

CURRICULUM VITAE

PERSONAL INFORMATION

NAME AND SURNAME: Goran Sedmak
DATE OF BIRTH: 15.07.1983
PLACE OF BIRTH: Zagreb, Croatia
CITIZENSHIP: Croatian
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EDUCATION

2013 PhD dissertation „Developmental origin of white matter interstitial neurons and regional differences in distribution, number and phenotype in the human brain”
2007 – 2013 PhD course „Neuroscience“ University of Zagreb School of Medicine
2001 – 2007 University of Zagreb School of Medicine – M.D.

WORK EXPERIENCE

2021 – to date Associate Professor of Neuroscience, Croatian Institute for Brain Research, University of Zagreb School of Medicine
2017 – to date Deputy Director, Croatian Institute for Brain Research, University of Zagreb School of Medicine
2016 – to date Head of the Division of Developmental Neuroscience, Croatian Institute for Brain Research, University of Zagreb School of Medicine
2015 – 2021 Assistant Professor of Neuroscience, Croatian Institute for Brain Research, University of Zagreb School of Medicine
2013 – 2015 Postdoctoral Associate, Croatian Institute for Brain Research, University of Zagreb School of Medicine
2009 – 2011 Postdoctoral Associate, Department of Neurobiology, Yale University School of Medicine (Šestan Lab)
2008 – 2013 Assistant, Croatian Institute for Brain Research, University of Zagreb School of Medicine

TRAINING

2018 Visiting scientist, Department of Neurobiology, Yale University School of Medicine
2009 – 2011 Postdoctoral Associate, Department of Neurobiology, Yale University School of Medicine

AWARDS AND RECOGNITION

2013 Award of the University of Zagreb School of Medicine for excellent scientific productivity during PhD course
2011 Recognition of the University of Zagreb School of Medicine for the most productive young investigators
2007 University of Zagreb Chancellor’s award for the best student scientific publication

ORGANIZATIONAL SKILLS

2022 Organizing committee of the 6th BigBrain Workshop; Zadar, Croatia, October 25 – 27.
2021 Organizing committee of the 8th Croatian Congress of Neuroscience, Zagreb, Croatia, September 24 - 25
2019 Organizing committee of the 7th Croatian Congress of Neuroscience, Zadar, Croatia, September 12 - 15
2017 Organizing committee of the 6th Croatian Congress of Neuroscience, Osijek, Croatia September 16 - 18

2015 Organizing committee of the 5th Croatian Congress of Neuroscience, Split, Croatia
September 17 - 19

MEMBERSHIP

- Croatian Society for Neuroscience
- Federation of European Neuroscience Societies

SCIENTIFIC PROJECTS

- 2018 – 2022 “Mystery of subthalamus – anatomical subdivision of subthalamic nucleus”, Croatian Science Foundation; **Principal Investigator**
- 2017 – 2019 “Developmental origin and phenotypic profile of white matter interstitial neurons in the human brain”, Unity through Knowledge Fund; **Principal investigator**
- 2015 – 2021 „The role of hypoxic-ischemic brain damage on the translation of the mRNA and neocortical development”, University of Zagreb Fund, PI: Assistant Professor Željka Kršnik; **Investigator**
- 2014 – 2018 “Histological, MRI, and gene expression analysis of the reorganizational processes in the medial (limbic) wall of developing human cerebrum“ Croatian Science Foundation; PI: Associate Professor Mario Vukšić, **Investigator**
- 2012 – 2015 „Development of cell-type specific expression of human transcriptome in language- and mirror neuron-system related cortical networks”, Croatian Science Foundation, PI: Professor Miloš Judaš; **Investigator**
- 2008 – 2013 „The role of transient fetal neurons in the developmental cortical malformations” Ministry of Science, Education and Sport; PI: Professor Miloš Judaš, **Investigator**

