THE PRUSINER-ABRAMSKY RESEARCH AWARDS

In Clinical & Basic Neurosciences

The Hebrew University Of Jerusalem
BOARD OF GOVERNORS 2023
SUSTAINABLE PLANET
JUNE 2023

The prestigious Prusiner-Abramsky Research Awards in Clinical and Basic Neuroscience by The Orion Foundation honor Professors Stanley Prusiner and Oded Abramsky.

The awards are intended for outstanding researchers from all fields of basic clinical neurosciences at The Hebrew University and the Hadassah University Medical Center.

DR. ABED ALFATTAH MANSOUR
THE DEPARTMENT OF MEDICAL NEUROBIOLOGY, FACULTY OF MEDICINE

DR. ARI BREINER
HADASSAH UNIVERSITY MEDICAL CENTER

PROF. AVIV MEZER
THE EDMOND AND LILY SAFRA CENTER FOR BRAIN SCIENCES

PROF. STANLEY B. PRUSINER, M.D.

Stanley B. Prusiner, M.D., is Director of the Institute for Neurodegenerative Diseases and Professor of Neurology at the University of California, San Francisco (UCSF), where he has worked since 1972. Born in Des Moines, Iowa, in 1942, he spent his childhood there and in Cincinnati, Ohio. He received his undergraduate degree and medical training at the University of Pennsylvania and his postgraduate clinical training at UCSF.

From 1969-72, he served in the U.S. Public Health Service at the National Institutes of Health. He is the author of over 500 research articles and the book *Madness and Memory*.

Prof. Prusiner is a member of the U.S. National Academy of Sciences, the Institute of Medicine, the American Academy of Arts and Sciences, the American Philosophical Society, and a foreign member of the Royal Society of London. He is the recipient of numerous prizes, including the Potamkin Prize for Alzheimer's Disease Research of the American Academy of Neurology (1991); the Richard Lounsbery Award for Extraordinary Scientific Research in Biology and Medicine from the National Academy of Sciences (1993); the Gairdner Foundation International Award (1993); the Albert Lasker Award for Basic Medical Research (1994); the Paul Ehrlich Prize from the Federal Republic of Germany (1995); the Wolf Prize in Medicine from the State of Israel (1996); the Keio International Award for Medical Science (1996); the Louisa Gross Horwitz Prize from Columbia University (1997); the Nobel Prize in Physiology or Medicine (1997); and the U.S. National Medal of Science (2009).

Prof. Prusiner's groundbreaking research on prion diseases, beginning in the late 1970s, led him to propose an explanation for the cause of bovine spongiform encephalopathy ("mad cow" disease) and its human equivalent, Creutzfeldt-Jakob disease, for which he was awarded the Nobel Prize. In this work, he coined the term prion (derived from "proteinaceous" and "infectious") to refer to a previously undescribed form of infection caused by the self-propagation of alternatively folded proteins.

His research has elucidated a fundamental understanding of the proteins underlying such illnesses as Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS) and PrP prion diseases. These advances in understanding the molecular, genetic and cellular basis of neurodegenerative diseases have fuelled progress toward the development of targeted drug therapies.

PROF. ODED ABRAMSKY, M.D., PH.D.

Oded Abramsky was born in Jerusalem and received his M.D. and Ph.D. degrees from The Hebrew University of Jerusalem. He completed his residency in neurology at Hadassah University Hospital, where he was later appointed Head of the Neuroimmunology Unit (1982) and Chairman of the Neurology Department (1988-2005). He was appointed Professor of Neurology at Hebrew University-Hadassah Medical School in 1982, holding the Israel S. Wechsler Chair in Neurology. He served as Dean of the Faculty of Medicine of The Hebrew University (1992-96) and subsequently was appointed Chairman of the Agnes Ginges Center for Human Neurogenetics at Hadassah University Medical Center.

Prof. Abramsky has been actively involved in many aspects of medical research and holds prominent positions in numerous professional organizations concerned with both clinical practice and medical research. He was Chief Scientist of the Israel Ministry of Health (1987-1992), Chairman of the National Medical Research Organization, and served as Chairman of the Israel National Council for Research and Development.

