



Editorial

This special issue of *Neurochemistry International* publishes papers written by speakers who participated, by invitation or recommendation of their supervisors, in the “Wierzba IV” Conference held in August 23–27, 2008 in Wierzba, a Convention Center of the Polish Academy of Sciences, a secluded spot located in the Mazurian Lakes. The subtitle “Wierzba IV”, emphasizes the fact that Wierzba Conferences have become a cyclic event. The same Conference Centre hosted three previous events, held in 1999, 2002 and 2005, respectively, each being devoted to the metabolism and function of glutamate and its closest relatives: glutamine and GABA, in normal and diseased brain. A careful reader of “*Neurochemistry International*” will have had a chance to notice the proceedings of the previous symposia which have appeared in volumes 37, 43 and 48 of this journal, respectively, each co-edited by the two authors of this Editorial. Our continuous interest to promote exchange of views on the most recent developments in the realm of glutamate is manifested by the title of this symposium. The term “tripartite synapse” emphasizes the emergence of a new dimension in our until recently two-dimensional perception of glutamatergic neurotransmission. Discovery of direct participation of astrocytes in the events taking place within the glutamatergic synapse appears to have definitively upgraded the astrocyte to the equal partner of the neuron. In this context, it was a particular pleasure to all of us to listen to the excellent opening lecture given by Bruce Ransom from Seattle (Washington), one of the key contributors to the latest upgrading of glia. Dr. Ransom provided an exhaustive account of the different mechanisms of astrocytic glutamate release and of the means by which the release is controlled by a neuron. This excellent “starter” lecture paved the way to the sessions on “Vesicular transport and exocytosis”. Unfortunately, permanent over-exposure to writing obligations excluded many speakers from the list of contributors to this issue. The issue commences with the written version of an excellent audio-visual presentation by the first speaker in this session, Vlad Parpura (Birmingham, Alabama), describing the essence of calcium-dependent exocytosis of glutamate from astrocytes, and documenting the process both in cultured astrocytes and *in situ*. The next article by Jang-Yen Wu and his group (Boca Raton, Florida) presents new evidence for structural and functional coupling between GABA synthesis and packaging into synaptic vesicles in neurons.

Other sessions of the symposium have dealt with topics not directly pertaining to the tripartite synapse, reporting development of the different areas *in continuo*. However, their level in terms of novelty of presented results and excellence of presentations equaled that of the first session. An exhaustive coverage of the data that have been communicated during these “traditional” sessions is to be found in this issue, and the specific subjects to be traced in the papers match the titles of the respective sessions including: neuronal and astrocytic glutamate transport; ammonia and neurotransmitter metabolism; pyruvate recycling and anaplerosis in glutamate homeostasis; glutamine/glutamate metabo-

lizing enzymes; neuropsychiatric disorders and schizophrenia; ammonia neurotoxicity; glutamate and metal neurotoxicity.

Based on the successful experience of Wierzba II, we returned to the concept of “filling the generation gap” in neuroscience by giving a chance to Ph.D. students and just graduated scientists to present their results and ideas during two oral sessions and a poster session. This Special Issue also includes papers presented in Young Fora and poster sessions.

A total of 38 speakers presented lectures and 4 showed their posters, and the participants (speakers and/or chairmen) represented many nations: they came from Belgium, Canada, China, Denmark, Germany, Greece, Norway, Poland, Spain, Switzerland and USA.

Worth a special mention are novelties related to the organizational efforts behind the symposium. We were most fortunate to gain a new patron, the Cracow-based Polish Academy of Arts and Science. PAAS is a highly respected and respectable Learned Society founded in 1872 which during the Communist time has remained in the state of suspension and silence, to become revived in 1989 just after the old system faded. Prof. Edmund Przegaliński, the Director of the Medical Section of PAAS, a highly respected neuropharmacologist himself, offered tremendous assistance in the process of organizing the Symposium; we are much indebted to him for his efforts indeed. At last but not least in preparation for a generation change at the steer, Arne Schousboe and myself have asked for, and received, excellent assistance in shaping the program from two Associate Professors: Barbara Zabłocka (Warsaw) and Helle S. Waagepetersen (Copenhagen).

Otherwise, very special thanks are due to the members of the local organizing committee, for their endurance in coping with all the inevitable difficulties in the process of organizing the conference, and devotion to fulfill the professional and everyday needs of the participants. As in all the previous symposia, the key figure in this capacity was my long-time associate, Wojciech Hilgier, helped by other colleagues from the Medical Research Centre: Magdalena Zielińska, Monika Szeliga, Marta Obara-Michlewska and Martyna Dłużniewska from the Department of Neurotoxicology, and Małgorzata Beręsewicz and Joanna Kowalczyk from the Laboratory of Molecular Biology.

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