CURRICULUM VITAE

Peter Butko, Ph.D.

Professor of Chemistry

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Country of Citizenship: U.S.A.

EDUCATION AND TRAINING

1979 MS in Physics, Komensky University, Bratislava, Slovakia
1982 RNDr. (Doctor of Natural Sciences) in Biophysics and Chemical Physics, Komensky University, Bratislava, Slovakia
1987 PhD in Biological Sciences, Hungarian Academy of Sciences, Budapest, Hungary
1987-8 Postdoc in Physiology and Biophysics, Michigan State University, E. Lansing, MI
1988-9 Postdoc in Pharmacology and Cell Biophysics, University of Cincinnati, Cincinnati, OH
1989-90 Postdoc in Biophysics, Texas Tech University, Lubbock, TX
1990-92 Postdoc in Biological Sciences, Brock University, St. Catharines, ON, Canada

WORK EXPERIENCE

NAGOYA UNIVERSITY, Nagoya, Japan (6/2011 – present)
Professor of Chemistry

- taught/directed Chemistry (General, Physical, Biochemistry) and Biology (Modern Biology) courses and laboratories
- served on and led Program and University committees: Student Education and Life Committee; Admissions Committee; Recruiting Committee

UNIVERSITY OF MARYLAND SCHOOL OF PHARMACY, Baltimore, MD (7/2007–12/2010)
Associate Professor of Pharmaceutical Sciences

- taught/directed Chemistry courses (Biochemistry, Drug Chemistry, Medicinal Chemistry, Pharmaceutical Chemistry, Principles of Drug Action), which included principles of QSAR, ADME, and PK/PD
- served on and led School and University committees: Institutional Assessment Committee; Admissions Committee; Joint Graduate Council of Univ. Maryland-Baltimore and Univ. Maryland-Baltimore County (Program Review Committee)
- directed lab and trained PhD and PharmD students
- administered and managed 3 collaborative research projects on **dendrimeric drug-delivery vehicles** and on **molecular recognition and binding**: published 5 papers, 1 still in preparation; presented at 6 national and international meetings.

UNIVERSITY OF SOUTHERN MISSISSIPPI, Hattiesburg, MS (7/1998 – 7/2007)
Assistant and Associate Professor of Chemistry and Biochemistry (with tenure)

- taught 9 Chemistry courses (General and Physical Chemistry, Biochemistry, etc.)
- graduated 6 graduate students and directed 12 undergraduate students
- reviewed and critiqued grant applications (NSF, American Chemical Society, Research Corporation, US-Israel Binational Agricultural Research and Development Fund) and manuscripts for journals (Biochemistry, BBA, JBC, Biophysical J, and others) participated in a seminar series for lay public
- organized and ran two annual meetings of the Mississippi Academy of Sciences (Biology Section) in 2000 and 2001
- directed research on **biomolecular/membrane interactions** and **amyloidogenesis in Alzheimer's disease**: administered and managed 9 collaborative research projects; obtained more than $1.5 million in external funding from federal and state agencies or industry; published 14 papers and presented at more than 20 national and international conferences.

HARVARD MEDICAL SCHOOL/BRIGHAM AND WOMEN'S HOSPITAL, Boston, MA (6/1994 – 7/1998) Research Fellow

- conducted research in **immunology** (complement, neonatal immunity, infectious diseases)
- published 3 papers, presented at 1 international conference.

NATIONAL RESEARCH COUNCIL OF CANADA, Ottawa, ON, Canada (6/1992 – 3/1994) Research Officer

- conducted research in **biomolecular membrane interactions**; published 3 papers; presented at 2 national conferences

SLOVAK ACADEMY OF SCIENCES, Ivanka pri Dunaji, Slovakia (7/1979 – 10/1982) Research Assistant

- conducted research on **red-blood-cell and yeast membranes**,1 publication.

RESEARCH FUNDING OBTAINED

$7,500 **University of Southern Mississippi (USM)** Summer Faculty Research Award, "Identification of the Molecular Target for Natural Antibodies Against Group B Streptococcus Bacteria", 1999.

$10,000 Ralph E. Powe Junior Faculty Enhancement Award, sponsored by **US Department of Energy** through Oak Ridge Associated Universities, 2000.

$143,165 **National Institutes of Health (NIH)** 1 R15AI48576-01, "Natural Antibodies against Group B Streptococci in Mice", May 2001 – May 2004.

$96,950 **US Army** DAAD19-02-1-0108 (DURIP), "Upgrade of a Spectrofluorometer to the Lifetime Capability for Research in Macromolecular Conformation and Self Assembly", 2002 – 2003.

$349,000 **NIH** 1 R21AT00293-01A2, "Mechanisms of *Ginkgo biloba* Neuroprotection" (Co-PI with Y. Luo, USM), March 2001 – Aug. 2004.

$17,000 **Neurim Pharmaceuticals**, Ltd, Israel, "In vitro anti-amyloidogenesis tests of compounds", June 2003 – Aug. 2004.

$196,000 **US Department of Agriculture (USDA)** NRI/CSREES No.

2001-35302-10138, "Mechanism of Action of the Insecticidal Toxin Cyt1A: Biophysical and Biochemical Approach", Dec. 2000 – Dec. 2004.

$520,479 **National Science Foundation (NSF)** DMS-0241236, "Efficient Simulation of Protein-Membrane Interactions by Implicit Solvent Algorithms" (Co-PI with D. Xie, University of Wisconsin), May 2003 – October 2007.

