# In memory of Ferenc Obál, Jr.

By James M. Krueger

Ferenc Obál, Jr. Photo courtesy of James M. Krueger

On June 29, 2004, Dr. Ferenc Obal Jr. died in Szeged Hungary as a result of cancer. Dr. Obal is well known and respected within the world sleep research community. Ferenc began his academic career in mathematics and biochemistry in parallel with his medical studies. He received his M.D. from A. Szent-Györgyi Medical Center in 1973. Later, he began work in physiology and received his Ph.D. in 1984. In 1996 he habilited and received his academic doctorate degree. He held the rank of Professor of Physiology at A. Szent-Györgyi Medical Center at the time of his death. He also held several other appointments during his academic career including, Post-doctoral Fellow, University of Zurich; Visiting Professor, University of Tennessee Medical Center and Visiting Professor at Washington State University. He was active in the European Sleep Research Society, the Hungarian Physiological Society, Hungarian Neurobiology Society and the European Thermoregulation Group. He was the host of the 1986 ESRS meeting held in Szeged, Hungary. He was also the recipient of the Szechenyi Professorship.

Ferenc published almost 200 manuscripts. His early work examined the relationships between sleep and temperature regulation. For example, in one of his early studies he showed that hypothalamic warm sensors were responsible for heating-enhanced sleep (Acta Physiol. Acad. Sci. Hung. 60: 27, 1982). His early work also encompassed many studies involving electrical stimulation of the brain and sleep and the effects of various pharmaceutical manipulations mostly directed at specific neurotransmitters on the stimulated sleep.

In the mid-1980s he began his studies investigating the roles that neuropeptides play in sleep regulation. Perhaps best known is his work with the somatotropic axis. Over a period of years Dr. Obal Jr. provided a long and convincing series of manuscripts describing the physiological role of growth hormone releasing hormone (GHRH) in non-rapid eye movement sleep (NREMS). For instance, he showed that its central or systemic injection enhanced NREMS while its inhibition reduced spontaneous NREMS. He showed that microinjection of GHRH into the preoptic area

enhances NREMS. He worked with several strains of rats and mice having specific mutations of the somatotropic axis with each exhibiting the predicted sleep deficits. He also described sleep-linked changes in hypothalamus GHRH mRNA and peptide content. These collective results are summarized in a recent review entitled “GHRH and Sleep” to be published in Sleep Medicine Review; they provide perhaps the clearest example of humoral regulation of sleep.

Dr. Obal Jr. also investigated other neuropeptides. His work is key to the body of evidence linking prolactin to REMS regulation. For instance, at the time of his death, he was working on a manuscript showing that prolactin knockout mice have less spontaneous REMS than heterozygotic litter mates. He also developed the evidence linking the REMS-promoting activities of VIP to prolactin.

Ferenc was instrumental in developing a new theoretical approach to the brain organization of sleep and of sleep function (see J. Sleep Res. 2: 63, 1993). These theoretical ideas provide a mechanistic explanation of how the brain keeps track of prior sleep-wake history and simultaneously offers a mechanism of sleep homeostasis. Further, it provides an explanation of how (and why) sleep can be targeted to specific areas of brain depending upon prior use.

On a more personal note, I have clear memories of my first meeting with Ferenc in 1986 in Puerto Rico. Ferenc indicated to me that he had recently developed some evidence that GHRH promoted NREMS and he wanted to extend those studies. That meeting led to our long-term scientific collaboration as well as to our friendship. For many summers we lived together and each evening over coffee we would discuss sleep research, and sometimes politics and religion as well. These were good times for us and I will dearly miss them. Ferenc was also beloved by all those in his and my laboratory. Not only did he provide them with scientific guidance, but also befriended them. In Szeged, his lectures were popular among students because they provided scientific content and were also entertaining.

Dr. Ferenc Obal Jr. is survived by his wife, Dr. Izabella Toth-Kosa, his two daughters, Dr. Izabella Obal and Annabella Obal, his grandson, Barnabus, and his parents and sister. His family has a strong tradition of biomedical research, e.g., his grandfather was the head of surgery in a clinic in Budapest and published many case studies. Ferenc’s father was the first to introduce the EEG into clinical practice in Hungary and is now Professor emeritus of the University of Szeged. His daughter, Izabella, has continued the family tradition; she recently defended her Ph.D. thesis on immune-mediated neuronal damage.

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