

PERSONAL

Name Michal Toborek, M.D., Ph.D.
Office Phone (305) 243-0230
E-mail mtoborek@med.miami.edu
Academic Rank Professor and Vice-Chair for Research
Primary Department Department of Biochemistry and Molecular Biology
University of Miami School of Medicine

HIGHER EDUCATION

- M.D., Silesian School of Medicine, Katowice, Poland
- Ph.D., Silesian School of Medicine, Katowice, Poland
- Postdoctoral training, University of Kentucky

EXPERIENCE

PRESENT POSITIONS

2011-present Leonard M. Miller Professor of Biochemistry and Molecular Biology, Department of Biochemistry and Molecular Biology, University of Miami School of Medicine, Miami, FL

2011-present Vice-Chair for Research, Department of Biochemistry and Molecular Biology, University of Miami School of Medicine, Miami, FL

2011-present Professor, Sylvester Comprehensive Cancer Center, University of Miami School of Medicine, Miami, FL

2014-present Member, Biomedical Nanotechnology Institute of University of Miami (BioNIUM)

2014-present Visiting Professor, Academy of Physical Education, Katowice, Poland

SELECTED PREVIOUS POSITIONS

2005-2011 Professor, Department of Neurosurgery, University of Kentucky Medical Center

2007-2011 Associate Chair for Research, Division of Neurosurgery, University of Kentucky Medical Center

2002-2011 Member, Graduate Center for Nutritional Sciences, University of Kentucky Medical Center

2001-2005 Associate Professor, Department of Surgery, Division of Neurosurgery, University of Kentucky Medical Center

1999-2011 Member, Markey Cancer Center, University of Kentucky

1996-2001 Assistant Professor, Department of Surgery, University of Kentucky Medical Center

HONORS AND AWARDS

1996	Excellence in Research Award, American Heart Association;
1996	Anafred N. Halpern New Investigator Award, American College of Nutrition
1998 and 2000	Alexander von Humboldt Research Fellowships, Alexander von Humboldt Foundation
2003	Commissioned to the Honorable Order of Kentucky Colonels
2004-2007	Wethington Awards, University of Kentucky
2011-2013	Councilor at-large, Society on Neuroimmune Pharmacology
2011	Mentor Recognition Award, University of Kentucky
2011-2013	Chair, NeuroAIDS and other End-organ Diseases (NAED) NIH study section
2013-present	Member of the Scientific Council for the International Symposia on Signaling at the Blood-Brain Barriers
2013-2015	Secretary of the Society on Neuroimmune Pharmacology
2015-2016	President-Elect, Society on Neuroimmune Pharmacology
2013-present	Executive Committee, Society on Neuroimmune Pharmacology
2014	Wybran Award from the Society of NeuroImmune Pharmacology, the highest honor bestowed by SNIP in recognition of the very best scientific contributions that have resulted in the preservation and expansion of the field of NeuroImmune Pharmacology
2014-present	Executive Committee, Society for Personalized Nano-Medicine
2014-present	Council of Provosts. Division Five: Medical Sciences, Polish Academy of Sciences
2016	Doctor honoris causa, Academy of Physical Education, Katowice, Poland
2016-2017	President, Society on Neuroimmune Pharmacology
2017-present	Immediate Past President, Society on Neuroimmune Pharmacology

STUDY SECTIONS (from 2010)

- NIH, Special Emphasis Panel/Scientific Review Group 2010, (Centers Program For Research On HIV/AIDS and Mental Health)
- NIH, Special Emphasis Panel/Scientific Review Group 2011, ZMH1 ERB-F (05) S (Centers Program For Research On HIV/AIDS and Mental Health)
- NIH, National Institute on Drug Abuse Special Emphasis Panel, ZDA1 GXM-A (08)
- Charter member; the NeuroAIDS and other End-organ Diseases (NAED) NIH study section 2009-2013; **Chair, 2011-2013**
- NIH, Special Emphasis Panel/Scientific Review Group 2013, ZRG1 AARR-E (03)
- NIH, Special Emphasis Panel/Scientific Review Group 2014/01 ZRG1 AARR-E 03 M
- NIH, Special Emphasis Panel/Scientific Review Group 2014/05 ZRG1 AARR-E 02
- NIH, Special Emphasis Panel/Scientific Review Group 2014/10 ZES1 LWJ-J (K1) 1

