

Curriculum Vitae

updated 5/23/11

Michael Paul Blanton, Ph.D.
Department of Pharmacology and Neuroscience
Texas Tech University Health Sciences Center
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PERSONAL INFORMATION

Birth date : August 9, 1960
Birthplace : Molesworth, U.K.
Citizenship : United States of America



EDUCATION:

Bachelor of Arts, Biology (with Honors), University of California, Santa Cruz, June 1983.

Ph.D., Biology, University of California, Santa Cruz, September 1989.

POST DOCTORAL TRAINING:

Postdoctoral Research Fellow, Department of Anatomy and Neurobiology, Washington University School of Medicine, St. Louis, MO, January 1990-June 1992. Advisor: Jonathan B. Cohen, Ph.D.

Research Fellow, Department of Neurobiology, Harvard Medical School, Boston, MA, July 1992-August-1994. Advisor: Jonathan B. Cohen, Ph.D.

Instructor, Department of Neurobiology, Harvard Medical School, Boston, MA, September 1994-July-1995.

PROFESSIONAL EMPLOYMENT:

Assistant Professor, Department of Pharmacology, School of Medicine, Texas Tech University Health Sciences Center, Lubbock, TX, August 1995- 2001.

Associate Professor, Department of Pharmacology, School of Medicine, Texas Tech University Health Sciences Center, Lubbock, TX, September 2001-2009 (Tenured 2/01).

Professor, Department of Pharmacology and Neuroscience, School of Medicine, Texas Tech University Health Sciences Center, Lubbock, TX, September 2009-present.

Joint appointments within School of Medicine, TTUHSC: Department of Anesthesiology (1999-present), Biotechnology Graduate Program (2003-present); Department of Cell Physiology and Molecular Biophysics (2007-present).

TTUHSC/SOM Center for Membrane Protein Research (2007-present), CMPR Steering Committee (2007-present).

Associate Dean of the Graduate School of Biomedical Sciences, Texas Tech University Health Sciences Center, Lubbock, TX. January 2008-present.

MD-PhD Director, Graduate School of Biomedical Sciences, Texas Tech University Health Sciences Center, Lubbock, TX. January 2010-present.

AWARDS AND HONORS:

Dissertation Year Fellowship (1989), University of California, Santa Cruz.

Outstanding Teacher of the Year (2011) Graduate School of Biomedical Sciences, Texas Tech University Health Sciences Center, Lubbock TX.

PRESENT RESEARCH SUPPORT:

South Plains Foundation, “Novel Drug Discovery: Positive Allosteric Modulators of the $\alpha 7$ Nicotinic Acetylcholine Receptor” 09/01/10-08/30/11. Principal Investigator, Michaela Jansen; Co-Investigator, Michael P. Blanton, \$15,000.

Center for Membrane Protein Research Collaborative Grant, School of Medicine, TTUHSC, Expression and Purification of the human Proton-Coupled Folate Transporter” 04/01/11-03/31/2012. Principal Investigators: Michaela Jansen, Lan Guan, Michael P. Blanton, \$65,000.

PENDING RESEARCH APPLICATIONS:

CPRIT: Individual Investigator Research Award. “The Proton Coupled Folate Transporter: Determining the structure and the translocation pathway for (anti)folate cancer therapeutic agents” 12/01/11-11/30/14. Principal Investigator, Michaela Jansen; Co-Investigator, Michael P. Blanton, \$650,102

NIH R21/R33, “Photoprobes for Developing Nicotine and Psychostimulant Addiction Medications” 04/01/12-03/31/16. Principal Investigator, David J. Lapinsky (Duquesne University), Co-Investigator, Michael P. Blanton (subcontract, \$82,506).

PAST RESEARCH SUPPORT:

Center for Membrane Protein Research Collaborative Grant, School of Medicine, TTUHSC, Structure Function Studies of Proton Coupled Folate Transporters” 06/01/09-05/31/2010. Principal Investigators: Michaela Jansen and Michael P. Blanton, \$65,000.

American Heart Association- Texas Affiliate, “Affinity-Purification and Structural Analysis of Neuronal Nicotinic Acetylcholine Receptors” (0755029Y) 7/1/07- 6/30/09, Principal Investigator, Michael P. Blanton, \$130,000.

Texas Tech University Health Sciences Center, *Roger Alan Valkenaar Estate*. “Nicotinic Acetylcholine Receptors and Muscular Dystrophy: (1) Key trigger in muscle-degenerative phase; (2) Therapeutic target for MD-related Cognitive Dysfunction”. 2/1/07-01/31/09, Principal Investigator, Michael P. Blanton (Co-PI, Alice M. Young), \$75,115 direct costs.

The South Plains Foundation, “Affinity-Purification and Structural Analysis of Key Neuronal Nicotinic Acetylcholine Receptor Subtypes ($\alpha 3\beta 4$, $\alpha 4\beta 2$, $\alpha 7$)” 09/01/07-08/30/08. Principal Investigator, Michael P. Blanton, \$8,500.

Texas Tech University Health Sciences Center, School of Medicine. “Structural Analysis of ADNFLE mutant $\alpha 4\beta 2$ Nicotinic Acetylcholine Receptors” 09/01/06-08/30/07, Principal Investigator, Michael P. Blanton, \$20,000 direct costs.

NINDS, “Ligand-Binding Domains in the 5-HT₃ Receptor” 2 R01 NS43438-01A1 12/1/02-11/30/06, Principal Investigator, Tina K. Machu; [TTUHSC subcontract, PI, Michael P. Blanton, \$176,000 (total cost)].

Texas Tech University Health Sciences Center, School of Medicine. "Structural Analysis of Acetylcholine and GABAA Receptors" 09/01/02-08/30/03, Principal Investigator, Michael P. Blanton, \$20,000 direct costs.

NINDS, R29 NS35786-04S1, 6/29/00, Principal Investigator, Michael P. Blanton. (\$40,000). Supplemental equipment funds to purchase a Pharmacia AKTA Purifier system as part of the NINDS Infrastructure Supplement Program.

