GEORGE A. OYLER, MD PhD

EDUCATION:

INSTITUTION AND LOCATION	DEGREE	YEAR	FIELD OF STUDY
Princeton University, Princeton, NJ	BSE	1984	Chemical Engineering
Penn State University, Hershey, PA	PhD	1989	Cell and Molecular Biology
Penn State University, Hershey, PA	MD	1991	Medicine

PROFESSIONAL EXPERIENCE:

1992-1995	**Resident** in Neurology, Johns Hopkins.
1995-1997	**Post-doctoral** fellow in Neurology, Johns Hopkins.
1997-1998	**Instructor** of Neurology, Johns Hopkins University.
1998-1999	**Assistant Professor** of Neurology, Johns Hopkins University.
1999-2004	**Assistant Professor** of Neurology, University of Maryland.
2004-Present	**Adjunct Assistant Professor** Bio and Chem Engineering, Johns Hopkins.
2004-2006	**Director of Therapeutics** Veritas-Labs
2006-Present	**President** Synaptic Research, LLC

HONORS AND AWARDS:

Post Residency:

Faculty for Course in Neurodegeneration at American Academy of Neurology 2003 and 2004.
Examiner for American Board of Psychiatry and Neurology oral examinations, 2000-2002.
Golden Hammer Neurology Faculty Resident Teaching Award 200-2001 academic year.
Scored 99th percentile on written American Board of Psychiatry and Neurology exam.

Neurology Residency:

Chief Resident 1994-1995.
USMLE parts I, II, and III: scored greater than 99th percentile on all parts.
In Service Resident Neurology Examination, 99th percentile on years 1-3 of neurology residency.

Internal Medicine Internship:

Medicine Symposium Research Competition Award.
Internal Medicine Intern Clinical Award.

Medical School:

Alpha Omega Alpha, elected 1990.
President of Hershey Chapter AOA, 1991.
American Federation for Clinical Research Award, 1991.
Nureck Medical Award for Outstanding Academic Achievement, 1991.
Sandoz Award for Outstanding Accomplishment in Medical Research, 1991.

Undergraduate Education:

Graduated Cum Laude in Chemical Engineering, Princeton University.
Elected to Tau Beta Pi Engineering Honor Society.

Research Awards:

2005-2007	PI 1R01AI 67504-01 Molecular treatment of Botulinum neurotoxin exposure.
2005-2007	PI NIAID Research award Designer ubiquitin ligases for Botulinum neurotoxin exposure.
2002-2004	PI 5R21NS 43658-02 Neuroprotective mechanisms of Parkin.
2001-2003	Co-I 5R21NS41660-02 Motor neuron protection through glutamate degradation.
2001-2004	Co-I NSF grant on metabolic engineering of mammalian cells.
2001-2002	Progressive Supranuclear Palsy Foundation Research Grant.
1996-2002	DOD Research Contract. Function of Botulinum Neurotoxin.
1995-2000	Burroughs Wellcome Fund Career Award.
1987-1989	March of Dimes Advanced Predoctoral Research Fellowship.
1986-1987	American Heart Association Medical Research Fellowship.
1985 and 1986	National Institutes of Health Training Grants for medical research.

PUBLICATIONS

1: Boustany NN, Tsai YC, Pfister B, Joiner WM, **Oyler GA**, Thakor NV. Bcl-xL-dependent light scattering by apoptotic cells. Biophys J. 2004 Dec;87(6):4163-71. Epub 2004 Sep 17. PMID: 15377529

2: Adler M, Manley HA, Purcell AL, Deshpande SS, Hamilton TA, Kan RK, **Oyler GA**, Lockridge O, Duysen EG, Sheridan RE. Reduced acetylcholine receptor density, morphological remodeling, and butyrylcholinesterase activity can sustain muscle function in acetylcholinesterase knockout mice. Muscle Nerve. 2004 Sep;30(3):317-27. PMID: 15318343

3: Figueroa B Jr, Chen S, **Oyler GA**, Hardwick JM, Betenbaugh MJ. Aven and Bcl-xL enhance protection against apoptosis for mammalian cells exposed to various culture conditions. Biotechnol Bioeng. 2004 Mar 20;85(6):589-600. PMID: 14966800

4: Pfister B, **Oyler, GA**, Betenbaugh M, and Bao G. The Effects of BclXl and Bax Over-expression on Stretch-injury Induced Neural Cell Death. Mechanics & Chemistry of Biosystems. 2004 Vol.1, No.4.

5: Figueroa B Jr, Sauerwald TM, **Oyler GA**, Hardwick JM, Betenbaugh MJ. A comparison of the properties of a Bcl-xL variant to the wild-type anti-apoptosis inhibitor in mammalian cell cultures. Metab Eng. 2003 Oct;5(4):230-45. PMID: 14642351

6: Apland JP, Adler M, **Oyler GA**. Inhibition of neurotransmitter release by peptides that mimic the N-terminal domain of SNAP-25. J Protein Chem. 2003 Feb;22(2):147-53. PMID: 12760419

7: Tsai YC, Fishman PS, Thakor NV, **Oyler GA**. Parkin facilitates the elimination of expanded polyglutamine proteins and leads to preservation of proteasome function. J Biol Chem. 2003 Jun 13;278(24):22044-55. Epub 2003 Apr 3. PMID: 12676955

8: Sauerwald TM, **Oyler GA**, Betenbaugh MJ. Study of caspase inhibitors for limiting death in mammalian cell culture. Biotechnol Bioeng. 2003 Feb 5;81(3):329-40. PMID: 12474256

