CURRICULUM VITAE AND LIST OF PUBLICATIONS

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1. Personal Details

Name: Friedman, Alon

Date and Place of Birth: October 9th, 1964, Yaffo, Israel.

Work address:	Department of Medical Neuroscience 5850 College Street Room 12-H Sir Charles Tupper Building PO Box 15000 Halifax, NS B3H 4R2	The Department of Physiology & Neurobiology Faculty of Health Sciences Ben-Gurion University of the Negev, Beer-Sheva, 84105 Israel
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2. Education

B.Sc 07/1985	Medical Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel
M.D. 06/1991	Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel
Ph.D. 09/1991	Neuroscience. Advisor: Professor Michael J. Gutnick. Title: "Active and Passive Properties of Neocortical Neurons and their Role in Determining Neuronal Firing Pattern". summa cum laude. University of the Negev, Beer-Sheva, Israel

3. Employment History

2014-	Full Professor, Dennis Chair in epilepsy research, Faculty of Medicine, Dalhousie University, Halifax, Nova Scotia, Canada.
2012-present	Full Professor, Dr. Helena Rachmanska-Putzman Chair in Neurology, Departments of Physiology and Cell Biology, Brain and Cognitive Sciences, Faculty of Health Sciences, Ben-Gurion University of the Negev.
2008-12	Tenured, Associate Professor, Department of Physiology, Faculty of Health Sciences, Ben-Gurion University of the Negev.
2009-12	Visiting Professorship, Institute of Neurophysiology, Charite Medical University, Berlin
2004-08	Senior Lecturer, Department of Physiology, Faculty of Health Sciences, Ben-Gurion University of the Negev.

2003	Senior Lecturer, Departments of Neurosurgery and Physiology, Soroka University Medical Center and Faculty of Health Sciences, Ben-Gurion University of the Negev.
7/02 – 04	Guest Scientist, Institute for Neurophysiology, Charitè Medical University, Berlin.
1997	Lecturer, Departments of Neurosurgery and Physiology, Soroka University Medical Center and Faculty of Health Sciences, Ben-Gurion University of the Negev.

4. **Professional Activities**

(a) Positions in academic administration

2012- present	Chair, Cognitive and Brain Sciences teaching program (undergraduate and graduate), Ben-Gurion University of the Negev.
2011- present	Director, Zlotowski Center for Neuroscience, Ben-Gurion University of the Negev.
2007 – 2011	Associate-Chair, Department of Biomedical Engineering, Ben-Gurion University of the Negev.

(b) Professional functions outside universities/institutions

10/2004-09/2005	Senior resident, Department of Neurosurgery, Soroka University Medical Center, Beer-Sheva.
06/1996-02/2001	Residency, Department of Neurosurgery, Soroka University Medical Center, Beer-Sheva.

(c) Editor or member of editorial board of scientific or professional journal

Editorial

2010-2012	Epilepsia.
2009-present	TürkiyeKlinikleri Journal of Medical Sciences.
2009-present	The Open Biology Journal
2014-present	Neuroimmunology and Neuroinflammation

Reviewer

Brain, Epilepsia, Epilepsy Research, FEBS Journal, GLIA, Journal of Neuroscience, Journal of Neuroscience Methods, Journal of Neurology, Neurosurgery & Psychiatry, Nature Medicine, Neurobiology of Disease, Neuroscience

Reviewer for grant agencies

Binational Israel-USA Science Foundation (BSF), French ANR, Israeli Academy of Sciences, The German-Israeli Foundation, The Psychobiology Institute, Deutsche-Forschung Gemainschaft (DFG, German Academy of Sciences), European Union.

(d) Membership in professional/scientific societies

2004 – present	International League Against Epilepsy – Israeli Chapter
2000 – present	Federation of European Neuroscience Societies.
1996 – present	Israeli Societies for Neuroscience
1996 – 2001	European Society of Clinical Neurophysiology
1984 – present	Society for Neuroscience (USA)

(e) Additional Functions

2011	Invited Guest Editor, Epilepsia (impact factor 4.052). Special issue: "Blood-brain barrier dysfunction in epileptogenesis and epilepsy".
2010	Invited member of the Task Force on Basic Science, The International League Against Epilepsy.
2010	Invited Guest Editor (with D. Kaufer), Cardiovascular Psychiatry and Neurology. Special issue: "Blood-Brain Barrier Breakdown and Blood-Brain Communication in Neurological and Psychiatric Diseases".
2013	Invited Guest Editor, Seminars Cell and Dev. Biology (impact factor 6.1). Special issue: "Blood-brain barrier".
2014	Invited member of the working group: Translational Task Force of the Neurobiology Commission of the ILAE,Basic Science, The International League Against Epilepsy.

(f) Organization of International Meetings:

2016	4th Halifax International Epilepsy Conference & Retreat, White Point September 21 to 24, 2016
2013	International meeting in Epilepsy genetics and Young researcher Meeting. Sde Boker, December 12-14th, 2013.
2012	Blood-brain barrier dysfunction in neurological diseases: Clinical studies, underlying mechanisms and therapeutic implications. Beer-Sheva & Sde Boker. http://bbb2012negev.med.ad.bgu.ac.il/index.html
2009	2nd International Symposium: Drug resistant Epilepsy: From Basic Science to Pharmacological and Surgical Management, Beer-Sheva.
2007	1st International Symposium: Drug resistant Epilepsy: From Basic Science to Pharmacological and Surgical Management, Beer-Sheva.
2007	Cholinergic Signaling – From Genes to Environment, Jerusalem.
2006	Cortical Circuitry, Rechovot

5. **Educational Activities**

(a) Courses taught

2012-present	Coordinator and Teacher – Core Course in Cellular Neuroscience for undergraduate students
2011-present	Coordinator and Teacher – Core Course in Neuroscience for graduate students
2009-present	Teacher, Pathophysiology of Brain Disorder, Course for BsC Student, Hebrew University of Jerusalem
2009-present	Coordinator and Teacher – Medical Problem to 4th year biomedical students.

2009-present	Coordinator and Teacher – Advanced Imaging. Course for biomedical engineering students, Ben-Gurion University of the Negev
2007-present	Coordinator and Teacher – Advanced Physiology, Biophysics and Electrophysiology, 2nd year course for medical students.
2005-present	Coordinator and Teacher – Pathogenesis of Epilepsy: from Genotype to Phenotype. Course for graduate students, Ben-Gurion University of the Negev
2005-present	Teacher: courses for basic physiology (medical and para-medical professions), Ben-Gurion University of the Negev.
2000-2002	Teacher – Course in Neurophysiology, 2nd year MD Program in International Health in Collaboration with Colombia University Health Sciences (lectures in English).
2002-2004	Coordinator and Teacher – Methodological approaches in in-vivo neurophysiology. Laboratory course for graduate students, Ben-Gurion University of the Negev
1998-2002	Teacher – Course in Neurophysiology, Faculty of Health Sciences, Ben-Gurion University of the Negev (4th year medical students).
1999-2002	Coordinator and Teacher - The Rekanati School for Community Health Professions, Faculty of Health Sciences, Ben-Gurion University of the Negev (Course in Neurophysiology for 2nd year physiotherapy students)
1998	Teacher - Experimental approaches for studying central nervous system disorders, Ben-Gurion University of the Negev (Course for graduate students).
1992-2002	Coordinator and Teacher - Neurosurgery Department, Faculty of Health Sciences, Ben-Gurion University of the Negev (5th year medical students)
1987-1988	Tutor - Department of Behavioral Sciences, Ben-Gurion University of the Negev (Undergraduate course in psychophysiology)
1985-1991	Tutor - Department of Physiology, Faculty of Health Sciences, Ben-Gurion University of the Negev (Course in physiology for 1st year medical students)

(b) Research students and Post Docs

Cortical electrophysiology:

2000 – 2003 MSc, Akiva Korn
1998 – 2003 PhD (MD-PhD track), Nadav Astman, Joint Supervision with Prof. Michael Gutnick

Cholinergic modifications in stress and epileptogenesis:

2009 – 2010 Post-doctoral fellow, Lev Pavlovsky
2006 – 2009 MSc, Yifat Bitan
2006 – 2009 MSc, Yehudit Genatek
2004 – 2007 Post-Doctorate Fellow, Naim Najami
2001 – 2006 PhD (MD-PhD track), Orie Brown.
2000 – 2007 PhD (MD-PhD track), Lev Pavlovsky.

