Curriculum Vitae of

Eliyahu Dremencov, MMedSc, PhD

Head of Neuropharmacological Laboratory

Institute of Molecular Physiology and Genetics

Center of Biosciences

Slovak Academy of Sciences

PERSONAL INFORMATION

Residential Address: Osuského 1649/38, 851 03 Bratislava, Slovak Republic

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Orcid: https://orcid.org/0000-0001-8103-8577

Scopus: https://www.scopus.com/authid/detail.uri?authorId=6602650114

Date of Birth: April 17, 1973

Place of Birth: Moscow, Russian Federation

Nationality: Slovak and Israeli

Country of Residence: Slovak Republic

Spoken Languages: Russian, Hebrew, English, Slovak, Dutch

Personal Status: Single

MAJOR ACHIVEMENTS

Multidisciplinary education: bachelor degree (BSc) in biology, master degree (MMedSc) in basic medical sciences and doctorate degree (PhD) in neuroscience.

Two postdoctoral fellowships: in neuropharmacology of mood disorders and in translational neuroscience.

Twenty-one years of research experience, including fifteen years at postdoctoral level.

Expertise in various research techniques: electrophysiology, microdialysis, behavior neuroscience, and advanced methods of data analysis.

Work experience in both academic and commercial sectors, including participation and leadership in R&D projects based on academy-industry collaboration.

Leadership experience: founder and head of electrophysiology laboratory in in Brains On-Line BV; founder and director of Neuroken Consulting; founder and head of Neuropharmacological laboratory in the Institute of Molecular Physiology and Genetics (IMPG), Center of Biosciences (CBS), Slovak Academy of Sciences (SAS); management of the whole research institution-IMPG CBS SAS.

International honors and awards: Rafaelson Award of the International College of Neuropsychopharmacology; Fellowship Awards of the European College of Neuropsychopharmacology; Fellowship Awards of the Society for Biological Psychiatry; Scholarship Award of the Slovak Academy of Sciences.

Strong record of publications: 2 books, **6 book chapters, 55 peer-reviewed manuscripts,** published in first-line journals, such as **Biological Psychiatry** with **impact factor 9.5**, and cited (in total) 1078 times (***h*-index 20**), and **87 meeting abstracts.**

Supervision experience: nine BSc students, two MSc students, and one PhD student.

Guest editor in MDPI and Bentham Sciences Publishers, **editorial board member** of General Physiology and Biophysics, and **ad-hoc reviewer** in Biological Psychiatry, British Journal of Pharmacology, European Neuropsychopharmacology, International Journal of Neuropsychopharmacology, Journal of Psychopharmacology, Neuropharmacology, Neuroendocrinology, and Pharmaceuticals.

Expert Consultant for the European Union (EU) FP7 and Horizon 2020 Programs; Medical Research Council of the UK; National Research Agency (ANR) of France; US Department of Health and Human Services (HHS); National Medical Research Council (NMRC) of Singapore; Ministry of Education and Science of the Russian Federation.

EDUCATION

2000-2004 **PhD in Neuroscience,** Faculty of Life Sciences, Bar-Ilan University, Ramat-Gan, Israel, *Summa Cum Laude*
Title of Dissertation: Dynamical mechanism of action of antidepressant drugs
Supervisor: Prof Gal Yadid

1997-2000 **MMedSc in Neurobiology,** Hebrew University of Jerusalem, Israel
Title of Dissertation: Mechanism of action of antidepressants and electroconvulsive shocks: in vivo microdialysis study in the rat brain
Supervisors: Dr Michael Newman, Dr Eitan Gur and Prof Bernard Lerer

1992-1996 **BSc in Biology,** Hebrew University of Jerusalem, Israel

1980-1990 **Secondary School** No 331, Moscow, Russian Federation

EMPLOYMENT HISTORY

2016- **Head of Neuropharmacological Laboratory,** Institute of Molecular Physiology and Genetics (IMPG), Centre for Biosciences (CBs), Slovak Academy of Sciences (SAS), Bratislava, Slovak Republic

2014- **Independent Research Fellow,** IMPG CBs SAS and Institute of Experimental Endocrinology (IEE), Biomedical Research Center (BMC) SAS, Bratislava, Slovak Republic

