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In Celebration

In celebration of the 75th birthday of professor Arthur E. Bergles

A phone call earlier this year from one of his many friends and colleagues worldwide, reminded Art of the fact that his 75th birthday was approaching (he reaches that three-quarter-century milestone on August 9, 2010). He expressed amazement at how quickly the years had passed, especially the last 5 years since he was feted on his 70th. In his own version of relativity, Art attributed it to time speeding up and, with his unique sense of humor, he quipped, "After all, when you are over the hill, everything speeds up". Even though, Art has been formally retired for 13 years, his numerous research, educational, and professional interactions lead to considerable skepticism amongst many of us that he "is over the hill".

Art has been named a Life Member of the American Society of Engineering Education (ASEE), Life Member of the American Society of Heating Refrigerating and Air-Conditioning Engineers (ASHRAE), and 50-Year Member of the American Society of Mechanical Engineers (ASME), which some may consider to be synonymous with old age. However, he keeps a schedule that suggests anything but .... He continues to hold academic appointments that draw him into wide-ranging research activities: Clark and Crossan Professor of Engineering, Emeritus, at Rensselaer Polytechnic Institute (RPI), Troy, NY; Glenn L. Martin Institute Professor of Engineering at University of Maryland, College Park, MD; and Senior Lecturer in Mechanical Engineering at Massachusetts Institute of Technology (MIT), Cambridge, MA. He is currently involved in different projects at each of these universities, including microchannel two-phase thermal-hydraulics, polymer heat exchangers, and enhancement of heat transfer in 'inverted core' nuclear reactors.

Some of us had honored Art previously on his seven-decade milestone in the pages of this journal,[1] and during the past 5 years his professional engagement has continued unabated. He served on the Honors and Awards Committee of ASHRAE for 3 years, and began a term on the ASME Committee on Honors. Currently, he is Chair of the Max Jakob Board of Award, representing the American Institute of Chemical Engineers (AIChE). He completed a six-year stint as the National Research Council (NRC) Liaison for the Mechanical Engineering Section of the National Academy of Engineering (NAE). Art was elected a member of the NAE in 1992, and he has been a regular member of the NRC panel to select Ford Doctoral Fellows. Also, he continues as a member of the Visiting Committee in Mechanical Engineering at Maryland, and a member of the Engineering Advisory Committee at the University of Connecticut. He served on the Board of Directors of the MIT Club of Cape Cod for 4 years, co-chaired the MIT Class of 1957 50th Reunion, and was elected President of the Class. A particularly intense current commitment is President of the Osterville, MA, Rotary Club for 2010–2011.

On a more personal note and to add to this vintage year, Art and Penny celebrated their 50th wedding anniversary on June 19, 2010. Their 'nest' is long empty, and Penny has become an outstanding flower arranger and horticulturist. She has been an officer in the Osterville Garden Club and is a State Flower Show Judge. She regularly wins prizes for her floral arrangements and for her plants. Their two sons have also been successful. Eric is Vice President of Sales & Marketing at BaySpec Incorporated, an optoelectronics company in Fremont, CA. He and his wife Joyce have two sons, ages 11 and 9. Dwight was just promoted to Professor of Neuroscience at Johns Hopkins University in Baltimore, MD. He and his wife Susan, a practicing lawyer, have three children: a 9-year-old boy, and 4-year-old twin girls. Needless to say the Bergles household on Cape Cod is very lively when the five grandchildren visit.

While enjoying the time with his family and grandchildren, he continues to make significant contributions to engineering education and research in energy, thermal sciences, and heat transfer. In a global acknowledgement of his accomplishments, Art has

[1] R.M. Manglik, J.P. Hartnett, and W.J. Minkowycz, "Professor Arthur E. Bergles on his 70th Birthday", *International Journal of Heat and Mass Transfer*, Vol. 49, Nos. 3–4, pp. 447–448, 2006.

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recently received several additional honors. In 2008, he was made Honorary Professor of Engineering Physics at St. Petersburg State Polytechnic University, Russia, and received the Distinguished Service Award from the ASME Heat Transfer Division. In 2009, he was awarded an Honorary Doctorate in Engineering Energetics from the Sapienza University of Rome, Italy.

In a dedicated and truly meaningful effort to ensure the future of heat transfer education and research, Art Bergles and Warren Rohsenow have established, with a very generous endowment, the Bergles–Rohsenow Young Investigator in Heat Transfer Award. This ASME Society-level annual award has been given to seven outstanding young professors. Furthermore, Art and Penny established the Bergles Professorship in Thermal Science in the Department of Mechanical Engineering at Iowa State University, Ames, IA. The second holder of this professorship was named last year.

While reflecting upon the past and speculating on the times to come, Art considers the future to be bright for heat transfer, especially with the renewed worldwide urgency and focus on energy issues. To address the concerns of the "energy crisis", to use the popular idiom that first found currency in the 1970's and its manifestations over the three decades since, the essential role of heat transfer research and engineering is unquestionable.[2] Nevertheless, Art has expressed several very fundamental concerns about the workings of the heat transfer community. He finds that researchers are so strapped for time that they have made a choice: "Everybody has time to write, but nobody has time to read". With the emphasis on citations and related quantitative measures, Art cautions of the very real danger that some excellent papers are ignored in tenure/promotion and award decisions. Certainly, the older literature, which apart from being seminal often provides transformational guidance for future work, tends to be unknown or ignored – especially if it does not turn up in computerized literature searches. With increasing reliance on information technology, this problem is compounded by the fact that vast portions of the heat and mass transfer literature are still not scanned into computer data bases so that full copies can be obtained. In his view there also appear to be disadvantages associated with the total reliance on electronic publishing – from submittal to review to publication to reading. For reading papers, he contends that the attention given to a computer monitor and an electronic copy is arguably less than that given to a hard copy. However, realizing that every generation faults their successors, Art fervently hopes that these problems will be overcome.

In the generational passage of time, Art is always pleased and delighted to be in contact with his many former students and colleagues, who now reside in almost every part of our globe. Knowing that they are doing well is for him a source of both personal and professional joy! He is saddened, though, to learn of the passing of valued associates, which is happening with increasing frequency. In reminiscing upon their work, Art hopes that their contributions to heat transfer will not be forgotten, and so do we. We also hope that, Art would continue to guide us with his wisdom for many, many more years to come as we wish him good health and happiness in this 75th year of his exemplary life.

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[2] In 1990–91, as President of ASME, Art had advocated for instituting a strong and well-reasoned energy strategy, one which emphasizes reduced consumption and improved efficiency rather than relying only on energy production, while the US President and Congress of that time had debated this issue; see, for example, A.E. Bergles, "A Closer Look at the National Energy Strategy", *ASME News*, Vol. 10, No. 11, April 1991.