Blood-brain barrier and epileptogenesis:

2015 – 2018 MsC, Netta Elazari
2015 – present PhD, Evyatar Swissa
2014 - present PhD, Udi Vazana
2014 – 2015 Post-doctoral fellow, Guy Bar-Klein
2012 – present PhD (MD-PhD track), Dan Milikovsky
2012 – 2014 MsC, Udi Vazana

2010 – 2014 PhD Guy Bar-Klein
2009 – 2015 PhD (MD-PhD track), Itai Weisberg
2009 – 2015 PhD (MD-PhD track), Karl Shocknecht (Charité Medical University, Berlin)
2009 – 2011 MSc, Ayelet Peer (with Dr. Alon Monsonego)
2008 – 2010 MsC, Guy Bar-Klein
2008 – 2015 PhD, Nitzan Levy (with Dr. Alon Monsonego)
2008 – 2011 MSc, Chen Klein (Biomed Eng.)
2007 – 2011 PhD, Maya Ketzef (with Dr. Dani Gitler)
2007- 2014 PhD, Ofer Prager
2007 - 2009 MSc, Haviv Levy (Biomed Eng.)
2006 – 2011 PhD (MD-PhD track), Yaron David
2003 – 2006 PhD (MD-PhD track), Sebastian Ivens (Charité Medical University, Berlin)
2002 – 2004 PhD (MD-PhD track), Ernst Seiffert (Charité Medical University, Berlin)

Blood-brain barrier imaging: Human studies
2014 – present PhD, Lyna Kamintsky-Solomon
2011 – present PhD (MD-PhD track), Ronel Vexler
2005 – 2010 MSc, Asaf Kara.
2000 – 2007 PhD (MD-PhD track), Oren Tomkins.
2008 - 2010 Post-Doctorate Fellow, Yoash Hassidim

Traumatic Brain Injury
2016-present MSc, Ellen Parker, Dalhousie University
2016-present PhD , Refat Abu-Razleh, Dalhousie University
2017-present MsC, Olumide

Brain function in stress and modulation of emotional response: human studies
2010 – 2012 MA, Chen Tifeeret
2009 – 2017 PhD, Rotem Saar
2006 – 2008 MSc, Shy Hefetz
2003 – 2010 PhD (MD-PhD track), Jonathan Cohen

EEG analysis in epileptogenesis and seizures:
2009 – 2012 MSc, Netali Efrat (Biomed Eng. With Dr. Ilan Shallom)
2009 – 2012 MSc, Lyn Kaminitzky (Biomed Eng.)
2009 – 2012 MSc, Etti Askenazi (Biomed Eng. With Dr. Ilan Shallom)
2006 – 2009 MSc, Merav Ben-Asher (Electrical Eng., with Prof. Amir Geva)

6. Awards and Fellowships

(a) Awards

2013	Dr. Helena Rachmanska-Putzman Chair in Neurology
2009	The Students Excellency award for teaching, Ben-Gurion University, Beer-Sheva, Israel.
2009	The Moritz Heinrich Romberg Visiting Professorship from the, Stroke Center, Charité Medical University, Berlin, Germany.
2009	Mercator Program for Visiting Professorships at German Universities, Charité Medical University, Berlin, Germany.
2007	The Michael Prize for Epilepsy Research, The Michael Stiftung, Bonn, Germany.
2001-2002	American Physicians Fellowship for Medicine in Israel, The APS Kass Award for Medical Research

2000	The Zigler prize for original research, The Bruce Rappaport Faculty of Medicine, Technion, Israeli Institute of Technology.
1997	Foulkes Foundation Research Awards (London, UK) for original contribution of scientific research to medicine.
1997	The "Teva" research prize for young investigators.
1991	The volunteer award, The Association for Civil Rights in Israel.
1986-1988	Goulton Award, Ben-Gurion University of the Negev, Israel. Support for graduate training.

(b) Fellowships

2002-2003	Alexander von Humboldt Fellowship, Institute for Physiology, Humboldt University, Berlin
1996-1997	The Charles Smith Post-Doctoral Fellowships
1988-1990	The Foulks Foundation Fellowship (London, UK), support for graduate training.

7. Scientific Publications

h-index (according to the web of science, August 2019) = 49

I Refereed articles in scientific journals

(1) **Friedman, A.** and Gutnick, M.J. 1987, Low threshold calcium electrogenesis in neocortical neurons. *Neuroscience Letters*, 81: 117-122. [Impact Factor – 3.41 , Time Cited by others: 83]

(2) **Friedman, A.** and Gutnick, M.J. 1989, Intracellular calcium and control of burst generation in neurons of guinea-pig neocortex in vitro. *The European Journal of Neuroscience*, 1: 374-381. [Impact Factor – 3.949, Time Cited by others: 61, *the journal is placed 62nd in the list of 265 journals in the field of Neuroscience*]

(3) **Friedman, A.**, Arens J., Heinemann, U. and Gutnick, M.J. 1992, Slow depolarizing afterpotentials in neocortical neurons are sodium and calcium dependent. *Neuroscience Letters*, 135: 13-17. [Impact Factor – 3.41, Time Cited by others: 27]

(4) Amitai, Y., **Friedman, A.**, Connors, B.W. and Gutnick, M.J. 1993, Regenerative activity in apical dendrites of pyramidal cells in neocortex. *Cerebral Cortex*, 3: 26-38. [Impact Factor – 6.187, Time Cited by others: 145, *the journal is placed 16th in the list of 265 journals in the field of Neuroscience*]

(5) Reuveni, I., **Friedman, A.**, Amitai, Y. and Gutnick, M.J. 1993, Stepwise repolarization from Ca2+ plateaus in neocortical pyramidal cells: evidence for non-homogenous distribution of HVA Ca2+ channels in dendrites. *The Journal of Neuroscience*, 13: 4609-4622. [Impact Factor -7.506, Time Cited by others: 74, *the journal is placed 9th in the list of 265 journals in the field of Neuroscience*]

(6) Segev I., **Friedman, A.**, White E. and Gutnick, M.J. 1995, Electrical consequences of spine dimensions: model of a cortical spiny stellate cell completely reconstructed from serial thin sections. *Journal of Computational Neuroscience*. 2: 117-130. [Impact Factor -2.359, Time Cited by others: 17, *the journal is placed 87th in the list of 265 journals in the field of Neuroscience*]

(7) Barkai E., **Friedman, A.** Grossman, Y. and Gutnick, M.J. 1995, Laminar pattern of synaptic inhibition during convulsive activity induced by 4-aminopyridine in neocortical slices. *Journal of*

Neurophysiology, 73: 1462-7. [Impact Factor -3.853 , Time Cited by others: 17, *the journal is placed 17th in the list of 265 journals in the field of Neuroscience*]

(8) Fleidervish, I. **Friedman, A.** and Gutnick, M.J. 1996, Slow Na channel inactivation underlies cumulative slow adaptation of neuronal firing in guinea-pig and mouse neocortical slices in vitro. *Journal of Physiology (London)*, 493: 83-98.[Impact Factor -4.272, Time Cited by others: 151, *the journal is placed 15th in the list of 265 journals in the field of Neuroscience*]

(9) **Friedman, A.**, Kaufer, D., Hendler, I., Shemer, J., Soreq, H. and Tur-Kaspa, I. 1996, Pyridostigmine brain penetration under stress enhances neuronal excitability and induces immediate transcriptional response. *Nature-Medicine*, 2: 1382-5. Accompanied by a News and Views cover page pp. 1307-1308. [Impact Factor -28.878, Time Cited by others: 260, *the journal is placed 1st in the list of 116 journals in the field of Medicine research*]

(10) Andres, C. Beeri, R., **Friedman, A.**, Timberg, R., Shani, M. and Soreq, H. 1997, AChE transgenic mice display embryonic modulations in spinal cord CHAT and neurexin Iβ gene expression followed by late-onset neuromotor deterioration. *Proceedings National Academy of Sciences USA* 94: 8183-8178. [Impact Factor – 9.432, Time Cited by others: 68]

(11) Soreq, H., Kaufer, D., Beeri R. and **Friedman, A.** 1997, Short and long-term manipulation of cholinergic functions under stress conditions and in transgenic animals. Chemistry 34 (Hebrew), 102-103.

(12) Kaufer, D., **Friedman, A.**, Seidman, S. and Soreq, H. 1998, Acute stress facilitates long-lasting changes in cholinergic gene expression. *Nature*, 393: 373-377. Accompanied by a News and Views cover page pp. 308-309.[Impact Factor -29.273 , Time Cited by others: 391, *the journal is placed 3rd in the list of all journals*]

(13) Kaufer, D., **Friedman, A.**, Seidman, S. and Soreq, H. 1998, Anticholinesterases induce multigenic transcriptional feedback response supressing cholinergic neurotransmission, *Chemical-Biological Interactions*. 119-120: 349-360.[Impact Factor – 1.968, Time Cited by others: 65]

(14) **Friedman, A.**, Kaufer, D., Pavlovsky, L. and Soreq, H. 1998, Cholinergic excitation induces activity-dependent electrophysiological and transcriptional responses in hippocampal slices. *Journal of Physiology (Paris)* 92: 329-336. [*Impact Factor – 1.367, Time Cited by others: 9*]

(15) Kaufer, D., **Friedman, A.** and Soreq, H. 1999, The vicious circle: long-lasting transcriptional modulation of cholinergic neurotransmission following stress and anticholinesterase exposure. *The Neuroscientist* 5: 173-183.[Impact Factor - 4.458 , Time Cited by others: 14, *the journal is placed 41st in the list of 265 journals in the field of Neuroscience*]

(16) Soreq, H., Kaufer, D. and **Friedman, A.** 2000, The Molecular Biology of Post-Traumatic Stress Disorder. *Harefuah*, 18: 57-62. [Hebrew]

(17) Tomkins, O., Kaufer, Daniela, Shelef, I., Golan, H., Reichenthal, E., Soreq, H. and **Friedman, A.** 2001, Frequent Blood-Brain-Barrier Disruption in the Human Cerebral Cortex. *Cellular and Molecular Neurobiology*, 21:675-91.[*Impact Factor -2.022 ,Time Cited by others: 51*].

