GERGELY F. TURI, PhD.

736 west 173rd street, NY, 10032, USA | 347-852-1698 (C) | https://gergelyturi.github.io
email: gt2253@cumc.columbia.edu

CURRENT POSITION:

Research Scientist IV. 2016 - Present
New York State Psychiatric Institute;
Adjunct Associate Research Scientist in the Department of Psychiatry,
Columbia University

CONTACT INFORMATION
New York State Psychiatric Institute
Systems Neuroscience
1051 Riverside Drive
PI Annex. Room 419
New York, NY
10032

Email: gt2253@cumc.columbia.edu
gergely.turi@nyspi.columbia.edu
Phone: (646) 774-5027
Cell phone: (347) 852-1698
Web: https://gergelyturi.github.io/

PREVIOUS POSITION 2010 – 2016

Postdoc in Losonczy Lab
Columbia University, New York
Department of Neuroscience
PI: Prof. Attila Losonczy

EDUCATION AND TRAINING:

INSTITUTION	DEGREE/POSITION	MM/YYYY	FIELD OF STUDY
Eötvös Loránd University	M.A.	09/1998-09/2003	Biology
Semmelweis University **PI: Prof. Zsolt Liposits**	Ph.D.	09/2003-09/2006	Neuroanatomy, Neuroendocrinology
Institute of Experimental Medicine **PI: Prof. Zsolt Liposits**	Research Associate	01/2006-12/2008	Neuroanatomy, Neuroendocrinology
Institute of Experimental Medicine **PI: Dr. Balázs Rózsa**	Junior Postdoc	01/2008-10/2010	Neurophysiology
Columbia University **PI: Dr. Attila Losonczy**	Postdoc	10/2010-10/2016	Neurophysiology, Neuroimaging

AWARDS:

2018 Columbia University, Dept. of Psychiatry – Chairman's Collaborative Pilot Awards
Project title: *Deciphering neuronal encoding in the dentate gyrus during anxiety*
Role: PI

2010 Pfizer R&D Award, Hungary
Project title: *New combined femto-chemical, nonlinear microscopy technology for drug and neurotransmitter effect screening with unprecedented spatial and temporal resolution*
Role: Co-PI

2010 Travel grant of the German Neuroscience Society

2010 IBRO Travel Grant

2008 FENS-CEERC Travel Grant

2003 XXVI. National Council of Student Research Societies, Neuroscience section, 2nd place, Szeged, Hungary

RESEARCH SUPPORT:

Ongoing Research Support

1. BRAIN & BEHAVIOR RESEARCH FOUNDATION (84327) *01/15/2021 – 01/14/2023*
YOUNG INVESTIGATOR GRANT, Role: Principal Investigator

The major goal of this grant is to Investigate the neuronal mechanisms of PTSD and anxiety at the subcellular and network levels

2. 1 R21 MH122965-01A1 *09/17/2020 – 08/31/2022*
NIH/National Institute of Mental Health
Role: Principal Investigator
Fear generalization after traumatic experience in the dentate gyrus

The major goal of this project is to identify the neuronal correlate of fear generalization in mossy cells and serotonergic axons in the dentate gyrus

PROFESSIONAL EXPERIENCE:

2019 – Suite2p Workshop at HHMI-Janelia Research Campus

2006 – August - Neurobiology of Adaptation and Stress; Master Class at Radboud University, Nijmegen, Netherlands

2004 – September – December. Short-term scholar in Dr. Laszlo Zaborszky's laboratory, Rutgers University, Newark, USA.

TEACHING EXPERIENCE:

09/1997 – 06/1998: Teaching assistant at Mihály Babits High School (Budapest, Hungary)

PROFESSIONAL MEMBERSHIPS AND POSTIONS:

Society for Neuroscience
2016 – Head of Preclinical Imaging Core at New York State Psychiatric Institute
2020 – *ad hoc* reviewer, NIH – Neurobiology of Motivated Behavior study section

ADVISING AND MENTORSHIP

Undergrad students
2020 – present Pallavi Pareek, Drexel Univ.
2020 – present Siyuan Lu, Columbia University
2020 – present Nicola Sheybani, Barnard College
2020 – present Hongtao Cai, Columbia University, Columbia Engineering
2020 – present Zvi Goldstein, Columbia University, Columbia Engineering
2019 – present Colin Payne-Rogers, Columbia University