American Heart Association- Texas Affiliate, "Structural Analysis of P-type Ion Motive ATPases" (9950783Y) 7/1/99- 6/30/01, Principal Investigator, Michael P. Blanton, \$120,000

NINDS, "Structural Analysis of Acetylcholine and GABAA Receptors" R29 NS35786 8/1/97-4/30/02 (no cost extension until 4/30/03), Principal Investigator, Michael P. Blanton, \$350,000 (direct costs).

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

American Society for Biochemistry and Molecular Biology (ASBMB)
American Chemical Society (ACS)
American Society for Pharmacology and Experimental Therapeutics (ASPET)
Biophysical Society
Society for Neuroscience
International Society for Neurochemistry
Protein Society
Texas Research Society on Alcoholism (TRSA)

EDITORIAL BOARDS:

Editorial Board Member for the Journal of Biological Chemistry (*JBC*), 2006-2011.
Editorial Board Member for Frontiers in Membrane Physiology and Biophysics, 2011-present.

GRANT REVIEWER:

AHA Western Review Consortium, Committee 5A (4yrs; 2000-2003)

AD HOC GRANT REVIEWER FOR:

AHA Texas and Western States Affiliates (1996, 1999)
Human Frontier Science Program (1999, 2000, 2005)
National Institutes of Health (reviewer for special emphasis panel ZRG1 IFCN-D (02)
Molecular and Cellular Mechanisms of Ethanol. March 10, 2004.
National Institutes of Health (reviewer for special emphasis panel ZRG1 IFCN-1 (02)
Neurophysiology of Ethanol. July 15, 2003.
National Institutes of Health (reviewer for special emphasis panel ZRG1 SSS-4(31) Image
Analysis Instrumentation, July 22, 2003.
National Institutes of Health (mail reviewer for NIGMS MBRS program, 6/2002)
Phillip Morris External Research Program (2003, 2005)
The Wellcome Trust (2000)
Universidad Central del Caribe, Program Advisory Committee (PAC) for NINDS Specialized
Neuroscience Research Program (SNRP; 2008-2009).
U.S. Civilian Research and Development Foundation (CRDF; 2006)

INVITED LECTURES:

- 2011 6th Transdisciplinary Research Conference for Puerto Rico Luis Stoke Alliance for Minority Participation (AMP Program), Bridge-to-the-Doctorate Component, and the Department of Chemistry and Biology, University of Puerto Rico, San Juan, Puerto Rico. “Heterologous Expression, Affinity-Purification and Structural Analysis of Neuronal Nicotinic Acetylcholine Receptors.
- 2011 Department of Chemistry and Biochemistry, Duquesne University. “Heterologous Expression, Affinity-Purification and Structural Analysis Cys-Loop Ligand-Gated Ion Channels.
- 2010 Annual Meeting of the Center for Membrane Protein Research, Texas Tech University HSC. “Heterologous Expression, Affinity-Purification and Structural Analysis of Neuronal Nicotinic Acetylcholine Receptors.
- 2008 National Institutes of Health, NIAAA.. “Affinity-Purification and Structural Analysis of Ligand-Gated Ion Channels ($\alpha 4\beta 2, \alpha 4\beta 4, \alpha 3\beta 4$ NACHRs; 5-HT₃R)”[sponsor Dr. David M. Lovinger].
- 2007 Telluride Workshop on Biological Ion Channels, Telluride, CO. “Affinity-Purification and Structural Analysis of Ligand-Gated Ion Channels ($\alpha 4\beta 2, \alpha 4\beta 4, \alpha 3\beta 4$ NACHRs; 5-HT₃R)”.
- 2007 Department of Cell Physiology and Molecular Biophysics, School of Medicine, Texas Tech University HSC. “Affinity-Purification and Structural Analysis of Ligand-Gated Ion Channels”.
- 2007 Committee on Cell Physiology, The University of Chicago. “Affinity-Purification and Structural Studies of Ligand-Gated Ion Channels ($\alpha 4\beta 2, \alpha 4\beta 4, \alpha 3\beta 4$ NACHRs; 5-HT₃R)”.
- 2007 Department of Molecular and Cellular Medicine, Texas A&M University. “Affinity-Purification and Structural Studies of Ligand-Gated Ion Channels ($\alpha 4\beta 2, \alpha 4\beta 4, \alpha 3\beta 4$ NACHRs; 5-HT₃R)” .
- 2006 Department of Pharmacology and Neuroscience, University of North Texas HSC. “Affinity-Purification and Structural Studies of Ligand-Gated Ion Channels ($\alpha 4\beta 2, \alpha 4\beta 4, \alpha 3\beta 4$ NACHR; 5-HT₃R)” .
- 2005 Telluride Workshop on Biological Ion Channels, Telluride, CO. “The Nicotinic Acetylcholine Receptor: Lipid-Protein Interactions”.
- 2003 Department of Pharmaceutical Sciences, Texas Tech University HSC, School of Pharmacy. “The Nicotinic Acetylcholine Receptor Lipid-Protein Interface: A Site for Functional Coupling and Drug Interaction”.
- 2003 Department of Physiology, Texas Tech University HSC, School of Medicine. “The Nicotinic Acetylcholine Receptor: Is the Membrane-Spanning Domain Comprised of a bundle of transmembranes alpha helices or a mix of alpha helices and beta strands?”
- 2002 First Indian Symposium of the Protein Society, Mumbai, India (Invited Seminar speaker) “The Nicotinic Acetylcholine Receptor: Is the Membrane-Spanning Domain Comprised of a bundle of transmembranes alpha helices or a mix of alpha helices and beta strands?”

