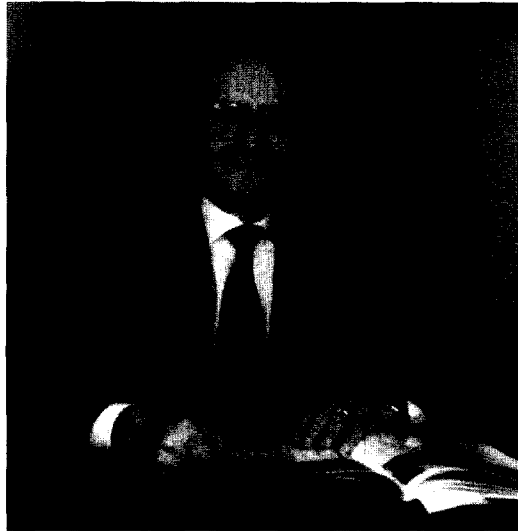


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## In Memoriam—Professor Mario Silvestri (1919–1994)



On 12 September 1994, the international heat transfer community lost a great scientific and public figure, Professor Mario Silvestri, an outstanding personality as a researcher, educator and historian. His sudden death has deeply saddened all the people who knew his matchless humanity and wisdom.

Professor Silvestri was born on 10 June 1919 in Verona, Italy, and for about 30 years played a very important role in the Italian energetics policy, serving as a consultant for the Scientific Research Ministry on energetics matters.

He received his BS and MS degrees in Electrical Engineering in 1941 at the Polytechnic of Milan, and obtained his Ph.D. degree in Nuclear Engineering in 1954. His brilliant university career proved his great gift as a teacher and educator. In 1962 he became full Professor of Nuclear Power Plants at the Polytechnic of Milan, Italy. In 1971 he obtained the chair of Applied Physics and in 1979 that of Science of Energy.

He was a pioneer, in Italy, of the research into heat transfer and two-phase flow applied to nuclear reactor thermal-hydraulics. His involvement was from both an experimental viewpoint (data sets on burnout, heat transfer, pressure drop, void fraction measurements, development of experimental devices, etc.), giving a remarkable contribution to the experimental work carried out at the CISE (Centre for Information, Studies and Experiences, near Milan) and at the CNEN Casaccia Laboratories (near Rome), and a theoretical one (e.g. a theoretical contribution to the understanding of

critical heat flux, proposing a correlation, based on a wide data set, which is still reliable for most new experimental data and presently used world-wide). In 1944, he was among the founders of the CISE, the first Italian centre for nuclear studies, still conducting energy research. In 1966, he was among the founders of the European Two-Phase Flow Group, a meeting of which is still held regularly every year.

During the 1960s (1962–1970), Professor Silvestri applied his knowledge of thermal-hydraulics to an important industrial application, being in charge of the design of the CIRENE nuclear reactor ( $D_2O$ -moderated, natural uranium fuelled, two-phase flow natural water cooled), which was completed in 1986 and forestalled by the new orientation of the Italian government towards nuclear power (PWR option) before the temporary suppression of the nuclear power program by the Italian Parliament.

From 1968, Professor Silvestri acquired experience in the field of geothermal power, where he studied the important industrial application of exploiting geothermal power sources through a two-phase gravimetric loop, contributing both theory and full-scale experiments.

From 1972 to 1982, Professor Silvestri was the president of the Progetto Finalizzato Energetica (Energetics Applied Project) of the CNR (National Research Council).

His recent scientific interest was thermodynamics, where he concentrated a lot of effort on the study

of finite time in transformations. He also proposed interesting definitions of process exergy and plant exergy for the optimization of energy-saving devices.

Professor Silvestri received many awards in Italy for his outstanding scientific work, now established in five scientific books and more than 250 papers published in journals and conference proceedings.

The open mind of Professor Silvestri is also documented by his acknowledged reputation as a brilliant historian of the nineteenth- and twentieth-century his-

tory of Western Europe, and recently of the second Punic war, publishing seven books.

On behalf of his friends we offer condolences to his family. The international community will always remember him for his outstanding scientific and educational achievements, and for his great and modest mind.

GIAN PIERO CELATA  
MAURIZIO CUMO