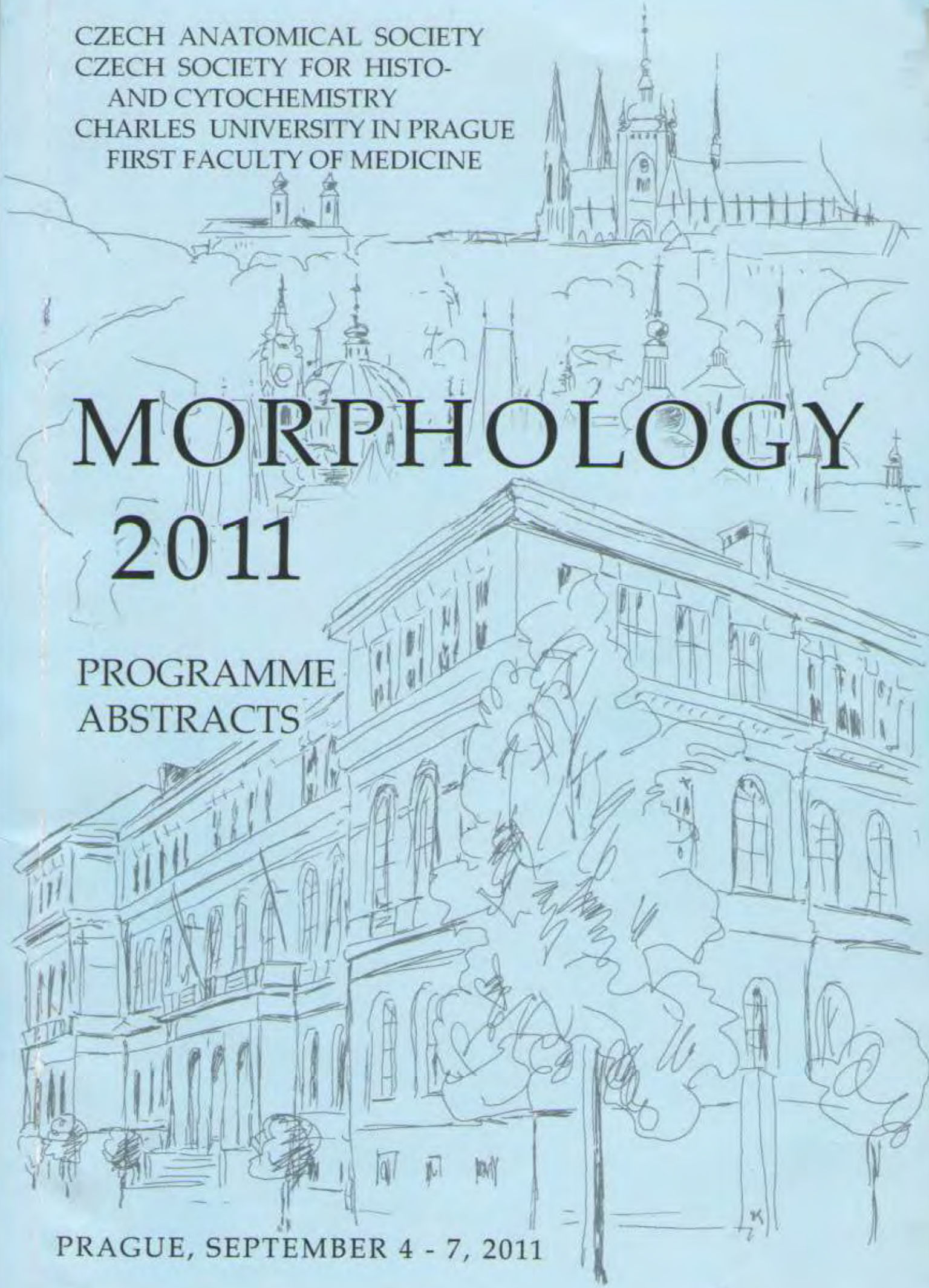
CZECH ANATOMICAL SOCIETY
CZECH SOCIETY FOR HISTO- AND CYTOCHEMISTRY
CHARLES UNIVERSITY IN PRAGUE
FIRST FACULTY OF MEDICINE



