



LAUDATIO

In honor to Professor Stanisława Stokłosowa upon conferment of the title of Doctor Honoris Causa from the University of Warmia and Mazury in Olsztyn in 2003

*“Every human being is a great dignity,
 Science through its discoveries
 Makes this dignity even greater”*

Prof. Marian Jutisz

I am greatly honored to be given the responsibility of presenting the scientific, educational and organizational work of Prof. Stanisława Stokłosowa, as she is an outstanding authority in *in vitro* studies of ovary functions.

Prof. Stanisława Stokłosowa was born on February 8, 1927 in Dobczyce. In 1949 she graduated from the Faculty of Biology at Jagiellonian University. She earned her PhD in animal physiology from Jagiellonian University in 1962 and became an assistant professor in 1972. Since completing her studies she has worked in the Institute of Zoology at Jagiellonian University and was conferred the title of professor in 1980. In 1997 Professor Stokłosowa retired but continued to be very active in the field of ovarian endocrinology and tissue culture. Her scientific works include 86 original papers, conference abstracts and other scientific publications concerning reproductive endocrinology, tissue and cell culture, physiology of gonadal cells in mammals, birds and fish. Many of these papers were published in leading international scientific journals such as *Endocrinology*, *Experimental Cell Research*, *General and Comparative Endocrinology*, *Cell Biology International Reports*, *Experientia*, *Animal Reproduction Science*, *Copeia*, *Acta Histochemica*, *Acta Physiologica Polonica*, *Folia Histochemica* and *Cytobiologica*.

The scientific achievements of the Animal Endocrinology and Tissue Culture Laboratory managed by Prof. Stokłosowa until 1997 comprises of 217 scientific papers, nine doctorate dissertations, three applications for

assistant professor and 90 MS theses. Her scientific output also includes two methodological procedures of isolation and culture of theca interna cells as well as methods for organ culture. In addition, two PhD students from Krakow's and Poznan's agricultural academies and one applicant for assistant professor from medical school carried out the experimental part of their research at Prof. Stokłosowa's laboratory. During her career, Prof. Stokłosowa has developed many state-of-the-art methods including *in vitro* methods as well as immunohistochemical, immunocytochemical, radioimmunological techniques and receptor analysis. She founded a scientific school of research in the field of reproductive endocrinology based on an *in vitro* approach using cultures of isolated ovarian and testicular cells in mono- and co-culture.

Three periods can be highlighted in the development of the professor's research. During the first period she learned of techniques, standard nowadays but at the time new, applied in histology, radiobiology, histochemistry, cytochemistry and electron microscopy. At that time her scientific interest was focused on studies of ovarian function. In her first papers she presented the influence of UV radiation on the development of mice ovaries and the distribution of nucleic acids during post-embryonic ovarian development. Cooperating with the Institute of Zoology at Charles University in Prague, she published two pioneering papers which demonstrated sexual dimorphism in the skin structure of sea trout and its dependence on sex hormones. These papers are recognized as classic and pioneering works in international scientific literature.

When she became a PhD, she initiated research on ovary function using a tissue culture approach. Organ cultures were among the first techniques employed in this research. She organized and ran the Tissue Culture Laboratory. Long-term research at the University of Illinois, USA resulted in a joint publication with Prof. Nalbandov in Endocrinology and assistant-professor dissertation. Upon return to Poland she introduced new research techniques at the Tissue Culture Laboratory. In recognition of her research, the director of the National Institute of Health awarded her with a grant of high priority to study hormonal regulation of follicular function *in vitro*. Moreover, for many years World Health Organization granted her with the SSP grants. During this time, she developed an *in vitro* model of isolated ovarian cells.

Prof. Stokłosowa gathered a group of young scientists and students desiring to conduct research under her supervision. This time was very productive and resulted in publication of many scientific papers whose results were the first to introduce a new experimental *in vitro* model and often are cited as pioneering.