(18) Meshorer, E., Erb1, C., Gazit, R., Pavlovsky, L., Kaufer, D., **Friedman, A.**, Ben-Arie, N., and Soreq, H. 2002, Inter related stimulus-induced modulations in alternative splicing and neuritic mRNA translocation promote neuronal hypersensitivity. *Science*, 295:508-12.[Impact Factor – 30.927, Time Cited by others: 159, *the journal is placed 12th in the list of all journals*]

(19) Pavlovsky, L., Browne, O. and **Friedman, A.** 2003, Pyridostigmine enhances glutamatergic transmission in hippocampal CA1 neurons. *Experimental Neurology*, 179: 181-187. [Impact Factor – 3.767, Time Cited by others: 17]

(20) Wieser, G H.G., Ortega, **A. Friedman**, and Y. Yonekawa 2003, Long-term seizure outcome following amygdalohippocampectomy. *J. Neurosurgery,* 98:751-763.[Impact Factor -2.446, Time Cited by others: 141]

(21) Seiffert, E., Dreier, J.P., Ivens, S., Bechmann, I., Heinemann, U. and **Friedman, A.** 2004, Focal blood-brain-barrier disruption induces epileptiform activity in the rat neocortex. *J. Neuroscience,* 24:7829-36.[Impact Factor – 7.506, Time Cited by others: 141, *the journal is placed 9th in the list of 265 journals in the field of Neuroscience*]

(22) Liat Ben-Moyal-Segal, Tatiana Vander, Sagiv Shifman, Boris Bryk, Richard Ebstein, Esther-Lee Marcus, Johanan Schtassman, Ariel Darvasi, Yuval Herishanu, **Alon Friedman** and Hermona Soreq. 2005, Acetylcholinesterase/Paraoxonase interactions increase the risk of insecticide-induced Parkinson's disease. *FASEB J.*, 19:452-4. [Impact Factor -7.064 , Time Cited by others: 35, *the journal is placed 10th in the list of 94 journals in the field of Biology*]

(23) Korn A., Golan, H., Pascual-Marqui, R and **Friedman, A.** 2005, Focal Cortical Dysfunction and Blood-Brain Barrier Disruption in Patients with Post-Concussion Syndrome, *J. Clinical Neurophysiology,* 22:1-9. [Impact Factor -1.544, Time Cited by others: 29, *the journal is placed 42nd in the list of 203 journals in the field of Clinical Neurology*]

(24) Pavlovsky, L., Seiffert, E. Korn, A. Golan, H., Heinemann, U. and **Friedman, A.** 2005, Persistent Blood-Brain Barrier Disruption May Underlie alpha Interferon-induced Seizures, *J Neurol*. 252:42-6.[Impact Factor -2.844, Time Cited by others: 21, *the journal is placed 37th in the list of 158 journals in the field of Clinical Neurology*]

(25) Dreier, J.P., Jurkat-Rott, K., Petzold, G.C., Tomkins, O., Klingebiel, R., Kopp, U.P., Lehmann-Horn, F., **Friedman, A.**, and Dichgans. M. 2005, Opening of the blood-brain barrier preceding cortical edema in a severe attack of FHM type II. *Neurology,* 64: 2145-7. [Impact Factor -4.947, Time Cited by others: 22, *the journal is placed 6th in the list of 158 journals in the field of Clinical Neurology*]

(26) Behrens, C.J., van den Boom L.P., De-Hoz, L., **Friedman, A.**, and Heinemann U. 2005, Induction of sharp wave-ripple complexes in vitro and reorganization of hippocampal networks. *Nat Neurosci.* 8:1560-7. [Impact Factor -15.456, Time Cited by others: 86, *the journal is placed 7th in the list of 212 journals in the field of Neuroscience*]

(27) Zumsteg, D., **Friedman, A.**, Wennberg, R.A. and Wieser, H.G. 2005, Source localization of mesial temporal interictal epileptiform discharges: Correlation with intracranial foramen ovale electrode recordings. *Clin Neurophysiol*. 116:2810-8.[Impact Factor -2.64 , Time Cited by others: 48, *the journal is placed 55th in the list of 158 journals in the field of Clinical Neurology*]

(28) Zumsteg, D., **Friedman, A.**, Wieser, H.G and Wennberg, R.A. 2006, Source localization of interictal epileptiform discharges: Comparison of three different techniques to improve signal to noise ratio. *Clin Neurophysiol*. 117(3):562-71.[Impact Factor -2.64 , Time Cited by others: 11, *the journal is placed 55th in the list of 158 journals in the field of Clinical Neurology*]

(29) Kofman, O., Berger, A, **Friedman, A.** and Abu Jaffar, A. 2006, Impairments in school-aged children following exposure to organophosphate. *Pediatr Res.* 60:88-92. [Impact Factor – 2.875, Time Cited by others: 18]

(30) Brown, R.O., Benmoyal-Segal, L., Zumsteg, D., David, Y., Kofman, O., Berger, A., Soreq, H. and **Friedman, A.** 2006, Coding region paraoxonase polymorphisms dictate accentuated neuronal reactions in chronic, sub-threshold pesticide exposure. *FASEB J.* 20:1733-5.[Impact Factor -7.064 , Time Cited by others: 22, *the journal is placed 8th in the list of 72 journals in the field of Biology*]

(31) Zumsteg, D., **Friedman, A.**, and Wennberg, R.A. 2006, Propagation of interictal discharges in temporal lobe epilepsy: Correlation of spatiotemporal mapping with intracranial foramen ovale

electrode recordings. *Clinical Neurophysiology*. 117:2615-26.[Impact Factor-2.64, Time Cited by others: 31, *the journal is placed 55th in the list of 158 journals in the field of Clinical Neurology*]

(32) Ivens, S., Kaufer, D., Seiffert, E., Bechmann, I., Tomkins, O., Heinemann, U. and **Friedman, A.** 2007, TGFβ receptor mediated albumin uptake into astrocytes is involved in neocortical epileptogenesis. *Brain*, 130:535-47. [Impact Factor -7.535 , Time Cited by others:105, *the journal is placed 2ndin the list of 158 journals in the field of Clinical Neurology*]

(33) Tomkins, O., Friedman, O., Ivens, S., Reiffurth C., Major, S., Dreier, J.P., Heinemann, U. and **Friedman, A.** 2007, Blood-brain barrier disruption results in delayed functional and structural alterations in the rat neocortex. *Neurobiology of Disease*, 25:367-77. [Impact Factor -4.048, Time Cited by others: 23, *the journal is placed 88th in the list of 212 journals in the field of Neuroscience*]

(34) Lev Pavlovsky and **Alon Friedman**. 2007, Pathogenesis of Stress-Associated Skin Disorders: Exploring the Brain-Skin Axis. Curr. Problems in Dermatology, 35: 136-145. [Time Cited by others*: 3*]

(35) **Alon Friedman**, Christoph J Behrens and Uwe Heinemann. 2007, Cholinergic Dysfunction in Temporal Lobe Epilepsy. *Epilepsia.* 48: 126-130.

(36) O Tomkins, I Shelef, I Kaizerman, A Eliushin, Z Afawi, A Misk, M Gidon, A Cohen, D Zumsteg, **A Friedman**. 2008, Blood-Brain Barrier Disruption in Post-Traumatic Epilepsy. *Journal of Neurology Neurosurgery and Psychiatry.* 79: 774-779.

(37) Cohen J. E., Zimmerman G., **Friedman A.,** Dori A. and Soreq H. 2008, Acetylcholinesterase impairs homeostasis in mouse hippocampal granule cells. Hippocampus, 18:182-92.

(38) Randolf Klingebiel, **Alon Friedman**, Ilan Shelef and Jens P. Dreier. 2008, Focal cortical necrosis in a patient with high-grade ICA stenosis and status auraemigraenalis. *Journal of Neurology Neurosurgery and Psychiatry*, 79:89-90.

(39) Merav H Shamir, Orit Chi, **Alon Friedman**, Yael Shilo, Ram Reifen, and LimorMiara. 2008, Sub-occipital craniectomy in a lion (Panthera Leo) with occipital bone malformation and hypovitaminosis A. Zoo and Wild Animals Medicine. *Journal of Zoo and Wildlife Medicine, 39(3): 455-459.*

(40) Gabriel Zimmerman, Marleisje Njunting, Sebastian Ivens, Elsa Toner, Christopher J. Behrens, Miriam Gross, HermonaSoreq, Uwe Heinemann and **Alon Friedman**, 2008. Acetylcholine-Induced Seizure-like Activity and Cholinergic Modified Gene Expression in Chronically Epileptic Rats. *European Journal of Neuroscience,* 27(4):965-75.

(41) **Alon Friedman**, Daniela Kaufer and Uwe Heinemann, 2009. Blood-Brain Barrier Breakdown-Inducing Astrocytic Transformation: Novel Targets for the Prevention of Epilepsy. *Epilepsy research,* 85(2-3):142-9.

(42) Luisa P Cacheaux, Sebastian Ivens, Yaron David, Alexander J Lakhter, Guy Bar-Klein, Michael Shapira, Uwe Heinemann, **Alon Friedman** and Daniela Kaufer, 2009. Transcriptome profiling reveals TGF-beta signaling involvement in epileptogenesis. *Journal of Neuroscience*, 29(28): 8927-8935.

(43) Hadar Shalev, Yonatan Serlin and **Alon Friedman**, 2009. Breaching the Blood-Brain Barrier as a Gate to Psychiatric Disorder. *Cardiovascular Psychiatry and Neurology*. Epub Mar 30.

(44) Jorks D, Milakara D, Alam M, Kang EJ, Major S, **Friedman** A, **Dreier** JP, 2011. A novel algorithm for the assessment of blood-brain barrier permeability suggests that brain topical application of endothelin-1 does not cause early opening of the barrier in rats. *Cardiovascular Psychiatry and Neurology*. Epub Mar 30.

(45) Ofer Prager, Yoash Chassidim, Chen Klein, Haviv Levi, Ilan Shelef and **Alon Friedman,** 2010**.** Dynamic in-vivo imaging of cerebral blood flow and blood-brain barrier permeability. *Neuroimage, 49: 337-344.*

(46) Yaron David, Luisa P Flores, Sebastian Ivens, Uwe Heinemann, Daniela Kaufer and **Alon Friedman**. 2009. Astrocytic dysfunction in epileptogenesis: consequences of altered potassium and glutamate buffering? *Journal of Neuroscience,*29(34):10588-99.