Number of publications: Web of Science – 29, Scopus - 29

Citations: Web of Science – 2.357, Scopus – 2.496

H-index: Web of Science – 14, Scopus – 14

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COMPLETE LIST OF PUBLICATIONS INDEXED IN WEB OF SCIENCE

1. Bokulić E, Medenica T, Sedmak G (2022) Transcriptional profile of the developing subthalamic nucleus; *eNeuro*; 9:ENEURO.0193-22.2022; doi: 10.1523/ENEURO.0193-22.2022.
2. Bokulić E, Medenica T, Knezović V, Štajduhar A, Almahariq F, Baković M, Judaš M, **Sedmak G** (2021) The stereological analysis and spatial distribution of neurons in the human subthalamic nucleus; *Front Neuroanat*; 15:749390, doi: 10.3389/fnana.2021.749390.
3. Ilic K, Mlinac-Jerkovic K, **Sedmak G**, Rosenzweig I, Kalanj-Bognar S (2021) Neuroplastin in human cognition: review of literature and future perspective; *Transl Psych*; 11:394, doi:10.1038/s41398-021-01509-1.
4. **Sedmak G**, Judaš M (2021) White matter interstitial neurons in the adult human brain: 3% of cortical neurons in quest for recognition; *Cells*; 10:190 doi: 10.3390/cells10010190.
5. Almahariq F, **Sedmak G**, Vuletić V, Dlaka D, Orešković D, Marčinković P, Raguz M, Chudy D (2021) The accuracy of direct targeting using fusion of MR and CT imaging for deep brain stimulation of the subthalamic nucleus in patients with Parkinson's disease; *J Neurol Surg Part A – Cent Eur Neurosurg*; doi: 10.1055/s-0040-1715826
6. Kostović I, **Sedmak G**, Judaš M (2019) Neural histology and neurogenesis of the human fetal and infant brain; *Neuroimage*, 188:743-773.
7. **Sedmak G**, Judaš M (2019) The total number of white matter interstitial neurons in the human brain; *J Anat*, 235:626-636
8. BrainSpan Consortium; PsychENCODE Consortium; PsychENCODE Developmental Subgroup (2018) Integrative functional genomic analysis of human brain development and neuropsychiatric risks; *Science* 362:1264, doi: 10.1126/science.aat7615

