scientific and industrial exhibition are identified on page viii. The organisers wish to express their particular appreciation for the support of the industrial exhibitors in being present to show their equipment and in contributing to the finances of the occasion.

Being aware of the financial difficulties facing young people starting in their careers who wished to attend seminars of this type, financial support for the registration of six relevant persons was provided by Messrs Ferranti, Hewlett Packard and IBM, and the organisers of the seminar extend to these companies

the thanks of the individuals supported. In the financial crises facing universities at this time, it is easy to forget that the Health Services also are under similar pressures, and the continuing support for the seminar programme by the Greater Glasgow Area Health Board is therefore particularly appreciated. Banking and travel facilities were provided by the Bank of Scotland and Mackays Travel Agency, to both of whom sincere thanks are due. Messrs John Dewar and Sons Limited, whisky Distillers, particularly favoured the occasion with a donation of their products for the benefit of participants at the conference banquet.

A seminar cannot be held on the scale of the present one without adequate publicity and the organisers are indebted to the Biological Engineering Society and the Hospital Physicists' Association for undertaking circulation of information and to the Biomedical Press UV and Taylor and Francis for publicity in their journals.

The organisers acknowledge again their sense of indebtedness to the City of Glasgow District Council for the warmth of the Civic Reception given by them to the seminar participants and guests.

Professor Kenedi, introducing the Adam Thomson Lecture, recalled the contribution to the growth of the Strathclyde Bioengineering Unit made by Emeritus Professor Adam Thomson. From his position as Head of Department of Mechanical Engineering at the Royal College of Science and Technology, which subsequently became the University of Strathclyde, he had been a wise counsellor and guide to many attending the seminar. His very considerable contribution to the University, and Bioengineering, has been gratefully acknowledged by the University's Court who established the Adam Thomson lectures in his honour. The attendance of Professor Thomson and Mrs Thomson was very much appreciated by all present.

Mr Perkins, Professor Kenedi recalled, has been associated with medical computing for many years and has long been an international leader in his field of study and research. His extensive participation and in particular his presentation of the Adam Thomson lecture contributed greatly to the potential for success of the seminar.

The undersigned wishes to warmly support Professor Kenedi's sentiments and also extends his thanks to Professor Kenedi for introducing the Adam Thomson lecture and more widely for his unflagging support of the Strathclyde Bioengineering Unit, and in particular the seminar series.

This is also the occasion to remember and thank all staff and students of the Bioengineering Unit for their help and forbearance. Similarly, thanks are due to the relevant administrative and supportive staff of the University for their support of the occasion.

Glasgow, 1982

J. P. Paul

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