

## I N T R O D U C T I O N

This Special Issue of ActaBiomedica entitled “New Frontiers and Modelling in Neural, Endocrine and Immune Communication”, was conceived primarily to highlight some of the concepts presented during a series of symposia and lectures that took place at the University of Parma between March 2001 and October 2006. The presentations were organized by the Chairs of Human Anatomy of the University of Parma on behalf of the Italian Societies of Human Anatomy and Histology, Histochemistry, Endocrinology and Neuroscience, and presented under the general title of “Seminars in Functional Morphology”. They took place in the historical lecture hall “Aula Canuto” located within the Section of Human Anatomy of the Department of Human Anatomy, Pharmacology and Forensic Medici-

ne, sponsored by the School of Medicine of the University of Parma and the Society of Medicine and Natural Sciences of Parma. These seminars were attended by a diverse scientific group that included members of a large number of Italian scientific academies, National teaching hospitals, and PhD, clinical fellows, graduate students and postgraduate students from Universities throughout Italy. In specific instances, some seminars were complemented by scientific material provided by the newly established Museum of Human Anatomy, Pharmacology and Forensic Medicine at the University of Parma, which has devoted itself to innovative and modern uses of its historical collection. The contributors and list of the topics that were covered in the Seminars in Functional Morphology is given in Table 1.

**Table 1.** Lectures presented in the course of the “Seminars in Functional Morphology” between 2001 and 2006

Speaker	Affiliations	Lecture Title	Date
Giorgio Sandri PhD	Dept. of Philosophy, University of Bologna, Italy	The formal bases of the scientific argumentation	March 26, 2001
Carlo M Croce, MD	Kimmel Cancer Center, Thomas Jefferson University, Philadelphia, USA	The genetic of cancer	May 24, 2001
Lorenzo Moretta, MD	Institute G. Gaslini, Genoa University, Italy	Receptors and functions of natural killer cells	May 24, 2001
Giulio Cossu, MD	Institute for Stem Cells, S. Raffaele Hospital, Milan, Italy	Pluripotent progenitors associated to the fetal vasculature	May 24, 2001
Ronald M Lechan, MD, PhD	Endocrinology, Tufts University- NEMC, Boston, USA	Neuroendocrine control of the thyroid axis in fed and fasted states	May 24, 2001
Luigi F. Agnati MD, PhD	Dept of Biomedical Sciences, University of Modena, Italy and Karolinska Institutet, Stockholm, Sweden	The “medianosome” in light of the concept of functional unit in the central nervous system	May 24, 2001

(continued)

**Table 1** (*continued*). Lectures presented in the course of the “Seminars in Functional Morphology” between 2001 and 2006

Speaker	Affiliations	Lecture Title	Date
Stewart Gilmour, PhD	Liggins Institute, Auckland University, New Zealand	IGF-1 and nuclear inositides: a new perspective in endocrine signalling	May 24, 2001
Markku Heikineimo, MD, PhD	Children’s Hospital, University of Helsinki, Finland	GATA transcription factors in the development of the endocrine system	January 16, 2002
Giorgio Sandri PhD	Dept. of Philosophy, University of Bologna, Italy	Origins of the mechanical intelligence	April 10, 2002
Ronald M Lechan, MD PhD	Endocrinology, Tufts University - NEMC, Boston, USA	Morphofunctional organization of the endocrine hypothalamus	May 7-8, 2002
Ernesto Carafoli, MD	Dept of Biological Chemistry, University of Padua, Italy, and ETH, Zurich, Switzerland	Transmembrane calcium transport, differentiation and neuronal survival	May 21, 2002
Olli Silvennoinen, PhD	Institute of Medical Technology, University of Tampere, Finland	Regulation of JAK kinases and stat transcription factors in cytokine signalling	May 21, 2002
Giorgio Sandri PhD	Dept. of Philosophy, University of Bologna, Italy	The logic “form”	March 26, 2003
Giulio Giorello, PhD	Dept of Philosophy, University of Milan, Italy	Mind and brain: a unitary perspective	March 31, 2004
Fabio Benfenati MD	Dept of Physiology, Genoa University, Italy	Molecular bases of synaptic plasticity	March 31, 2004
Giorgio Sandri PhD	Dept. of Philosophy, University of Bologna, Italy	Teleology, functionalism and negative feedback	March 31, 2004
Ronald M Lechan, MD PhD	Endocrinology, Tufts University - NEMC, Boston, USA	Functional anatomy of the endocrine hypothalamus: a case studies section	October 26, 2004
Ronald M Lechan, MD PhD	Endocrinology, Tufts University - NEMC, Boston, USA	The TRH neuron: role in energy homeostasis	October 20, 2005
Giulia Spaletta PhD	Dept of Mathematics, University of Bologna, Italy	The concepts of form and integration: an introduction to the approximation and use of experimental data	March 29, 2006
Ronald M Lechan, MD PhD	Endocrinology, Tufts University - NEMC, Boston, USA	Functional anatomy of the hypothalamus and pituitary, with applications to clinical problem-solving	October 17, 2006

In this special edition, scientists who had participated in the Seminars as well as a select group of invited guests whose particular interests lie in the connection between morphology and physiological responses,

so called *form-function relationships*, were brought together to address some new and innovative topics in Neuroscience, Neuroendocrinology, Immunology, and Philosophy of Science. We are deeply appreciative for

the tremendous time commitment and efforts on the part of each of these specialists in preparing their contribution to this Supplement of *Acta Biomedica*. We hope that this Special Edition will provide an example

of how basic and clinical research can be integrated into the arena of the biomedical sciences, offering clues to unresolved aspects of neural, endocrine and immune communication in normal and pathological conditions.

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