International Journal of Multiphase Flow 73 (2015) iii–iv

Contents lists available at ScienceDirect

International Journal of Multiphase Flow

journal homepage: www.elsevier.com/locate/ijmulflow

Obituary: Gad Hetsroni, Founding Editor *IJMF*

Gad Hetsroni created this journal in 1973, some 42 years ago. He was the Editor-in-Chief until 2008, for 35 years. His own life was closely intertwined with that of the Journal. He loved the journal, was a protective and jealous "owner." In return, Gad and *his* journal had a very significant impact on the field by identifying and bringing together the multiphase flow community around the *IJMF*. During his time, many prominent members of the multiphase flow community acted as Associate Editors and members of the Editorial Board. Gad made his Associate Editors work hard and was meticulous, fair but also an unforgiving editor; the quality of the papers and the reputation that the Journal enjoys today testify to this.

Gad liked to recall the birth of the *IJMF*, his early discussions with the Pergamon publisher, the late Bob Maxwell. During the preparations, he learned that Professor Hugh Simpson had initiated a new journal, with Elsevier, to be called the *International Journal of Multi-Phase Flow*. He realized that the two-phase flow field could not sustain two good journals (the only exception to his beloved and often-repeated rule "two is better than one"). One journal title had a hyphen and the other not, so he went to see Hugh and they agreed to join their efforts and also remove the hyphen. Hugh Simpson became *IJMF* Editor for many years, and Elsevier and Pergamon were joint publishers – the only such joint venture.

When one of us (GY), back in 1999, asked several prominent members of the multiphase flow community to contribute to a special *IJMF* edition, a Festschrift honoring the Editor-in-Chief at his 65th birthday, we realized once more the admiration, respect and affection that the multiphase community had for Gad. The response and the result were overwhelming: 22 articles and so many words of admiration, respect and affection from the members of this large family. Graham B. Wallis wrote a long poem for Gad; the beginning reads: "... let me here the praises sing/ of the editorial king/ of the international/ utterly exceptional/ Journal of the Multiphase,/ that the toughest critics praise."

Gad Hetsroni was born in Haifa in 1934, before the creation of the state of Israel. In 1957, he graduated with a B.Sc. cum laude from the Technion, the Israel Institute of Technology, whose first cornerstone was laid in 1912. He continued his education in the US and obtained his Ph.D. from Michigan State University in 1963.

He then occupied for a couple of years a position with the Atomic Power Division of Westinghouse before going back to Israel in 1965 and joining the Faculty of the Technion where he remained and finished his days, still working as an emeritus in his Multiphase Flow Lab.

In 1974 he became the Danciger Professor of Engineering at Technion. In the meantime, he also held positions in the US, at the Electric Power Research Institute, Stanford University, the University of Minnesota, and the University of New South Wales in Australia. At the Technion, he served as Dean of Mechanical Engineering and as Head of the Neaman Institute for Advanced Studies. Among his many national committee assignments, he was also Head of the National Council for Research and Development in Israel. He was a Fellow of ASME International, where he served as Vice President of Region XIII, and as Governor.

Gad has served the national and international scientific community in many ways (scientific committee member, member of board of directors, conference organizer, editor, etc.) and he was also honored several times, most prominently with the ICMF Senior Award.

In research, Gad Hetsroni was often the first and the best. Just to mention a few examples, he conducted pioneering work on the interaction between turbulence and particles; indeed, understanding the behavior of particles in gaseous or liquid streams is of great importance in several industrial or environmental applications. He also developed the technique of using infrared radiometry to

http://dx.doi.org/10.1016/j.ijmultiphaseflow.2015.05.001

measure the temperature distribution on the wall of a conduit; in groundbreaking experiments, this technique was applied to measure the interaction of particles with the wall in dispersed-particle flows. With the help of the associated numerical signal processing, the technique renders possible the study of the coherent structures, which are intimately related to turbulence. Recently, he has used surfactants to produce a decay of the turbulence, and hence learn about its sources from a different angle. The last several years, he has worked on a "hot" topic, namely heat transfer and fluid flow in microchannels, of great relevance in "high-tech" industries. This work has resulted in the publication of the book, *Fluid Flow, Heat Transfer and Boiling in Micro-channels;* he is the senior author. This brings the number of *major* books that he published on multiphase flows to three, not including major chapters that he wrote in other books. He is the author of about 250 research papers.

Professor Hetsroni has been passing on the basic knowledge on fluid dynamics and multiphase flows to many generations of researchers and scientists/engineers. Another great love and very successful focal point of his career were the Short Courses on Multiphase Flows that he directed or co-directed for many years: he started the now famous series when he was at Stanford. The first course was offered in 1979 and then continued at ETH-Zurich and UC-Santa Barbara. Over 2000 participants from all over the world have enrolled in these courses conducted with two of the undersigned (GY and GFH) and Sanjoy Banerjee. The participants in these courses have "propagated the message" and they can be encountered today as important researchers or managers of their laboratories. Professor Hetsroni, at the various academic institutions with which he was associated during his long and fruitful academic career, has directed some 35 doctoral and masters' students and has never stopped researching and having fun with multiphase flows.

Gad was not only a very prominent scientist and teacher; he was also a charming citizen of the world. His mischievous smile and his great humor enlightened encounters, dinners, meetings ... Those of us who had the chance to intimately know Gad also greatly appreciated his human qualities, caring for friends, love for music, good food and other good things in life, curiosity for anything new. The expression "he was a truly good Mensch" seemed to be coined for him.

Gad passed peacefully away in March 2015. He is survived by his lifelong wife and companion Ruth (born Gurevitz) and two of their three beautiful daughters, Anat, Orli (1965–1986) and Yael. His family agreed to add a farewell to Gad in the few lines below. We share with them a great sense of loss.

G. Yadigaroglu, G.F. Hewitt

Dear Husband, Dad and Grandfather

When we read all this, we are so proud. Proud of you and proud of being the close family of this extraordinary man described above. You had a few families: us, the Technion and *The* Journal. You truly loved and contributed to all "families."

As successful as you were in the scientific field, you were also at being a family man. For us, you were the man who knew everything, curious to find out more, and never tired of educating us. Always there for us, protecting, loving and showing us the way to excel in any direction we chose. We will try to follow your legacy – "*just do it*" – as you always told us and did yourself.

We know how proud you were of every new issue of the Journal that came out, always trying to explain some of it to us, so we knew and appreciated the progress in your research.

All your hard work that you did with such passion will live long after you, will teach many generations to come. We all know how teaching was so important to you.

And we, your loving family, will keep you as an example of a family man, husband, father and grandfather, the best anyone could wish for. We were not ready to let you go and we miss you so much already.

We love you

Ruthie, Anat, Yael