- 2002 Centre for Cellular and Molecular Biology (CCMB), Hyderabad, India. “The Nicotinic Acetylcholine Receptor Lipid-Protein Interface: A Site for Functional Coupling and Drug Interaction”.
- 2001 The Sixth International Conference on Molecular and Basic Mechanisms of Anesthesia, Bonn, Germany (Invited Workshop speaker) “Interaction of Barbiturate Analogs with the Nicotinic Acetylcholine Receptor Channel”.
- 2000 Department of Biochemistry, University of Ottawa, Ottawa, Ontario, Canada. “P-type Ion-Motive ATPases: Transmembrane Structure and Transitions”.
- 2000 Department of Pharmacology and Cell Biophysics, University of Cincinnati, College of Medicine, Cincinnati, Ohio. “P-type Ion-Motive ATPases: Transmembrane Structure and Transitions”.
- 2000 Department of Physiology, Texas Tech University HSC, School of Medicine, Lubbock, Texas. “P-type Ion-Motive ATPases: Transmembrane Structure and Transitions”.
- 1999 Department of Anesthesiology, Texas Tech University HSC, School of Medicine. “Interaction of Barbiturate Analogs with the Nicotinic Acetylcholine Receptor Ion Channel”.
- 1997 Department of Pharmacology, University of North Texas Health Sciences Center, Fort Worth, TX . “Identifying a Neurosteroid Binding Site in the Nicotinic Acetylcholine Receptor”.
- 1997 Department of Molecular Physiology and Biophysics, Baylor College of Medicine, Houston, Texas. “The Nicotinic Acetylcholine Receptor Lipid-Protein Interface: Structural Analysis”.
- 1995 Fifteenth Meeting of the International Society for Neurochemistry, Kyoto, Japan (Invited Symposium speaker). “The Nicotinic Acetylcholine Receptor Lipid-Protein Interface: Structural Analysis”.
- 1995 Department of Pharmacology, Texas Tech University HSC, School of Medicine. “The Nicotinic Acetylcholine Receptor: Structures of the Noncompetitive Antagonist Binding Sites”.

TEACHING EXPERIENCE:

Texas Tech University Health Sciences Center

General Principles and Neuroscience Block (MSII) 2006- present*

Multisystems Disorders and Cancer Block (MSII) 2006-present*

Medical Pharmacology (MSII), 1997-2006 *

Integrated Neurosciences (MS I), 1996-2006 *

Integration and Analysis (MS II), 2004-2005 *

Laboratory Methods in Biomedical Sciences, 2008-present

Molecular and Cellular Pharmacology, 1998, 2001, 2004, 2007 (course director)

Autonomic Pharmacology, 1996, 1999, 2002, 2005

Neuropsychopharmacology, 1997, 2000, 2003, 2006

Physical Therapy Pharmacology, 1998-2000

Principles of Pharmacology, 1996-present

Physician Assistant Pharmacology, 2000-2002

Pharmacology Seminar, course director 1997-2003

Advanced Protein Biochemistry, 2010-present
(* Medical Student Course)

University of California, Santa Cruz

Teaching Assistant, 1985-1988 (each Fall, Winter, Spring Quarter)- Membrane Biology,
Membrane Biology Lab, Cell Biology, Immunology, Developmental Biology,
Introductory Biology (Minority Student Section).

Postdoctoral Fellows:

Major Advisor for Hugo R. Arias, Ph.D. (11/99-1/02). Dr Arias is presently a tenure-track Associate Professor in the Department of Pharmaceutical Sciences, Midwestern University, Glendale AZ. 85308-3550.

Major Advisor for Erin Bayer, M.A., M.D. (6/01-12/01). Dr. Bayer did a six month postdoctoral research sabbatical in my lab before returning to her anesthesiology residency training.

Ph.D. Students:

Major Advisor for Shouryadeep Srivastava (Ph.D. conferred 2010)

- Research Scientist at Camargo Pharmaceutical Services, Cincinnati, OH

Major Advisor for Mitesh Sanghvi (Ph.D. conferred 2008)

- Postdoctoral fellow in the lab of Dr. Irving Wainer (NIH, National Institute on Aging, Bioanalytical Chemistry Drug and Discovery Unit) Baltimore, MD..

Major Advisor for Ayman K. Hamouda (Ph.D. conferred 2007)

- 2007 GSBS Outstanding Graduate Student
- Currently an Instructor in the lab of Dr. Jonathan B. Cohen, Department of Neurobiology, Harvard Medical School, Boston, MA.

Major Advisor for Phaneendra Kumar Duddempudi , 2008-present

Major Advisor for Akash Pandhare, 2009-present

-Students that rotated through lab, excluding those mentored by Dr. Blanton

Lab Rotation Advisor for Snehal Padhye, 2007

Lab Rotation Advisor for Rajiv Agrawal, 2007

Lab Rotation Advisor for Ryan Downey, 2007

Lab Rotation Advisor for Emmanuel Duran, 2006

Lab Rotation Advisor for Abhijit Nalawade, 2006

Lab Rotation Advisor for Yukun Chen, 2004

Lab Rotation Advisor for Brent Hester, 2002

Lab Rotation Advisor for Roy Hendley, 2001

Lab Rotation Advisor for Wen Shi, 1998

M.S. Students:

Major Advisor for Akash Pandhare, (M.S. conferred 2009)

Major Advisor for Minghua Liu (M.S. conferred 2000)

Graduate Student Committees:

Yukun Chen

Ph.D. conferred 2011

Department of Pharmacology and Neuroscience, TTUHSC

Shouryadeep Srivastava
Ph.D. conferred 2010
Department of Pharmacology and Neuroscience, TTUHSC

Brandy Harvey Johnson
Ph.D. conferred 2010
Department of Cell Biology and Biochemistry, TTUHSC

Lauren Hightower
M.S. conferred 2010
Department of Cell Physiology and Molecular Biophysics, TTUHSC

Mitesh Sanghvi
Ph.D. conferred 2008
Department of Pharmacology and Neuroscience, TTUHSC

Todd Ward
M.S. conferred 2008
Department of Cell Physiology and Molecular Biophysics, TTUHSC

Suzan Parhizgar
Ph.D. conferred 2007
Department of Pharmacology and Neuroscience, TTUHSC

Ayman Hamouda
Ph.D. conferred 2007
Department of Pharmacology and Neuroscience, TTUHSC