2012- **Owner and CEO**, Neuroken Consulting, Groningen, the Netherlands

2018-2020

2018-2020 **Director,** IMPG CBs SAS

2013-2014 **Research Fellow,** IMPG SAS and IEE BMRC SAS

2008-2014 **Research Fellow**, Groningen Research Institute of Pharmacy (GRIP) and University of Groningen Medical Center (UMCG), University of Groningen, Groningen, the Netherlands

2008-2012 **Trial Manager,** Brains On-Line BV, Groningen, the Netherlands

2004-2008 **Postdoctoral Fellow**, University of Ottawa Institute of Mental Health Research, ON, Canada

2003-2006 **Lecturer,** Jerusalem College of Technology, Israel

2000-2004 **Teaching Assistant,** Bar-Ilan University, Ramat-Gan, Israel

1997-2000 **Blood Bank Technician,** Hebrew University Hadassah Medical Center, Jerusalem, Israel

1996-1997 **Human Resources Officer,** Israeli Defense Forces

1995-1996 **Research Assistant,** Israeli Nature Reserves Authority, Jerusalem, Israel

PRIZES AND AWARDS

2018 **Best Publication of 2017,** Centre for Biosciences, Slovak Academy of Sciences

2017 **"Editor's Choice" Article,** International Journal of Neuropsychopharmacology

2016 **Acquisition of Slovak Citizenship** according to the § 7 section 2b of the Act of the National Council of the Slovak Republic no 40/1993 granting Slovak Citizenship to the individuals "that significantly contributed to the benefit of the Slovak Republic in the fields of economy, science, technology, culture, social or sports"

2013 **Slovak Academy of Sciences Scholarship Award**

2008 **Fellowship Award,** European College of Neuropharmacology (ECNP)
Poster Award, ECNP
Honorable Mention, International College of Neuropharmacology (CINP)
Fellowship Award, Society of Biological Psychiatry

2007 **Prize for Excellence,** Faculty of Medicine, University of Ottawa

2006 **Post-Doctoral Fellowship** for the Outstanding PhD Graduates of Bar-Ilan University (Project Title: Electrophysiological investigations of atypical antipsychotic drugs and their combination with SSRIs on serotonin and norepinephrine neurons; USD 12,000 for one year)
Rafaelsen Award, CINP
Travel Award to attend Workshop of Young Psycho-pharmacologists in Europe, Nice, France

2005 Bar-Ilan University **President's Prize**

2003 **Travel Fellowship,** University of Grenoble, France
Bar-Ilan University Life Sciences Faculty **Dean's Prize**

2001 **Travel fellowship** to attend the International Meeting of Federation of Biological Psychiatry, Berlin

RESEARCH GRANTS

2021-2025 **Activation of the VGF/BDNF/TrkB pathway by synthetic mRNA encapsulated in polyplex nanoparticles: effects on neural excitability, neuroplasticity, and animal behavior.** Slovak Research and Development Agency (Agentúra na podporu výskumu a vývoja: APVV), EUR 220,000. Role: Principal Investigator (PI). Approved.

2021-2024 **Strategic Initiative Towards Prevention of Mental Illness Related Obesity and Comorbidities.** Vysegrad Grant, EUR 40,000. Role: partner.

2020-2024 **Long-lasting effect of next generation antidepressants on offspring.** APVV, EUR 250.000. Role: co-investigator. Uprunning.

2019-2021 **Unveiling the mechanism(s) underlying the switch to mania during antidepressant treatment: the role of glutamate (UNMET).** Era Net Neuron, EUR 75,000. Role: co-investigator. Uprunning.

2018-2021 **Investigation of the mechanism of action of novel putative antidepressant drugs: pyridoindole derivatives and trace amine-associated receptor-1 (TAAR1) ligands.** Scientific Grant Agency of the Ministry of Education of the Slovak Republic and of Slovak Academy of Sciences (Vedecká grantová agentúra MŠVVaŠ SR a SAV: VEGA, EUR 36,802). Role: PI. Uprunning.

2015-2017 **Prenatal and postnatal effects δ- and μ-opioid receptor ligands on the hippocampal development and function.** APVV, EUR 250.000. Role: co-investigator. Successfully implemented.

2013-2017 **Effects of stress, induced by immune challenge during the gestation in rats, on maternal care behaviour and on hippocampal neuronal excitability in the offsprings.** VEGA, EUR 16,300. Role: PI. Successfully implemented.

2013-2017 **Role of Neurosecretory Neurons and Calcium Signalling in Depression and Addictive Behaviour: Assessment by in-vivo Electrophysiology**. Scholarship Program of the Slovak Academy of Sciences (160,000 EUR). Role: PI. Successfully implemented.