He is an Honorary President of the Israel Society of Neuroimmunology; Honorary Member of the American Neurological Association; Member of the Institute of Medicine, National Academy of Sciences (USA); Fellow by Distinction of the Royal College of Physicians (FRCP); and Member of the Israel Academy of Sciences and Humanities, among many other affiliations. In 2008, the Oded Abramsky Chair in Neuroimmunology was established in his honor by Biogen USA at the Hadassah University Medical Center.

Prof. Abramsky's clinical and scientific research focuses on autoimmune neurological diseases. He was a pioneer in the field of neuroimmunology and demonstrated immune pathogenesis in various neurological diseases of the central and peripheral nervous systems and muscle. Indeed, he proved that myasthenia gravis (MG) is an autoimmune disease, and showed the beneficial effect of corticosteroids and chemotherapy on induced experimental MG. His research served as a guideline to successful immunotherapy of MG and many other autoimmune diseases.

DR. ABED ALFATTAH MANSOUR

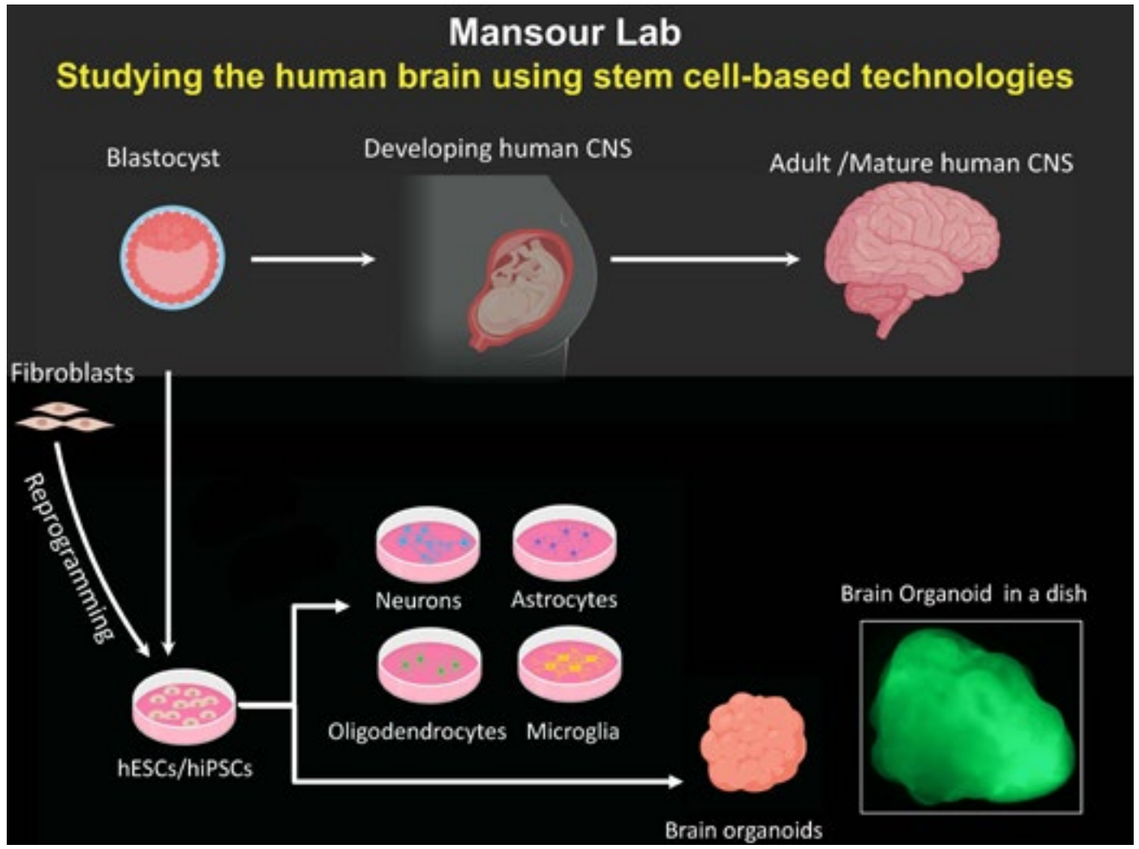
THE DEPARTMENT OF MEDICAL NEUROBIOLOGY, FACULTY OF MEDICINE

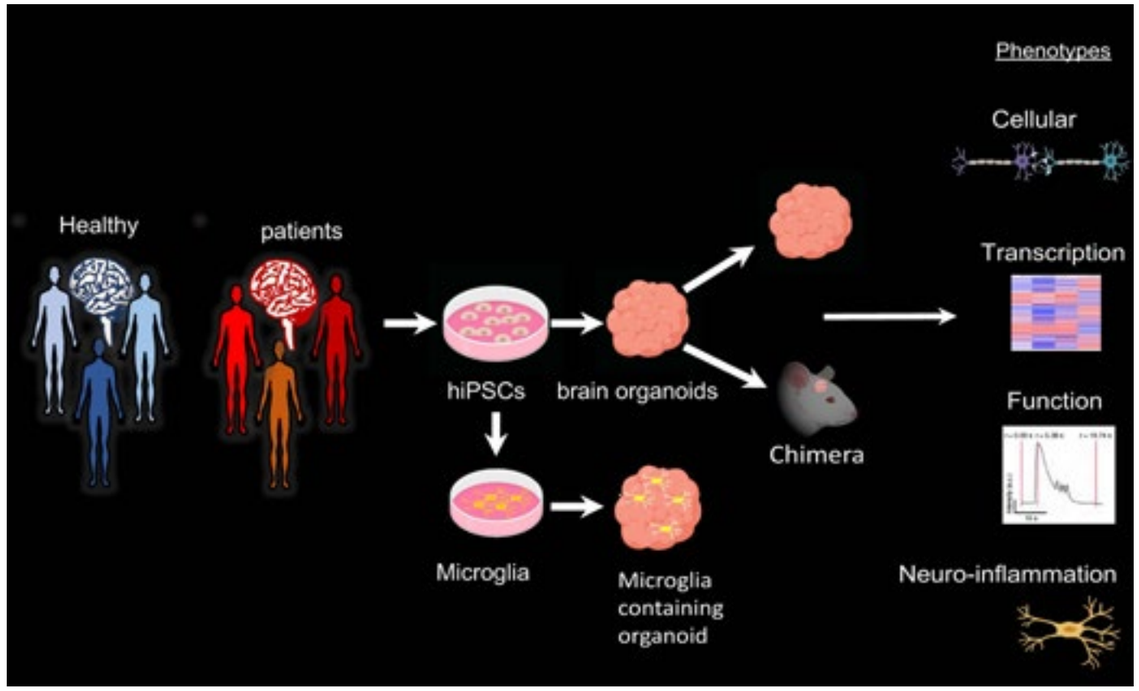
Dr. Abed Mansour is currently an assistant professor at the Department of Medical Neurobiology - the Faculty of Medicine, at The Hebrew University of Jerusalem. His research focuses on developing and harnessing human stem cell-based technologies to study the molecular pathology of neurological diseases. Dr. Mansour received his BSc, MSc, and PhD in medical science, stem cells and developmental biology from HUJI. Following his graduation, he received a Dean of Faculty Fellowship from the Weizmann Institute of Science to pursue postdoctoral training on the biology of pluripotent stem cells and cellular reprogramming. He was then awarded the prestigious HFSP Fellowship from the International Human Frontier Science Program Organization and the EMBO Postdoctoral Fellowship to pursue postdoctoral research in medical neuroscience at the Salk Institute for Biological Studies in the US. He has received many prestigious awards and grants including the ERC Starting Grant, ISF grant, Maof Outstanding Early-Career Investigator Award, HFSP Long-Term Fellowship, EMBO Postdoctoral Fellowship, VATAT Postdoctoral Award, the Weizmann Dean of Faculty Postdoctoral Fellowship, and the CNR Young Researcher Fellowship.