Wang Li
Ph.D. conferred 2005
Department of Pharmacology, TTUHSC

Natalie (Porter) White
M.S. conferred 2005
Department of Pharmacology, TTUHSC

Julius D. Millitante
Ph.D. conferred 2003
Department of Pharmacology, TTUHSC

Xiaofei Wen
M.S. conferred 2001
Department of Pharmacology, TTUHSC

Stephen E. Ryan
Ph.D. conferred 2000
Department of Biochemistry and Immunology, University of Ottawa

Steven J. Coultrap
Ph.D. conferred 1999
Department of Pharmacology, TTUHSC

Undergraduate Students:

Brandon Staggs, HHMI student 2010-present
Hedi Hsiao, HHMI student 2009-2010
Sarah Hiyari, HHMI student 2008-2009

Nellie Verdanyan, SABR student, summer 2004
Daniel Sauls, SABR student, summer 2002 and 2003
Sany Rajagukguk, ASPET student, summer 1998
Dipen Parikh, ASPET student, summer 1997
James Tarbox, HHMI student, 1997
Jason Raymond, ASPET student, summer 1996
High School Enrichment Program for Minorities (Dr. Jean Strahlendorf, Director)
Rick Castellaja, summer 1998
Angela Huggins, summer 1997

UNIVERSITY SERVICE (TTUHSC):

Medical Student Admissions Committee, 1996-present
Institutional Biohazards Committee, 1996-present
GSBS Graduate Council, 2000-2008; Ex-officio 2008-present
SOM Faculty Appointments Committee, 2002-2004; 2007-2010; 2010-2013
SOM Faculty Research Committee, 2002-2005; 2008-2009
SOM Grievance Committee, 2006-present (Elected 2008-2010; 2010-2013)
SOM Faculty Council Executive Committee, Elected 2008-2010; 2010-2013
SOM Post-Tenure Peer-Review Committee 2009-2010
TTUHSC Faculty Senate 2009-2010
SOM Tenure and Promotion Committee 2010-2014.

Graduate Program Director (Pharmacology and Neuroscience) 2000-present
SOM Center for Membrane Protein Research, CMPR steering committee 2007-present
Advisory Committee for TTUHSC/SOM Clinical Research Center 2009-present

OFFICES HELD (TTUHSC):

Chair, GSBS Graduate Council, 2006-2007; 2007-2008
Chair, GSBS Student Conduct Board, 2006-2008
Chair, SOM Faculty Research Committee, 2004-2005
Secretary, GSBS Graduate Council, 2000-2001
Chair, SOM Institutional Biohazards Committee, 1997-2001; Vice-Chair, 2008-present
Vice-Chair SOM Faculty Grievance Committee, 2008-2009/ Chair, 2009-2010.
Vice-Chair, SOM Faculty Council Executive Committee, 2008-2009/ Chair, 2009-2010.
Vice-Chair, SOM Faculty Appointments Committee, 2010-2011/ Chair, 2011-2012.

PUBLICATIONS: (all in refereed journals)

Corrie J.B. daCosta, R. Michael Sturgeon, Ayman K. Hamouda, Michael P. Blanton, and John E. Baenziger (2011). Structural Characterization and Agonist Binding to Human $\alpha 4\beta 2$ nicotinic receptors. *Biochemical and Biophysical Research Communications* 407, 456-460.

J.K. Alexander, A.P. Govind, RC Disdel, MP Blanton, Y Vallejo, TT Lam, and WN Green (2010) Palmitoylation of nicotinic acetylcholine receptors. *J. Mol. Neuroscience* 40, 12-20.

Mitesh Sanghvi, Ayman K. Hamouda, Shouryadeep Srivastava, Margaret I. Davis, David C. Chiara, Tina K. Machu, David M. Lovinger, Jonathan B. Cohen, and Michael P. Blanton (2009) Hydrophobic Photolabeling Studies Identify the Lipid-Protein Interface of the 5-HT_{3A}R. *Biochemistry* 48, 9278-9286.

Shouryadeep Srivastava, Ayman K. Hamouda, Akash Pandhare, Phaneendra K. Duddempudi, Mitesh Sanghvi, Jonathan B. Cohen, and Michael P. Blanton. (2009) [³H]Epibatidine Photolabels

Non-Equivalent Amino Acids in the Agonist Binding Site of *Torpedo* and $\alpha 4\beta 2$ Nicotinic Acetylcholine Receptors. *Journal of Biological Chemistry (JBC)* 284, 24939-24947..

Ayman K. Hamouda, Xiaochun Jin, Mitesh Sanghvi, Shouryadeep Srivastava, Akash Pandhare, Phaneendra K. Duddempudi, Joe Henry Steinbach, and Michael P. Blanton. (2009) Photoaffinity Labeling the Agonist Binding Domain of $\alpha 4\beta 4$ and $\alpha 4\beta 2$ Neuronal Nicotinic Acetylcholine Receptors with [125 I]Epibatidine and 5[125 I]A-85380. *Biochim. Biophys Acta*, 1788, 1987-1995.

Hugo Arias, Hong Xing, Kelly MacDougall, Michael Blanton, F Soti, and William Kem (2009) Interaction of DMXBA (GTS-21) and its primary metabolite with agonist and allosteric sites on muscle nicotinic acetylcholine receptors. *B. J. Pharmacol* 157, 320-330.

Ayman K. Hamouda, David C. Chiara, Michael P. Blanton, and Jonathan B. Cohen. (2008) Probing the Structure of Affinity-Purified and Lipid Reconstituted *Torpedo* Nicotinic Acetylcholine Receptor. *Biochemistry* 47, 12787-12794

Mitesh Sanghvi, Ayman K. Hamouda, Krzysztof Jozwiak, Michael P. Blanton James Trudell, and Hugo R. Arias (2008). Identifying the Binding Site(s) for Antidepressants on the *Torpedo* Nicotinic Acetylcholine Receptor: [3 H]Azidoimipramine Photolabeling and Molecular Dynamics Studies. *Biochim. Biophys Acta*, 1778, 2690-2699.

