

**CURRICULUM VITAE**  
**Anthony Jerome Baucum II**

Vanderbilt University  
Molecular Physiology and Biophysics  
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**EDUCATION**

Post-doctoral research fellow: currently investigating alterations in calcium calmodulin-dependent protein kinase II and protein phosphatase 1 protein complexes, Vanderbilt University	2006 – present
Post-doctoral research associate: studies on effects of drugs of abuse and reactive oxygen species on dopamine transporter complex formation, University of Utah	2004 – 2006
Ph.D., department of Pharmacology and Toxicology, GPA 3.895, University of Utah	2004
Ph.D. studies on the effects of methamphetamine and other drugs of abuse on dopamine transporter complex formation.	2001 – 2004
Performed a research rotation involved with identifying the yeast mitochondrial proteome, University of Utah	2000 – 2001
Performed a research rotation involving the use of ethnobotanically-derived natural products as possible anti-neoplastic agents, University of Utah	1999 – 2000
B.S., Magna Cum Laude; Major: biology, Minor: Spanish. Honors Program, GPA: 3.79. Loyola Marymount University, Los Angeles, CA	1999
Summer apprenticeship program. Investigated the effects of PCBs on the Eastern Oyster, College of William and Mary, School of Marine Science, Virginia Institute of Marine Science, Gloucester Point, VA.	1998

**EMPLOYMENT HISTORY**

Post-doctoral research fellow: currently investigating alterations in calcium calmodulin-dependent protein kinase II, protein phosphatase 1, and spinophilin protein complexes, Vanderbilt University.	2006 – Present
Post-doctoral research associate; investigated the effects of drugs of abuse on the dopamine transporter, University of Utah	2004 – 2006

**TEACHING AND INVITED LECTURES**

Invited Speaker. Vanderbilt Brain Institute Neuroscience Retreat	2009
Invited Speaker. Vanderbilt University, Department of Molecular Physiology and Biophysics	2008
Invited Speaker. Vanderbilt University, Department of Pharmacology.	2008

Guest Lecturer Methodology Course, Vanderbilt	2007, 2008, 2009
Speaker, Molecular Physiology and Biophysics Department retreat	2007, 2008
Guest Presenter Tutorials in Physiology course, Vanderbilt	2007
Guest Lecturer. Lectured on atypical neurotransmitters and presented a directed discussion on drugs addiction to the students in the Neuropharmacology class (PHTX 7270), University of Utah	2004, 2005, 2006
Invited Speaker. Society for Forensic Toxicologists annual meeting. Gave a presentation on receptor site theory of amphetamines and cocaine.	2005
Invited Speaker. University of Utah Neuroscience Student Retreat. Gave a presentation to neuroscience graduate students on my current research.	2005
Guest Lecturer. Presented lecture on antiviral drugs to professional pharmacy and pharmacology students (PHTX 5221/6221), University of Utah	2002 – 2003
Guest Lecturer. Presented lecture on the mechanism of action of drugs of abuse to high school students in a health and science class. Kearns High School, Kearns, UT	2003
Guest Lecturer. Discussed pharmacological aspects of drugs of abuse to dependency councilors, Serenity Lane Treatment Facility, Eugene, OR.	2001
Guest Lecturer. Presented data on research involving the screening of ethnobotanically-derived natural products as possible anti-neoplastic agents, Loyola Marymount University.	2000

### ACADEMIC SERVICE

Board of directors member, National Postdoctoral Association	2010-present
Invited panelist National Postdoctoral Association	2009
Faculty of 1000 Associate Member	2008 – present
Member Long Range Planning Committee, American Society of Pharmacology and Experimental Therapeutics	2008
Senior advisor postdoctoral association, Vanderbilt University	2008 – 2009
Search Committee member for Dean of the Vanderbilt Medical School	2008
Board member Vanderbilt Medical Alumni Association	2007 – 2008
Senior co-chair postdoctoral association, Vanderbilt University	2007 – 2008
Junior co-chair postdoctoral association, Vanderbilt University	2006 – 2007
Panel member. Finding a Postdoc. Member of a panel for graduate students on how to find a postdoc, Vanderbilt University.	2006
Teacher's Assistant. Common Medicines (PHTX 2700), University of Utah. Lectures on various topics regarding common medicines	2002 – 2005
Student representative to the executive committee of the American Society of Pharmacology and Experimental Therapeutics – Neuropharmacology Division	2004
Student representative to the graduate training committee,	2001 – 2002

