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Professor Aleksandra Czyrska-Filemonowicz on her 65th birthday

Together with the Polish and the international materials science and engineering community Professor Aleksandra Czyrska-Filemonowicz celebrates her 65th birthday. She, the internationally oriented scientist, is a pioneer of the internationalisation of Polish materials science and, in particular, her favourite field, electron microscopy. Many of us know Polish materials science from her own excellent work, from her work for the Polish community and from her exemplary work in international organisations. Born in Katowice in 1946 into a family with a background in both arts and engineering she – as many good scientists – had an upbringing with an emphasis on performing arts, in particular music. In 1963 she joined the Academy of Mining (today AGH University of Science and Technology) at Krakow graduating in metallurgy in 1969. Working on her doctorate she had the privilege to be able to learn from two great Polish scientists. Professor Tadeusz Malkiewicz, the great Polish metallurgist who became her supervisor, and Professor Stanislaw Gorczyca, the great pioneer of Polish electron microscopy. He had opened the first electron microscopy laboratory in Poland in 1960. After receiving her PhD in physical metallurgy and solid state physics in 1975 she was, interrupted by a four year stay at the Research Centre in Jülich, a lecturer at AGH-UST until 1990 when she received her Doctorate of Science (habilitation). After another four years in Jülich she was called back to Krakow becoming the successor to Stanislaw Gorczyca as head of the electron microscopy laboratory, and in 1998 as Full Professor in the Faculty of Metals Engineering and Industrial Computer Science at AGH-UST.

Through her scientific work, Professor Aleksandra Czyrska-Filemonowicz has made excellent and highly original contributions to the field of physical metallurgy in the original sense of this term. She is convinced that it is the physics of the complex metallurgical systems that has to be better understood to be able to find and improve the processing of materials for better or new custom tailored properties. As an electron microscopist much of her work concentrates on the relations between structure and chemistry and properties. We find her contributions in the field of nuclear-energy materials, high-efficiency fossil fuel power plants, the fusion reactor and processes for modern sustainable energy production, in nickel-based superalloys, titanium-based alloys, ODS-strengthened alloys, in high-temperature turbine technology, high-performance jet engines and others. She is a passionate and careful teacher, and by educating more than a generation of motivated students she has engaged herself in a tradition of dedicated work for improving materials science and technology in Poland. She was the initiator and coordinator of several bilateral cooperation projects of her university with Austria, Germany, Italy, Japan, Switzerland and the United States. Of her long list of national and international obligations we only mention her appointment to the Committee for Materials Science of the Polish Academy of Sciences, as Polish representative to the Management Committee of COST Action 522 and 536, her election as a member of the Executive Committee of the Federation of European Materials Societies and, very recently, as a member of the European Centre for the Development of New Metallic Alloys and Compounds. Since 2004 she has been the coordinator of a bilateral cooperation project between AGH-UST with Pratt & Whitney and since 2008 she has been a member of the Scientific Council of Arcelor Mittal. In the 6th Framework Programme of the EU she led a highly efficient and very effective unit promoting gender mainstreaming in Central and Eastern Europe.

Currently Professor Aleksandra Czyrska-Filemonowicz is in the process of building up Poland's new key facility in high-resolution electron microscopy at AGH-UST with world-class equipment. This laboratory is receiving great international support on the basis of the fact that it has been founded as an International Centre of Electron Microscopy for Materials Science. In fact her contributions to Poland's electron microscopy and materials analysis cannot be overestimated. Together with her colleagues she founded the Polish Society of Microscopy as well as the Polish National Committee for Electron Microscopy, and she was the first president of these institutions. The increasing internationalisation of Polish electron microscopy was rewarded by Poland's membership in the International Federation of Electron Microscopy Societies.

On her birthday Professor Aleksandra Czyrska-Filemonowicz can look back on an impressive career, outstanding both with respect to scientific achievement and social responsibility to serving her country and the international science community. Among her many awards is the Golden Cross of the Republic of Poland.

Knut Urban