Graduate and rotation students
2018 – present Rehnuma Khan, Barnard College
2016 – present Sebnem Tuncdemir, Current position: postdoc in René Hen's lab
2016 – present Jack Berry, Current position: postdoc in René Hen's lab
2016 – 2019 Jeff Zhang, Current position: Medical student, Jacobs School of Medicine at University of Buffalo
2019 – 2020 Angelica Prastiti, Barnard College, Current position: dental student in Madrid
2010 – 2016 Nathan Danielson, Current position: CTRL-lab
2010 – 2016 Jeff Zaremba, Current position: Senior Data Engineer at Perceptive Automata
2010 – 2016 Joseph Tsai, Current position: Medical School, at Columbia University
2013 – 2016 Alexandra Kaufman, Current position: doctoral student in Attila Losonczy's lab
2013 – 2016 Sebastian Rolotti, Current position: doctoral student in Attila Losonczy's lab
2015 – 2017 Max Ladow, Current position: Graduate student in Kheirbek lab at UCSF
2015 – 2018 Zhenrui Liao, Current position: MD-PhD student in Losonczy lab, Columbia University
2014 – 2016 Alyson Lowell, Current position: Graduate student, CUNY Stony Brook
2012 – 2013 Anna Sarfaty
2008 – 2010 Balázs Chiovini, Current position: Rózsa lab
2008 – 2010 Gergely Szalay, Current position: Head of Biological Research Department at Femtonics

LIST OF PUBLICATIONS

Pre-prints:

1. Sebnem N Tuncdemir, Andres D Grosmark, Gergely F. Turi, Amei Shank, Jack Bowler, Gokhan Ordek, Attila Losonczy, Rene Hen, Clay O Lacefield. Parallel processing of sensory cue and spatial information in the Dentate Gyrus, BioRxiv; doi: https://doi.org/10.1101/2020.02.13.947903

PEER-REVIEWED

2020

1. Eirini Troullinou, Grigorios Tsagkatakis, Spyridon Chavlis, Gergely F. Turi, Wen-Ke Li, Attila Losonczy, Panagiotis Tsakalides, and Panayiota Poirazi. Artificial neural networks in action for an automated cell-type classification of biological neural networks. IEEE Transactions on Emerging Topics in Computational Intelligence (accepted for publication) (https://arxiv.org/abs/1911.09977)

2019

2. Mehta P, Kreeger L, Wylie DC, Pattadkal JJ, Lusignan T, Davis MJ, Turi GF, Li WK, Whitmire MP, Chen Y, Kajs BL, Seidemann E, Priebe NJ, Losonczy A, Zemelman BV. Functional Access to Neuron Subclasses in Rodent and Primate Forebrain. Cell Rep. 2019 Mar 5;26(10):2818-2832.e8. doi: 10.1016/j.celrep.2019.02.011. PubMed PMID: 30840900.

3. **Gergely F. Turi***, Wen-Ke Li*, Spyridon Chavlis, Panagiotis Bozelos, Ioanna Pandi, Justin O'Hare, James B. Priestley, Andres D. Grosmark, Zhenrui Liao, Max Ladow, Jeff F. Zhang, Boris V. Zemelman, Panayiota Poirazi and Attila Losonczy. Vasoactive Intestinal Polypeptide-Expressing Interneurons in the Hippocampus Support Goal-Oriented Spatial Learning. Neuron. 2019 Jan 18. pii: S0896-6273(19)30010-8. doi:10.1016/j.neuron.2019.01.009. [Epub ahead of print] PubMed PMID: 30713030.
(* contributed equally)

2018

4. Mary J. Donahue, Attila Kaszás, Gergely F. Turi, Balázs Rózsa, Andrea Slézia, Ivo Vanzetta, Gergely Katona, Christophe Bernard, George G. Malliaras and Adam Williamson. Multimodal Characterization of Neural Networks using Highly Transparent Electrode Arrays. eNeuro. 21 December 2018, ENEURO.0187-18.2018; DOI: https://doi.org/10.1523/ENEURO.0187-18.2018

5. Dénes Pálfi, Balázs Chiovini, Gergely Szalay, Attila Kaszás, Gergely F. Turi, Gergely Katona, Péter Ábrányi-Balogh, Milán Szőri, Attila Potor, Orsolya Frigyesi, Csilla Lukácsné Haveland, Zoltán Szadai, Miklós Madarász, Anikó Vasanits-Zsigrai, Ibolya Molnár-Perl, Béla Viskolcz, Imre G. Csizmadia, Zoltán Mucsi and Balázs Rózsa. High efficiency two-photon uncaging coupled by the correction of spontaneoushydrolysis. Org Biomol Chem. 2018 Mar 14;16(11):1958-1970. doi: 10.1039/c8ob00025e.