Department of Pharmacology and Toxicology, University of Utah	
Teacher's Assistant (97-98) and Head TA (98-99). Freshman general biology laboratory, Loyola Marymount University	1997 – 1999

### **SOCIETY MEMBERSHIPS**

Member, American Society for Pharmacology and Experimental Therapeutics	2007 – present
Member, Society for Neuroscience	2004 – present
Student member American Society for Pharmacology and Experimental Therapeutics	2002 – 2006
Student member Society for Neuroscience	2002 – 2004
Inducted into the Beta Beta Beta biology society and Sigma Xi the International Scientific Society	1999
Inducted into Alpha Sigma Nu – National Jesuit Honor's Society	1998

### **ACADEMIC AND PROFESSIONAL HONORS - EXTRAMURAL**

2 <sup>nd</sup> place Neuropharmacology Division of ASPET postdoctoral award competition, Experimental Biology Meeting	2009
Neuroscience Scholars Award, Society for Neuroscience	2007 – 2010
United Negro College Fund-Merck Postdoctoral Fellowship Award	2007 – present
3 <sup>rd</sup> Place American Society for Pharmacology and Experimental Therapeutics best paper competition, Neuropharmacology, postdoctoral division	2005
Young Scientist Travel Award, American Society for Pharmacology and Experimental Therapeutics, Experimental Biology meeting.	2005
1st place American Society for Pharmacology and Experimental Therapeutics best paper competition, Neuropharmacology, graduate student division	2004
Travel award to the Experimental Biology meeting in Washington D.C.	2004
2nd place American Society for Pharmacology and Experimental Therapeutics best paper competition, Neuropharmacology, graduate student division.	2003

### **ACADEMIC AND PROFESSIONAL HONORS - INTRAMURAL**

Best poster award Vanderbilt Brain Institute Neuroscience Retreat	2009
Best poster award Kennedy Center Science Day, cellular and molecular neuroscience postdoc division. Vanderbilt, University	2009
Best poster award Vanderbilt Postdoc Poster Symposium – Neuroscience division	2009
Wolf Prize in Teaching University of Utah. An award that recognizes excellence in teaching.	2004
Presidential Citation. Loyola Marymount University.	1999
Kadner Biology Award for academic excellence, strong	1999

leadership, and dedicated service to the Biology Department. Loyola Marymount University	
Jerome Korth Award for highest core GPA in biology. Loyola Marymount University	1999
Interviewed by the State of Oregon Rhodes Selection Committee for the Rhodes Scholarship.	1998
Ernest E. Just Award for Scholarly Achievement in Biology. Loyola Marymount University	1998
Dean's List, Academic All-American, named to the All Western Water Polo Association Academic team. Loyola Marymount University	1997
Dean's List, African American Studies Department, Dr. Ulysses Grant Dailey Award for High Achievement in Biology. Loyola Marymount University	1997
Dean's list, Academic All-American, named to the All Western Water Polo Association Academic team. Loyola Marymount University	1996
LMU African American Studies Department Ernest E. Just Award for Pursuit of Excellence in Biology. Loyola Marymount University	1996
Dean's List. Loyola Marymount University	1996
Trustee scholarship. Loyola Marymount University	1995 – 1999

