

Curriculum Vitae

Babatunde Ojo, PhD.

Department of Chemistry, 207 ACL Building

Fort Valley State University

NAME AND PROFESSIONAL

FULL NAME	POSITION/RANK	EXPERTISE
Babatunde OJO	Assistant Professor of Chemistry	Medicinal Chemistry (Drug design, synthesis and Development)

FORMAL EDUCATION

INSTITUTION AND LOCATION	DEGREE AWARDED	YEAR	STUDY MAJOR
The University of Toledo, Toledo, OH 43606, USA	Ph.D.	1995	Medicinal Chemistry
The University of Toledo, Toledo, OH 43606 USA	M.S.	1992	Medicinal Chemistry
Ahmadu Bello University, Zaria, Nigeria	M.Sc.	1986	Pharmaceutical Chemistry
The University of Lagos, Lagos, Nigeria	B.Sc.	1981	Chemistry

ADDITIONAL TRAINING RELATIVE TO PROFESSIONAL EXPERTISE

TRAINING COURSE	SKILLS ACQUIRED	INSTITUTION/SITE	YEAR
Computational methods in Medicinal Chemistry	Theoretical calculations and energy minimization	Jackson State University, Jackson, MS USA	2000-2003

PROFESSIONAL EMPLOYMENT

INSTITUTION	LOCATION	RANK/TITLE	DURATION
Fort Valley State University	Fort Valley, Georgia USA	Assistant Professor (Full time, tenure-track)	2008- Present

Atlanta Metropolitan College	Atlanta, Georgia USA	Assistant Professor (Temporary)	2007-2008
Kennesaw State University	Kennesaw, Georgia USA	Assistant Professor (Temporary)	August 2006 – December 2006
Savannah State University	Savannah, Georgia USA	Assistant Professor (Temporary)	1999-2001
Georgia Institute of Technology	Atlanta, Georgia USA	Post-Doctoral Research	1996-1998
Virginia Commonwealth University	Richmond, Virginia USA	Post-Doctoral Research	1995-1996

CLASSROOM TEACHING EXPERIENCE

COURSE NAME	TEACHING LEVEL	INSTITUTION	YEARS
Molecular Pharmacology/Toxicology	Graduate	Fort Valley State Univ.	2010-Present
Principles of Organic Chemistry 1 and Organic Chemistry 2	Undergraduate	Fort Valley State Univ. Atlanta Metro College Savannah State Univ.	2008-Present 2007-7008 1999-2001
Medicinal Chemistry	Undergraduate	Savannah State Univ.	1999-2001
Biochemistry 1 and 2	Undergraduate	Savannah State Univ.	1999-2001
Principles of Chemistry 1 and Chemistry 2	Undergraduate	Fort Valley State Univ. Atlanta Metro College Savannah State Univ.	2008-Present 2007-7008 1999-2001
Survey of Chemistry 1 and Survey of Chemistry 2	Undergraduate	Atlanta Metro College	2007-7008

PROFESSIONAL ACCOMPLISHMENTS

ACTIVITY	ACCOMPLISHMENTS
Research	Teaching and Research at the University of Toledo, Savannah State University and Atlanta Metropolitan college, and Fort Valley State University. Innovations: Principal Inventor on three (3) United States Patent Externally Funded: Received two (2) consecutive research grant award funding from NIH/NIDA and NIH/NIGMS Proposals: Submitted four (4) proposals related to medicinal chemistry and the development of treatment agents for the abuse of cocaine (and other stimulants). NSF Grant Proposal: Submitted a research grant proposal entitled “RUI: Efficient Synthesis of Novel Methylphenidate-Based Compounds” to the National Science

	<p>Foundation (NSF) in November of 2011 (NSF Proposal # 1147937).</p> <p>Reviewing and Editing: Reviewer for Peer-review international journals such as Synthetic Communications, International Journal of Medicinal Chemistry, and Frontiers in Experimental Pharmacology and Drug Development.</p> <p>Supervision and Mentoring: 2 Graduate students and 5 undergraduate students</p> <p>Techniques Used: Synthetic organic chemistry, Computer-aided drug design, QSAR, and other computational medicinal and theoretical chemistry techniques, Medicinal Chemistry of drug design and drug action, pharmacological screening, and microbiology.</p> <p>Publications and Abstracts: A number of publications on new drug therapies and new synthetic methodologies in peer-review international journals. Presented research results at regional, national, and international conferences in the area of medicinal chemistry of drug research and drug development.</p> <p>NSF Grant Proposal: Submitted a research grant proposal entitled “Efficient Synthesis of Novel Methylphenidate-Based Compounds” to the National Science Foundation (NSF) in July of 2011 (NSF Proposal # 1207802).</p>
Service	<p>Institutional: Serves as LSAMP program mentor to students and in the capacity of a Judge since 2008 to present at various yearly annual conferences of LSAMP. Also, serves as a Judge at the National conferences of BKX (Atlanta, March 2011), and ERN (Washington, DC 2013).</p>