- NIH, Special Emphasis Panel/Scientific Review Group 2014/10 ZRG1 AARR-K (03) M
- NIH, Special Emphasis Panel/Scientific Review Group 2014/10 ZRG1 AARR-E (04) M
- NIH, Special Emphasis Panel/Scientific Review Group 2015/01 ZRG1 AARR-C (03) M
- NIH, Special Emphasis Panel/Scientific Review Group 2015/01 ZRG1 AARR-C (02) M (Chair)
- NIH, Cellular and Molecular Biology of Glia (CMBG) Study Section, February 2015, October 2015, February 2016, June 2016
- NIH, Cutting-Edge Basic Research Awards (CEBRA) 2015/05 ZDA1 JXR-G (10) S
- NIH, Special Emphasis Panel/Scientific Review Group 2015/05 ZRG1 AARR-C 03 (Chair)
- NIH, Special Emphasis Panel/Scientific Review Group 2015 ZES1 JAB-J Outstanding New Environmental Scientist (ONES)
- NIH, Special Emphasis Panel ZNS1 SRB-N 09 Review of Blood Brain Barrier Application (Chair)
- National Research Foundation of Korea, June 2015
- NeuroAIDS and other End-organ Diseases (NAED), July 2015 (ad hoc)
- The Health Research Board, Ireland, July 2015
- Nutrition and Cognitive Function; the Joint Programming Initiative "A Healthy Diet for a Healthy Life (JPI HDHL)". The European Commission. September 2015
- NIH, Special Emphasis Panel/Scientific Review Group 2016/01 ZRG1 AARR-E (02) M
- R13 Conference Grant Application ZES1 JAB-D C3
- R13 Conference Grant Application ZES1 JAB-D S3
- **Charter member; Cellular and Molecular Biology of Glia (CMBG) Study Section, 2016-2022**
- NIH, Special Emphasis Panel/Scientific Review Group 2016 ZDA1 JXR-G (06) Systems Biology Approaches in HIV/AIDS and Substance Use
- NIH, Special Emphasis Panel/Scientific Review Group 2016 ZDA1 GXM-A (15) Laboratory and Diagnostic Tools to Advance Microbiome-Brain Research (Chair)
- NIH, Special Emphasis Panel 2017 ZES1 JAB-D (V) NIH Revision Awards for Creating Virtual Consortium for Translational/Transdisciplinary Environmental Research (ViCTER)
- NIH/NIEHS, Special Emphasis Panel 2017 ZES1 JAB-S (R1) Outstanding New Environmental Scientist Program (ONES)
- The Austrian Science Fund, July 2017
- NeuroAIDS and other End-organ Diseases (NAED) NIH study section July 2017 (ad hoc).

INVITED SEMINARS AND PRESENTATIONS (from 2010)

- Gut-blood brain barrier axis in the enhancement of brain metastases by PCBs Leibniz-Institut für Molekulare Pharmakologie (FMP) Forschungsverbund Berlin, April 2010
- Protection of the blood-brain barrier against HIV-1 trafficking into the brain. University Missouri at Kansas City, January 2010

