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Stručný životopis

VZDELANIE A KVALIFIKÁCIA

- Ia Slovenská akadémia vied, Bratislava
2016
- PhD *Neurobiológia*
Watson School of Biological Sciences, Cold Spring Harbor Laboratory, New York
2001–2007
- Mgr. *Teoretická informatika (neprocedurálne programovanie a umelá inteligencia)*
Matematicko-fyzikálna fakulta, Univerzita Karlova v Prahe
1996–2001
- MUDr. *Všeobecné lekárstvo (s vyznamenaním)*
1. lekárska fakulta, Univerzita Karlova v Prahe
1991–1998
- Psychológia*
Filozofická fakulta, Univerzita Karlova v Prahe
1996–1999

ZAMESTNANIE

- Neuroimunologický ústav, Slovenská akadémia vied, Bratislava
2015–
- Axon Neuroscience R&D Services SE, Bratislava
2014–
- Ústav experimentálnej medicíny, Akadémia vied Českej republiky, Praha
2013–2014
- Cold Spring Harbor Laboratory, Cold Spring Harbor, New York
2007–2012
- Ústav normálnej a patologickej fyziológie, Slovenská akadémia vied, Bratislava
1999–2001
- Ústav patologickej fyziológie, 1. lekárska fakulta, Univerzita Karlova, Praha
1998–1999

PREDNÁŠKY (VÝBER)

Single-unit recordings in head-fixed naive and behaving rats. APAN Symposium, SfN 2006, Atlanta, USA

Auditory sparse representations. COSYNE Workshops 2007, Snowbird, UT, USA

Sparse representation of sounds in auditory cortex of awake rats. Sparse representations in sensory cortex Symposium, SfN 2011, Washington DC, USA

Feedforward inhibition controls tuning in auditory cortex by restricting initial spike counts. Auditory cortex 2012, Lausanne, Švajčiarsko

Early dynamics of excitation and inhibition maintain late frequency tuning in auditory cortex. FENS Featured Regional Meeting 2013, Praha

Optogenetics in the research of epilepsy, 27. český a slovenský epileptologický sjezd 2014, Praha

From Neuronal Activity to Behaviour: Understanding Neuronal Correlates of Sensory Discrimination, 11th International Veterinary Behaviour Meeting, 2017, Šamorín

ORGANIZÁCIA KONFERENCIÍ A KURZOV (VÝBER)

COSYNE (Computational and Systems Neuroscience) Conference, 2011–2020, www.cosyne.org

TENSS (Transylvanian Experimental Neuroscience Summer School), 2012–2020, www.tenss.ro

Neuropsychiatric Disorders: From Basic Systems to Clinical Applications, 2016, Praha

48th Meeting of the European Brain and Behaviour Society, 2019, Praha, www.ebbs2019.org

SLOVENSKÁ AKADÉMIA VIED

Člen Rady SAV pre program Otvorená akadémia, 2019–2021

Člen Komisie SAV pre hodnotenie grantov doktorandov, 2019–2021

RIEŠENÉ GRANTY (VÝBER)

Inhibitory cortical circuits mediating cognitive dysfunction in Alzheimer's disease. (2020-2023) APVV-19-0585

SyDAD - Synaptic Dysfunction in Alzheimer's Disease. (2015–2019) MSCA-ITN-2015-ETN - Marie Skłodowska-Curie Innovative Training Networks (ITN-ETN), Horizon2020, Grant agreement ID 676144

Functional impact of Alzheimer's disease on cortical neurons. (2016–2018) VEGA 2/0148/16

PHD ŠTUDENTI

Mgr. Gréta Vargová (2015–2020), Impact of neurodegeneration on neuronal activity and connectivity. Prírodovedecká fakulta UK v Bratislave, *odbor Molekulárna biológia*.

Thomas Vogels, MSc. (2016–2019), Rescue of Tau-mediated synaptic dysfunction in vivo: Adeno-associated virus vectors to model Alzheimer's disease and primary tauopathies. Univerzita veterinárneho lekárstva a farmácie v Košiciach, *odbor Neurovedy*

PUBLIKÁCIE

Google Scholar: 1597 citácií, *h-index* 10, *i10-index* 11

Scopus: 1062 citácií, *h-index* 9

Vogels, T., Vargova, G., Brezovakova, V., Quint, W.H., Hromádka, T. (2020) Viral delivery of non-mutated human truncated tau to neurons recapitulates key features of human tauopathy in wild-type mice. *Journal of Alzheimer's disease* 77(2):551–568.

