

REPORT ON  
THE THIRD INTERNATIONAL CONGRESS OF BIORHEOLOGY

Y.C. Fung  
Chairman of the Congress

The Third International Congress of Biorheology was held in the week of August 28 to September 1, 1978 in La Jolla, California on the campus of the University of California, San Diego. This Congress was organized by the International Society of Biorheology under the chairmanship of Professor Yuan-Cheng Fung. Throughout the week the weather was perfect. There was sunshine everyday and the temperature was about 70°F. A total of 205 papers were presented in 27 sessions. The total number of authors was 350. A total of 306 participants attended the meeting.



Fig. 1

Y.C. Fung, Congress Chairman at Opening Ceremony. Photo: D. Ferro. La Jolla

The scientific program of the Congress consisted of six symposia, namely

1. Molecular Forces in the Mechanics of Cell Membrane
2. Soft Tissues Around a Diarthrodial Joint
3. Muco-ciliary Transport
4. Recent Advances in Hemorheology
5. Rheology of Blood Vessels
6. Hemorheology in Astronautics



Fig. 2

Between Congress Sessions. From left to right: Congress Chairman Y.C. Fung, Alex Silberberg, President, Siegfried Witte, Treasurer and Geoffrey V.F. Seaman, Secretary General, The International Society of Biorheology. Photo: D. Ferro La Jolla, CA.

These symposia were organized with a view to survey the most recent advances.

Papers not listed under symposia were presented in the following sessions.

1. Cell Membrane and Chromatin
2. Biorheology of Lung, Airway, and Skin
3. Mucus Rheology
4. Dynamics and Thrombosis and Platelets
5. Biorheology of Muscles
6. Mathematical Biofluid Dynamics
7. Hemorheology: Viscoelasticity
8. Atherosclerosis
9. Capillary Blood Flow
10. Red Blood Cells
11. Mechanical Properties of Arteries and Veins
12. Hemorheology and Hemodynamics
13. New Hypotheses in Hemorheology and Muscle Contraction
14. Bone and Cartilage
15. Tissue Space
16. Elastin, Collagen and Tendons
17. Clinical Hemorheology I
18. Biofluid Dynamics
19. Properties of Biosolids
20. Clinical Hemorheology II
21. Ultrasound Applications, Biofluids and Viscoelastic Bodies

In addition, there was a Convocation in which the past history of biorheology was reviewed by Professor Tamamushi and the future prospect was discussed by Professor Copley. The Poiseuille Medal of 1978 was awarded to Professor M. Joly and the Poiseuille Lecture entitled "Biorheology, A Factor of Scientific Progress" was presented by Professor Joly at the Convocation.

The symposia were organized by the following persons:

S. A. Berger, University of California, Berkeley  
 S. Chien, Columbia University, New York  
 K. Fronck, University of California, San Diego  
 G. Seaman, University of Oregon, Portland  
 R. Skalak, Columbia University, New York  
 S. Weinbaum, City University of New York  
 S. Woo, University of California, San Diego  
 T.Y.T. Wu, California Institute of Technology, Pasadena

All the symposia speakers were invited. In addition, 35 other authors were invited. These invited papers formed the major framework of the program. They offer a well rounded program in which every important aspect of biorheology is covered by a well-known authority. The invited speakers were:

