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A NOTE ON STANISŁAW JANECZKO

Stanisław Janeczko is one of the leaders of Polish mathematical community. He is an important member of the international singularity theory community. In Poland he is best known for his huge and important organizational work for the mathematical and scientific society. Outside Poland he is well known as an organizer of many international conferences and events, as a major researcher and a collaborator of many mathematicians. Stanisław Janeczko is a professor of analysis and singularity theory at the Warsaw University of Technology and professor of mathematics at the Institute of Mathematics, Polish Academy of Sciences. His research interests include singularity theory, symplectic geometry, differential topology and geometric analysis. Furthermore, since the very beginning of his career, he has been closely related to fundamental problems of physics, chemistry and practical technology.

Stanisław Janeczko was born on 25th August 1953. He studied at the Faculty of Physics of the University of Warsaw where he obtained the M.Sc. degree in mathematical physics in 1978. At that time he obtained the Smoluchowski award for outstanding study results. In 1981 he obtained the Ph.D. degree in mathematics under the supervision of professor Krzysztof Maurin. Since that year he has been working at Warsaw University of Technology. He created the group of the singularity theory at WUT and he established the Warsaw singularity theory seminar. Since 1994 he has been the head of the Department of Analysis and Singularity Theory—a unique department of this kind in Europe. He obtained habilitation at the Institute of Mathematics of Warsaw University of Technology in 1988. In 1992 he started to work as an associate professor. In 1997 he was awarded the academic title of professor by the President of Poland. Since 2003 Stanisław Janeczko has been working as a full professor at Warsaw University of Technology. He is one of the leading scientists at the University. In 1993 he was elected the Dean of the Faculty of Applied Physics and Mathematics. The faculty was composed of two scientific units: Institute of Mathematics and Institute of Physics. During Stanisław Janeczko's deanship, the research and educational quality of both institutes were significantly improved. Therefore, it was possible to create two new faculties at Warsaw University of Technology:

Faculty of Physics and Faculty of Mathematics and Information Science. In 2008 he was the founder and the director of the Center for Advanced Studies of Warsaw University of Technology. He also plays an important role in the Polish mathematical community. From 2002 through 2010 he was the director of the Institute of Mathematics of the Polish Academy of Science. In 2004 he came up with an idea and organized the first Congress of Young Polish Mathematicians—the biannual conference for high school students. He created a new research unit of this institute: the Mathematical Center for Science and Technology. Since 2002 Stanisław has been the director of the Banach Center in Warsaw. He was the creator and organizer of many international singularity theory meetings e.g. Banach Center Symposia, Geometry and Topology of Caustics, Polish-Japanese Singularity Theory Working Days, Geometric Singularity Theory workshops. For over 15 years Stanisław Janeczko has been a member of the Polish jury of the European Union Contest for Young Scientists. He also proposed a new award "Medal for a Young Scientist" for outstanding research achievements, which was founded according to his complete project by Warsaw University of Technology.

For all his organizational activity, Stanisław Janeczko has also obtained many interesting and inspiring results in various fields of the singularity theory and its applications. In his first published paper, he studied algebraic criteria for k-determinacy of germs of smooth functions on a manifold with boundary. His next subject of research was the applications of singularity theory to mathematical physics. He applied Lagrangian singularities in phase transitions, in statistical mechanics and thermodynamics. Lagrangian singularities remain one of the major subjects of Stanisław Janeczko's research. In collaboration with Mark Roberts and Adam Kowalczyk, Stanisław classified equivariant Lagrangian singularities and symmetric caustics. Together with Henryk Żołądek, he studied singularities of images of Lagrangian submanifolds. His another research subject was geometry of singular Lagrangian varieties, including Lagrangian stars and their reduction. He also classified singularities of isotropic and coisotropic submanifolds. Together with Shyuichi Izumiya, he proposed a new symplectic framework for multiplane gravitational lensing. In collaboration with Eligiusz Wajnryb, Stanisław investigated bifurcation diagrams and caustics in stochastic differential systems. Together with Adam Kowalczyk, Wojciech Domitrz and Zbigniew Pasternak-Winiarski, Stanisław Janeczko studied geometry of singular symplectic structures. He also applied the singularity theory to optics investigating optical diffraction with Ian Stewart, quasicaustics with Galina Plotnikowa, the singularity theory model for laser action with Cao Long Van, singularities of systems of rays and covariant symplectic geometry of binary forms. In collaboration with Tadeusz Mostowski, Stanisław conducted research on generic properties of exponential

map and gliding rays in nonholonomic systems. He defined a new affine invariant of a smooth hypersurface—the centre symmetry set, which has been intensively studied by him and many mathematicians, including Peter Giblin and Vladimir Zakalyukin. Solvability problems of implicit differential systems were investigated by him, Ferrand Pelletier and Takuo Fukuda. Stanisław Janeczko also studied cohomological invariants of symplectic relations and geometry of the Lagrangian Grassmannian together with Małgorzata Mikosz. Together with Mariusz Zając, he investigated singularities of almost periodic functions. Interesting results concerning the group of symplectomorphisms were obtained by Stanisław Janeczko in collaboration with Zbigniew Jelonek. Symplectic singularities of curves and isotropic mappings were studied by him and Goo Ishikawa. Stanisław also wrote a series of papers on the method of algebraic restrictions together with Misha Zhitomirskii and Wojciech Domitrz. He also collaborated with applied researchers L. Gradoń, M. Abdullah, F. Iskandar, K. Okuyama on investigation of self-organization kinetics of masoporous nanostructured particles.

Stanisław Janeczko has written over seventy research papers and has collaborated with over twenty researchers from many countries. He was the supervisor of the PhD thesis of Wojciech Domitrz, Małgorzata Mikosz and Mariusz Zając. He was an editor of many conference proceedings: Banach Center Publicatios: "Panoramas of Mathematics" 1995, "Singularities and Differential Equations" 1996, "Symplectic Singularities and Geometry of Gauge Fields" 1996, "Geometry and Topology of Caustics", 1999, 2004, 2008, "Geometric Singularity Theory" 2004, Demonstratio Mathematica: "Polish-Japanese Singularity Theory Working Days" 2010, Advanced Lectures in Mathematics: "Advances in Geometric Analysis" ALM 21, 2011, Topology and Its Applications: "First Workshop in Generic Geometry and Applications" 2012, Journal of Singularities: "Second Workshop in Generic Geometry and Applications" 2012. He also founded the new series of Monographs and Lecture Notes, as well as a scientific laboratory with its newsletter "Profundere Scientiam".

We wish you a happy birthday Stanisław, best wishes from all your friends and coworkers! We wish you as many new ideas and as much energy to realize them as you have always had in all these years with us.