9: Fishman PS, **Oyler GA**. Significance of the parkin gene and protein in understanding Parkinson's disease. Curr Neurol Neurosci Rep. 2002 Jul;2(4):296-302. Review. PMID: 12044248

10: Goodnough MC, **Oyler GA**, Fishman PS, Johnson EA, Neale EA, Keller JE, Tepp WH, Clark M, Hartz S, Adler M. Development of a delivery vehicle for intracellular transport of botulinum neurotoxin antagonists. FEBS Lett. 2002 Feb 27;513(2-3):163-8. PMID: 11904143

11: Adler M, Sheridan RE, Deshpande SS, **Oyler GA**. Neuromuscular transmission and muscle contractility in SNAP-25-deficient coloboma mice. Neurotoxicology. 2001 Dec;22(6):775-86. PMID: 11829411

12: Sauerwald TM, Betenbaugh MJ, **Oyler GA**. Inhibiting apoptosis in mammalian cell culture using the caspase inhibitor XIAP and deletion mutants. Biotechnol Bioeng. 2002 Mar 20;77(6):704-16. PMID: 11807766

13: Keller JE, Neale EA, **Oyler GA**, Adler M. Persistence of botulinum neurotoxin action in cultured spinal cord cells. FEBS Lett. 1999 Jul 30;456(1):137-42. PMID: 10452545

14: Lewis J, **Oyler GA**, Ueno K, Fannjiang YR, Chau BN, Vornov J, Korsmeyer SJ, Zou S, Hardwick JM. Inhibition of virus-induced neuronal apoptosis by Bax. Nat Med. 1999 Jul;5(7):832-5. PMID: 10395331

15: Meltzer CC, Wells SW, Becher MW, Flanigan KM, **Oyler GA**, Lee RR. AIDS-related MR hyperintensity of the basal ganglia. AJNR Am J Neuroradiol. 1998 Jan;19(1):83-9. PMID: 9432162

16: Garver TD, **Oyler GA**, Harris KA, Polavarapu R, Damuni Z, Lehman RA, Billingsley ML.Tau phosphorylation in brain slices: pharmacological evidence for convergent effects of protein phosphatases on tau and mitogen-activated protein kinase. Mol Pharmacol. 1995 Apr;47(4):745-56. PMID: 7723735

17: Harris KA, **Oyler GA**, Doolittle GM, Vincent I, Lehman RA, Kincaid RL, Billingsley ML. Okadaic acid induces hyperphosphorylated forms of tau protein in human brain slices. Ann Neurol. 1993 Jan;33(1):77-87. PMID: 8494335

18: **Oyler GA**, Duckrow RB, Hawkins RA. Computer simulation of the blood-brain barrier: a model including two membranes, blood flow, facilitated and non-facilitated diffusion. J Neurosci Methods. 1992 Sep;44(2-3):179-96. PMID: 1474851

19: **Oyler GA**, Polli JW, Higgins GA, Wilson MC, Billingsley ML. Distribution and expression of SNAP-25 immunoreactivity in rat brain, rat PC-12 cells and human SMS-KCNR neuroblastoma cells. Brain Res Dev Brain Res. 1992 Feb 21;65(2):133-46. PMID: 1572061

20: **Oyler GA**, Polli JW, Wilson MC, Billingsley ML. Developmental expression of the 25-kDa synaptosomal-associated protein (SNAP-25) in rat brain. Proc Natl Acad Sci U S A. 1991 Jun 15;88(12):5247-51. PMID: 1711221

21: Krady JK, **Oyler GA**, Balaban CD, Billingsley ML. Use of avidin-biotin subtractive hybridization to characterize mRNA common to neurons destroyed by the selective neurotoxicant trimethyltin. Brain Res Mol Brain Res. 1990 May;7(4):287-97. PMID: 2163004

22: Higgins GA, **Oyler GA**, Neve RL, Chen KS, Gage FH. Altered levels of amyloid protein precursor transcripts in the basal forebrain of behaviorally impaired aged rats. Proc Natl Acad Sci U S A. 1990 Apr;87(8):3032-6. PMID: 1970179

23: **Oyler GA**, Higgins GA, Hart RA, Battenberg E, Billingsley M, Bloom FE, Wilson MC. The identification of a novel synaptosomal-associated protein, SNAP-25, differentially expressed by neuronal subpopulations. J Cell Biol. 1989 Dec;109(6 Pt 1):3039-52. PMID: 2592413

24: Koh S, **Oyler GA**, Higgins GA. Localization of nerve growth factor receptor messenger RNA and protein in the adult rat brain. Exp Neurol. 1989 Dec;106(3):209-21. PMID: 2556291

25: Besio, G.J., **Oyler, G.A.** and Prud'homme, R.J. 1985. Automated system for the characterization of liquid foam for use in oil recovery. Rev. Sci. Instr. 56:746-751.

PATENTS

1. US 10/130,409 based on International No. PCT/US00/31680 Fusion Proteins that Specifically Inhibit Proteins Synthesis in Neuronal Cells. Jonathan W. Francis, Robert H. Brown, John R. Murphy, Johanna C. vander Spek, **George A Oyler** and Paul S. Fishman.
2. US provisional patent and International patent. A System for Detection of Botulinum Neurotoxins and High-Throughput Screening of Inhibitors of Botulinum Neurotoxin. **George A Oyler**, Yien Che Tsai, Randall Kincaid, Paul S Fishman.