Ayman K. Hamouda, Mitesh Sanghvi, David C. Chiara, Jonathan B. Cohen, and Michael P. Blanton (2007). Identifying the Lipid-Protein Interface of the $\alpha 4\beta 2$ Neuronal Nicotinic Acetylcholine Receptor: Hydrophobic Photolabeling Studies with [125 I]TID. *Biochemistry* 46, 13837-13846..

Ayman Hamouda, Mitesh Sanghvi, Daniel Sauls, Tina Machu, and Michael P. Blanton (2006) Assessing the Lipid Requirements of the *Torpedo californica* Nicotinic Acetylcholine Receptor. *Biochemistry* 45, 4327-4337.

Ayman Hamouda, David Chiara, Daniel Sauls, Jonathan B. Cohen, and Michael P. Blanton (2006) Cholesterol Interacts with Transmembrane α -helices M1, M3, and M4 of the *Torpedo* Nicotinic Acetylcholine Receptor: Photolabeling Studies using [3 H]Azicholesterol. *Biochemistry* 45, 976-986.

Weilin Sun, Michael P. Blanton, Jerome L. Gabriel, and Daniel J. Canney (2005) Bioisoteric replacement in the Design and Synthesis of Ligands for Nicotinic Acetylcholine Receptors. *Medicinal Chemistry Research* 14, 241-259.

John F. Leite, Michael P. Blanton, Mona Shahgholi, Dennis Doughery, and Henry A. Lester. (2003) Conformational State-Dependent Hydrophobic Photolabeling of the Nicotinic Acetylcholine Receptor Using Electrophysiology-Coordinated Photochemistry and Mass Spectrometry. *PNAS* 100, 13054-13059.

Hugo R. Arias, James R. Trudell, Erin Z. Bayer, Brent Hester, Elizabeth McCarty, and Michael P. Blanton. (2003) Noncompetitive Antagonist Binding Sites in the *Torpedo* Nicotinic Acetylcholine Receptor Ion Channel Structure-Activity Relationship Studies Using Adamantane Derivatives. *Biochemistry* 42, 7358-7370.

Hugo R. Arias, James R. Trudell, William R. Kem, and Michael P. Blanton. (2003) Unique General Anesthetic Binding Sites on Distinct Conformational States of the Nicotinic Acetylcholine Receptor. *International Review of Neurobiology* IRN 54, 1-50.

Hugo R. Arias, Tina K. Machu, Michael P. Blanton, and James R. Trudell. (2002) Current Perspectives of General Anesthetic Sites of Action in Ligand-Gated Ion Channels. In *Recent Research Developments in Biophysical Chemistry*. (C.A. Condat, ed.), Research Signpost, Kerala, India, 123-154.

Hugo R. Arias, Elizabeth A. McCardy, Erin Bayer, Martin J. Gallagher, and Michael P. Blanton. (2002). A Barbiturate Binding Site in the Nicotinic Acetylcholine Receptor Ion Channel. Proceedings of the Sixth International Conference on Molecular and Basic Mechanisms of Anesthesia, Bonn Germany (Pabst Science Publishers), 80-87.

Hugo R. Arias and Michael P. Blanton. (2002) Molecular and Physicochemical aspects of local anesthetics acting on nicotinic acetylcholine receptor containing membranes. *Mini Reviews in Medicinal Chemistry*. 2 (No. 4), 385-410.

Hugo R. Arias, Elizabeth A. McCardy, Erin Bayer, Martin J. Gallagher, and Michael P. Blanton. (2002) Allosterically-linked Noncompetitive Antagonist Binding Sites in the Resting State Channel of the Nicotinic Acetylcholine Receptor. *Arch. Biochem. Biophysics* 403, 121-131.

Corrie J.B. daCosta, Andrei A. Ogres, Elizabeth A. McCardy, Michael P. Blanton and John E. Baenziger. (2002) Lipid-protein interactions at the nicotinic acetylcholine receptor: a functional coupling between nicotinic receptors and phosphatidic acid containing lipid bilayers. *J Biol Chem* 277, 201-208.

Hugo R. Arias, Elizabeth A. McCardy, Martin J. Gallagher, and Michael P. Blanton. (2001) Interaction of Barbiturate Analogs with the Nicotinic Acetylcholine Receptor Channel. *Molecular Pharmacology* 60, 497-506.

Natalie Methot, Blair D. Ritchie, Michael P. Blanton and John E. Baenziger (2001) Structure of the Pore-forming Transmembrane Domain of a Ligand-gated Ion Channel. *J Biol Chem*, 276, 23726-23732.

Michael P. Blanton, S.K. Raja, Anil K. Lala, and Jonathan B. Cohen (2001) Identification and Characterization of Membrane-associated Polypeptides in *Torpedo* Nicotinic Acetylcholine Receptor-rich Membranes by Hydrophobic Photolabeling *BBA, Biomembranes* 1512(2), 215-224.

Hugo R. Arias, Elizabeth A. McCardy, and Michael P. Blanton. (2001) Characterization of the Dizoclipine Binding Site on the Nicotinic Acetylcholine Receptor. *Molecular Pharmacology* 59, 1051-1060.

Stephen E. Ryan, Michael P. Blanton and John E. Baenziger. (2001) A Conformational Intermediate between the Resting and Desensitized States of the Nicotinic Acetylcholine Receptor. *J. Biol. Chem.* 276, 4796-4803.

Francisco J. Barrantes, Silvia S. Antollini, Michael P. Blanton, and Manuel Prieto. (2000) Topography of the nicotinic acetylcholine receptor membrane-embedded domains. *J. Biol. Chem.* 275, 37414-37422.

Michael P. Blanton and Elizabeth A. McCardy. (2000) Identifying the Lipid-Protein Interface and Transmembrane Structural Transitions of the *Torpedo* Na,K-ATPase using Hydrophobic Photoreactive Probes. *Biochemistry* 39, 13534-13544.

Hugo R. Arias and Michael P. Blanton. α -Conotoxins. (2000) *The International Journal of Biochemistry and Cell Biology* 32(10), 1017-1028.