Vogels, T., Leuzy, A., Cicognola, C., Ashton, N.J., Smolek, T., Novak, M., Blennow, K., Zetterberg, H., Hromádka, T., Zilka, N., and Schöll, M. (2020) Propagation of tau pathology: integrating insights from post mortem and in vivo studies. *Biological Psychiatry* 87(9):808–818.

Zilkova, M., Nolle, A., Kovacech, B., Kontsekova, E., Weisova, P., Filipcik, P., Skrabana, R., Prcina, M., Hromadka, T., Cehlar, O., Rolkova, G.P., Maderova, D., Novak, M., Zilka, N., Hoozemans, J.J.M. (2020) Humanized tau antibodies promote tau uptake by human microglia without any increase of inflammation. *Acta Neuropathologica Communications* 8:(1):74.

Javor, J., Ďurmanová, V., Párnická, Z., Minárik, G., Králová, M., Pečeňák, J., Vašečková, B., Režnáková, V., Šutovský, S., Gmitterová, K., Hromádka, T., Peterajová, L., Shawkatová, I. (2020) Association of CD33 rs3865444:C>A polymorphism with a reduced risk of late-onset Alzheimer's disease in Slovaks is limited to subjects carrying the APOE ε4 allele. *International Journal of Immunogenetics* 47(5):397–405.

Vogels, T., Murgoci, A.N., and Hromádka, T. (2019) Intersection of pathological tau and microglia at the synapse. *Acta Neuropathologica Communications* 7(1):109

- Vargova, G., Vogels, T., Kostecka, Z., and Hromádka T. (2018) Inhibitory interneurons in Alzheimer's disease. *Bratisl Lek Listy* **119**(4):205–209
- Novák, O., Zelenka, O., Hromádka, T., and Syka, J. (2016). Immediate manifestation of acoustic trauma in the auditory cortex is layer specific and cell type dependent. *Journal of Neurophysiology* **115**:1860–1874
- Zimová, I., Brezováková, V., Hromádka, T., Weisová, P., Cubínková, V., Valachová, B., Filipčík, P., Jadhav, S., Smolek, T., Novák, M., and Žilka, N. (2016). Human truncated tau induces mature neurofibrillary pathology in a mouse model of human tauopathy. *Journal of Alzheimer's disease* **54**:831–843.
- Hromádka, T., Zador, A. M., and DeWeese, M. R. (2013). Up states are rare in awake auditory cortex. *Journal of Neurophysiology* **109**:1989–1995
- Hromádka, T. and Zador, A. M. (2009). Representations in auditory cortex. *Current Opinion in Neurobiology* **19**:430–433
- Lima, S. Q., Hromádka, T., Znamenskiy, P., and Zador, A. M. (2009). PINP: A new method of tagging neuronal populations for identification during *in vivo* electrophysiological recording. *PLoS ONE* **4**:e6099
- Koulakov, A. A., Hromádka, T., and Zador, A. M. (2009). Correlated connectivity and the distribution of firing rates in the neocortex. *Journal of Neuroscience* **29**:3685–3694
- Hromádka, T., DeWeese, M. R., and Zador, A. M. (2008). Sparse representation of sounds in the unanesthetized auditory cortex. *PLoS Biology* **6**:e16
- Huber, D., Petreanu, L., Ghitani, N., Ranade, S., Hromádka, T., Mainen, Z., and Svoboda, K. (2008). Sparse optical microstimulation in barrel cortex drives learned behaviour in freely moving mice. *Nature* **451**:61–64.
- Hromádka, T. and Zador, A. M. (2007). Toward the mechanisms of auditory attention. *Hearing Research* **229**:180–185
- DeWeese, M. R., Hromádka, T., and Zador, A. M. (2005). Reliability and representational bandwidth in the auditory cortex. *Neuron* **48**:479–488.
- Pavlásek, J. and Hromádka, T. (2001). Neural network comparing two rate-encoded inputs entering in parallel. *General Physiology and Biophysics* **20**:61–82.