2017

6. Nathan B. Danielson*, **Gergely F. Turi***, Max Ladow, Spyridon Chavlis, Panagiotis C Petrantonakis, Panayiota Poirazi, Attila Losonczy. *In Vivo* Imaging of Dentate Gyrus Mossy Cells in Behaving Mice. Neuron. 2017 Feb 8;93(3):552-559.e4. doi: 10.1016/j.neuron.2016.12.019. Epub 2017 Jan 26.
(* contributed equally)

2016

7. Tommy L Lewis Jr, Gergely F. Turi, Seok-Kyu Kwon, Attila Losonczy, Franck Polleux. Progressive Decrease of Mitochondrial Motility during Maturation of Cortical Axons *In Vitro* and *In Vivo*. Curr Biol. 2016 Oct 10;26(19):2602-2608. doi: 10.1016/j.cub.2016.07.064. Epub 2016 Sep 15.

8. Thomas R. Reardon, Andrew J. Murray, Gergely F. Turi, Christoph Wirblich, Katherine R. Croce, Matthias J. Schnell, Thomas M. Jessell, Attila Losonczy (2016) Rabies Virus CVS-N2c(ΔG) Strain Enhances Retrograde Synaptic Transfer and Neuronal Viability. Neuron. 89(4):711-24.

2014

9. **Gergely F. Turi**, Gábor Wittmann, Ronald M. Lechan and Attila Losonczy (2014) Ambient GABA modulates septo-hippocampal inhibitory terminals via presynaptic GABAb receptors. Neuropharmacology 88C: 55-62 Oct.

10. Christine A Denny, Mazen A Kheirbek, Eva L Alba, Kenji F Tanaka, Rebecca A Brachman, Kimberly B Laughman, Nicole K Tomm, Gergely F. Turi, Attila Losonczy, René Hen (2014) Hippocampal memory traces are differentially modulated by experience, time, and adult neurogenesis. Neuron 83: 1. 189-2014 Jul.

11. Balázs Chiovini*, **Gergely F. Turi***, Gergely Katona, Attila Kaszás, Dénes Pálfi, Pál Maák, Gergely Szalay, Mátyás Forián Szabó, Gábor Szabó, Zoltán Szadai, Szabolcs Káli, Balázs Rózsa (2014) Dendritic Spikes Induce Ripples in Parvalbumin Interneurons during Hippocampal Sharp Waves. Neuron 82: 4. 908-924 May.
(* contributed equally)

12. Matthew Lovett-Barron, Patrick Kaifosh, Mazen A Kheirbek, Nathan Danielson, Jeffrey D Zaremba, Thomas R Reardon, Gergely F. Turi, René Hen, Boris V Zemelman, Attila Losonczy (2014) Dendritic inhibition in the hippocampus supports fear learning. Science (New York, N.Y.) 343: 6173. 857-863 Feb.

2013

13. Patrick Kaifosh, Matthew Lovett-Barron, Gergely F. Turi, Thomas R Reardon, Attila Losonczy (2013) Septo-hippocampal GABAergic signaling across multiple modalities in awake mice. Nature neuroscience 16: 9. 1182-1184 Sep.

2012

14. F Bolze, J -F Nicoud, C Bourgogne, S Gug, X H Sun, M Goeldner, A Specht, L Donato, D Warther, Gergely F. Turi, A Losonczy (2012) Two-photon uncaging: The chemist point of view Optical Materials 34: 10. 1664-1669 08.

15. M Lovett-Barron, Gergely F. Turi, P Kaifosh, P H Lee, F Bolze, X H Sun, J F Nicoud, B V Zemelman, S M Sternson, A Losonczy (2012) Regulation of neuronal input transformations by tunable dendritic inhibition Nat Neurosci 15: 3. 423-30, 03.

16. Attila Heinrich, Romeo D. Andó, Gergely F. Turi, Balázs Rózsa, Beáta Sperlágh (2012) K+ depolarization evokes ATP, adenosine and glutamate release from glia in rat hippocampus: a microelectrode biosensor study. British journal of pharmacology 167: 5. 1003-1020 Nov.