Development of method for isolation of theca cells made it possible to study relations between different types of ovarian cells in co-cultures and hormonal regulations of follicular cells functions. In 1976 she expanded her research to models of isolated testicular Leydig and Sertoli cells. At present this research is continued under successful supervision of Prof. Barbara Bilińska. Prof. Stokłosowa also initiated research on changes and hormonal regulation of androgen, estrogen and progesterone receptors in ovarian tissues. This entire research has served to understand the mechanisms and pathways of hormonal regulation of gonads at the cellular level.

The laboratory supervised by Prof. Stokłosowa was engaged in scientific cooperation with the Department of Animal Physiology at the Academy of Agriculture and Technology in Olsztyn (now the University of Warmia and Mazury in Olsztyn), the Institute of Animal Physiology and Nutrition of Polish Academy of Science in Jabłonna, the Institute of Animal Reproduction and Nutrition Research of Polish Academy of Science in Olsztyn, the Molecular Genetics Center of the Czech Academy of Science in Prague, the Institute of Hormones and Bioactive Factors in Uhrineves near Prague, the Department of Steroid Biochemistry in Glasgow, the Institute of Hormonal and Fertility Research in Hamburg, the Laboratory of Biochemistry at the University of Caen in France, University of Illinois, Urbana, and University of Maryland, Baltimore, USA.

Professor Stanisława Stokłosowa's most important achievements include:

- the development of a new field of research - reproductive endocrinology based on an *in vitro* culture models of isolated ovarian and testicular cells;
- the development of isolation methods of pure suspension of different types of gonadal cells in mammals, birds and fish;
- presenting for the first time the ability of prolactin to stimulate steroidogenesis in theca interna and early luteal cells in pigs;
- showing that prolactin, considered as non-luteotropic hormone in pigs, is a luteotropin during the porcine early luteal phase;
- demonstrating the presence of prolactin receptors in porcine theca interna cells and the cells of early corpus luteum;
- presenting the oocyte inhibitory effect on luteinization of follicular granulosa cells in rats;
- showing for the first time the characteristic, time-dependant dynamics of *in vivo* and *in vitro* steroid secretion during proestrus in rats;
- demonstrating the differences in steroidogenic potential of theca and granulosa cells in monocultures;

- showing that the interaction of various types of preovulatory follicular cells in co-cultures is a prerequisite for intensive preovulatory estradiol synthesis and inhibition of progesterone production, the latter being responsible for suppression of aromatase activity;
- training a team of independent and talented scientists who continue and develop the research on gonadal cells *in vitro*;
- managing workshops on *in vitro* methods for graduate students and scientists in Poland and abroad.

It is necessary to emphasize that Prof. Stokłosowa has organized nine international and three Polish conferences and symposiums, all with great success. Her creativity and attitude towards science is continued by distinguished scientists such as: Prof. Barbara Bilińska, Prof. Ewa Gregoraszczyk, Prof. Maria Szoltyś, Associate Prof. Maria Słomczyńska and many doctors and students in Poland and abroad.

In conclusion, I would like to emphasize that Prof. Stokłosowa has greatly contributed to the world of science. She founded an experimental school of endocrinological studies of female and male reproductive systems, which has since aided the understanding of the complex reproductive processes. I would also like to stress that Prof. Stokłosowa has significantly contributed to the scientific community in Olsztyn by training many young employees from Olsztyn in her laboratory. She has taken an active part in the scientific development of this city where she still has many faithful co-workers. After becoming thoroughly acquainted with her scientific, educational and organizational work, I emphasize that Prof. Stokłosowa is a distinguished scientist whose position in the world of science has long been established.

The great physicist, Isaac Newton, at the peak of his career, said “I feel like a little boy standing at the seashore who found a shapely stone or a pretty shell, whilst the immeasurable ocean of truth is still undiscovered before me.” These words can also reflect Prof. Stokłosowa’s scientific attitude and modesty.

Lastly allow me to recall the words said by Prof. Akira Yokoyama from Nagoya University in Japan in 1996, “Polish Science can be proud to have within its community such an eminent scientist and noble person like Prof. Stanisława Stokłosowa.”

Prof. Kazimierz Kochman