$250,000 **USDA**, "Mechanism of Action of the Insecticidal Toxin Cyt1A: Biophysical and Biochemical Approach", competitive renewal, March 2006 – March 2010.

$1,580,094 **Total**

PROFESSIONAL ORGANIZATIONS

American Association for the Advancement of Science
Biophysical Society (member of Congressional Liaison Committee)
Biophysical Society of Japan
Mississippi Academy of Sciences (Chair of the Molecular, Cellular, and Developmental Biology section, 2000-2001)
Society for Invertebrate Pathology
Rho Chi (Pharmacy Honor Society, lifetime member)

PROFESSIONAL HONORS AND AWARDS

Ralph E. Powe Junior Faculty Enhancement Award from Oak Ridge Associated Universities (sponsored by US Department of Energy), 2000
Dean's Award for the Most Productive Junior Faculty in the College of Science and Technology, University of Southern Mississippi, 2002
Chair of a session at the 35th Annual Meeting of Society for Invertebrate Pathology, Iguassu Falls, Brazil, 2002
Invited speaker at the International Conference on Stanislaw Lem, University of Alberta, Edmonton, Canada, 2003
Invited external examiner of a Ph.D. candidate Walairat Pornwiroon at the Institute of Molecular Biology and Genetics, Mahidol University, Nakornpathom, Thailand, 2003
Spirit Award, University of Maryland School of Pharmacy, 2008
Ad hoc reviewer for 14 scientific journals and 4 funding agencies (NSF, Research Corporation, ACS Petroleum Research Fund, and US-Israel Binational Agricultural Research and Development Fund) 1999 – present
Academic Editor for PLoS One, 2009 – present
Invited to give 23 talks in U.S.A. and abroad (China, Thailand, Hungary, Czech Republic, Slovakia)

LANGUAGES

Fluent: English, Slovak, Czech, Russian, Polish, Hungarian
Basic: German, French, Serbo-Croatian, Chinese, Japanese

SELECTED PUBLICATIONS (OUT OF 52)

LAST 5 YEARS:

Tiriveedhi, V., M. Miller, P. Butko, and M. Li (2012) Autonomous transmembrane segment S4 of the voltage sensor domain partitions into the lipid membrane. Biochim. Biophys. Acta 1818, 1698-1705.

Tiriveedhi, V., K.M. Kitchens, K.J. Nevels, H. Ghandehari, and P. Butko (2011) Kinetic analysis of the interaction between poly(amidoamine) dendrimers and model lipid

membranes. Biochim. Biophys. Acta 1808, 209-218.
Li, X., K.J. Nevels, Z. Gryczynski, I. Gryczynski, M. Pusztai-Carey, D. Xie, and P. Butko (2009) A molecular dynamics model of the Bt toxin Cyt1A and its validation by resonance energy transfer. Biophys. Chem. 144, 53-61.
Congdon, H.B., D.A. Nutter, L. Charneski, and P. Butko (2009) Impact of hybrid delivery of education on student academic performance and the student experience. Am. J. Pharm. Educ. 73(7) Article121.
Tiriveedhi, V., and P. Butko (2008) Soluble glycosaminoglycans inhibit the interaction of TATPTD with lipid vesicles. Int. J. Peptide Res. Therapeut. 14, 209-214.

OTHER SIGNIFICANT PAPERS:

Wu, Y., Z. Wu, P. Butko, Y. Christen, M.P. Lambert, W.L. Klein, C.D. Link, and Y. Luo (2006) Amyloid-beta-induced pathological behaviors are suppressed by *Ginkgo biloba* extract EGb 761 and ginkgolides in transgenic *Caenorhabditis elegans*. J. Neuroscience 26, 13102-13113.
Butko, P. (2003) The insecticidal cytolytic toxin Cyt1A and its mechanism of membrane damage: data and hypotheses. Appl. Environ. Microbiol. 69, 2415-2422.
Luo, Y., J.V. Smith, V. Paramasivam, A. Burdick, K.J. Curry, J.P. Buford, I. Khan, W.J. Netzer, H. Xu, and P. Butko (2002) Inhibition of amyloid-beta aggregation and caspase-3 activation by the *Ginkgo biloba* extract EGb761. Proc. Natl. Acad. Sci. USA 99, 12197-12202.
Butko, P., A. Nicholson-Weller, and M.R. Wessels (1999) Role of complement component C1q in the IgG-independent opsonophagocytosis of group B *Streptococcus.* J. Immunol. 163, 2761-2768.
Wessels, M.R., P. Butko, M. Ma, H.B. Warren, A.L. Lage, and M.C. Carroll (1995) Studies of group B streptococcal infection in mice deficient in complement C3 or C4 demonstrate an essential role for complement in both innate and acquired immunity. Proc. Natl. Acad. Sci. U.S.A. 92, 11490-11494.
Rand, R.P., N.L. Fuller, P. Butko, G. Francis, and P. Nicholls (1993) Measured change in protein solvation with substrate binding and turnover. Biochemistry 32, 5925-5929.
Schroeder, F., P. Butko, G. Nemecz, and T.J. Scallen (1990) Interaction of fluorescent $\Delta^{5,7,9,(11),22}$-ergostatetraen-3β-ol with sterol carrier protein 2. J. Biol. Chem. 265, 151-157.