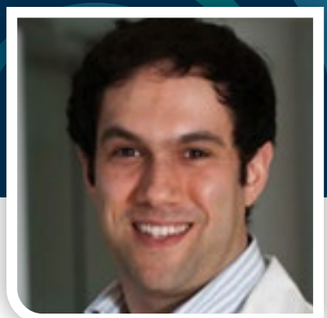
RESEARCH DESCRIPTION

Using stem cells to study human brain in health and disease

Neurodegenerative diseases entail a massive health and financial burden on society. It is becoming increasingly clear that a better understanding of the biological mechanisms that contribute to disease onset and progression will facilitate the development of effective therapeutics to combat the neurodegeneration of neurons in the brain. The Mansour lab uses patient-specific stem cells (personalized medicine) to build and recreate disease-like mini organs in a cell-culture dish (called brain organoids) to model patients' brain cells in health and disease. We harness this stem cell-based technology to study the mechanisms that underlie the onset and progression of neurodegenerative disorders. The goal of the Mansour lab is to gain knowledge that could facilitate the development of therapeutic strategies to combat and cure these devastating diseases.







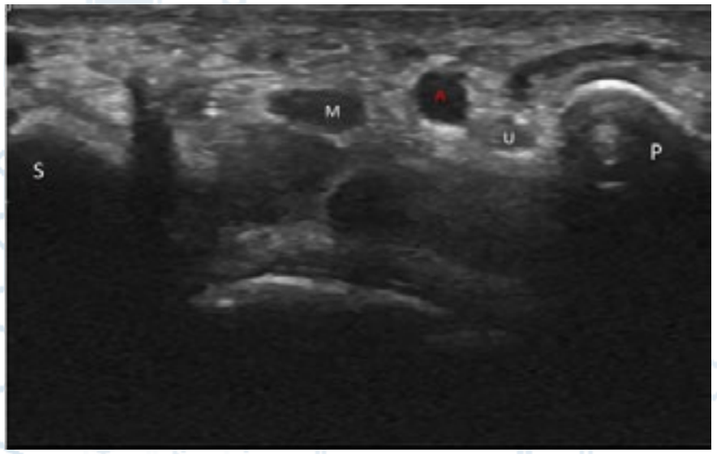
DR. ARI BREINER

HADASSAH UNIVERSITY MEDICAL CENTER

Dr. Ari Breiner completed his medical studies at McGill University in 2005 and his residency in neurology at both McGill University and the University of Toronto. He received his certification in neurology from the Royal College of Physicians and Surgeons of Canada in 2010. After EMG/neuromuscular fellowships at Columbia University (2010–2011) and the University of Toronto (2012–2014), he pursued a master's degree in clinical epidemiology and health care research (2014). Dr. Breiner holds peer-reviewed grants for the study of neuromuscular diseases, and between 2015–2017 received a large grant to conduct a clinical trial in patients with demyelinating neuropathy in diabetes. His clinical and research interests include diagnosis, imaging, and treatment of immune-mediated neuropathies (Guillain Barre Syndrome, CIDP) and diabetic polyneuropathy.

RESEARCH DESCRIPTION

Neuromuscular ultrasound is an emerging field within neuromuscular medicine. High-resolution point-of-care ultrasound has proven useful for the diagnosis of focal and diffuse peripheral neuropathies, myopathies, and ALS, and for image-guided procedures in the neuromuscular clinic. We are currently building a research program at Hadassah University Medical Center in neuromuscular ultrasound. Studies that are underway include ultrasound examination of rare peripheral neuropathies (including lepromatous neuropathy); studies of diaphragm thickening in myasthenia gravis and ALS; and novel techniques for the study of focal entrapment neuropathies. The ultimate goal is to establish ultrasound as the gold standard for imaging of the peripheral nervous system, and as a less painful and invasive technique in comparison with nerve conduction studies or EMG.



