



IN MEMORIAM

Professor Michail Slavchev Davidoff (18.07.1940 – 19.06.2024)
Corresponding member of the Bulgarian Academy of Sciences
Academician of the German National Academy of Sciences Leopoldina

On 19th of June 2024 Professor Michail Davidoff passed away in Hamburg. Michail Davidoff was born into a German-Bulgarian family on July 18th, 1940 in Sofia. His father was Slavtscho M. Davidoff, Professor of Dental, Oral and Maxillofacial Surgery, and his mother Irmgard was German. The Bulgarian revolutionary hero Vasil Levski was born on the same date July 18th in 1837 and Prof. George Chaldakov exclaimed “A coincidence and/or a touch by God’s finger”.

In 1966 Michail Davidoff graduated in medicine as a distinguished student at Higher Medical Institute in Sofia (now Medical University-Sofia). Soon after he stated his research and academic career. Thanks to his nice personality devoted to do science and teaching, he quickly found a mentor in Prof. Dr. Georgi P. Galabov, the head of the Department of Anatomy in Sofia, who supported him and let him qualify. As a

student he had already been allowed to work in research laboratories. After completing his medical studies he obtained the position of a research assistant at the Central Laboratory of Regeneration (CLR) at the Bulgarian Academy of Sciences. At the same time he became an assistant lecturer at the Department of Anatomy, Histology and Embryology at the Medical University of Sofia.

In 1969, Michail Davidoff started his advanced training with Prof. Theodor-Heinrich Schiebler, Director of the Institute of Anatomy at the University of Würzburg, Germany. This stay was a great pleasure for him since he was familiar with the German language and culture through his parents. Hence, Michail Davidoff had no difficulty to settle in Germany and to deliver his anatomy teaching in German.

In 1970 Michail Davidoff defended PhD thesis „Electron microscopical characteristics and histochemistry of the developing and differentiated guinea pig placenta“. In 1974 he was promoted in Assoc. Professor in Anatomy, Histology and Embryology in the CLR and in 1977 he defended dissertation for Doctor of Medical Sciences on “Lysosomes of the Central Nervous System”. Michail Davidoff was invited many times as Visiting Professor in the Institute of Anatomy, at Würzburg University (1975-1983). His first time in Würzburg was such a stunning success and it prompted Michail Davidoff to be invited 5 times for a total of 5 years to Würzburg as a guest scientist, lecturer and professor. In 1982 he was promoted in Professor in Anatomy, Histology and Embryology in the CLR and later he was Visiting Professor at the Institute of Anatomy at University of Hamburg, Germany (1985-1989). Michail Davidoff was very happy to work and settle in Hamburg as his mother was born in Hamburg. In 1985 he was elected as a member (Academician) of the German National Academy of Sciences Leopoldina and three years later in 1989 he was elected as a Corresponding member of the Bulgarian Academy of Science.

Michail Davidoff worked as a Professor and he was Deputy Director of the Institute of Cell Biology and Morphology (now Experimental Morphology, Pathology and Anthropology with Museum) at the Bulgarian Academy of Sciences (1989-1991). Later he moved to Germany as Visiting Professor in the Institute of Anatomy at University of Hamburg (1990-1993). After several terms as a guest scientist Michail Davidoff had the opportunity to take up a permanent position in Hamburg. In 1993, he was appointed C3 professor for anatomy and Deputy Chair of the Department of Microscopic Anatomy at the Institute of Anatomy, University of Hamburg. Prof. Michail Davidoff taught many students in Hamburg in lectures and courses on macroscopic anatomy, cytology, histology, microscopic anatomy, embryology and neuroanatomy. All his colleagues and students were impressed by his knowledge and diligence in presenting. He trained young scientists and doctoral students and they achieve scientific success under his supervision. Prof. Davidoff was Acting Director of the Department of Microscopic Anatomy of the Institute of Anatomy, University of Hamburg (2001-2005).