Michael P. Blanton, Elizabeth A. McCarty, and Martin J. Gallagher. (2000) Examining the Non-competitive Antagonist Binding Site in the Ion Channel of the Nicotinic Acetylcholine Receptor in the Resting State. *J. Biol. Chem.* 275, 3469-3478.

Michael P. Blanton, Elizabeth McCarty, Minghua Liu, John D. Fryer, and Ronald J. Lukas. (2000) 5-Hydroxytryptamine Interaction with the Nicotinic Acetylcholine Receptor. *Eur. J. Pharmacol.* 389 (2-3), 155-163.

Hongwei Sun, Elizabeth McCarty, Tina K. Machu, and Michael P. Blanton. (1999) Characterization of the Interaction of 3,4,5-trimethoxybenzoic acid 8-(diethylamino) octyl ester (TMB-8) with the *Torpedo* Nicotinic Acetylcholine Receptor and the 5-HT₃ Receptor *JPET* 290:129-135.

Michael P. Blanton, Yu Xie, Larry Dangott, and Jonathan B. Cohen. (1999) The Steroid Promegestone is a Noncompetitive Antagonist of *Torpedo* Nicotinic Acetylcholine Receptor which Interacts with the Lipid:Protein Interface. *Mol. Pharm.* 55:269-278.

John Corbin, Howard H. Wang and Michael P. Blanton. (1998) Identifying the Cholesterol Binding Domain in the Nicotinic Acetylcholine Receptor with [¹²⁵I]Azido-Cholesterol. *BBA, Biomembranes*, 1414 (1-2), 65-74.

Michael P. Blanton, D. Parikh, A. Huggins, and E.A. McCarty. (1998) Probing the Structure of the Nicotinic Acetylcholine Receptor with the Hydrophobic Photoreactive Probes [¹²⁵I]TID-BE and [¹²⁵I]TIDPC/16 *Biochemistry* 37, 14545-14555.

Michael P. Blanton, Larry Dangott, S.K. Raja, Anil K. Lala, and Jonathan B. Cohen. (1998) Probing the Structure of the *Torpedo* Nicotinic Acetylcholine Receptor Ion Channel with the Uncharged Photoactivatable Compound [³H] Diazofluorene. *J. Biol. Chem* 273, 8659-8668.

John Corbin, Nathalie Methot, Howard H. Wang, John E. Baenziger, & Michael P. Blanton. (1998) Secondary Structure Analysis of Individual Transmembrane Segments of the Nicotinic Acetylcholine Receptor by CD and FTIR Spectroscopy. *J. Biol. Chem.* 273, 771-777.

M.P. Blanton, Y-M. Li, E.R. Stimson, J.E. Maggio and J. B. Cohen. (1994) Agonist- induced Photoincorporation of a *p*-Benzoylphenylalanine Derivative of Substance P into the Membrane Spanning Region 2 of the *Torpedo* Nicotinic Acetylcholine Receptor d-Subunit *Molecular Pharmacology* 46: 1048-1055.

Michael P. Blanton and Jonathan B. Cohen. (1994) Identifying the Lipid-Protein Interface of the *Torpedo californica* Nicotinic Acetylcholine Receptor: Secondary Structure Implications. *Biochemistry* 33: 2859-2872.

Michael P. Blanton and Jonathan B. Cohen. (1992). Mapping the Lipid-Exposed Regions in the *Torpedo californica* Nicotinic Acetylcholine Receptor. *Biochemistry* 31: 3738-3750.

Michael P. Blanton and Howard H. Wang. (1991). Localization of regions of the *Torpedo californica* nicotinic acetylcholine receptor labeled with an aryl azide derivative of phosphatidylserine. *Biochim. Biophys. Acta.* 106: 1-8.

Michael Blanton and Howard H. Wang. (1990). Photoaffinity Labeling of the *Torpedo californica* Nicotinic Acetylcholine Receptor with an Aryl Azide Derivative of Phosphatidylserine. *Biochemistry* 29: 1186-1194.

Michael Blanton, Elizabeth McCarty, Tim Gallaher, and Howard H. Wang. (1988) Non-competitive Inhibitors Reach Their Binding Site in the Acetylcholine Receptor by Two Different Paths. *Molecular Pharmacology* 33: 634-642.

Howard H. Wang, Michael Blanton, H. Phillip Limbacher, Jr., Andrew Palma, Timothy Gallaher and Elizabeth McCarty. (1987) The Acetylcholine Receptor-Local Anesthetic Inter-action: A Model Based On Electron Spin Resonance Studies. In "Membrane Proteins: Proceedings of the Membrane Protein Symposium" (Steven C. Goheen, Editor), Bio-Rad Laboratories, pp. 195-206.

MANUSCRIPTS IN PREPARATION OR SUBMITTED FOR PUBLICATION:

Ayman K. Hamouda, Shouryadeep Srivastava, Akash Pandhare, Todd T. Talley, Phaneendra K. Duddempudi, Palmer Taylor, Jonathan B. Cohen, and Michael P. Blanton. Nicotinic Agonist Binding Sites Probed by Cytisine Photoaffinity Labeling. (to be submitted to *Biochemistry*)

PUBLISHED ABSTRACTS:

Shouryadeep Srivastava, Ayman K Hamouda, Todd T Talley, Akash Pandhare, Phaneendra K Duddempudi, Heidi Hsiao, Palmer Taylor, Jonathan B. Cohen, and Michael P Blanton (2010) Photoaffinity labeling the Agonist Binding Sites of *Torpedo* and $\alpha 4\beta 2$ Nicotinic Acetylcholine Receptors and Acetylcholine Binding Proteins (AChBPs) with [^3H]Cytisine. *Biophys J.* 98: 130a

Prachi Nakashe, Phaneendra K Duddempudi, Michael P. Blanton, and Michaela Jansen (2010) Structure Function Studies of the Proton Coupled Folate Transporter. *Biophys J.* 98: 507a.