## PUBLICATIONS

<b>Anthony J. Baucum II</b> , Nidhi Jalan-Sakrikar, Yuxia Jiao, Richard M. Gustin, Leigh C. Carmody, David L. Tabb, Amy-Joan L. Ham, Roger J. Colbran. Identification and validation of novel spinophilin-associated proteins in rodent striatum using an enhanced ex vivo shotgun proteomics approach. (Mol Cell Proteomics. 2010 Feb 2. Epub ahead of print)
Yelyzaveta A. Nikandrova, Yuxia Jiao, <b>Anthony J. Baucum</b> , Steven J. Tavalin, Roger J. Colbran. CaMKII binds to and phosphorylates a specific SAP97 splice variant to disrupt association with AKAP79/150 and modulate AMPAR activity. (J Biol Chem Oct 26 2009. Epub ahead of print).
<b>Anthony J. Baucum II</b> , Roger J. Colbran. "Dendritic Protein Phosphatase Complexes." Handbook of Cell Signalling 2 <sup>nd</sup> edition. Ralph A. Bradshaw and Edward A. Dennis, editors. Oxford: Academic Press, 2009. Pp 1343-1352.
Thomas L. Kash, <b>Anthony J. Baucum II</b> , Kelly L. Conrad, Roger J. Colbran, and Danny G. Winder. Alcohol Exposure Alters NMDAR Function in the Bed Nucleus of the Stria Terminalis. Neuropsychopharmacology 2009 Oct 34(11):2420-9.
M. Diana Neely, Elizabeth M. Roberts, <b>Anthony J. Baucum</b> , Roger J. Colbran, E. Chris Muly III, and Ariel Y. Deutch. Localization of myocyte enhancer factor 2 in the rodent forebrain: Regionally-specific cytoplasmic expression of myocyte enhancer factor 2A. Brain Res. Jun 5; 1274:55-65.
Hadlock GC, <b>Baucum AJ</b> , King JL, Horner KA, Cook G, Gibb JW, Wilkins DG, Hanson GR, Fleckenstein AE. Mechanisms Underlying Methamphetamine-Induced Dopamine Transporter Complex Formation. J Pharmacol Exp Ther. 329(1). 2009. Pp

169-74.
Brown AM, <b>Baucum, AJ</b> , Bass, MA, Cobran RJ. Increased association with spinophilin selectively suppresses PP1 isoform activity in a Parkinson's Disease model. <i>J. Biol. Chem.</i> 283(21). 2008. Pp 14286-14294.
Carmody LC, <b>Baucum, AJ 2<sup>nd</sup></b> , Bass MA, Colbran RJ. Selective targeting of the $\gamma$ 1 isoform of protein phosphatase 1 to F-actin in intact cells requires multiple domains in spinophilin and neurabin. <i>FASEB J.</i> 22(6). 2008. Pp. 1660-1671
Alex AB, <b>Baucum, A.J.</b> , Wilcox KS. The effect of Conantokin G on NMDA receptor – mediated spontaneous EPSCs in cultured cortical neurons. <i>J Neurophysiol.</i> 96(3). 2006. Pp. 1084-92.
Rau, K.S., Birdsall E, Volz T.J., Riordan J.A., <b>Baucum, A.J. 2<sup>nd</sup></b> , Adair B.P., Bitter R, Gibb J.A., Hanson G.R., Fleckenstein A.E. Methamphetamine Administration Reduces Hippocampal VMAT-2 Uptake. <i>J Pharmacol Exp Ther</i> 318(2). 2006. Pp. 676-82.
<b>A.J. Baucum</b> , K.S. Rau, E.L. Riddle, G.R. Hanson, A.E. Fleckenstein. "Methamphetamine Increases Dopamine Transporter Complex Formation via a Dopamine- and Hyperthermia-Associated Mechanism" <i>J. Neurosci.</i> 24(13). 2004. Pp. 3436-3443.
<b>Baucum, A.J.</b> , A.E Fleckenstein. "MDMA" X-Pharm Elsevier. Online Book (2004)
L.A. Cruz-Rodríguez, <b>A.J. Baucum II</b> , P. Soudant, F.-L.E. Chu, R.C. Hale. "Effects of PCBs sorbed to algal paste and sediments on the stress protein response (HSP70 family) in the eastern oyster, <i>Crassostrea virginica</i> ." <i>Mar. Env. Res.</i> 50 (1-5). 2000. Pp. 341-345.