(47) Marco Sifringer, Daniela Braita, UlrikeWeichelta, Gabriel Zimmerman, Stefanie Endesfeldera, Felix Brehmera, Clarissa von Haefen, **Alon Friedman**, Hermona Soreq, Ivo Bendixg, Bettina Gerstner, Ursula Felderhoff-Muesera, 2010. Erythropoietin attenuates hyperoxia-induced oxidative stress in the developing rat brain. *Brain, behavior and immunity, 24:792-9.*

(47) Sebastian Ivens, Szendro Gabriel, Greenberg George, **Alon Friedman** and Ilan Shelef, 2010. Blood-brain barrier breakdown as a novel mechanism underlying cerebral hyperperfusion syndrome. *Journal of Neurology, 257: 615-620.*

(48) Dan Shlosberg, MonyBenifla, Daniela Kaufer and **Alon Friedman.** 2010. Blood-Brain Barrier Breakdown as a Therapeutic Target in Traumatic Brain Injury. *Nature Reviews Neurology, 6: 393-404.*

(49) Ben-David O, Pewzner-Jung Y, Brenner O, Laviad EL, Kogot-Levin A, Weissberg I, Biton IE, Pienik R, Wang E, Kelly S, Alroy J, Raas-Rothschild A, **Friedman A**, Brügger B, Merrill AH Jr, Futerman AH. 2011. Encephalopathy caused by ablation of very long acyl chain ceramide synthesis may be largely due to reduced galactosylceramide levels. *J Biol Chem.* 2011 Aug 26;286(34):30022-33.

(50) Oren Tomkins, Akiva Feintuch, Moni Benifla, Avi Cohen, **Alon Friedman** and Ilan Shelef 2011. Blood-Brain Barrier Breakdown Following Traumatic Brain Injury: A Possible Role in Posttraumatic Epilepsy, *Cardiovascular Psychiatry and Neurology* Volume 2011, Article ID 765923

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(131) Evyatar Swissa, Yonatan Serlin, Ofer Prager, Udi Vazana and **Alon Friedman** (2019) Blood-Brain Barrier Dysfunction in Status Epileptics: Mechanisms and Role in Epileptogenesis. *Epilepsy and Behavior, in press.*

(132) Itay Benou; Ronel Veksler; **Alon Friedman** and Tammy Raviv (2019). Combining White Matter Diffusion and Geometry for Tract-Specific Alignment and Variability Analysis. *Neuroimage*, 13;200:674-689.

(133) Svetlana Lublinsky, Sebastian Major, Vasilis Kola, Viktor Horst, Edgar Santos, Johannes Platz, Oliver Sakowitz, Michael Scheel, Christian Dohmen, Rudolf Graf, Hartmut Vatter, Stefan Wolf, Peter Vajkoczy, Ilan Shelef, Johannes Woitzik, Peter Martus, Jens P. Dreier, **Alon Friedman.** (2019) Early Blood-Brain Barrier Dysfunction Predicts Neurological Outcome Following Aneurysmal Subarachnoid Hemorrhage. EBioMedicine, 43:460-472

(134) Hanael E, Veksler R, **Friedman A,** Bar-Klein G, Senatorov VV Jr, Kaufer D, Konstantin L, Elkin M, Chai O, Peery D, Shamir MH. (2019) Blood-brain barrier dysfunction in canine epileptic seizures detected by dynamic contrast-enhanced magnetic resonance imaging. Epilepsia. May;60(5):1005-1016. doi: 10.1111/epi.14739

(135) Kamintsky L, Cairns KA, Veksler R, Bowen C, Beyea SD, **Friedman A**[#], Calkin C. (2019) Blood-brain barrier imaging as a potential biomarker for bipolar disorder progression. Neuroimage Clin. 2019 Oct 22:102049. doi: 10.1016/j.nicl.2019.102049 [#] Corresponding author.

(136) Dan Z Milikovsky, Jonathan Ofer, Vladimir V. Senatorov Jr., Aaron R Friedman, Ofer Prager, Liron Sheintuch, Netta Elazari, Ronel Veksler, Daniel Zelig, Itai Weissberg, Guy Bar-Klein, Evyatar Swissa, Erez Hanael, Gal Ben-Arie, Osnat Schefenbauer, Lyna Kamintsky, Rotem Saar-Ashkenazy, Ilan Shelef, Merav H Shamir, Ilan Goldberg[1] Amir Glik, Felix Benninger, Daniela Kaufer and **Alon Friedman**. (2019) Paroxysmal slow cortical activity in Alzheimer's disease and epilepsy is associated with blood-brain barrier dysfunction. *Sci Transl Med. 2019 Dec 4;11(521).. pii: eaaw8954. doi: 10.1126/scitranslmed.aaw8954. PMID:31801888.*

(137) Senatorov, V.V. Jr., Friedman, A.R., Milikovsky, D.Z., Ofer, J., Saar-Ashkenazy, R., Charbash, A.[3], Jahan, N., Chin, G., Mihaly, E., Lin, J.M., Ramsay, H.J., Moghbel, A., Preininger, M.K., Eddings, C.R., Harrison, H.V., Patel, R., Shen, Y., Ghanim, H., Sheng, H., Veksler, R., Sudmant, P.H., Becker, A., Hart, B., Rogawski, M.A., Dillin, A., **Friedman, A.,** and Kaufer, D. (2019) Blood-brain barrier dysfunction in aging induces hyper-activation of TGF-beta signaling and chronic yet reversible neural dysfunction. *Sci Transl Med. 2019 Dec 4;11(521). pii: eaaw8283. doi: 10.1126/scitranslmed.aaw8283. PMID:31801886*

(138) Loscher, W. and Friedman A. (2020) Structural, molecular and functional alterations of the blood-brain barrier during epileptogenesis and epilepsy: a cause, consequence or both? Molecular Neurobiology, *Accepted for Publication.*

(139) Pavel Klein, **Alon Friedman**, Mustafa Q. Hameed, Rafal M. Kaminski, Guy Bar-Klein, Henrik Klitgaard, Mathias Koepp, Sergiusz Jozwiak, David A. Prince, Alexander Rotenberg, Roy Twyman, Annamaria Vezzani, Michael Wong, Wolfgang Löscher. (2020) Repurposed molecules for antiepileptogenesis: Missing an opportunity to prevent epilepsy? *Epilepsia 61: 359-386.*

(140) Ronel Veksler, Udi Vazana, Yonatan Serlin, Ofer Prager, Jonathan Ofer, Nofar Shemen, Andrew M. Fisher, Olga Minaeva, Ning Hua, Rotem Saar-Ashkenazy, Itay Benou, Tammy Riklin-Raviv, Ellen Parker, Griffin Mumby, Lyna Kamintsky, Steven Beyea, Chris V. Bowen, Ilan Shelef, Eoin

O'Keefe, Matthew Campbell, Daniela Kaufer, Lee E. Goldstein, **Alon Friedman** (2020). Slow blood-to-brain transport underlies enduring barrier dysfunction in American football players. *Brain, in press.*

III Books

(1) Stress - From Molecules to Behavior: A Comprehensive Analysis of the Neurobiology of Stress Responses. Editors: Hermona Soreq, **Alon Friedman,** Daniela Kaufer, Wiley, 2009.

IV Chapters in books

(1) Gutnick, M.J. and **Friedman, A.** 1986, Synaptic and intrinsic mechanisms of synchronization and epileptogenesis in the neocortex. Exp. Brain Research suppl. 14: 327-335.

(2) Kaufer, D., **Friedman, A.**, Sternfeld, M., Seidman, S., Beeri, R. Andres, C., and Soreq, H. 1996, Central and peripheral consequences of cholinergic imbalance in Alzheimer's disease. In: Alzheimer Disease: From Molecular Biology to Therapy. Eds: R. Becker and E. Giacobini. Birkahauser, Boston Inc. pp. 153-158.

(3) Soreq, H., Kaufer, D., **Friedman, A.** and Glick, D. 2000, "Blood-Brain-Barrier Modulation and Low-Level Exposure to Xenobiotics". In: Chemical Warfare Agents: Low Level Toxicity". S.M. Somani and J.A. Romano, Eds., CRC Press, Boca Raton, FL pp. 121-144.

(4) Soreq, H., Kaufer, D., Shelef, I., Golan, H., Tomkins, O., Glick, D., Reichenthal, E. and **Friedman, A.** 2002, The molecular biology of Blood Brain Barrier disruption under stress. In: Brain Disease: Therapeutic strategies and repair. O. Abramsky, A. Miller and G. Said, Eds., Martin Dunitz, Publishers, pp. 231-238.

(5) Avivi, E., Tomkins, O., Korn, A., Pavlovsky, L., Shelef, I. and **Friedman, A.** 2004, Persistent Blood-Brain-Barrier Disruption in Humans: A Window to Neurodegenerative Diseases, In: Silman, I., Fisher, A., Anglister, L. Michaelson, D. and Soreq, H. (eds.) *Cholinergic Mechanisms,* Taylor & Francis, London. pp. 423 – 429.

(6) Browne, R.O., Pavlovsky, L., and **Friedman, A.** 2004, Muscarinic Neuromodulation in the Hippocampus and Parahippocampal Region. In: Silman, I., Fisher, A., Anglister, L. Michaelson, D. and Soreq, H. (eds.) *Cholinergic Mechanisms,* Taylor & Francis, London. pp. 499-507.

(7) **Alon Friedman** and Lev Pavlovsky, 2009. The Cholinergic Model for PTSD: From acute stress to PTSD, From Neuron to Network and Behavior. In: STRESS: from molecules to behavior. A comprehensive analysis of the neurobiology of stress responses. Soreq, H., **Friedman, A.** and Kaufer. D (eds.) Chap 15. Pp. 283-296.