RA Morton, M. Sanghvi, MP Blanton, TG Hales, DM Lovinger (2009) Constitutive and Agonist Modulated Internalization of Recombinant 5-HT_{3A} Receptors. *Neuroscience* 2009.713.20

Ayman K Hamouda, Shukat S Husain, Michael P Blanton, and Jonathan B Cohen (2009) Examining the structure of the neuronal $\alpha 4\beta 2$ nAChR transmembrane domain by photoaffinity labeling. *Biophys J.* 96:167a.

Shouryadeep Srivastava, Ayman K Hamouda, Mitesh Sanghvi, Akash Pandhare, Phaneendra K. Duddempudi, Sarah Hiyari, David C. Chiara, Jonathan B. Cohen, and Michael P Blanton (2009) Photoaffinity labeling the Agonist Binding Domain of nAChRs with [^3H]Epibatidine. *Biophys J.* 96:167a-168a.

David M Lovinger,, M Sanghvi, AK Hamouda, S Srivastava, MI Davis, R Morton, G Luo, DC Chiara, TK Machu, JB Cohen, and MP Blanton (2008) Purification and photoaffinity labeling of the 5-HT_{3A} Receptor. *Res. Soc. on Alcoholism* A591.

Ayman K Hamouda, DC Chiara, SS Husain, MP Blanton, and JB Cohen (2008) Identifying binding sites for photoreactive general anesthetics in the neuronal $\alpha 4\beta 2$ nAChR. Ligand Gated Ion Channel Satellite meeting of the Annual Meeting of Society for Neuroscience Washington D.C. November 12-14, 2008.

Ayman K. Hamouda, Mitesh Sanghvi, David C. Chiara, Shouryadeep Srivastava, Jonathan B. Cohen, and Michael P. Blanton. (2008) Photoaffinity Labeling of the $\alpha 4\beta 4$ Neuronal Nicotinic Acetylcholine Receptor with the Agonist [^{125}I]Epibatidine. *Biophys. J.* 94:1418.

Ayman K. Hamouda, David C. Chiara, Michael P. Blanton, and Jonathan B. Cohen. (2008) Structure of Affinity-Purified *Torpedo* nAChR revealed by [¹²⁵I]TID photolabeling. *Biophys. J.* 94:1412

Mitesh Sanghvi, Ayman K. Hamouda, Shouryadeep Srivastava, Margaret I. Davis, David C. Chiara, Tina K. Machu, David M. Lovinger, Jonathan B. Cohen, and Michael P. Blanton. (2008) Identifying the Lipid-Protein Interface of the 5-HT_{3A}R: Hydrophobic Photolabeling Studies with Affinity-Purified 5-HT_{3A}Rs. *Biophys. J.* 94:1326

Ayman K. Hamouda, Corrie da Costa, Mitesh Sanghvi, John E. Baenziger, and Michael P. Blanton. (2006) Affinity-purification and Structural Analysis of the $\alpha 4\beta 2$ Neuronal Nicotinic Acetylcholine Receptor I: FTIR spectroscopic analysis. *Neuroscience* 2006.416.11

Ayman K. Hamouda, Mitesh Sanghvi, Tina K. Machu, and Michael P. Blanton. (2006) Affinity-purification and Lipid Reconstitution Studies with $\alpha 4\beta 2$ Neuronal Nicotinic Acetylcholine Receptors. *Biophys. J.* 90: 100A

Mitesh Sanghvi, Ayman K. Hamouda, Pankaj Bhumireddy, Hugo R. Arias, and Michael P. Blanton. (2006) Identifying the Binding Site(s) for Antidepressants on the Nicotinic Acetylcholine Receptor: [³H]Azidoimipramine Photolabeling Studies. *Biophys. J.* 90: 99A

Ayman Hamouda, Daniel Sauls, Nelli Verdanyan, Mitesh Sanghvi and Michael P. Blanton. (2005) Assessing the Lipid Requirements of the Nicotinic Acetylcholine Receptor. *Biophys. J.* 88, A624.

Ayman Hamouda, David C. Chiara, Daniel Sauls, Jonathan B. Cohen and Michael P. Blanton. (2004) Identifying the Cholesterol Binding Domain in the Nicotinic Acetylcholine Receptor: Photolabeling Studies Using [³H]Azi-Cholesterol. *Biophys. J.* 86: A542.

Hugo R. Arias, Michael P. Blanton, and William R. Kem. (2004) Modulation of Nicotinic Acetylcholine Receptors by Anabaseine Analogs. *Biophys. J.* 86: A545.

Arias, H.R., Blanton, M.P., and Kem, W.R., Modulation of nicotinic acetylcholine receptors by anabaseine analogs. *Biochemical Society Focused Meeting. Molecular Structure in Ligand-Gated Ion Channel Function.* Harlow, UK, Jan. 29, 2004.

Arias, H.R., Trudell, J.R., and Blanton, M.P., Structure of the TCP binding site on resting and desensitized nicotinic acetylcholine ion channels. *Biochemical Society Focused Meeting. Molecular Structure in Ligand-Gated Ion Channel Function.* Harlow, UK, Jan. 29, 2004.

Michael P. Blanton, Hugo R. Arias, and James R. Trudell. (2003) Probing the Structure of NCA Binding Sites in the AChR Ion Channel using Adamantane Derivatives. *Biophys. J.* 84: A1111.

John F. Leite, Michael P. Blanton, Dennis Doughery, and Henry A. Lester. (2002) "Mass Spectrometry Studies of Nicotinic Acetylcholine Receptor Gating-Dependent Conformational Transitions". *Gordon Research Conference Series.*

John F. Leite, Michael P. Blanton, Dennis Doughery, and Henry A. Lester. (2002) Identification of Gating-Dependent Changes in Photochemical Labeling of the Nicotinic Acetylcholine Receptor. *Biophysical Journal* 82: A181.