## ABSTRACTS

<b>A.J. Baucum II</b> , Nidhi Jalan-Sakrikar, Yuxia Jiao, Richard M. Gustin, Leigh C. Carmody, R.J. Colbran. De novo proteomics of the spinophilin interactome: spinophilin associates with $\alpha$ -actinin, densin and other postsynaptic proteins. Society for Neuroscience meeting 2009. D36. 619.15.
<b>A.J. Baucum II</b> , A.L. Ham, R.J. Colbran. Caveats of proteomics approaches in identifying novel spinophilin interacting proteins. Vanderbilt Univ. Experimental Biology 2009 A82 581.9
R. Gustin, <b>A. Baucum II</b> , R.J. Colbran. Calcium-calmodulin dependent kinase II N-methyl D-aspartate receptors interactions in development and disease. Vanderbilt Univ. Experimental Biology 2009 A77 581.4
R.J. Colbran, M.A. Bass, Y Nikandrova, <b>A.J. Baucum II</b> . Analysis of $Ca^{2+}$ /calmodulin-dependent protein kinase II (CaMKII) signaling complexes in mice lacking the Thr286 autophosphorylation site in CaMKII $\alpha$ . Society for Neuroscience Abstract 333.9 2008.
<b>A.J. Baucum II</b> , A-J L. Ham, R. J. Colbran. Regulation of spinophilin interacting proteins in development and an animal model of Parkinson's disease. Society for Neuroscience Abstract 35.13 2008.
Y. Nikandrova, <b>A.J. Baucum II</b> , R. J. Colbran. Effect of SAP97 alternative splicing on interactions with synaptic proteins. Society for Neuroscience Abstract 333.5 2008
G. C. Hadlock, <b>A.J. Baucum II</b> , P-W Chu, J. W. Gibb, G. R. Hanson, A. E. Fleckenstein. Dopamine D2 Receptors Mediate Methamphetamine-Induced Alterations in Dopamine Transporter and Vesicular Monoamine Transporter-2 Immunoreactivity. Society for Neuroscience Abstract 57.12 2008

<b>A.J. Baucum II</b> , A-J L. Ham, R. J. Colbran. Modulation of spinophilin complexes with protein phosphatase 1 and other proteins following striatal dopamine depletion in an animal model of Parkinson's Disease. FASEB Summer Research Conference: Protein Phosphatases. 2008
<b>A.J. Baucum II</b> , Paige J. Baugher, Fiona Harrison, Martin L. Moore, Amy C. Moore, Claudia N. Cottingham, Ann Richmond, Roger G. Chalkley. Programming and structure of the Vanderbilt University Medical Center postdoctoral association. GREAT group meeting. 2007
<b>A.J. Baucum II</b> , A.-J. L. Ham, A.M. Brown, R.J. Colbran. Proteomic analysis of spinophilin interacting proteins. Society for Neuroscience. Abstract #45.14. 2007
Y. Nikandrova, <b>A.J. Baucum II</b> , R.J. Colbran. Assembly of complexes containing SAP97 and calcium/calmodulin-dependent protein kinase II (CaMKII). Society for Neuroscience. Abstract # 470.17. 2007.
G.C. Hadlock, <b>A.J. Baucum II</b> , J.W. Gibb, K. Parswar, C.C. Nelson, G.R. Hanson, A.E. Fleckenstein. Ex vivo determination of protein-protein interactions involving the dopamine transporter. Society for Neuroscience. Abstract # 880.10. 2007.
Riddle E.L., King J.L., Hadlock G.C., <b>Baucum A.J.</b> , Hanson G.R., Fleckenstein A.E. Methamphetamine-induced dopamine transporter complexes are attenuated with a dopamine D2 receptor antagonist. Society for Neuroscience. Abstract # 249.16. 2007.
<b>A.J. Baucum II</b> , J.A. Riordan, G.R. Hanson, A.E. Fleckenstein. Effect of reactive species on dopamine transporter complex formation. Abstract #532.7 Society for Neuroscience. 2006
<b>Baucum, A.J.</b> , Johnson-Davis, K.L., Danaceau, J.P., Fleckenstein A.E., Wilkins D.G. Methamphetamine-induced dopamine complex formation: A role for reactive oxygen species and dopamine receptors. ACNP Abstract. 2005
<b>A.J. Baucum II</b> , G.R. Hanson, A.E. Fleckenstein. Mechanistic and biochemical characterization of dopamine transporter complex formation. Abstract #269.11 Society for Neuroscience. 2005
K.L. Johnson Davis, <b>A.J. Baucum II</b> , J.P. Danaceau, A.E. Fleckenstein, D.G. Wilkins. Pretreatment with low, escalating doses of methamphetamine alters methamphetamine-induced changes in vesicular monoamine transporter-2 and the dopamine transporter. Abstract #918.8 Society for Neuroscience. 2005
A.E. Fleckenstein, <b>A.J. Baucum II</b> , J.G. Truong, G.R. Hanson. Methamphetamine-induced and 6-hydroxydopamine-induced persistent dopaminergic deficits: association with dopamine transporter complex formation. Abstract #918.9 Society for Neuroscience. 2005
A.E. Fleckenstein, J.G. Truong, <b>A.J. Baucum</b> , V. Sandoval, K.S. Rau, E.L. Riddle, J.W. Gibb, G.R. Hanson. Psychostimulant-induced alterations in monoamine transporters: implications for neurotoxicity and neuroprotection. Abstract # O9. Neuropharmacology conference: New Perspectives in neurotransmitter transporter biology. 2005
G.R. Hanson, <b>A.J. Baucum</b> , K. Rau, E. Riddle, and A.E. Fleckenstein. Cellular events leading to METH-induced DA neurotoxicity. Abstract #4 Satellite Meeting of the International Society for Neurochemistry and European Society for Neurochemistry. 2005

