

**Memorial Resolution of the Faculty of the University of Wisconsin-Madison
on the Death of Professor Emeritus Jan Rapacz**

Dr. Jan Rapacz, Professor Emeritus of Genetics at the University of Wisconsin, passed away May 5, 2013 in Krakow, Poland at the age of 84.

Jan was born on June 21, 1928 and grew up on the family farm in the Polish highlands with four younger siblings. His primary education was interrupted for almost 5 years during the occupation of WWII, having to work with his father in the forest. However, with his curiosity and diligence he was tutored by the priest and got into high school and later into the famous Jagiellonian University in Krakow.

He received the B.S. degree in Animal Sciences (1953) and the M.S. degree in Animal Physiology (1955) from the Faculty of Animal Sciences, University of Jagiellonica, Krakow, Poland. He received the Ph.D. in Immunogenetics in 1959 joint from the University of Jagiellonica, Krakow and the Medical School, Zabrze-Rokitnica, Poland. His paper on the Heredity of Rabbit Gamma Globulin iso-antigens (*Acta Genetica et Statistica*, Basel 1962) set the stage for his research on genetic variations of antigens in blood groups and other protein systems.

In 1961 Jan received a Post-doctoral fellowship in the Department of Genetics, University of Wisconsin-Madison, working with Dr. Richard Shackelford. He carried out successful immunogenetic studies on identification of risk factors linked to infertility in female mink, high mortality in newborns and the causes of fatal anaphylaxis.

After returning to Poland in 1963, he established and was designated Director of the Immunogenetic Laboratory, at the National Polish Institute for Animal Research, Balice, Poland, for basic and applied research on farm animals, including fish. His laboratory was a leader in the development of blood group reagents for parentage testing in cattle that were later used in many laboratories throughout Europe.

In 1965 Jan received an invitation from the Inter-American Tropical Tuna Commission in La Jolla, CA to join a research team to develop genetic markers for the identification of three species of Tuna to study their migration. While the State Department issued him the visa, the Defense Department refused clearance to work at the Scripps Institute in La Jolla, because San Diego was considered a "sensitive defense area" and Jan was from a communist country.

Thus he was invited back to the Genetics Department, University of Wisconsin as Visiting Professor, to complete research on mink, and to continue immunogenetic studies on cattle and swine that he initiated in Poland. These visits finalized research on mink that produced significant contributions to advance knowledge in the basic health sciences, enhanced the economic values of the mink industry, and advanced preliminary investigations on the genetic diversity of classes and subclasses of major immunoglobulins (IgG, IgM and IgA) in cattle and swine as to their involvement and interdependence in passive and active humoral immunity.

He returned to Poland in 1968 as Director of the Immunogenetic Laboratory, at the National Polish Institute for Animal Research, Balice, Poland, but the Polish Intelligence authorities began

(continued)

political intimidation that detracted from his scientific work, and he sought better conditions abroad. He left Poland in 1969 and spent six months as Visiting Scientist at the Central Blood Group Laboratory of the Swiss Red Cross, Bern, Switzerland. He worked on the characterization and inheritance of human blood plasma lipoprotein variants (apolipoprotein B). Antibodies to lipoprotein were detected in a patient's blood as a result of receiving multiple blood transfusions. Studying the distribution of apolipoprotein haplotypes in different human ethnic populations as well as primates led to the original study and publication in The Proceedings of the National Academy of Science indicating Africa as the origin of *Homo sapiens sapiens*.

In 1970 he returned to Madison and was offered the position of Associate Professor of Genetics, joint between the Department of Genetics and Department of Meat & Animal Sciences, University of Wisconsin-Madison. He was promoted to full Professor in 1978, and headed the Immunogenetics Program until his retirement in 1998.

One of his greatest scientific achievements is the development of a world-unique swine model with familial hypercholesterolemia (FH) to facilitate experimental research on human atherosclerosis and coronary heart disease. This animal model has evolved over 20 years by breeding efforts that involved unique genotypes and phenotypes derived from 37 breeds and/or groups of pigs from this and the European continent. The FH swine show very close resemblance to human advanced coronary heart disease regarding composition, vascular location and progression to clinical events, including heart attack and sudden death. The model is still used today by cardiologists and investigators to study coronary events, testing of new drugs and stents for angioplasty.

Rapacz's idea that many aspects of lipid and lipoprotein metabolism are strongly influenced by genetic variation was ahead of its time. He maintained this view long before it became mainstream. However, this concept was eventually strongly supported by studies that required the technological advances of molecular biology. At the present time, human genetic studies continue to identify numerous gene variants associated with lipid metabolism and atherosclerosis.

He was an invited speaker to World Genetic Congresses, National, International and European Scientific Meetings on Atherosclerosis and Heart Disease and on Animal Genetics. He presented over 100 research reports at National and International scientific meetings. He contributed three chapters on animal models for the study of human heart disease.

He lived to the fullest with boundless energy, curiosity, intelligence, passion, joy, and love. His integrity was absolute; his spirit was immeasurable; his approach to life was fearless. Jan's signature statement to young students in his native hometown of Lubien was Seneca the Younger's phrase – "Per aspera ad astra," "Reach for the Stars," "Przez trudy do gwiazd."

He is survived by his wife and scientific collaborator Judith Rapacz-Hasler, daughter Wanda (Karol) Ledwich-Rapacz and son Jan Rapacz, jr. (Grażyna) and 4 Grandchildren, Dominika, Magda (Michal), Michal and Karolina.

Respectfully submitted by the Memorial Committee
Brian Kirkpatrick
Alan Attie
Marcin Filutowicz