- Gut-blood brain barrier axis in the enhancement of brain metastasis by PCBs. PCB Workshop, Visby, Sweden, June 2010
- Breaking it down: the involvement of the blood-brain barrier in HIV infection. Tulane National Primate Research Center, Tulane University. January 2011
- Breaking it down: the involvement of the blood-brain barrier in HIV infection and methamphetamine toxicity. Florida International University. January 2011
- Breaking it down: the involvement of the blood-brain barrier in cerebrovascular pathology of HIV-1. Department of Cell Biology and Anatomy, University of North Texas Health Science Center, February 2011
- Breaking it down: the involvement of the blood-brain barrier in HIV infection. Department of Pathology & Laboratory Medicine, Temple University, February 2011
- Breaking it down: The blood-brain barrier in cerebrovascular toxicity of environmental pollutants. Department of Pharmacology & Toxicology, University of Kansas, Lawrence, KS, March 2011
- Caveolae-associated signaling in HIV-1 and amyloid beta interactions at the blood-brain barrier level. The XXVth International Symposium on Cerebral Blood Flow, Metabolism and Brain Function, Barcelona, Spain. May 2011
- Gut-blood brain barrier axis in the enhancement of brain metastases by PCBs. Cerebral Blood Flow Conference. Leiden, the Netherlands. June 2011
- Lipid rafts regulate HIV-1 and amyloid beta interactions at the blood-brain barrier. Neurochemical Conference. "Genetic and molecular mechanisms of neurological diseases. Progress in diagnosis and therapy." Warsaw, Poland. October 2011
- HIV trafficking into the brain: a story of the leaky barrier. Johns Hopkins Medical School, Baltimore, February 2012
- Interactions of HIV-1 with amyloid beta peptide at the blood-brain barrier level. 11th International Symposium on Neurovirology. New York, June 2012
- Matrix metalloproteinases are involved in HIV-induced dysregulation of tight junction proteins and disruption of the blood-brain barrier. XXIIIrd FECTS and ISMB Joint Meeting, Katowice, Poland, August 2012
- Interactions of HIV-1 with amyloid beta at the blood-brain barrier level. 15th International Symposium "Signal Transduction in the Blood-Brain Barriers." Potsdam, Germany, September 2012
- Methamphetamine-induced endothelial barrier disruption: role of oxidative insult and actin dynamics. Molecular structure and function of the apical junctional complex in epithelia and endothelia. Merida, Mexico; November 2012
- Autophagy is involved in nanoalumina-induced cerebrovascular toxicity. Biomolecules and Nanostructures 4. Pultusk, Poland, May 2013
- Cerebrovascular toxicity of methamphetamine: Role of the ARP2/3 complex and actin rearrangement. International Conference on Cerebral Vascular Biology. Montreal, June 2013

- Exercise attenuates changes in the gut microbiome induced by polychlorinated biphenyls. 1st World Congress on Controversies in Gastroenterology (CIGI). Berlin, Germany, June 2013
- The role actin rearrangement in methamphetamine-induced disruption of the blood-brain barrier. 48th Meeting of the Polish Biochemical Society in Torun, Poland, September 2013
- Targeting the gut-brain axis for modulation of brain metastasis formation. 16th International Symposium on Signaling in the Blood-Brain Barriers, Sumeg, Hungary, September 2013
- HIV and amyloid interplay at the blood brain barrier. The Neurochemical Conference 2013: Emerging topics in neurological diseases: molecular mechanisms, diagnosis and therapy. Warsaw, Poland, October 2013
- Breaking down the barrier: HIV and amyloid interactions at the blood-brain barrier. Nencki Institute of Experimental Biology, Warsaw, Poland, October 2013
- The role of the blood brain barrier in amyloid beta uptake by HIV-1-infected brain. 12th International Symposium on Neurovirology, Washington, DC, November 2013
- Perspectives for nanotoxicology. The 4th Annual Meeting of the American Society for Nanomedicine. Rockville, MD March 2014
- The simple facts about inflammation: Addressing this hidden killer which threatens your well-being via multiple disease pathways The Alltech 30th Annual International Symposium. Lexington, KY, May 2014
- Running interference: Physical activity impacts the gut-brain axis and brain metastasis induction by environmental toxicants. The 2nd European Conference of Microbiology and Immunology "Gut-Brain-Axis" Berlin, Germany, June 2014
- Regulation of HIV replication in human blood-brain barrier pericytes by cellular occludin levels. 17th International Symposium on Signal Transduction at the Blood-Brain and Blood-Retina Barriers. Dublin, Ireland, September 2014
- Who is running your gut: impact of PCBs and exercise on the gut brain axis. The Mid-Atlantic Chapter of the Society of Toxicology. Edison NJ, October 15, 2014
- Targeting the gut-brain axis for cerebrovascular toxicity and prometastatic properties of polychlorinated biphenyls. The 12th International Symposium "Molecular Basis of Pathology and Therapy in Neurological Disorders" Warsaw, Poland. November 2014
- Blood-brain barrier approach to HIV infection and methamphetamine toxicity. University of Toronto, Toronto, Canada, December 2014
- Perspective for nanotoxicology in Future Medicine. The 2nd Personalized NanoMedicine Symposium. Miami, FL, January 2015
- HIV trafficking into the brain: the blood-brain barrier story. Society on NeuroImmune Pharmacology, Miami, FL, April 2015
- Running interference: impact of PCBs and exercise on the gut-brain axis. University of Iowa, Iowa City, IA, May 2015

