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POLISH ACADEMY OF SCIENCES

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TRANSACTIONS OF THE INSTITUTE OF FLUID-FLOW MACHINERY

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Aims and Scope

Transactions of the Institute of Fluid-Flow Machinery have primarily been established to publish papers from four disciplines represented at the Institute of Fluid-Flow Machinery of Polish Academy of Sciences, such as:

- Liquid flows in hydraulic machinery including exploitation problems,
- Gas and liquid flows with heat transport, particularly two-phase flows,
- Various aspects of development of plasma and laser engineering,
- Solid mechanics, machine mechanics including exploitation problems.

The periodical, where originally were published papers describing the research conducted at the Institute, has now appeared to be the place for publication of works by authors both from Poland and abroad. A traditional scope of topics has been preserved.

Only original and written in English works are published, which represent both theoretical and applied sciences. All papers are reviewed by two independent referees.

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Professor Eustachy S. Burka
on the 50th anniversary of his research work

Professor Eustachy S. Burka completed his higher education, commenced at the Mechanical Engineering Department of the Technical University of Lvov, in the academic year 1949/50 at the Mechanical Engineering Department of the Technical University of Gdańsk. He started his scientific and didactic career in 1947 as an associate research assistant in the Chair of Hydromechanics and Water Turbines at the Technical University of Gdańsk. Since 1956 he had been involved

simultaneously with two posts, as he started to work also at the Department of Rotating Machinery, and, subsequently, in 1956 at the IFFM PAS in Gdańsk. Until the end of 1994 he led the Department of Liquid Dynamics at IFFM PAS.

He is a prominent specialist in the area of fluid mechanics as well as in the theory of fluid-flow machinery. The scope of work, undertaken by professor E. Burka, where he attained most of his achievements, encompasses investigations of turbulent flow, investigations of water machinery using the aerodynamic method, physics of cavitation, theory of rotating hydraulic machinery and flows in slots. Many of the results of his works have been incorporated into the textbooks.

He conducted scientific investigations and lectures at several foreign institutions, such as Technical Universities of Munich, Vienna, Budapest, Bratislava, Ljubljana, Graz, Trondheim and Timisoara. He lectured at the Technical University of Gdańsk as well as at the University of Warmia and Mazury in Olsztyn. Since 1992 he has been supervising, at IFFM PAS, the diploma specialisation Fluid Mechanics, which forms a separate course under the auspices of the Faculty of Technical Physics and Applied Mathematics of Technical University of Gdańsk. He was a member of several Scientific and Departmental Boards as well as a member of the Committee of Mechanics of PAS.

He is a founding member of the Polish Society of Theoretical and Applied Mechanics. In his abundant activity he is a co-originator as well as an organiser of 9 cyclic Summer Schools on Fluid Mechanics. He is a founder and the Editor in-chief of, a pioneering in Poland and the world, a multi-volume edition FLUID-FLOW MACHINERY. Up to date 25 volumes of that publishing have been released. For two sessions he was a vice-chairman of the Gdańsk Scientific Society as well as a member of the Programme Board of the Gdańsk Millennium.

During occupation he was an officer of the Home Army in the Lvov North command-in-chief. He was awarded with military distinctions of the Polish Government in Lvov, amongst the others, three times with the medal of the Fatherland to his Defender, the Home Army Cross and the Silver Cross of Merit with Swords. Recently he was honoured with the title of the Veteran of Fights for Freedom and Independence.