(8) Jonathan E. Cohen, Gabriel Zimmermann, **Alon Friedman** and Hermona Soreq. 2012. Genomic implications of anticholinesterase sensitivities. Anticholinesterase Pesticides: Metabolism, Neurotoxicity and Epidemiology. Editors: Tetsuo Satoh and Ramesh C. Gupta. John Wiley, *in press*.

(9) **Alon Friedman** and Uwe Heinemann. 2012. Role of blood-brain barrier injury in epileptogenesis. Jasper's Basic Mechanisms of the Epilepsies. Editors: Jeffrey L. Noebels, Massimo Avoli, Michael A. Rogawski, Richard W. Olsen and Antonio V. Delgado-Escueta, Summary published in *Epilepsia*, 51 (Suppl. 5): 34, 2010.

(10) Yoash Hassidim, Ofer Prager, Ilan Shelf and **Alon Friedman**. 2012. Assessment of Blood-brain barrier breakdown. In: Animal Models of Acute Neurological Injuries. Jun Chen, Xio-Ming Xu, Zao C. Xu and John H. Zhang (Eds.) Humana Press, Colune 1, pp. 401-5.

(11) **Alon Friedman** and Mireille Lerner-Natoli. 2012. Targtes for antiepileptogenesis: blood-brain barrier and angiogenesis. Therapeutic targets and perspectives in the pharmacological treatment of epilepsy. Editor: Holger Lerche and Heidrun Potschka. UNI-MED Science.

(12) Dreier JP, Reiffurth C, Woitzik J, Hartings JA, Drenckhahn C, Windler C, **Friedman A**, MacVicar B, Herreras A. Neurovascular Events After Subarachnoid Hemorrhage: Towards Experimental and Clinical Standardization. In: Fandino J, Marbacher S, Fathi A-R, Muroi C, Keller E, editors. Cham: Springer International Publishing; 2015. p. 137–40.

(13) Yonatan Serlin, **Alon Friedman** and Uwe Heinemann. The Blood-Brain Barrier, In: HomeostaticControl of Brain Function. Boison D, Masino SA, eds. Oxford University Press (2015).

V Unrefereed professional articles and publications

(1) Korn, A. and **Friedman, A.** 1999, Intraoperative Monitoring: Clinical Guidelines, The Israel Society for Clinical Neurophysiology.

8. Lectures and Presentations (Partial List):

I Invited lectures at conferences/meetings:

1997 The Blood-Brain Barrier and Stress in Chronic Fatigue Syndrome, Dublin, Ireland.

1998 Molecular and Electrophysiological Modulations following Stress and Anticholinesterases, European Society for Neurochemistry, St. Petersburg, Russia.

1998 Molecular Neurophysiology of Central Cholinergic Mechanisms, Symposium on Cholinergic Mechanisms, Arcachon, France.

2001 Blood Brain-Barrier Disruption in Humans. Blood-Brain Barrier Mechanisms from Molecule to Patient, Tasmania, Australia.

2002 Blood Brain-Barrier Disruption in Humans is Associated with Abnormal Cortical Theta Rhythm Generation: The Potential Involvement of Acetylcholinesterase. XIth international symposium on cholinergic mechanisms - function and dysfunction & 2nd misrahi symposium on neurobiology, St. Moritz, Switzerland.

2002 Low-Resolution Brain Electromagnetic Tomography (LORETA): Use in Epilepsy and Related Disorders, 11th European Congress of Clinical Neurophysiology. Barcelona, Spain.

2002 Blood-Brain-Barrier Disruption in Humans: Physiological Correlates, Fifth Symposium, Signal Transduction in the Blood-Brain-Barriers, Potsdam, Berlin, Germany.

2003 Electrophysiological Responses to Cortical Blood-Brain-Barrier Disruption, Sixth Symposium, Signal Transduction in the Blood-Brain-Barriers, Szeged, Hungary.

2004 Glial-Neuronal Interactions in the Blood-Brain Barrier Disrupted Cortex. Seventh Symposium, Signal Transduction in the Blood-Brain-Barriers, Potsdam, Berlin, Germany.

2004 "Pathophysiology of the Neurovascular Unit: Lessons from Imaging". Biomillenium Conference, Cappadocia, Turkey.

2006 The role of the blood-brain barrier in epileptogenesis. 7th European congress on epileptology, Helsinki.

2006 Neuronal-Glial interactions in brain injury. 15th World Congress of Pharmacology Beijing, China.

2006 Mechanisms underlying epileptogenesis in the injured cortex. 1st North American Regional Epilepsy Congress.Annual Meetings of the American Epilepsy Society & Canadian League against Epilepsy. San Diego, California

2006 Molecular, physiological and clinical consequences of blood-brain barrier disruption. Eighth Symposium, Signal Transduction in the Blood-Brain-Barriers, June 2006, Salzburg, Austria.

2007 Altered blood-brain communication and neural dysfunction in the stressed brain. 9th Neuroscience International Winter Conference, March, 2007, Soelden, Austria.

2007 The role of the blood-brain barrier in the pathogenesis of neurological disorders: evidence from human and animal studies. CVB Meeting, June, 2007, Ottawa.

2007 Imaging the Blood-brain barrier in animals and humans. Satellite Workshop on surrogate markers of BBB disruption. CVB Meeting, June, 2007, Ottawa.

2007 Blood-brain barrier as a target for therapeutic intervention. 27th International Epilepsy Meeting, July, 2007, Singapore.

2007 The Neurovascular Unit in Epileptogenesis: From bed-side to bench and back. Michael Prize Lecture. 27th International Epilepsy Meeting, July, 2007, Singapore.

2007 The Neurovascular Unit in Epilepsy. Weitzman Institute, September, 2007, Rechovot.

2008 Identifying BBB dysfunction and leaks in patients.Blood-Brain BarrierConsortium Club Symposium : 'The Human Blood-Brain Barrierand Blood-Retinal Barriers', April 2008, Hodgkin Building, King's College Guy's Campus, London.

2008 The Blood-brain barrier during epileptogenesis. 7th Dutch Endo-Neuro-Psycho Meeting. June 2008, Doorwerth, The Netherlands.

2008 The Blood-Brain Barrier in Epileptogenesis, Advanced International Course; Bridging Basic with Clinical Epilepsy, Venice International University, July-August 2008, San-Servolo, Italy.

2008 The Neurovascular Unit in Epileptogenesis: From Bedside to the Bench and Back. The Michael Prize Symposium, European Epilepsy Meeting, September, 2008, Berlin, Germany.

2008 Astrocytic-Neuronal Interactions in Epileptogenesis, European Epilepsy Meeting, September, 2008, Berlin, Germany.

2008 The Neurovascular Unit in Epileptogenesis, The American Epilepsy Society Meeting, December, 2008,Seattle Washington.

2009 Impairedastrocytic gene expression patterns due to aberrant TGF-beta receptor signaling in neocortical epileptogenesis. 28th International epilepsy Congress, Budapest, Hungary.

2009 TGFβsignaling in epilepsy. 28th International epilepsy Congress, July 2009, Budapest, Hungary.

2009 Rationality and Neuroscience.A workshop organized by the Berlin-Brandenburg Academy and the Israel Academy. December 2009, Berlin.

2009 Hippocampal Cholinergic Dysfunction in Epilepsy: New and Classical roles for an old player? International symposium on hippocampal function and dysfunction, December, 2009, Berlin, Germany.

2010 Blood-brain barrier breakdown in neurological disorders: from bed-side to bench and back. USGEB Annual Meeting 2010"Frontiers in Human Biology ", February 2010, Palazzo Congressi, Lugano, Switzerland.

2010 Blood-brain barrier in stroke and its role in epileptogenesis. Gordon Conference, June 2010.

2010 Blood-brain barrier breakdown and brain dysfunction. 9th european congress on epileptology, June 2010, Rhodes.

2010 K+-buffering via Kir channels is reduced in seizure-induced blood-brain-barrier disruption. 9th european congress on epileptology, June 2010, Rhodes.

2010 Blood-brain barrier and inflammation in epileptogenesis.1st meeting on Immunity and Inflammation in Epilepsy, September 2010, Milan.

2011 Blood-brain barrier dysfunction and epileptogenesis.3rd London Colloquium on Status Epilepticus.April 2011, Oxford.

2011 BBB dysfunction, epileptogenesis and neurodegeneration: a puzzle of a chicken and eggs? Speaker and Chair the session on "Neurodegeneration and BBB functionality" Conference on Cerebral Vascular Biology (CVB).June 2011, Leiden.

2011 Modulating BBB permeability: Why is it that difficult and do we want it? 14th Symposium on Signal Transduction in the Blood-Brain Barriers. September 2011, Istanbul.

2011 The blood-brain barrier in health and chronic neurodegenerative disorders. 24th European College of Neuropharmacology. September 2011, Paris.

2012 The blood-brain barrier in neurological diseases. 4th France-Israel binational Conference.March 2012, Aussois, France.

2012 Blood-brain barrier failure: mechanisms and implications. Versailles International Neurointensive Care Symposium (VINCS). June 2012, Versailles, France.

2012 Blood-brain barrier and epilepsy. Swedish Epilepsy Society (Swedish chapter of ILAE) autumn course "bridging clinical and preclinical epileptology" November 2012, Lund, Sweden.

2013 10th international meeting on cerebrovascular biology (CVB). June, Montreat, Canada.

2013 30th Epileptogenesis: cells, molecules and the blood brain barrier. International Epilepsy Congress, June, Montreal, Canada.

2013 Imaging Blood-Brain Barrier in Pathology. Sixteenth International Symposium Signal Transduction in the Blood-Brain Barriers. Sümeg, Hungary.

2014 The 11th European Congress on Epileptology, Imaging blood-brain barrier dysfunction as a biomarker for epileptogenesis. July 2014, Stockholm.