2005-2007 **Electrophysiological investigations of atypical antipsychotic drugs and their combination with SSRIs on serotonin and norepinephrine neurons.** Postdoctoral Fellowship Support for the *Summa Cum Laude* PhD Alumni. Bar-Ilan University, Ramat-Gan, Israel. USD 12,000. Role: PI. Successfully implemented.

EXPERT DUTIES

2018- **Grant applications reviewer,** International Expert Panel, National Medical Research Council (NMRC) of Singapore

2016-2018 **Member,** International Expert Panel, NMRC of Singapore

2015- **Grant applications reviewer,** Horizon 2020 Program, Commission of the European Union (EC)

2014- **Grant applications reviewer,** Department of Health and Human Services, USA

2013- **Grant applications reviewer,** Ministry of Science and Education, Russian Federation

2013-2014 **Consultant,** National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs), UK

2012-2013 **Grant applications reviewer,** Seventh Framework Program (FP7), EC

2011-2013 **Grant applications reviewer,** National Research Agency (ANR) of France

2006-2017 **Consultant,** Medical Research Council (MRC) of the UK

EDITORIAL AND REVIEWING DUTIES

2014- **Editor,** General Physiology and Biophysics

2020- **Guest Editor,** MDPI

2006-2014 **Guest Editor,** Bentham Science Publishers

2004- **Ad-Hoc Reviewer:** Biological Psychiatry, British Journal of Pharmacology, European Neuropsychopharmacology, the Neuroscientist, Frontiers in Neuroscience, International Journal of Neuropsychopharmacology, Journal of Psychopharmacology, Neuropharmacology, Neuroendocrinology, Pharmaceuticals, Pharmacological Reports, Stress

STUDENTS SUPERVISION

2018-2022 Daniil Grinchii, MD, PhD project: **Early preclinical testing of new drugs for the treatment of depression.** Comenius University in Bratislava.

2019-2021 Talah Khoury. MSc project: **TAAR receptors as a target for next generation CNS drugs.** Slovak Technical University in Bratislava.

2016-2018 Alexandra Ballóová. BSc project: **The role of animal models in the research and development of antidepressant drugs.** Comenius University in Bratislava.

2016-2017 Kristína Csatlósová. MSc project: **Neuronal mechanisms of the beneficial mood effect of physical exercise.** Comenius University in Bratislava.

2015-2016 Petronela Kubicová. BSc project: **Effect of parental stress and infection on the development and functioning of offspring brain.** Comenius University in Bratislava.

2015-2016 Kristína Csatlósová. BSc project: **Role of hippocampus in pathophysiology and treatment of depression.** Comenius University in Bratislava.

2005-2006 Nahum Lubin and Mordechai Rosenstein, BSc project: **Characterization of clustering pattern using modified genetic algorithm: application for experimental time-series analysis in neuropharmacological research.** Jerusalem college of Technology

2005-2006 Todaya Bowker and Sarah Elkoby, BSc Project: **Cluster identification using the hidden Markov model: application for electrophysiological and behavioral time-series analysis.** Jerusalem college of Technology

2004-2005 Sofia Goutkin and Elizabeth Kravchinsky, BSc Project: **Nonliner methods of analysis of neuronal firing time-series obtained in vivo.** Jerusalem college of Technology

TEACHING EXPERIENCE

2003-2004 Lecturer at the curse: **System physiology for Biotechnology and Bioinformatics students.** Faculty of Computer Science, Jerusalem college of Technology, Jerusalem Israel

2000-2004 Teaching assistant (TA) at the course: **Mammalian Biology for Chemistry Students.** Life Sciences Faculty, Bar-Ilan University, Ramat-Gan, Israel

2000-2001 TA at the course: **Introductory Microbiology for Biology Students.** Life Sciences Faculty, Bar-Ilan University, Ramat-Gan, Israel

2000-2004 TA at the course: **System Physiology for Biology Students.** Life Sciences Faculty, Bar-Ilan University, Ramat-Gan, Israel

2001-2002 TA at the course: **Introduction to Computers for Biology Students.** Life Sciences Faculty, Bar-Ilan University

MOST SIGNIFICANT PUBLICATIONS

Csatlosova K, Bogi E, Durisova B, Grinchii D, Paliokha R, Moravcikova L, Lacinova L, Jezova D, **Dremencov E**. Maternal immune activation in rats attenuates the excitability of monoamine-secreting neurons in adult offspring in a sex-specific way. European Neuropsychopharmacology 43 (2021) 82-91; IF 3.9.