9. Mladinov M*, **Sedmak G***, Fuller HR*, Leko MB*, Mayer D, Kirnicich J, Štajudhar A, Borovečki F, Hof PR, Šimić G (2016) Gene expression profiling of the dorsolateral and medial orbitofrontal cortex in schizophrenia. *Transl Neurosci* 7:139-150. *equal contribution
10. **Sedmak G***, Jovanov-Milošević N*, Puskarjov M*, Ulamec M, Krušlin B, Kaila K, Judaš M (2016) Developmental expression patterns of KCC2 and functionally associated molecules in the human brain. *Cereb Cortex* 26:4574-4589. *equal contribution
11. Fuller HR, Slade R, Jovanov-Milošević N, Babić M, **Sedmak G**, Šimić G, Fuszard MA, Shirran SL, Botting CH, Gates MA (2015) Stathmin is enriched in the developing corticospinal tract. *Mol Cell Neurosci* 69:12-21.
12. Ouyang A, Jeon T, Sunkin SM, Pletikos M, **Sedmak G**, Sestan N, Lein ES, Huang H (2015) Spatial mapping of structural and connectional imaging data for the developing human brain. *Methods* 73:27-37.
13. Kostović I*, **Sedmak G***, Vukšić M, Judaš M (2015) The relevance of human fetal subplate zone for developmental neuropathology of neuronal migration disorders and cortical dysplasia. *CNS Neurosci Ther* 21:74-82. *equal contribution
14. Brečević L, Rinčić M, Krsnik Ž, **Sedmak G**, Hamid AB, Kosyakova N, Galić I, Liehr T, Borovečki F (2015) Association of new deletion/duplication at chromosome 1P21 with intellectual disability, severe speech deficit and autism spectrum disorder-like behavior: an all-in approach to solving the DPYD enigma. *Transl Neurosci* 6:59-86.
15. Krušlin B, Džombeta T, Bezjak M, **Sedmak G**, Petanjek Z, Šimić G, Judaš M, Kostović I (2014) Congenital brain anomalies and chromosomal aberrations from the Zagreb Collection of human brains. *Transl Neurosci* 5:293-301.
16. Pletikos M*, Sousa MMA*, **Sedmak G***, Meyer KA, Zhu Y, Cheng F, Mingfeng L, Kawasaki YI, Sestan N (2013) Temporal specification and bilaterality of human neocortical topographic gene expression. *Neuron* doi: 10.1016/j.neuron.2013.11.018 *equal contribution
17. Huang H, Jeon T, **Sedmak G**, Pletikos M, Vasung L, Xu X, Yarowsky P, Richards LJ, Kostović I, Šestan N, Mori S (2013) Coupling diffusion imaging with histological and gene expression analysis to examine the dynamics of cortical areas across the fetal period of human brain development. *Cereb Cortex* 23:2623-2631.
18. Judaš M, **Sedmak G.**, Kostović I (2013) The significance of subplate for evolution and developmental plasticity of the human brain. *Front Hum Neurosci* doi:10.3389/fnhum.2013.00423.
19. Kostović I, Jovanov-Milošević N, Radoš M, **Sedmak G**, Benjak V, Kostović-Srzić M, Vasung L, Čuljat M, Radoš M, Hüppi P, Judaš M (2012) Perinatal and early postnatal reorganization of the subplate and related cellular compartments in the human cerebral wall as revealed by histological and MRI approaches. *Brain Struct Funct* doi:10.1007/s00429-012-0496-0.
20. Jovanov-Milošević N, Petrović D, **Sedmak G**, Vukšić M, Hof PR, Šimić G (2012) Human fetal tau protein isoform: possibilities for Alzheimer's disease treatment. *Int J Biochem Cell Biol* 44:1290-1294.
21. Judaš M, Cepanec M, **Sedmak G** (2012) Brodmann's map of the human cerebral cortex – or Brodmann's maps? *Transl Neurosci* 3:67-74.
22. Kang HJ, Kawasaki YI, Cheng F, Zhu Y, Xu X, Li M, Sousa AM, Pletikos M, Meyer KA, **Sedmak G**, Guennel T, Shin Y, Johnson MB, Krsnik Ž, Mayer S, Fertuzinhos S, Umlauf S, Lisgo SN, Vortmeyer A, Weinberger DR, Mane S, Hyde TM, Huttner A, Reimers M, Kleinman JE, Šestan N (2011) Spatio-temporal transcriptome of the human brain. *Nature* 478:483-489.
23. Judaš M, **Sedmak G** (2011) Purkyne's contribution to neuroscience and biology: Part I. *Transl Neurosci* 2:270-280.
24. Kostović I, Judaš M, **Sedmak G** (2011) Developmental history of the subplate zone, subplate neurons and interstitial white matter neurons: relevance for schizophrenia. *Int J Dev Neurosci* 29:1935-205.
25. Judaš M, **Sedmak G**, Pletikos M, Jovanov-Milošević N (2010) Populations of subplate and interstitial neurons in fetal and adult human telencephalon. *J Anat* 217:381-399.
26. Judaš M, **Sedmak G**, Pletikos M (2010) Early history of subplate and interstitial neurons: from Theodor Meynert (1867) to the discovery of the subplate zone (1974). *J Anat* 217:344-367.

27. Šeso-Šimić Đ, **Sedmak G**, Hof PR, Šimić G (2010) Recent advances in the neurobiology of attachment behavior. *Transl Neurosci* 1:148-159.
28. Judaš M, **Sedmak G**, Radoš M, Sarnavka V, Fumić K, Willer T, Gross C, Hehr U, Strahl S, Čuk M, Barić I (2009) POMT1-associated Walker-Warburg syndrome: a disorder of dendritic development of neocortical neurons. *Neuropediatrics* 40:6-14.

CHAPTERS IN DOMESTIC AND INTERNATIONAL BOOKS

1. Krsnik Ž, Sedmak G (2017) Gene Expression in frontal lobes; in *Executive Function in Health and Disease*, ed. Goldberg E, str: 41-69, Elsevier, ISBN: 9780128036761.
2. Kostović I, Sedmak G, Judaš M (2017) Developmental Origin of Thinking about God; in *Science and Religion; Synergy and Skepticism*; Jaypee Brothers, *in press*.