2014 Blood-brain barrier dysfunction and neuronal hyper-excitability: the chicken and egg dilemma? 17th International Symposium Signal Transduction in the Blood-Brain Barriers. Dublin, Ireland.

2015 Cagliari, Sardinia 2015 Blood-Brain Barrier Dysfunctions as Biomarker and Target in the Prevention of Acquired Epilepsy. Mediterenian Neuroscience Society Meeting, Cagliari, Sicily.

2015 Vascular Integrity and Blood-Brain Barrier Functions as Biomarkers in Epilepsy. Workshop on the Neurobiology of Epilepsy (WONOEP). Istanbul, Turkey.

2015 Blood-brain barrier dysfunction as a target in the diagnosis and treatment of neurological disorders. 2nd Zing Barriers of The CNS Conference. Madrid, Spain.

2016 Blood-brain barrier dysfunction in human epilepsy. 9th International Epilepsy Colloquium, London, UK.

2016 Imaging and electrophysiological biomarkers for neuroinflammation and epileptogenesis. IIE2016 Meeting, Milan, Italy.

II Selected Presentations at Meetings:

(1) Barkai, E. **Friedman**, **A.**, Lobel-Yaakov, R. and Gutnick, M.J. 1985, Synchronous paroxysmal dyscharges in neocortical slices from chemically kindled rats. Soc. Neurosci. Abst. 11: 1314.

(2) **Friedman**, **A.** and Gutnick, M.J. 1987, Burst generation in EGTA-injected neurons. Second World Congress of Neuroscience.

(3) **Friedman**, **A.** and Gutnick, M.J. 1987, Role of intracellular caclium in determininig the firing properties of neocortical neurons. 9th InternationsBiophysica Congress, Jerusalem.

(4) Gutnick, M.J. and **Friedman**, **A.** 1987, Intracellular injection of calcium chelators induce burst generation in neocortical neurons. Soc. Neurosci. Abst. 13.

(5) **Friedman**, **A.** and Gutnick, M.J. 1989, Calcium activated, sodium dependent depolarizing after potentials in neocortical neurons. Pflug. Archive, 413: R22.

(6) Barkai E., **Friedman**, **A.** and Gutnick, M.J. 1989, 4AP-induced neocortical synchronization in the presence of inhibition. Pflug. Archive, 413: R23.

(7) **Friedman**, **A.** and Gutnick, M.J. 1989, Calcium-activated, sodium dependent depolarizing afterpotentials in neocortical neurons. Pflug. Archive, 413: R22.

(8) Chagnac-Amitai, Y., **Friedman**, **A.**, Connors, B.W. and Gutnick, M.J. 1990, Dendritic spike generation in neocortical neurons in-vitro. 13th Annual Meeting of the European Neurosci. Assoc.

(9) Gutnick, M.J., **Friedman**, **A.** White, E.L. and Segev, I. 1990, Influence of spine dimensions on synaptic processing: detailed compartmental model of an EM reconstructed spiny stellate cell in mouse barrel cortex. 13th Annual Meeting of the European Neurosci. Assoc.

(10) Amitai, Y., **Friedman**, **A.**, Connors, B.W. and Gutnick, M.J. 1991, Dendriticelectrogenesis in neocortical neurons in vitro. 21st Annual Meeting of the Society for Neurosciences.

(11) Reuveni, I., **Friedman**, **A.**, and Gutnick, M.J. 1992, Non-homogeneous distribution of calcium electrogenesis along the dendrites of neocortical pyramidal neurons. 22nd Annual Meeting of the Society for Neurosciences.

(12) **Friedman**, **A.**, Melamed, I. and Reichenthal, E. 1993, High mental function disturbances as a first presentation of brain tumors. The second Israeli Neuroscience Meeting, Eilat. Abstracts 67.

(13) Fleidervish, I., **Friedman**, **A.** and Gutnick, M.J. 1994, Slow inactivation of transient and persistent sodium currents in neocortical neurons. Soc. Neurosc. Abs. 20(1-2): 727.

(14) Fleidervish, I., **Friedman**, **A.** and Gutnick, M.J. 1994, Slow Na channel inactivation underlies cumulative slow adaptation of neuronal firing in guinea-pig and mouse neocortical slices in vitro. J. Physiol. 481P:43P-44P.

(15) Fleidervish, I., **Friedman**, **A.** and Gutnick, M.J. 1995,Slowinactivation of transient and persistent sodium currents in neocortical neurons. Israel J. Med. Sci. 31:

(16) Kaufer-Nachum, D., **Friedman**, **A.**, Tur-Kaspa, I., Shemer, J., and Soreq, H. 1995, Ex-Vivo brain slices as a model system for molecular neurobiology-electrophysiology studies. Israel J. Med. Sci. 31: 755.

(17) Andre, C. Beeri, R., **Friedman**, **A.**, Timberg, R., Shani, M. and Soreq, H. 1995, Transgenic motoneuron acetylcholinesterase induces congenital neuromuscular impairments in mice. Israel J. Med. Sci. 31: 755.

(18) Kaufer, D., **Friedman**, **A.**, and Soreq, H. 1996, Transcriptionally regulated shutoff of cholinergic neurotransmission following cholinergic hyper-activation. Israel J. Med. Sci. 32: S47.

(19) Melamed, I., Cohen, A., **Friedman**, **A.**, Zucker, G., Merkin, V., Yosefovich, T., Alushin, A. and Reichenthal, E. 1999, Intraoperative evaluation of spinal canal using flexible fiberscope. The tri National meeting of the Israeli, German and Finnish Neurosurgical Societies.

(20) **Friedman**, **A.**, Tomkins, O., Shelef, I., Golan, H., Kaufer D. and Soreq, H. 2000, Molecular and imaging analyses reveal compromised blood-brain barrier in neurological patients under stress. Neuroscience Letters, Suppl. 55: S17.

(21) Tomkins, O., Avivi, E., Shelef, I. and **Friedman**, **A.** 2000, New Method for Quantifying Blood-Brain-Barrier Permeability Changes Using Computerized Tomography in Humans. Neuroscience Letters, Suppl. 55: S56.

(22) Golan, H., Shelef, I., Korn, A. and **Friedman**, **A.** 2000, Primary Pathological Blood-Brain-Barrier May UnderlyNeurologcial Signs and Symptoms in Humans. Neuroscience Letters, Suppl. 55: S21.

(23) Korn, A., Golan, H., and **Friedman**, **A.** 2002, Focal Abnormal Electroencephalography in Post-Concussion Patients: Correlations with Brain Imaging and LORETA. P19-09. The European Clinical 11th European Congress of Clinical Neurophysiology, Barcelona.

(24) Seiffert, E., Heinemann U. and **Friedman, A.** 2003, Electrophysiological responses to cortical blood-brain-barrier disruption. 5th meeting of the German Neuroscience Society, Goettingen.

(25) Shelef I, Kaufer D, Korn A, Golan H, Soreq H, Shroff M, Tomkins O, and **Friedman**, **A.** 2004, Quantified contratenhancment in CT correlation with degree of Blood Brain Barrier disruption of the human brain, 42nd Annual Meetingof the American Society of Neuroradiology.

(26) Tomkins O., Shelef I., Benifla M., **Friedman**, **A.** 2005, Computer-assisted diagnosis of blood-brain barrier disruption. Israel Society of Neuroscience Annual Meeting, Reviews in the Neurosciences, 16(supplement 1) S64.

(27) Seiffert E., Pavlovsky L., Heinemann U., Korn A., Golan H., **Friedman**, **A.** 2005, Persistent blood-brain barrier disruption may underlie interferon- alpha- induced seizures. Israel Society of Neuroscience Annual Meeting, Reviews in the Neurosciences, 16(supplement 1) S57.

(28) Ivens S., Seiffert E., Bechmann I., Kaufer D., Tomkins O., Heinemann U., **Friedman**, **A.** 2005, Astrocytic-neuronal interactions underlie epileptogenesis following blood-brain barrier-disruption. Israel Society of Neuroscience Annual Meeting, Reviews in the Neurosciences, 16(supplement 1) S32.

(29) David Y., Ivens S., Levy H., **Friedman**, **A.** 2005,Albumin induced epileptiform activity is mediated via its interactions with transforming growth factor beta receptor. Israel Society of Neuroscience Annual Meeting, Reviews in the Neurosciences, 16(supplement 1) S15.

(30) Ivens S, Bechmann I, Kaufer D, Heinemann U, **Friedman**, **A.** 2006, Astrocytic- Neuronal Interactions during Epileptogenesis in the Rat Neocortex. 7th European congress of epileptology, Helsinki. Presentation: 033, page 11

(31) Tomkins O, Korn A, Cohen A, **Friedman**, **A**, Shelef I 2006, Post- Lesion Focal Neocortical Epilepsy in Humans: The Role of the Blood- Brain Barrier. 7th European congress of epileptology, Helsinki. Presentation: p422, page 112

(32) Friedman O, Tomkins O, Ivens, S, **Friedman**, **A** 2006,Anatomical Degeneration and Functional Deterioration in the Rat Epileptic Cortex. 7th European congress of epileptology, Helsinki. Presentation: p437, page 116

(33) L.P. Flores, S. Ivens, **A. Friedman**, and D. Kaufer. Gene expression modulations underlying epileptogenesis following BBB Malfunction. Abstract presented at the American Epilepsy Society annual meeting 2006.