Tseilikman V, Komelkova M, Lapshin M, Alliluev A, Tseilikman O, Karpenko M, Pestereva N, Manukhina E, Downey HF, Kondashevskaya M, Sarapultsev A, **Dremencov E**. High and low anxiety phenotypes in a rat model of complex post-traumatic stress disorder are associated with different alterations in regional brain monoamine neurotransmission. Psychoneuroendocrinology 117 (2020) 104691; IF 4.7, cited 1 time (WoS).

Dremencov E, Csatlósová K, Durišová B, Moravcíková L, Lacinová L, Ježová D. Effect of physical exercise and acute escitalopram on the excitability of brain monoamine neurons: in vivo electrophysiological study in rats. International Journal of Neuropsychopharmacology 20 (2017) 585-592; IF 4.3, cited 14 times (WoS).

Dremencov E, el Mansari M, Blier P. Effects of sustained serotonin reuptake inhibition on the firing of dopamine neurons in the rat ventral tegmental area. Journal of Psychiatry and Neuroscience 34 (2009) 223-229; IF 6.2, cited 93 times (WoS).

Dremencov E, el Mansari M, Blier P. Distinct electrophysiological effects of paliperidone and risperidone on the firing activity of rat serotonin and norepinephrine neurons. Psychopharmacology 194 (2007) 63-72; IF 4.1, cited 62 times (WoS).

Dremencov E, el Mansari M, Blier P. Noradrenergic augmentation of escitalopram response by risperidone: electrophysiologic studies in the rat brain. Biological Psychiatry 61 (2007) 671-678; IF 9.3, cited 77 times (WoS).

Dremencov E, Weizmann Y, Kinor N, Gispan-Herman I, Yadid G. Modulation of dopamine transmission by 5-HT2C and 5-HT3 Receptors: a role in the antidepressant response. Current Drug Targets 7 (2006):165-75; IF 4.3, cited 55 times (WoS).

Dremencov E, Newman ME, Kinor N, Blatman-Jan G, Schindler CJ, Overstreet DH, Yadid G. Hyperfunctionality of serotonin-2C receptor-mediated inhibition of accumbal dopamine release in an animal model of depression is reversed by antidepressant treatment. Neuropharmacology 48 (2005) 34–42; IF 4.1, cited 86 times (WoS).

Dremencov E, Gispan-Herman I, Rosenstein M, Mendelman A, Overstreet DH, Zohar J, Yadid G. The serotonin–dopamine interaction is critical for fast-onset action of antidepressant treatment: in vivo studies in an animal model of depression. Progress in Neuro-Psychopharmacology and Biological Psychiatry 28 (2004) 141– 147; IF 3.6, cited 96 times (WoS).

Dremencov E, Gur E, Lerer B, Newman ME. Subchronic fluoxetine administration to rats: effects on 5-HT autoreceptors activity as measured by in vivo microdialysis. European Neuropsychopharmacology 10 (2000) 229–236; IF 4.6, cited 18 times (WoS).

OUTREACH ACTIVITIES

European Researchers' Night Booth **"Brain: Factory for Happiness"**, Bratislava, Old Market Exhibition Center, September 29, 2017.

European Researchers' Night Booth **"Neuronal networks in action"**, Bratislava, Old Market Exhibition Center, September 30, 2016.

Popular science blog **"The Chemistry of Mind"**, WordPress, https://neuroken.wordpress.com/author/neuroken/ (English).

Popular science blog **"Secrets of the Brain"** ("Тайны Мозга"), LiveJournal, https://neuroken.livejournal.com/ (Russian).

HOBBIES

Recreational open water diving. PADI Open Water Diver: Certification Date 01.01.2019, #1901UL4688**.** PADI Advanced Open Water: Certification Date 21.12.2019, #1912UJ5278**.** Logged dives: 12, total underwater time: 7.1 hr., max. depth: 30 m.

Open-water swimming. Competitions: Vienna Open Water Trial (1,500 m); September 12, 2015. "Balaton-átúszás": Balaton lake cross-swimming (5,200 m); July 4, 2015, Révfülöp, Hungary. "Zwem 2 Mijl": two-mile open water swimming (3,400 m); August 25, 2013, Groningen, the Netherlands