PROF. AVIV MEZER

THE EDMOND AND LILY SAFRA CENTER FOR BRAIN SCIENCES

Prof. Aviv Mezer founded his research lab at the Edmond and Lily Safra Center for Brain Sciences at the Hebrew University of Jerusalem in 2014. He was appointed as an associate professor in 2020. Prior to joining the Hebrew University, Prof. Mezer held postdoctoral and research associate positions at Stanford University's Department of Psychology.

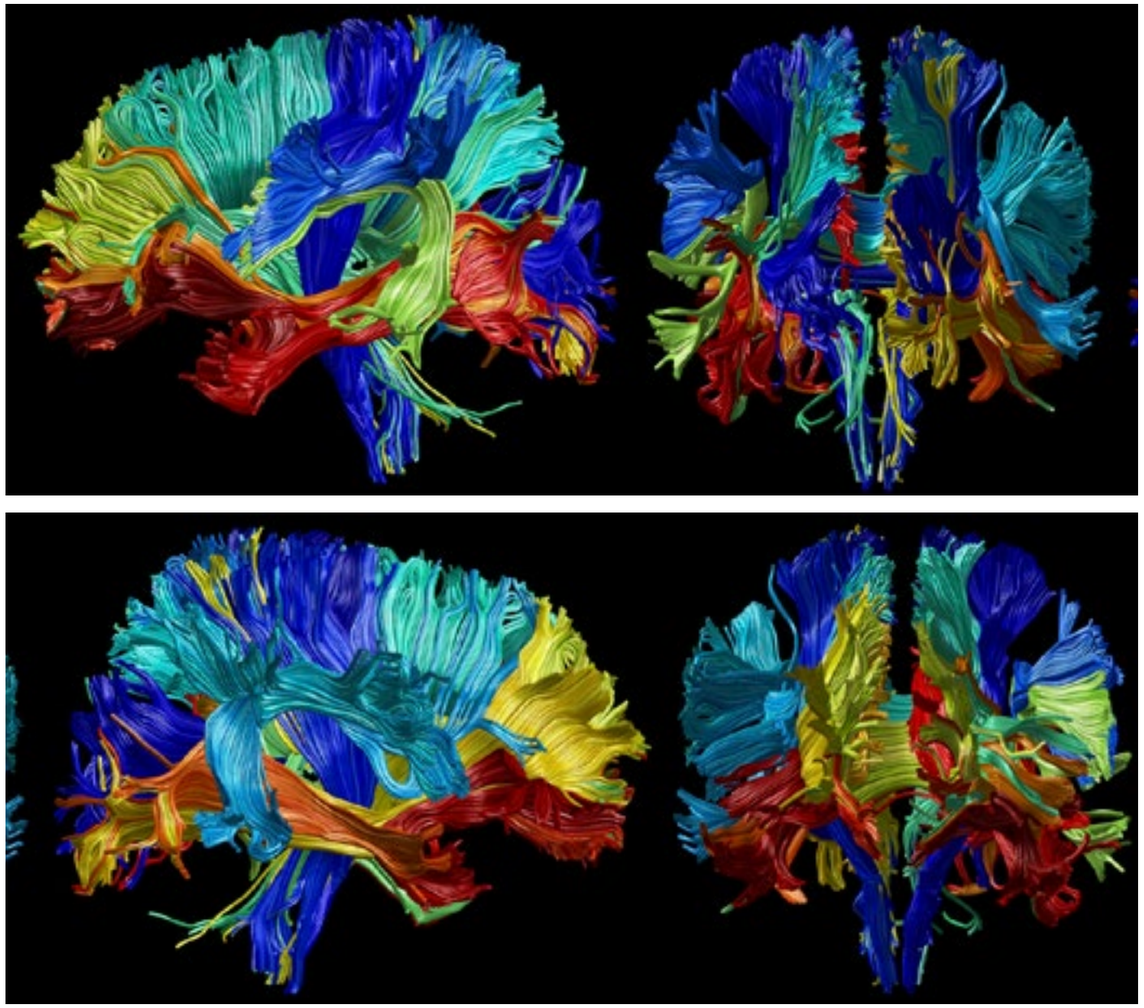
Prof. Mezer was born and raised in Tel Aviv and earned his undergraduate degree in biology and chemistry from Tel Aviv University. He subsequently earned a PhD in biochemistry and neuroscience from Tel Aviv University, and also completed a Bachelor of Arts in history during his doctoral studies.