2011

17. Gergely Katona, Attila Kaszás, Gergely F. Turi, Norbert Hajos, Gábor Tamas, Szilveszter E. Vizi, Balázs Rózsa (2011) Roller Coaster Scanning reveals spontaneous triggering of dendritic spikes in CA1 interneurons Proc Natl Acad Sci U S A 108: 5. 2148-53 02.

2010

18. Balázs Chiovini, Gergely F. Turi, Gergely Katona, Attila Kaszás, Ferenc Erdelyi, Gábor Szabo, Hannah Monyer, Attila Csákányi, Szilveszter E. Vizi, Balázs Rózsa (2010) Enhanced dendritic action potential backpropagation in parvalbumin-positive basket cells during sharp wave activity Neurochem Res 35: 12. 2086-95 12.

2008

19. **Gergely F. Turi**, Zsolt Liposits, Erik Hrabovszky (2008) Cholinergic afferents to gonadotropin-releasing hormone neurons of the rat Neurochemistry International 52: 4-5. 723-728 03.

2007

20. Erik Hrabovszky, Levente Deli, Gergely F. Turi, Imre Kallo, Zsolt Liposits (2007) Glutamatergic innervation of the hypothalamic median eminence and posterior pituitary of the rat Neuroscience 144: 4. 1383-1392 02.

2006

21. Erik Hrabovszky, Imre Kallo, Gergely F. Turi, Katalin May, Gábor Wittmann, Csaba Fekete, Zsolt Liposits (2006) Expression of vesicular glutamate transporter-2 in gonadotrope and thyrotrope cells of the rat pituitary. Regulation by estrogen and thyroid hormone status Endocrinology 147: 8. 3818-3825 08.

22. Erik Hrabovszky, Agnes K. Csapo, Imre Kallo, Tamas Wilheim, Gergely F. Turi, Zsolt Liposits (2006) Localization and osmotic regulation of vesicular glutamate transporter-2 in magnocellular neurons of the rat hypothalamus Neurochemistry International 48: 8. 753-761 06.

2005

23. Erik Hrabovszky, Gábor Wittmann, Gergely F. Turi, Zsolt Liposits, Csaba Fekete (2005) Hypophysiotropic thyrotropin-releasing hormone and corticotropin-releasing hormone neurons of the rat contain vesicular glutamate transporter-2 Endocrinology 146: 1. 341-347 01.

24. Erik Hrabovszky, Gergely F. Turi, Zsolt Liposits (2005) Presence of vesicular glutamate transporter-2 in hypophysiotropic somatostatin but not growth hormone-releasing hormone neurons of the male rat European Journal of Neuroscience 21: 8. 2120-2126 04.

2004

25. Sarah Threlfell, Stephanie J Cragg, Imre Kallo, Gergely F. Turi, Clive W. Coen, Sarah A. Greenfield (2004) Histamine h3 receptors inhibit serotonin release in substantia nigra pars reticulata Journal of Neuroscience 24: 40. 8704-8710 10.

26. Erik Hrabovszky, Gergely F. Turi, Imre Kallo, Z Liposits (2004) Expression of vesicular glutamate transporter-2 in gonadotropin-releasing hormone neurons of the adult male rat Endocrinology 145: 9. 4018-4021 09.

27. **Gergely F. Turi**, Zsolt Liposits, Suzanne M. Moenter, Csaba Fekete, Erik Hrabovszky (2003) Origin of neuropeptide Y-containing afferents to gonadotropin-releasing hormone neurons in male mice Endocrinology 144: 11. 4967-4974 11.

INTERNATIONAL PATENTS

1. Method and measuring system for scanning multiple regions of interest E. Szilveszter Vizi, Gergely Katona, J. Balázs Rózsa, Attila Kaszás, **Gergely F. Turi** US 20110279667; EP2187252; WO/2010/055361; PCT/HU2009/000094

SELECTED PRESENTATIONS

1. *In vivo* imaging dentate gyrus principal neuron subpopulations during navigation and learning – Society for Neuroscience, Annual Meeting, 2017

2. Role of hippocampal VIP interneurons in reward-oriented spatial learning – Society for Neuroscience, Annual Meeting, 2017

THESIS:

Gergely, F. T. (2007). *Implication of novel neurotransmitter systems in the regulation of gonadotropin - releasing hormone neurons* http://semmelweis.hu/wp-content/phd/phd_live/vedes/export/turigergely.e.pdf