MORPHOLOGY 2011

PROGRAMME
ABSTRACTS

PRAGUE, SEPTEMBER 4 - 7, 2011

The expression of NADPH-d in developing and adult rat hippocampus

Kluchova D, Spakovska T, Bolekova A, Dorko F, Lovasova K, Tomasova L
Department of Anatomy, University of P.J. Safarik, Faculty of Medicine, Kosice, Slovak republic
kluchova@hotmail.com

This study describes the expression of NADPH-diaphorase (NADPH-d) activity in hippocampal neurons of the rat during postnatal life and in the adulthood.

Nitric oxide (NO) is an intra- and extracellular messenger with multiple functions in the developing and adult brain. NO is produced by several isoforms of nitric oxide synthase that can be detected by NADPH-d histochemistry. The hippocampal formation contains a population of morphologically, neurochemically and functionally diverse nitrergic neurons.

Wistar rats of both sexes were used in this experiment. The animals were anaesthetized and perfused transcardially on 14. postnatal day and in the adulthood. Coronal sections of hippocampuses were processed for NADPH-diaphorase histochemistry.

NADPH-d positive neurons were present in the hippocampus proprius from the first week of postnatal life. However, in the dentate gyrus is a period of NADPH-d expression more delayed and positive neurons are present since the second postnatal week. NADPH-d staining on 14. postnatal day is seen to be similar as in the adulthood. Single layers of hippocampus proprius and dentate gyrus significantly differed in their staining for NADPH-d. Pyramidal neurons of CA1-3 regions and dentate granular cells were generally unstained. Light or moderately stained interneurons were scattered in all hippocampal layers, only. In the dentate gyrus, many of larger NADPH-d positive neurons were located in the hilus and at the hilar border of the granular cell layer.

We can presume that NO could play specific role in different regions of hippocampal formation and the presence of NADPH-d reactivity is changing during the postnatal development.

This work was supported by VEGA grant 1/0154/11 and partially supported by Agency of Slovak Ministry of Education for structural funds of EU, project ITMS: 262 201200 58 (30%).

12:00
Congress Photo

12:15 - 13:30 Lunch

13:30 - 14:35
Plenary lectures: Neurosciences (Lecture hall A)
Chairs: Petr Dubový, Darina Kluchová

13:30 - 13:55
17 – Druga R, Salaj M, Cerman J, Kubová H
Status epilepticus results in extensive brain damage in immature rats

13:55 - 14:20
18 – Němcová V, Petrovický P
Correlation of the anatomical structure of the amygdala with its MRI image

14:20 – 14:35
19 - Kučera T, Martínek J
The use of digital virtual microscopy system for creating digital histology slides database as a tool for e-learning

14:35 - 15:00 Coffee break

15:00 - 16:15
Neurosciences (Lecture Hall A)
Chairs: Rastislav Druga, Eva Mechírová

15:00 - 15:15
20 - Birkhead TR, Halata Z
Sensory innervation of the phaloid organ in African Buffalo-Weaver (light- and electronmicroscopic study)

15:15 - 15:30
21 - Dubový P, Svíženská I, Klusáková I, Brázda V, Strejčková L
Neuroinflammatory reaction of peripheral glial cells in two different models of neuropathic pain

15:30 - 15:45
22 - Balentová S, Hajtmanová E, Kinclová I, Trylcová R, Lehotský J, Dobrota D, Adamkov M
Radiation induced long-term changes in forebrain's neurogenesis under experimental conditions

15:45 - 16:00
23 - Mazurová Y, Gunčová I, Astapenko D
Is the neurodegenerative process in the striatum of rats transgenic for Huntington's disease similar to that in HD patients?