(34) Jonathan Cohen, HadarShalev, Shy Hefetz1, Roee Admon, Ilan Shelef, Talma Hendler, and **Alon Friedman.** Distinct Spatio-Temporal Brain Activation in Healthy and Post Traumatic Subjects in Response to Emotional stimuli. The 4th Tel Aviv Human Brain Mapping Meeting. Tel Aviv (July 2008)

(35) Gnatek, Y., Najami, N., and **Friedman, A**, Altered Cholinergic Gene Expression Following Status Epilepticus and its Role in Epileptogenesis. Abstract presented at the European Epilepsy Meeting, Berlin (September, 2008)

(36) Maya Ketzef, **Alon Friedman** and Daniel Gitler. Age-Dependent Cortical Plasticity in Synapsin Knockout Epileptic Mice. Abstract presented at the European Epilepsy Meeting, Berlin (September, 2008)

(37) M. Ketzef, I. Weissberg, A. Friedman and D. Gitler. Age-Dependent Neocortical Plasticity in Synapsin Knockout Epileptic Mice. Abstract presented at the American Neuroscience Meeting, (November, 2008)

(38) Jonathan E. Cohen, HadarShalev, IlanShelef, Roee Admon, Talma Hendler and **Alon Friedman**. Emotional brain rhythms and their impairment in post-traumatic patients: correlative EEG-fMRI study. The Annual meeting of the Israeli Society for Neuroscience, Eilat, Nov. 2009, Published online: The Journal of Molecular Neurosciencem 39, sup. 1.

(39) Levi H., Prager O., Chassidim Y. and **Friedman A**.A Novel method to determine dynamic changes in brain vessels diameter. The Annual meeting of the Israeli Society for Neuroscience, Eilat, 2009, Published online: The Journal of Molecular Neurosciencem 39, sup. 1.

(40) Guy Bar-Klein, Luisa Cacheaux, Kaufer Daniela and **Alon Friedman**. Blocking TGF-beta signaling as a potential anti-epileptogenic treatment. The Annual meeting of the Israeli Society for Neuroscience, Eilat, 2009, Published online: The Journal of Molecular Neuroscience 39, sup. 1.

(41) Ofer Prager, Yoash Chassidim, Maria Litvan-Tannenbaum, Chen Klein, Haviv Levi, Akiva Korn, Ilan Shelef and **Alon Friedman.** Dynamic in-vivo imaging of cerebral blood flow and blood-brain barrier permeability. The Annual meeting of the Israeli Society for Neuroscience, Eilat, 2009, Published online: The Journal of Molecular Neuroscience 39, sup. 1.

(42) Efrat N., Dagan A., **Friedman A.,** Shallom I. EEG fMRI study: automatic localization of an epileptic focus based on parametric multi channel analysis and pattern recognition technologies . The Annual meeting of the Israeli Society for Neuroscience, Eilat, 2010, Published online: The Journal of Molecular Neuroscience (supplementary)

(43) Fassler M., Weissberg I., Sharony E., **Friedman A.**, Taube R. Cell specific gene targeting to the CNS using engineered lentiviruses. The Annual meeting of the Israeli Society for Neuroscience, Eilat, 2010, Published online: The Journal of Molecular Neuroscience (supplementary)

(44) Kamintsky L., Weissberg I., Ketzef M., Gitler D., Becker A., Zigel Y., and **Friedman A.** A Multi-Model Unbiased Algorithm for Reliable Detection of Seizures. The Annual meeting of the Israeli Society for Neuroscience, Eilat, 2010, Published online: The Journal of Molecular Neuroscience (supplementary)

(45) Schoknecht K., David Y., Heinemann U, **Friedman A**. Blood-brain barrier dysfunction: a target to prevent secondary stroke complications? The Annual meeting of the Israeli Society for Neuroscience, Eilat, 2010, Published online: The Journal of Molecular Neuroscience (supplementary)

(46) Weissberg I., Becker A.J, Schoknecht K., Kamintsky L, **Friedman A.** Albumin-induced model of mesial temporal lobe epilepsy in mice. The Annual meeting of the Israeli Society for Neuroscience, Eilat, 2010, Published online: The Journal of Molecular Neuroscience (supplementary)

(47) Bekenstein Uriya, Mishra Nibha, Milikovsky Dan, Berson Amit, Hanin Geula, Zelig Daniel, Sheintuch Liron, Greenberg David, **Freidman, Alon**, Soreq Hermona. XVth International Symposium on Cholinergic Mechanisms. miR-211 is a neuronal regulator of cholinergic-induced seizures. Journal of Neurochemistry (Proceedings). Marseille, France, 2016

III Seminars at universities and institutions

1988 Department of Neurology, Charing Cross Hospital, London University. Title: Calcium electrogenesis in neocortical neurons in-vitro.

1990 Department of Physiology, Cologne University. Title: Mechanisms underlying firing patterns of neocortical neurons in-vitro.

1999 Department of Anatomy and Neurobiology, University of Maryland, Baltimore. Title: The role of acetylcholine in hippocampal synaptic transmission: modulation by stress.

1999 Psychiatric Medical Center, Beersheva. Title: Mechanisms Underlying Post-Traumatic Stress Disorder.

2000 Department of Neurology, Cologne University Hospital. Title: Physiological and Molecular Mechanisms Associated with Cholinergic Impairments.

2001 Johannes Muller Institute for Physiology, Humboldt University, Berlin. Title: Cholinergic mechanisms in CNS stress responses

2002 Johannes Muller Institute for Physiology, Humboldt University, Berlin. Title: How stress affects your brain.

2003 Department of Biology, Stanford University, USA. Title: Electrophysiological responses to Blood-Brain-Barrier Disruption.

2003 International Graduate School for Neuroscience, Ruhr-University Bochum, Germany. Title: How stress affects your brain: a cholinergic perspective.

2004 Hebrew University of Jerusalem. Title: The role of the blood-brain barrier in cortical pathology.

2004 Toronto University Neuroscience Graduate School. Title: Epileptogenesis under Blood-brain barrier disruption.

2007 Institut für Biochemie (Emil-Fischer-Zentrum), University of Erlangen-Nürnberg. Title: Neurodegeneration and the blood-neuron barrier

2008 Tel-Aviv Medical Center, Brain Imaging Center. Title: The Neurovascular Unit in brain disorders.

2008 Tel-Hashomer Brain research Center. Title: The Neurovascular Unit in Epileptogenesis: From Bedside to the Bench and Back.

2008 The Weitzman Institute: Title: The Role of the Neurovascular Unit in Pathophysiology of Neurological Disorders.

2009 Dressden University, Germany. Title: Post-Traumatic Stress Disorder: From cell, to network to human disease

2009 UCL Institute of Neurology, Queen Square, London. Title: The blood-brain barrier and epilpepsy: when the hen breaks the egg.

2009 UCL Institute of Neurology, Queen Square, London. Title: Imaging the blood-brain barrier: from animal experiments to clinical applications. April 2009.

2010 Turkish Epilepsy Society, Istanbul. Titles: (1) Mechanisms underlying epileptogenesis following brain injury. (2) Interactions within the neurovascular unit in normal and pathological plasticity. November 2010.

2011 Stanford University, CA, USA. Title: From status epilepticus to spontaneous seizures: a potential role for blood-brain (dis)communication in epileptogenesis. April 2011.

2011 Mario Negri Institute, Milan, Italy. Title: Blood-brain barrier, immune response and seizures. July 2011.

2014 Boston University, USA. Blood-brain barrier dysfunction in neurological disorders. November 2014.

2015 Albert Einstein College of Medicine, New York, NY USA. Title: Blood-brain barrier dysfunction in neurological disorders: from bed to bench and back. January 2015

2015 Center for Neuroscience & Regenerative Medicine, Uniformed Services University of the Health Sciences, Rockville, MD, USA. Blood-brain barrier dysfunction as a biomarker and treatment target for brain injuries. March 2015.

2015 Department of Neurobiology and Anatomy, College of Medicine, Drexel University, Philadelphia USA. The role of blood-brain barrier dysfunction in neurological disorders: underlying mechanisms and therapeutic implications

2015 University of Manitoba, Department of Neurology. Winnipeg, Manitoba: Blood-brain barrier dysfunctions as biomarker and target target in epileptogenesis. March 29, 2015

2017 Grand Round, Department of Neurology, University of Pennsylvania, USA. Blood-brain barrier in epileptogenesis: From bench to bedside and back.

2017 University of Kentucky, College of Pharmacy. Blood-brain Barrier Pathology in Neurological Diseases: From Bed to Bench and Back. May 26th, 2017.

2018 Grand Round, Montreal Neurological Institute, Montreal, Canada. Blood-brain barrier dysfunction in neurological disorders: From bed to bench and back. April 18th, 2018

IV <u>Lectures in international courses</u>

2008 San Servolo Epilepsy Summer Course: Bridging Basic with Clinical Epileptology.

2011 San Servolo Epilepsy Summer Course: Bridging Basic with Clinical Epileptology.

2014 San Servolo Epilepsy Summer Course: Bridging Basic with Clinical Epileptology.

2015 Latin America Summer School on Epilepsy (LASSE), San Paulo, February 2015.

2017 San Servolo Epilepsy Summer Course: Bridging Basic with Clinical Epileptology.

9. **Patents**

Methods for diagnosing and treating neural diseases. Provisional submitted September 2019. **Friedman**, Veksler and Milikovsky.

Methods of Treating Neurological Disorders. United States Application 15/258,862 filed on December 4 2009. Daniela Kaufer, **Alon Friedman** and Luisa Cacheaux. Pending.

Methods of Treating Epilepsy with Transforming Growth Factor Beta Inhibitors. United States Application US 2012-0058949 A1, filed on December 5 2008. Daniela Kaufer, **Alon Friedman** and Luisa Cacheaux. Issued.

Methods for Diagnosing and Treating Neurological Diseases. 62/902,574. Filed on 19-Sep-2019. **Alon Friedman**, Dan Milikovsky and Ronel Veksler. Pending.

Combination Therapy for Treatment of Brain Disorders. 62/801,727 Filed on 06-Feb-2019. Provisional Patent Application for **Friedman Alon**, Vazana Udi and Prager Ofer. Pending.