Prof. Michail Davidoff retired in 2005, but continued to work on stem cell topics, out of office, at the Medical History Museum Hamburg at the University Hospital Hamburg-Eppendorf. But even after his retirement, he was actively involved at the University of Hamburg, including the Board of the Friends and Sponsors of the UKE-Hamburg. He was able to complete the monograph “The Neuroendocrine Leydig Cells and their Stem Cell Progenitors, the Pericytes” with co-authors Dieter Müller, Ralf Middendorff and Adolf-Friedrich Holstein. Prof. Michail Davidoff published more

than 200 publications in prestigious international journals that were cited more than 3500 times.

Two years after his graduation in medicine Michail Davidoff became a member of the Bulgarian Society of Anatomy, Histology and Embryology (now Bulgarian Anatomical Society) in 1968. Since 1969 he was a member of the Society for Histochemistry, Germany. For a long time he was a member of the Board of the Bulgarian Anatomical Society (1971–1989) - Treasurer and Secretary and he was also President of the Histochemical Section of the Bulgarian Society of Anatomy, Histology and Embryology (1982-1989). Prof. Michail Davidoff was Member of the board (1998 – 2002) and President (2001) of the Anatomische Gesellschaft. He was also a member of Editorial Boards of scientific journals – “Anatomischer Anzeiger”, “Histochemistry”, “Zeitschrift für mikroskopisch – anatomische Forschung”, “Biomedical Reviews”, “Acta Morphologica et Anthropologica”

The major scientific contributions by Prof. Michail Davidoff can be summarised in the following topics:

➤ **Morphology of the central and peripheral nervous system** that involved characterisation of the vegetative centres of the hypothalamus and spinal cord, vegetative network of the thoracic spinal cord of the Guinea pig and the rat. Prof. Michail Davidoff found out coexistence of neuroactive substances in different structures of the central nervous system as well as regeneration capacity of the damaged spinal cord.

➤ **Structure and function of parenchymal organs.** Prof. Michail Davidoff established regional differences and functional characteristics of the placental syncytiotrophoblast, the kidney, the liver, the adrenal gland and other organs.

➤ **Morphology, function and origin of neuroendocrine cell system.** Prof. Davidoff discovered neuroendocrine nature of the testicular Leydig cells. Similarities between the Leydig cells and neural crest cells were found out.

➤ **Adult Leydig cells.** For the first time Prof. Michail Davidoff reported that Leydig cells of the testis originate by trans-differentiation from pericytes of the micro vessel wall. Pericytes of the testis are progenitors of adult Leydig cells. He considered pericytes as ubiquitous adult stem cells.

Pericyte hypothesis was his great inspiration until end of his life. Prof. Michail Davidoff received highest recognition by Anatomical Institute in Hamburg for expanding and strengthening of research on reproductive medicine. Leaving and working in Germany he maintained his close relationship and collaboration with Bulgarian colleagues. In his fine responsible manner Prof. Davidoff always supported and encouraged them to pursue their own research promoting scientific achievements of the Bulgarian cellular anatomy and morphology. He was always concerned to share his latest findings with his colleagues in Bulgaria and to let them partake in his successes. Prof. Michail Davidoff was highly respected and recognised as a one of the greatest anatomist and morphologist in Bulgarian scientific societies. Being elected as a member of the German National Academy of Sciences Leopoldina, he represented Bulgaria and ultimately followed the steps of his famous predecessor Prof. Dr. Dimitri Kadanoff. Over decades, Prof. Michail Davidoff's talks at national Bulgarian scientific meetings were highly appreciated.

Prof. Michail Davidoff was one of the greatest scientists, with bright mind and personality, beloved teacher, colleague and true friend. He was a universe in science, and a universe in personality with enormous, humanity, generosity and high moral. With his refine manner in communicating, working and leading people Prof. Michail Davidoff will remain unreplaceable and remembered forever.

Nina Atanassova and Adolf-Friedrich Holstein

*Prof. Michail Davidoff at National Congress
of the Bulgarian Anatomical Society in 2007 in Stara Zagora.*



Fig. 1. Prof. Michail Davidoff (in the centre) with Prof. Wladimir Ovtcharoff (on the left) and Prof. Enrico Marani (on the right).



Fig. 2. Prof. Michail Davidoff with Prof. Vasil Vassilev (on the left) and Prof. Yordan Yordanov (on the right).



Fig. 3. Prof. Michail Davidoff presenting a lecture on his pericyte hypothesis of Leydig cell origin.