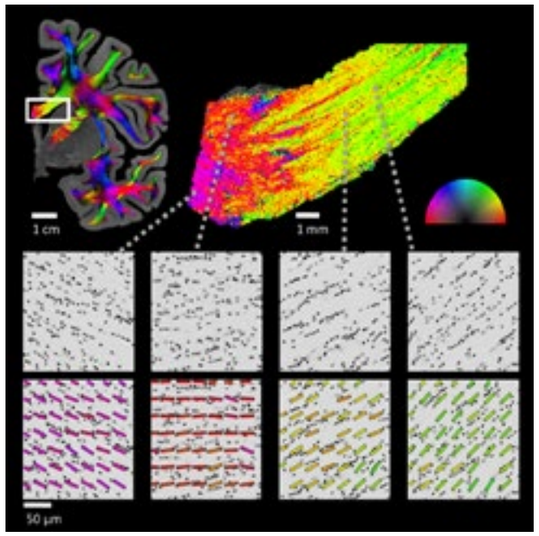
RESEARCH DESCRIPTION

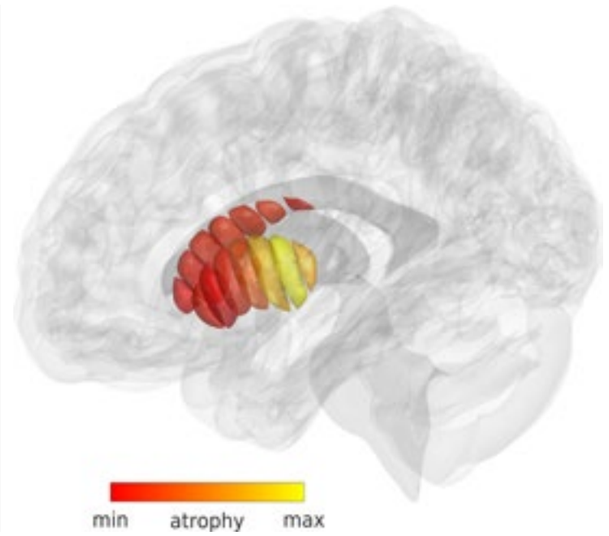
Prof. Aviv Mezer studies the human brain using quantitative MRI methods to better understand its microstructural organization and how it changes over time. By analyzing patterns of microstructure and connectivity, he and his team are developing new ways to characterize the brain's organization and study its development, aging, and neurodegenerative diseases such as Parkinson's disease.

Prof. Mezer's lab has developed sensitive MRI techniques that can identify structural changes in the brain caused by neurodegenerative diseases. Their research has uncovered a molecular signature of normal aging related to changes in the brain's lipid composition and has contributed to our understanding of the pathophysiology of Parkinson's disease.

Ultimately, Prof. Mezer's research aims to shed light on the complex workings of the brain and to contribute to the development of new approaches for diagnosing and treating neurodegenerative diseases.







Previous Winners

2022

DR. AMIT LOTAN
Department of Psychiatry
Hebrew University-Hadassah Medical School
Phosphorylated Tau as a Biomarker of Alzheimer's Disease Presenting with Late- Life Depression: A Translational Study

DR. ATIRA BICK
Neuro-rehabilitation Center
Hebrew University-Hadassah Medical School
Clinical Applications of Functional MRI and DTI

DR. INBAL REUVENI
Department of Psychiatry and Outpatient Mental Health Clinic
Hebrew University-Hadassah Medical School
Psychological and Neural Correlates of Maternal Childhood Trauma