Hugo R. Arias, Elizabeth A. McCardy, Erin Bayer, Martin J. Gallagher, and Michael P. Blanton (2002) Allosterically-Linked Noncompetitive Antagonist Binding Sites in the Resting State Channel of the Nicotinic Acetylcholine Receptor. *Biophysical Journal* 82: A214

E.B. Gonzales, C.L. Bell-Horner, H.R. Arias, M.P. Blanton, and G.H. Dillon. (2001) Characterization of the interaction of am-, amyl-, and isobarbital with the $\alpha 1\beta 2\gamma 2$ GABAA-receptor. *Soc. for Neurosci Abstr.* Vol. 27, 252..

Michael P. Blanton, H.R. Arias, E.A. McCarty, and M.J. Gallagher. (2001) Interaction of Barbiturate Analogs with the Nicotinic Acetylcholine Receptor Ion Channel. *The Sixth International Conference on Molecular and Basic Mechanisms of Anesthesia (MAC 2001)* Bonn, Germany.

Hugo R. Arias, E.A. McCarty, and Michael P. Blanton. (2001) Characterization of the Dizocilpine Binding Site on the Nicotinic Acetylcholine Receptor. *Biophysical Journal* 80:A460.

Francisco J. Barrantes, S.S. Antollini, Michael P. Blanton, and M. Prieto. (2001) Two Architectural Designs in Nicotinic Acetylcholine Receptor Membrane-Embedded Domains. *Biophysical Journal* 80: A461.

Michael P. Blanton, E.A. McCarty, and M.J. Gallagher. (2000) Interaction of Barbiturate Analogs with the Nicotinic Acetylcholine Receptor Ion Channel. *Biophysical Journal* 78: A2123.

Michael P. Blanton, E.A. McCarty, and S. Rajagukguk. (1999) Structural Analysis of the Cation Translocation Pathway and Lipid-Protein Interface of P-type Ion Motive ATPases. *Biophysical Journal* 76: A451.

Michael P. Blanton, D. Parikh, A. Huggins, and E.A. McCarty (1998) Probing the Structure of the Nicotinic Acetylcholine Receptor with Analogs of the Photoreactive Probe [125 I]TID. *Biophysical Journal* 74: A251.

John Corbin, Howard H. Wang, and Michael P. Blanton (1997) Secondary Structure Analysis of Individual Transmembrane Segments of the Nicotinic Acetylcholine Receptor: CD Spectroscopy. *Biophysical Journal* 72: A150.

Michael P. Blanton, Larry Dangott, Yu Xie, and Jonathan B. Cohen (1997) The Steroid Promegestone is a Noncompetitive Antagonist of the *Torpedo* Nicotinic Acetylcholine Receptor which interacts with the Lipid-Protein Interface. *Biophysical Journal* 72: A152.

Michael P. Blanton and Jonathan B. Cohen (1995) The Nicotinic Acetylcholine Receptor Lipid-Protein Interface: Structural Analysis (Abstr.) *J. Neurochem.* 65 (Suppl.), S73A.

Michael P. Blanton, Larry Dangott, S.K. Raja, Anil K. Lala, and Jonathan B. Cohen (1995) Photoincorporation of the Uncharged Hydrophobic Probe [3 H] Diazofluorene into the nAChR M2 Region *Biophysical Journal* 68: A377.

Michael P. Blanton, S.K. Raja, Anil K. Lala, and Jonathan B. Cohen (1994) Characterizing the Interaction of the Photoactivatable Hydrophobic Probe [3 H] Diazofluorene with *Torpedo* Nicotinic Acetylcholine Receptor Membranes *Biophysical Journal* 66: A213.

Michael P. Blanton and Jonathan B. Cohen. (1993). Identifying the Lipid-Exposed regions of the *Torpedo californica* Nicotinic Acetylcholine Receptor. *Biophysical Journal*. 64: A322.

Jonathan B. Cohen, Michael P. Blanton, David C. Chiara, Shannon D. Sharp, and Benjamin H. White. (1992). Structural organization of Functional domains of the Nicotinic Acetylcholine Receptor. *J. Cell. Biochemistry* 16E (suppl.): 2174.

Michael P. Blanton and Howard H. Wang. (1990). Photolabeling of *Torpedo californica* nicotinic acetylcholine receptor membranes with an aryl azide derivative of phosphatidylserine. *Biophysical Journal* 57: A460.

Michael P. Blanton, Brett A. Premack, Stuart H. Thompson, and Howard H. Wang. (1988). Cross-linking of Mouse Macrophage Surface IgG2b/IgG1 Fc Receptors Induce Membrane Potential Changes: Fluorescence Spectroscopy and Electrophysiological Studies. *Biophysical Journal* 53: A349.

Michael P. Blanton and Howard H. Wang. (1987). Noncompetitive Inhibitors Reach Their Binding Site in the Acetylcholine Receptor by Two Paths. *Biophysical Journal* 51: A610.

Michael P. Blanton, Elizabeth McCurdy, Timothy Gallaher, and Howard H. Wang. (1986). The Interaction of Local Anesthetics with the Nicotinic Acetylcholine Receptor: An Electron Spin Resonance Study. *Biophysical Journal* 49: A363.

PROFFESIONAL DEVELOPMENT MEETINGS, CONFERENCES, ETC:

National Pharmacology Directors of Graduate Studies (NDOGS) meeting/workshop, Salt Lake City, UT July 20-28, 2007.

14th Annual Conference on Teaching Survival Skills and Ethics, June 8-13, 2008 Snowmass, CO.

Health Care and Bioethics Mediation Training Program, August 13-15, 2008. Certified as impartial third party in accordance with the Texas Civil Practice and Remedies code.

National Pharmacology Directors of Graduate Studies (NDOGS) meeting/workshop, New Orleans, LA April 22-24, 2009.

AAMC GREAT Group meeting/workshop October 21-23, 2010, New Orleans, LA.

TTUHSC SOM Faculty Development Course- *Medical Education* September 2-December 2, 2010.

DOCTORAL DISSERTATION:

The Nicotinic Acetylcholine Receptor: Binding of Nitroxide Labeled Local Anesthetics and a Photoactivatable Analog of Phosphatidylserine.

For additional biographical information see:

<http://www.ttuhsu.edu/som/pharmacology/faculty/blanton.aspx>