M. ABE, Jikei University, Tokyo, Japan  
 T. AZUMA, Shinshu University, Matsumoto, Japan  
 D. E. BROOKS, University of British Columbia, Vancouver, Canada  
 C. G. CARO, Imperial College of Science & Technology, London, England  
 L. C. CERNY, Masonic Medical Research Laboratory, Utica, New York  
 S. E. CHARM, Tufts University, Boston, Ma.  
 H. CHMIEL, Institut fur Grenzflächen und Bioverfahrenstechnik, Bundes Republic, Deutschland  
 T. H. COOK, Pennsylvania State University, University Park, Pa.  
 N. DAVIDS, Pennsylvania State University, University Park, Pa.  
 L. DINTENFASS, Sydney Hospital, Sydney, Australia  
 I. FATT, University of California, Berkeley, Ca.  
 W. P. GRAEBEL, University of Michigan, Ann Arbor, Mi.  
 J. F. GROSS, University of Arizona, Tucson, Az.  
 H. HARTERT, University of Kaiserslautern, Germany  
 R. H. HOCHMUTH, University of Washington, St. Louis, Mo.  
 C. R. HUANG, New Jersey Institute of Technology, Newark, N.J.  
 T. IWAZUMI, University of Washington, Seattle, Wa.  
 W. G. KNAUSS, California Institute of Technology, Pasadena, Ca.  
 B. KUMMER, Universität zu Köln, Lindenburg, Germany  
 G. S. KURLAND, Harvard Medical School, Boston, Ma.  
 R. F. LANDEL, California Institute of Technology, Pasadena, Ca.  
 Y. LANIR, Israel Institute of Technology, Haifa, Israel  
 G. C. LEE, State University of New York, Buffalo, N.Y.  
 J. S. LEE, University of Virginia, Charlottesville, Va.  
 P. S. LINGARD, The Children's Hospital, Sydney, Australia.  
 R. LITTLE, Michigan State University, East Lansing, Mi.  
 L. V. McINTYRE, Rice University, Houston, Tx.  
 J. W. MELVIN, University of Michigan, Ann Arbor, Mi.  
 M. ROACH, University of Western Ontario, Ontario, Canada  
 A. H. SACKS, Palo Alto Medical Research Foundation, Palo Alto, Ca.  
 H. SCHMID-SCHÖNBEIN, Rein.-Westf. Techn. Hochschule Aachen, Aachen, West Germany  
 M. G. SHARMA, Pennsylvania State University, University Park, Pa.  
 S. USAMI, Columbia University, New York, N.Y.  
 A. VIIDIK, University of Aarhus, Aarhus, Denmark  
 H. WAYLAND, California Institute of Technology, Pasadena, Ca.  
 V. M. ZAIKO, Institute of Organ and Tissue Transplantation, Moscow, U.S.S.R.

It was acknowledged by most participants that the scientific level of the Congress was very high. Technical advances reported at the Congress were extremely impressive.

The social program was also quite full. There was a reception and buffet dinner on Sunday, August 27th. On Monday, August 28th there was an evening party held on the beach of Scripps Institution of Oceanography on the Pacific Ocean. Under the stars a Hawaiian dance program was presented. On Wednesday afternoon, the delegates were taken to the famous San Diego Zoo for an enjoyable afternoon, and then watched two interesting motion pictures entitled "Sky Fire" and "Flying" at the Reuben H. Fleet Space Theater. This theater has a hemispherical curved screen and the movie was very unique in its presentation. On Thursday a banquet was held at the Atlantis Restaurant at which the Lamport Research Award was presented to John Pinto, and a musical program was performed by Mark Lockett.

Dr. Roy Swank played some jazz, and presented an inspiring technical lecture on his research and development of blood microthrombi filter.

In association with the scientific program, an exhibition of paintings by L. Alcopley was presented at the Mandeville Art Gallery on the UCSD campus. L. Alcopley is A.L. Copley, past president of the International Society of Biorheology, and currently Director of the Laboratory of Biorheology, and Professor of life science and bioengineering at the Polytechnic Institute of New York in Brooklyn. This art exhibition was widely acclaimed. Many participants of the Congress enjoyed viewing an outstanding art exhibition of the work by one of their colleagues. The combination of a scientific program with an art exhibition, indeed, distinguished this Congress from all other Congresses.

The proceedings of the Congress have been assembled and printed as an abstract volume. The abstract volume was distributed to all registered delegates.

A technical exhibition was also organized. Instruments used in biorheological research were on display throughout the week of the Congress.

This Congress was sponsored by and had the financial support of the United States National Science Foundation, the Office of Naval Research, the University of California, San Diego, and the National Aeronautics and Space Administration. Their support is gratefully acknowledged.

The running of the Congress, the day-to-day details of the conference arrangements, the audiovisual aids, the meeting of the delegates at the airport and transporting them to the hotels and dormitories, the daily transportation from the hotels to the Congress sites and the entertainment of the Congress delegates at the reception, outing, and beach party were mostly the volunteer work of the students, faculty, and staff of the University of California, San Diego. They contributed greatly to the warmth and friendship at the Congress. To them, the Organizing Committee is very grateful.