- Amyloid-related signaling at the BBB. 11th International Conference on Cerebral Vascular Biology and to the 18th International Symposium on Signal Transduction at the Blood-Brain and Blood-Retina Barriers. Paris, France, July 2015
- How to build a dam and profit from it: involvement of the blood-brain barrier in neurobiology of drug abuse and HIV infection. Institute of Pharmacology, Polish Academy of Sciences. Krakow, Poland, October 2015
- Who is running your gut: impact of PCBs and exercise on microbial communities and the gut brain axis. 21st Annual Environmental Health Sciences Research Symposium "Microbiome and the Environment" University of Michigan, Ann Arbor, MI, January 2016
- Perspectives for nanotoxicology in Future Medicine. The 3rd Annual Personalized NanoMedicine Symposium. Miami, FL, May 2016
- Running interference: physical activity prevents methamphetamine-induced aberrant neurogenesis. 4th International Seminar on Behavioral Methods. Wisla, Poland. Sept 2016.
- Occludin controls HIV transcription in brain pericytes. NHLBI/NIH Basic and Clinical RFA Grantee Meeting. Bethesda, MA, Sept 2016.
- Exercise attenuates methamphetamine-induced disruption of the blood-brain barrier and aberrant hippocampal neurogenesis. 19th International Symposium on Signal Transduction at the Blood-Brain Barriers. Copenhagen, Denmark, September 2016.
- Targeting exercise for the blood-brain barrier modulation: a lesson from drug abuse. Inauguration of Academic Year 2016/2017 and the Doctor honoris causa Lecture. Academy of Physical Education, Katowice Poland. Oct. 2016.

Selected awards received by Dr. Toborek's mentees or trainees

Andras, Ibolya

- 2002 Top 5 Poster Presentation. The 5th Symposium on Signal Transduction in the Blood-Brain Barriers. Potsdam, Germany
- 2003 Best Poster Presentation. The 6th Symposium on Signal Transduction in the Blood-Brain Barriers. Szeged, Hungary
- 2007 Top 3 Poster Presentation. The 10th Symposium on Signal Transduction in the Blood-Brain Barriers. Potsdam, Germany
- 2009 Travel Award to attend The 12th International Symposium of the Blood-Brain Barrier. London, England
- 2011 Best Poster Presentation. The annual conference of the Society on NeuroImmune Pharmacology. Clearwater Beach, FL
- 2012 Invitation to present a talk at the NIMH-sponsored annual conference of the Society on NeuroImmune Pharmacology. San Juan, PR
- 2014 Invitation to present a talk at the NIH-sponsored 18th Annual National CFAR Meeting. Providence, RI

Avila, Diana

- 2017 Early Career Investigator Travel Award (registration fee waiver) to attend the 23rd annual meeting of the Society on Neuroimmune Pharmacology in Philadelphia, PA.

Bertrand, Luc

- 2016 Early Career Investigator Travel Award to attend the 22nd annual meeting of the Society on Neuroimmune Pharmacology in Krakow, Poland
- Best poster presentation (2nd place). The 22nd annual meeting of the Society on Neuroimmune Pharmacology in Krakow, Poland
- Best poster presentation. The 3rd Annual Personalized NanoMedicine Symposium. Miami, FL, May 2016
- 2016 - 2018 Postdoctoral Fellowship from the American Heart Association
- 2017 Early Career Investigator Travel Award to attend the 23rd annual meeting of the Society on Neuroimmune Pharmacology in Philadelphia, PA. Abstract selected for oral presentation.
- 2017 Louis J. Elsas Award in Biochemical Genetics

Castro, Victor

- 2013 Young Investigator Travel Award to attend the annual conference of the Society on Neuroimmune Pharmacology. San Juan, PR
- 2015 First Prize. Novartis Institutes for Biomedical Research Postdoctoral Award. New England Science Symposium. Harvard Medical School, Boston, MA
- 2016 Early Career Investigator Travel Award to attend the 22nd annual meeting of the Society on Neuroimmune Pharmacology in Krakow, Poland

Chen, Lei

- 2009-2011 Postdoctoral Fellowship from the American Heart Association
- 2010 Top 3 Poster Presentation. The 4th Annual Postdoctoral Poster Session, University of Kentucky, Lexington, KY
- 2010 Young Investigator Travel Award to attend the annual conference of the Society on Neuroimmune Pharmacology. Manhattan Beach, CA
- 2011 Young Investigator Travel Award to attend the annual conference of the Society on Neuroimmune Pharmacology. Clearwater Beach, FL
- 2012 Research career featured in the SNIP Newsletters (An Official Newsletter from the Society on Neuroimmune Pharmacology), Winter/Spring 2012
- 2013 paper "Autophagy is involved in nanoalumina-induced cerebrovascular toxicity". Nanomedicine 9, 212-221, 2013 was featured in the NIEHS Superfund Research Program Research Brief "Commonly Manufactured Nanomaterial Induces Neurovascular Toxicity" April 2013

