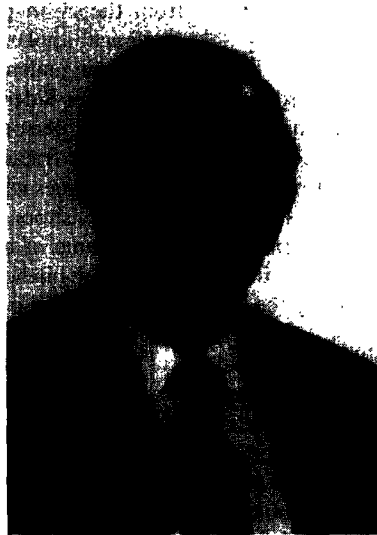




## Samuel Sideman on the occasion of his 65th birthday



SAMUEL SIDEMAN was born in Haifa, Israel, in February, 1929. He received his B.Sc. in Chemical Engineering from the Technion–Israel Institute of Technology, Haifa (1953), his M.Ch.E. from the Polytechnic Institute of Brooklyn, NY (1955), and the D.Sc. from the Technion–Israel Institute of Technology (1960). He is currently Chairman of the Department of Biomedical Engineering and Director of the Julius Silver Institute of Biomedical Engineering, Technion–IIT, Haifa, Israel and since 1985 he has been a visiting Professor of Surgery (Bioengineering), at the University of Medicine and Dentistry of New Jersey.

Following two years of industrial experience in Los Angeles, he joined the Technion–IIT (1957), where he later became Dean of Students (1967–1968); Dean of Faculty (1969–1970); Chairman, Department of Chemical Engineering (1974–1976); and a member of Technion's Board of Regents for over 10 years. His professional career includes consulting to the Israel Water Desalination Corp.; Visiting Professor in City College of New York, University of Houston, Oklahoma State University and a Distinguished Visiting Professor at Rutgers University (1985–1989). He has presented numerous seminars around the world and has been guest of the British Academy of Science. His professional activities involve chairing numerous international meetings, including the 9th International Heat Transfer Conference 1990. He is the President of the International Assembly for Heat

Transfer Conferences, Member of the Science Council (1972–) and on the Executive Committee of the International Centre for Heat and Mass Transfer (1986–).

He is on the editorial board of the *International Journal of Heat and Mass Transfer*, *Journal of Engineering Physics and Thermodynamics*, *Journal of Multiphase Flow Systems*, *Experimental Thermal and Fluid Science Journal*, *Journal of Artificial Cells and Organs*, and other scientific journals. He is author and editor of 14 books and co-author of over 300 retrievable scientific publications and some 100 abstracts and conference proceedings. He has five patents related to separation of high molecular weight components, artificial blood and cardiac diagnostics.

Dr Sideman's honors and awards include the Hebrew Technical Institute Fellowship for Graduate Studies (1953–1955); American National Science Foundation—Senior Foreign Scientist Fellowship (1964–1965); a Citation from the American Institute of Chemical Engineering (1965); The Arnon Award, Israel Association of Engineers and Architects (1968); The Landau Award, Israel Research Awards Directors (1976); The BJUJA Award, Israel Association of Biochemists (1979) (with L. Mor); a Chair, the R. J. Matas/Winnipeg Professor of Biomedical Engineering (1981); Fellow, American Inst. of Chemical Engineering (1985); Fellow, New York Academy of Science (1986); Senior Member, BioMedical Engineering Society (1989); Israel Cardiology Society

Award for Most Original Research (1990); and The Henry Gutwirth Research Award (1992).

Dr Sideman has distinguished himself by successful interaction of chemical and mechanical engineering on the one hand, and the medical sciences, on the other hand. The following related fields clearly bear his personal imprint:

- direct contact heat transfer;
- simultaneous film evaporation and condensation;
- transport mechanisms in turbulent flows;
- transport phenomena in physiological systems.

Professor Sideman initiated and has headed since 1983, the Heart System Research Center at the Julius Silver Institute, which concentrates on computer simulation of the cardiac system, transport phenomena and interactions of the various parameters affecting cardiac performance. Professor Sideman's present interests include the analysis, modelling and simulation of the function of the heart, particularly the left ventricle (LV).

In parallel with his theoretical and experimental studies of the LV transmural characteristics, Professor Sideman initiated a fast and novel procedure to reconstruct and analyze the 3D structure and function of the LV. These studies led to an objective quantitative characterization of the normal ventricle and abnormal hearts, including local wall stress, thickness and shape changes due to various regional volumetric pathologies. His patent on the superposition of the coronary network on the 3D heart provides a tool to identify the extent of stenosis and evaluate potential interventions.

In summary, Professor Sideman's career is marked by continuously identifying, defining and studying new transport phenomena. His recent work on the cardiac system has attracted worldwide recognition and collaboration with leading clinics. The wide range of Professor Sideman's interests and accomplishments are possibly best demonstrated by the fact that his work has been simultaneously published in the most respected engineering journals and in the highly esteemed medical journals. The range of his work, from theory to practice and from basic physiology to clinical applications, is a remarkable proof of his outstanding talent.

Professor Sideman is well known for his warm and charming personality. His many students have become his friends, and he has gained many friends and colleagues while travelling over the world and by bringing visitors and congress participants to Israel. In the name of all of his colleagues we wish him a happy 65th birthday and we send greetings to him and his wife Naomi on this occasion.

S. G. BANKOFF  
 R. J. GOLDSTEIN  
 J. P. HARTNETT  
 G. F. HEWITT  
 T. F. IRVINE, JR.  
 A. I. LEONTIEV  
 F. MAYINGER  
 D. MOALEM MARON  
 Y. TAITEL  
 B. X. WANG  
 Y. ZVIRIN