Apparatus and methods for analyzing stream of imaging data. **Friedman A**, Yoash Chassidim, Ofer Prager and Ilan Shelef. PCT/IL2009/000847. Patent # US 9147246 Apparatus and method for analyzing stream of imaging data; Granted: 29.09.2015.

A method and composition for enabling passage through the blood-brain barrier. Soreq , H., **Friedman, A**., Seidman, S., Kaufer, D. International patent no.: US 6,258,780 B1 WO 1998/22132

Synthetic antisense oligodeoxinucleotides and pharmaceutical compositions containing them. Soreq H, Seidman S, Eckstein, F, **Friedman A**., Kaufer D. International patent 1998 no:727611.

10. **Competitive and Non-competitive Research Grants**

1996	The Charles Smith Laboratory for collaborative research, The National Institute for Psychobiology in Israel. "Electrophysiological and post-transcriptional features of congenital and drug-induced cholinergic imbalance: use of mouse septo-hippocampal slices" - 5000$
1998	Israel Defense Forces, Medical Corps. "Electrophysiological and molecular consequences following long-lasting cholinergic imbalance in the mouse brain" - 30,000$
1998	Research Achievements Grant, The Zlotowski Center for Neuroscience, Ben-Gurion University of the Negev - 5,000$
1998	United-Stated-Israel Binational Science Foundation. The role of Cholinergic Inputs in Cortical Development. Grant no. 97-00174, Submitted with Prof. Asaf Keller, University of Maryland. 60,000$ for two years.
1998	Health Ministry. Cholinergic Transmission in the Hippocampus Following Stress. 60,000NIS
1999 - 2003	US Army Medical Research Grant. Genetic and Epigenetic Mechanisms Underlying Acute and Delayed Neurodegenerative Consequences of Stress and Anticholinesterase Exposure. With Prof. Hermona Soreq.
2002	German-Israel Foundation, Young Scientist Program. Electrophysiological Responses to Blood-Brain-Barrier Disruption in the Rat Barrel Cortex. 40,000 €
2004 - 2007	Israel Academy of Science (Bikura Program): Functional and anatomical correlates of fast neuronal oscillations in the human brain: simultaneous EEG and MRI based measurements. With Talma Hendler and YanivAssaf. Tel-Aviv Medical Center, 192,000$.
2004 - 2008	German Science Foundation (DFG) - SFB TR/3 (B9, Deutsche-Forschung Gemainschaft): Cholinergic transmission in mesial temporal lobe epilepsies. With Uwe Heinemann, Charite Medical University, Berlin. 369,400 €.

2005 - 2006	The Rich Foundation: Rich Initiative for Excellence in the Negev. Interactions within the neurovascular unit: towards new targets for the prevention and treatment of common neurological diseases. 50,000$
2005 - 2008	Israeli Ministry of Sciences: Neurogenomic approach to characterize individual response to stressful life experience. With Talma Hendler, YanivAssaf. Tel-Aviv Medical Center, HermonaSoreq – The Hebrew University Role: Co-PI 1,500,000NIS.
2005 - 2008	German Science Foundation (DFG) - SFB 507 (C9, Deutsche-Forschung Gemainschaft) The role of blood-brain barrier disruption in cerebral cortex dysfunction. With Uwe Heinemann, Charite Medical University, Berlin. Role: PI 220,500 €.
2006 - 2008	German-Israeli Foundation (GIF) Can spreading depression be initiated via disturbance at the blood-brain-barrier? With Jens Dreier, Berlin. Role: PI ~200,000€.
2007 - 2011	Israel Academy of Sciences (ISF) 566/07 Astrocytic basis of epileptogenesis: Possible role of albumin and TGFβ-receptors. Role: PI ~240,000$.
2008 - 2009	Citizens United for Research in Epilepsy (CURE), in partnership with the United States Department of Defense (DOD), "Prevention of epilepsy After Traumatic Brain Injury" with Daniela Kaufer, Berkeley University. Role: Co-PI ~149,000$
2008 - 2012	German Science Foundation (DFG) - SFB TR/3 (C8, Deutsche-Forschung Gemainschaft): Temporal Lobe Epileptogenesis: Role of blood-brain barrier disruption, albumin and TGFβ in generation of temporal lobe epilepsy. With Uwe Heinemann, Charite Medical University, Berlin. 440,400 €. Role: PI
2008 - 2009	Brainsgate Company. The role of SPG stimulation on cerebral blood flow and BBB permeability, 100,000$. Role: PI
2008 - 2012	Binational Israel-USA (BSF): The role of TGFβ in injury-related neocortical epileptogenesis. With Daniela Kaufer, Berkeley University. Role: PICa. 180,000$
2009 - 2010	Israel Minister of Health: Brain Processing of Emotions in Post Traumatic Stress Disorder: Correlation with Inherited, RNA-mediated and Protein Biomarkers. Role: PI ca. 22,000$
2009 - 2012	National Institute of Health (NIH RO1 NS066005): TGFbeta signaling in epileptogenesis. Role: Co-PI with Daniela Kaufer. Ca. ~400,000$
2010 - 2011	German Science Foundation (DFG) trilateral program: Victims of War: Contribution of the Cholinergic System to the Development of PTSD in Children and Adolescents in Palestine and Israel. With Clemens Kirschbaum (Dresden), HadarShalev (Beer-Sheva), HermonaSoreq (Jerusalem), Abdel Aziz MousaThabet (Gaza), Najah Mahmoud Al-Khatib and Mohammed A M Shaheen (Al-Quds). Role: PI Ca. ~500,000€
2010	BrainswayLtd: The potential effect of transcranial magnetic stimulation on blood-brain barrier permeability. A feasibility study. Ca. ~25,000$
2010 - 2012	German Science Foundation (DFG): DISCHARGE-1: Depolarisations in ischaemia after subarachnoid haemorrhage-1. Role: Co-PI (with Jens Dreier, Charite). Ca. 65,000€
2010–2014	German-Israeli Foundation (GIF) Neurovascular coupling in the injured brain: Does blood-brain barrier breakdown play a role in disturbed neurovascular coupling and associated damage? With Jens Dreier, Berlin. Role: PI ~192,000€.
2011-2014	Israel Academy of Sciences (ISF). Blood-brain barrier opening underlying neural network dysfunction: the role of TGF-□beta signaling in synaptic plasticity, heterosynaptic interactions and epileptogenesis. ROLE: ~PI, 240,000$

2011-2012	BrainswayLtD. The effect of transcranial magnetic stimulation on BBB permeability. Ca. 150,000$
2012-2015	ERA-NET NEURON Joint Call 2011: "European Research Projects on Cerebrovascular Diseases". SDSVD: Spreading Depolarization in Small Vessel Disease. With Jens Dreier and Brian MacVicar. Role: Co-PI ~60,000€
2013-2015	German Science Foundation (DFG) trilateral program: Victims of War: Contribution of the Cholinergic System to the Development of PTSD in Palestine and Israel. With Clemens Kirschbaum (Dresden), HadarShalev (Beer-Sheva), Hermona Soreq (Jerusalem), and Mohammed A M Shaheen (Al-Quds). Role: PI Ca. ~300,000€
2013-2019	7&th Framework Programme: Collaborative Project. EPITARGET – Targets and biomarkers for antiepileptogenesis. Role: PI Ca. ~300,000€
2014-2016	German Science Foundation (DFG) The role of blood-brain barrier dysfunction and albumin-induced TGF-beta signaling in neuronal plasticity and associated network modifications. Role: Co-PI (with Uwe Heinemann) Ca. ~313,000€
2014-2017	Citizens United for Research in Epilepsy (CURE) Transforming Growth Factor Beta Signaling Following Traumatic Brain Injury as a Target for the Prevention of Acquired Epilepsy. Role: co-PI (with Daniela Kaufer). Ca. 250,000$
2014-2015	National Institute of Health (NIH RO1): TGFbeta signaling in epileptogenesis. Role: Co-PI with Daniela Kaufer. Ca. ~80,000$
2015	Canadian Foundation Innovation (CFI): The Role of blood-brain barrier in neurological disorders. Role: PI. Ca. 320,000CAD$
2014-2015	The Crown Foundation: The Role of blood-brain barrier in neurological disorders. Role: PI. Ca. 500,000$
2015-2020	Israel Science Foundation (ISF): The Blood-Brain Barrier as a Target for the Diagnosis and Treatment of Acquired Brain Injuries. Role: PI Ca. 450,000US$
2015-2018	Nova Scotia Health Research Foundation (NSHRF): The Role of Blood-Brain Barrier Dysfunction and TGF-beta Mediated Signaling in Post-Traumatic Epileptogenesis. Role: PI Ca. 150,000CAD$
2016-2020	Canadian Institute for Health Research (CIHR): Role: PI Ca. 950,000CAD$
2016-2018	The Crown Foundation: The blood-brain barrier as a diagnostic and therapeutic target in traumatic brain injury. Role: PI. (with Lee Goldstein, Boston University). 600,000US$
2016 - 2019	Binational Israel-USA (BSF): The role of TGFβ in injury-related neocortical epileptogenesis. With Daniela Kaufer, Berkeley University. Role: PI Ca. 180,000$
2017-2020	USA Department of Defense (Epilepsy Research Program): TGF-beta Signaling in Post-Traumatic Epileptogenesis: Novel Mechanisms and Therapeutic Target. Role: PI. 573,500US$
2019-2020	The Crown Foundation: The blood-brain barrier as a diagnostic and therapeutic target in traumatic brain injury. Role: PI. (with Lee Goldstein, Boston University). 800,000US$
2018-2019	Global Affairs Canada: Neuroanatomical and neurofunctional assessment in acquired brain injury. Role: PI. (with Cindy Calkin, NSHA). 600,000CAD$