DR. SHAI SABBAH
Department of Medical Neurobiology
Faculty of Medicine
Mechanisms of Image Stabilization and Light-Induced Mood Regulation

DR. TAWFEEQ SHEKH-AHMAD
Department of Pharmaceutics, School of Pharmacy
Faculty of Medicine
A New Approach for Treating Epilepsy: CNS-Targeted Antioxidant Gene Therapy

2021

DR. ASSAF HONIG
Department of Neurology
Hadassah Medical Center
Expanded treatment options for diseases of the Cerebrovascular system

DR. NINA FAINSTEIN
Department of Neurology
Hadassah Medical Center
The role of resident brain Neural Precursor Cells in the pathogenesis of Alzheimer disease

DR. HAITHAM AMAL
The Institute for Drug Research - School of Pharmacy
Faculty of Medicine
An integrative multiomics platform towards the development of diagnostic models and identifying therapeutic targets for autism spectrum disorder

DR. ARIEL GILAD
Medical Neurobiology
Faculty of Medicine
Brain-wide cognitive maps in health and disease.

Previous Winners

2020

DR. MORDECHAI MEDVEDOVSKY
Department of Neurology,
Hebrew University-Hadassah Medical School
Automatic algorithm for ictal behavior analysis in video-EEG

PROF. GADI GOLEMAN
MRI/MRS lab of the Human Biology Research Center
Hebrew University-Hadassah Medical School
Subject-specific diagnostic method based on functional connectivity fMRI

DR. DAN ROKNI
Medical Neurobiology Department
Hebrew University-Hadassah Medical School
Circuits and mechanisms underlying sensory processing in complex enviroments.

DR. AMI CITRI
The Edmond and Lily Safra Center for Brain Sciences
Experience-Dependent Plasticity in the Mammalian Brain: attention, reward and the development of habits, compulsions and addiction.

2019

DR. OR KAKHLON
Dept. of Neurology
Hadassah-Hebrew University Medical Center
Metabolic analysis as a tool for neurological drug development

DR. CHEN MAKRANZ
Gaffin center for Neuro-oncology
Sharet Institute for Oncology
Hadassah University Medical Center
Brain-derived circulating DNA as a biomarker for Radiotherapy-induced Brain Damage

DR. YONATAN KUPCHIK
The Department of Medical Neurobiology,
Institute of Medical Research Israel – Canada,
The Faculty of Medicine
Synaptic pathology in the reward system in drug addiction and obesity

DR. AYAL BEN-ZVI
The Department of Developmental Biology and Cancer Research
Institute of Medical Research Israel – Canada,
The Faculty of Medicine
Molecular and cellular aberrations of the Blood Brain Barrier (BBB) in central nervous system (CNS) pathologies

2018

DR. EINAV GROSS
Department of Biochemistry and Molecular Biology
Faculty of Medicine
Mechanisms of Recovery from Hypoxia/Reoxygenation Stress in the Nematode Caenorhabditis Elegans

DR. ODED BEHAR
Department of Developmental Biology and Cancer Research Institute
The Institute for Medical Research Israel-Canada
Faculty of Medicine
Neuronal Cell Death in Health and Diseases

DR. SHAI ROSENBERG
Center for Neuro-Oncology
Hebrew University-Hadassah Medical School
Brain Tumor Genomics and Personalized Medicine

PROF. MILLET TREININ
Department of Medical Neurobiology
Hebrew University-Hadassah Medical School
Understanding the Role of RIC-3, a Chaperone of Nicotinic
Acetylcholine Receptors, in Multiple Sclerosis (MS)

Previous Winners

2017

PROF. CHAYA KALCHEIM
Department of Medical Neurobiology
Institute for Medical Research Israel-Canada
Hebrew University-Hadassah Medical School
Embryonic Development of the Nervous System: The Transition between Peripheral and Central Branches

DR. JOSHUA GOLDBERG
Department of Medical Neurobiology
Institute for Medical Research Israel-Canada
Hebrew University-Hadassah Medical School
Physiological Underpinnings of Neurodegeneration and Neuronal Adaptations in Movement Disorders