Choi Jeong June

- 2011 Young Investigator Travel Award to attend the annual conference of the Society on NeuroImmune Pharmacology. Clearwater Beach, FL
- 2013 The Best Abstract Award at the 1st World Congress on Controversies in Gastroenterology. Berlin, Germany

Deaver, Jessica

- 2017 Early Career Investigator Travel Award (registration fee waiver) to attend the 23rd annual meeting of the Society on Neuroimmune Pharmacology in Philadelphia, PA.
- 2017 Kriloff Scholarship
- 2017 University of Miami Undergraduate Research Travel Award

Eum, Sung Yong

- 2007 Best Poster Presentation. Korean Toxicologists Association in America (KTAA), Society of Toxicology Annual Meeting, Charlotte, NC

Flora, Govinder

- 2003 The Investigator in Training Award. The International Society for Neurovirology (ISNV), Baltimore, MD
- 2003-2005 Postdoctoral Fellowship from the American Heart Association

Huang, Wen

- 2009-2011 Postdoctoral Fellowship from the American Heart Association

Kaiser, Simone

- 1998 The New Investigator Award. The American College and Nutrition

Leda, Ana

- 2017 Early Career Investigator Travel Award (registration fee waiver) to attend the 23rd annual meeting of the Society on Neuroimmune Pharmacology in Philadelphia, PA.

Nakagawa, Shinsuke

- 2011 Young Investigator Travel Award to attend the annual conference of the Society on NeuroImmune Pharmacology. Clearwater Beach, FL

Skowronska, Marta

- 2016 Travel Award and Invited Speaker to present a talk at the 22nd annual meeting of the Society on Neuroimmune Pharmacology in Krakow, Poland
- 2017 Early Career Investigator Travel Award to attend the 23rd annual meeting of the Society on Neuroimmune Pharmacology in Philadelphia, PA. Abstract selected for oral presentation.

Zhang, Bei

- 2012 Dissertation Enhancement Award | University of Kentucky | Lexington, KY

- 2011 Graduate Student Travel Support Award to attend the Society of Toxicology 50th Anniversary Annual Meeting. Society of Toxicology. Washington, DC
- 2011 Nanotoxicology Specialty Section Outstanding Graduate Student Award. Society of Toxicology. Washington, DC
- 2011 Best Poster Presentation. The annual meeting of the Superfund Research Program (NIH). Lexington, KY

Velichkovska, Martina

- 2017 Kriloff Scholarship
- 2017 University of Miami Undergraduate Research Travel Award

Wrobel, Jagoda

- Best Poster Award. 2015 Miami Winter Symposium: Towards Personalized Cancer Medicine
- "Leader of Pharmaceutical Sciences" Award (3rd place) for the best PhD thesis defended in all Colleges of Pharmacy in Poland in 2014-2015

SERVICE (from 2010)

- 2016-present, University of Miami Research Council, representing the Medical School (August 2016 – present, member of the Executive Committee representing Natural Sciences & Engineering)
- Member of the Junior Career Investigators Committee, Society for Personalized Nanomedicine 2014, 2015, 2016
- 2015-present, Scientific Review Subcommittee, Miami VA Healthcare System
- 2013-present, Department of Biochemistry and Molecular Biology Steering committee for Graduate Education
- 2013-present, Department of Biochemistry and Molecular Biology, Chair, Research Committee
- 2013-present, Department of Biochemistry and Molecular Biology, Chair, Space Committee
- Member of the Symposium Committee: Miami 2012 Winter Symposium: Nanotechnology in Biomedicine, Miami, FL 2012
- Member of the Young Investigator Travel Award Committee, Society on Neuroimmune Pharmacology, 2010 - 2012
- Councilor at-large, the Society on Neuroimmune Pharmacology, 2011 - 2014
- Chair, the NeuroAIDS and other End-organ Diseases (NAED) NIH study section, 2011 - 2013
- Member of the Council of Endowed Professors and Chairs, University of Kentucky, 2010 – 2011