

IN MEMORIAM: DR. ENG. LESZEK JAWORSKI (1961–2021)

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We are saddened to inform that 59-year-old Dr. Eng. Leszek Jaworski, a specialist in the field of satellite geodesy and long-term employee of the Department of Planetary Geodesy of the Space Research Centre of the Polish Academy of Sciences (SRC PAS), passed away on February 21, 2021.



BIOGRAPHY AND ACHIEVEMENTS

He was born on December 27, 1961, and graduated from high school in 1981. He began his studies at the Faculty of Geodesy and Cartography of the Warsaw University of Technology, from which he graduated in 1986. His first and, as it turned out, last job was at SRC PAS, where he worked and conducted academic research. Additionally, between March and December 1997, he was also employed at the Head Office of Geodesy and Cartography as the chief specialist.

The 1980s were the years of the emergence of a new surveying technique related to the use of GPS (Global Positioning System) satellites. The technique was first developed theoretically at the Department of Planetary Geodesy. At that time, GPS was something of a mystery to us, as the American military system was shrouded in secrecy, and there was an embargo on the purchase of equipment. Scant academic reports, however, indicated the great potential of this technique, which aroused the interest of Leszek Jaworski, who enthusiastically engaged in this subject.

The change of the political system after 1989 also brought changes in the practice of geodesy. New equipment became available, and the first observation projects began. Cooperation was



established with Western Europe countries, namely, Germany, France, and Sweden. This opened up new perspectives for research, not only on a national, but also on an international, scale. Leszek Jaworski quickly became an outstanding expert in the use of GPS technology, playing a leading role in the execution of the EUREF-POL (Polish part of European Reference Frame) project in 1992, which led to the implementation of the European geodetic reference system EUREF in Poland. He was the author of an analytical solution with the help of the Bernese GNSS Software, the first application of this program in Poland.

He also participated in all subsequent GPS observation campaigns in Poland, which culminated in the establishment of the POLREF (Polish Reference Frame) nationwide geodetic network in 1994-1995. The design of this network was largely authored by Leszek Jaworski, with the participation of Stanisław Gelo from the Head Office of Geodesy and Cartography. Dr. Jaworski supervised the measurement projects and then managed the data processing. He also carried out an analysis of the transformation between the classic network and the POLREF network, for which he received PhD degree in 2014.

Leszek Jaworski also made a significant contribution to the establishment of a geodetic levelling network, both in the satellite version (EUVN project – European Vertical Reference Network) and in ground levelling. He participated in various projects in cooperation with the European Space Agency, as well as in the organization of training courses for students in the field of satellite geodesy.

For his work on geodetic networks in Poland between 1992 and 2001, in 2002, he received an award from the Minister of Infrastructure for outstanding achievements in the field of Geodesy and Cartography for *“Introduction of a uniform geodetic reference system EUREF'89 in Poland”*.

At the beginning of the 21st century, his activities were devoted to the development, examination and testing of ASG-EUPOS (Active Geodetic Network – EUPOS) national geodetic network of about 120 reference stations established by the Primary Office of Geodesy and Cartography. His great achievements in this field are very well known by Polish scientific and engineering geodetic community.

Since 2008, Dr. Jaworski took over the responsibility for the station RIMS (Ranging Integrity Monitoring Stations) of the EGNOS (European Geostationary Navigation Overlay Service) system, located in the SRC PAS, which he successfully ran until his unexpected death. The station operated under the auspices of the European GNSS Agency for the European Air Traffic Safety Agency, and the quality of the station's operation was highly rated by international bodies.

Dr. Eng. Leszek Jaworski – for many years – supported his colleagues from the Borowiec Astrogeodynamic Observatory (BAO), belonging to the SRC PAS. His knowledge and experience were precious. Leszek was helping colleagues from the BAO in the use of the GNSS equipment and measurements (BOR1 station, AOS laboratory) and in determination of both the calibration distance for the laser ground target (BORL7811 station) and geodetic markers in the Observatory.

IN MEMORIAM

Leszek was a very hardworking and an energetic person. He was very friendly, always ready to help others.

The unexpected passing of Dr. Eng. Leszek Jaworski is deeply felt at the Department of Planetary Geodesy – we will continue his work and cherish our memories of him.