DR. PANAYIOTA PETROU
Department of Neurology
Hebrew University-Hadassah Medical School
Testing the Effect of Pomegranate Seed Oil (Grana Gard) on the Clinical
Symptoms and the Quality of Life in Patients with Multiple Sclerosis and Alzheimer's Disease

DR. IRIS LAVON BEN MOSHE
Department of Neurology
Hebrew University-Hadassah Medical School
Clarifying Molecular Mechanisms that Could Aid in the Development of New Treatment and Diagnostic Strategies in Brain Tumors and Neurodegenerative Diseases

2016

DR. AVI PRIEL
Institute for Drug Research, School of Pharmacy
Faculty of Medicine
Inflammatory Pain: Elucidating the Cellular and Molecular Basis

DR. YUVAL TABACH
Department of Developmental Biology and Cancer Research
Institute for Medical Research Israel-Canada
Hebrew University-Hadassah Medical School
Combined Computational and Experimental Methods Suggest a Unified Theory to Explain 40 Neurodegenerative Disorders

DR. SHAHAR ARZY
Department of Neurology
Hebrew University-Hadassah Medical School
The Human Self in Space, Time, and Person: Physiology and Pathology

DR. NETTA LEVIN
Department of Neurology
Hebrew University-Hadassah Medical School
Cortical and White Matter Mapping in Understanding Visual System Pathologies

2015

DR. EHUD COHEN
Department of Biochemistry and Molecular Biology
Institute for Medical Research Israel-Canada
Hebrew University-Hadassah Medical School
Dissecting the Mechanistic Roles of Aging in the Emergence of Neurodegenerative Disorders

DR. YORAM BEN -SHAUL
Department of Medical Neurobiology
Institute for Medical Research Israel-Canada
Hebrew University-Hadassah Medical School
Neuronal Circuits Underlying Social Behavior

DR. DAVID ARKADIR
Department of Neurology
Hebrew University-Hadassah Medical School
DYT1 Dystonia Links Corticostriatal Synaptic Plasticity and Learning Behavior in Humans

Previous Winners

DR. MARC GOTKINE
Department of Neurology
Hebrew University-Hadassah Medical School
Identification of Serological, Cytological and Genetic Factors
Associated with the Development and Progression of ALS in Israel

2014

PROF. ALBERT TARABOULOS
Department of Microbiology and Molecular Genetics
Institute for Medical Research Israel-Canada
Hebrew University-Hadassah Medical School
Prion Neurotoxicity: From Protein Misfolding to Lipid Disease

PROF. HAGAI BERGMAN
Department of Medical Neurobiology
Institute for Medical Research Israel-Canada
Hebrew University-Hadassah Medical School
Computational Physiology and Pathophysiology of the Basal Ganglia and their Disorder – From Understanding to Closed Loop Deep Brain Stimulation Treatments

DR. DANA EKSTEIN
Department of Neurology
Hebrew University-Hadassah Medical School
Development of Tools for Patient-Specific Individualized Diagnosis and Treatment of Epilepsy

DR. ADI VAKNIN-DEMBINSK
Department of Neurology
Hebrew University-Hadassah Medical School
Personalized Medicine in Multiple Sclerosis and Neuromyelitis Optica: Predicting Disease Outcome and Treatment Responsiveness

2013

PROF. ALEXANDER LOSSOS
Department of Neurology
Hebrew University-Hadassah Medical School
Diagnosis and Treatment of Adult Polyglucosan Body Disease

DR. HANNA ROSENMANN
Department of Neurology
Hebrew University-Hadassah Medical School
Alzheimer's Disease and Tauopathies - Improved Animal Models, Pathogenesis, and Therapeutic Approaches

DR. SARA EYAL
Institute for Drug Research
School of Pharmacy
Imaging CNS Function in Health and Disease

DR. ADI INBAL
Department of Medical Neurobiology
Institute for Medical Research Israel-Canada
Hebrew University-Hadassah Medical School
Molecular Mechanisms of Forebrain and Eye Development

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