A.E. Fleckenstein, <b>A.J. Baucum</b> , J.G. Truong, E. Riddle, K.S. Rau and G.R. Hanson. Cellular events leading to METH-induced DA neurotoxicity. Abstract #6 Satellite Meeting of the International Society for Neurochemistry and European Society for Neurochemistry. 2005
<b>A.J. Baucum II</b> , G.A. Cook, J.E. Hanson, G.R. Hanson, A.E. Fleckenstein. Reactive oxygen species contribute to dopamine transporter oligomerization. Abstract #312.6 Experimental Biology. 2005
<b>A.J. Baucum II</b> , K.L. Johnson-Davis, G.R. Hanson, D.G. Wilkins, A.E. Fleckenstein. Methamphetamine-induced dopamine transporter oligomerization and neurotoxicity. Abstract No. 280.20 Society for Neuroscience. 2004.
Kristi S. Rau, <b>A.J. Baucum II</b> , Evan L. Riddle, Veronica Sandoval, Glen R. Hanson, Annette E. Fleckenstein. Psychostimulants Differentially Alter Plasmalemmal Dopamine Transporter and Vesicular Monoamine Transporter-2 Function. Frontiers in Addiction Biology: Genomics and Beyond, Nashville, TN. May 2004.
<b>A.J. Baucum II</b> , K.S. Rau , G.R. Hanson, A.E. Fleckenstein. Methamphetamine Increases Dopamine Transporter Oligomerization: A Role for Dopamine. Abstract No. 1550. Experimental Biology.
<b>A.J. Baucum II</b> , K.S. Rau , J.E. Hanson, G.R. Hanson, A.E. Fleckenstein. Neurotoxic Regimens of Methamphetamine Increase Dopamine Transporter Oligomer Formation. Program No. 253.13 Society for Neuroscience. 2003.
A.E. Fleckenstein, <b>A.J. Baucum</b> , E.L. Riddle, G.R.Hanson. Differential Effects of Psychostimulants on Plasmalemmal Dopamine and Vesicular Monoamine Transporter-2 Function. Poster Board 49. College on Problems of Drug Dependence. 2003.
<b>A.J. Baucum II</b> , K.S. Rau, E.L. Riddle, G.R. Hanson, A.E. Fleckenstein. Methamphetamine Increases the Formation of Dopamine Transporter Oligomeric Complexes. Experimental Biology, 2003.
<b>A.J. Baucum II</b> , E.L. Riddle, G.R. Hanson, A.E. Fleckenstein. Impact of reducing agents on the dopamine transporter. Program No. 745.9. Society for Neuroscience. 2002.
Brian Smithers, James Peykanu, <b>A.J. Baucum II</b> (Roy S. Houston). Biodiversity of a shallow water marine community. Program # P2. West Coast Biological Sciences Undergraduate Research Conference, 1999.

## SUPPORT

2007 – 2009: UNCF-Merck Postdoctoral Fellowship

2006 – 2008: Neurogenomics Training Grant 5T32MH065215-04

## HOBBIES

I am an avid water polo player and have been playing since I was 12 years old. In addition to polo, I enjoy spending my free time working out, writing poetry, taking pictures, and enjoying the outdoors. For more information on my hobbies see my website [www.drbaucum.com](http://www.drbaucum.com)