Scholarships and Achievements in Medicinal Chemistry of drug research and development – October 1984 – Present

Patents Issued by United States Patent and Trademarks Office

1. Muscarinic agonists, Ojo, B. and W.S. Messer, Jr., U.S. Patent No. 5,726,179, issued March 10, 1998.
2. Muscarinic agonists compounds, Ojo, B. and P.G. Dunbar. U.S. Patent No. 5,618,818 issued April 8, 1997.
3. Muscarinic agonists, Ojo, B. and W.S. Messer, Jr., PCT Patent, U.S. Serial No. 08/625,144, August 1997.

List of Scholarly Publications (Representative) – 1992 – Present

1. Babatunde Ojo. Efficient synthesis of a new series of piperidine ring modified Thiopene, furan and pyridyl alcohol and methyl ether analogues of (\pm)-*threo*-methyl phenyl (piperidine-2-yl) acetate. OCAIJ, 8 (1), 5-14, 2012.
2. Babatunde Ojo. Efficient synthesis of a new series of piperidine ring modified analogues of (\pm)-*threo*-methyl phenyl (piperidine-2-yl) acetate. Synthetic Communications, 42 (12), 1731-1745, 2012.

3. Babatunde Ojo. Efficient synthesis of a new series of piperidine ring modified alcohol and methyl ether analogues of (\pm)-*threo*-methyl phenyl (piperidine-2-yl) acetate. *Synthetic Communications*, 42 (19), 2818-2830, 2012.
4. Jermaine Butler, Babatunde Ojo and Adegboye Adeyemo. Ligand exchange reactions involving vitamin B1 complex and various porphyrin species. *Georgia Journal of Science*, 2000, 58 (No. 1), 56.
5. Howard M. Deutsch, Margaret M. Schweri, Stephen Holtzman, Xiaocong Ye and Babatunde Ojo. Structure-activity relationships for methylphenidate analogs and comparison to Cocaine and Tropanes. *NIDA Research Monograph*, RM 179, 182, 1999.
6. Howard M. Deutsch, Babatunde Ojo, Xiaocong Ye, Margaret M. Schweri, and Stephen Holtzman. Cocaine treatment agents: synthesis and pharmacology of N-substituted methylphenidate analogs. *NIDA Research Monograph*, RM 178, 76, 1998.
7. Messer, W.S. Jr., Abuh, Y.F., Yang L., Periyasamy, S., Ngur, D.O., Edgar, M.A.N., El-Assadi, A.A., Dunbar, P.G, Rocknich, S., Rho, T., Fang, Z., Ojo, B., Zhang, H., Nagy, P.I., and Huzl, J.J. III. Synthesis and Biological Characterization of 1, 4, 5, 6-tetrahydropyrimidine and 2-Amino-3, 4, 5, 6-tetrahydropyridine derivatives as selective m1 agonists. *J. Med. Chem.*, 1997, 40, 1230-1246.
8. Ojo, B., Dunbar, P.G., Durant, G.J.; Huzl, J.J. III, Periyasamy, S., Ngur, D.O., El-Assadi, A.A., Hoss, W.P., and Messer, W.S. Jr.; Synthesis and biochemical activity of novel amidine derivatives as m1 muscarinic receptor agonists. *Bioorgan. & Med. Chem.*, 1996, 4 (Issue 10), 1605-1615.
9. Ojo, B., Dunbar, P.G., Durant, G.J., Huzl, J.J. III, El-Assadi, A.A., Periyasamy, S., Ngur, D.O., Hoss, W.P. and Messer, W.S., Jr.; Synthesis and structure-activity relationships of novel amidine derivatives as muscarinic receptor subtype-selective agonists. *Life Sci.*, 1995, 56 (No. 11), 1005.
10. Abuh, Y.F., Dunbar, P.G., Durant, G.J., Ojo, B., Periyasamy, S., Hoss, W.P., and Messer, W.S., Jr.; Synthesis of 2-amino-alkoxycarbonyl-3, 4, 5, 6-tetrahydropyridines and 2-amino-1, 4, 5, 6-tetrahydropyrimidines for muscarinic receptor subtypes. *Life Sci.*, 1995, 56 (No. 11), 1007.
11. Messer, W.S., Jr., Abuh, Y.F., El-Assadi, A.A., Liu, Y., Ojo, B. and Ryan, K.; Neurochemical evaluation of the selective m1 muscarinic receptor agonist CDD-0097-A. *Life Sci.*, 1995, 56 (No. 11), 1006.
12. Messer, W.S., Jr., M.A.N. Edgar, B. Ojo, H. Zhang, J.J. Huzl, III and A.A. El-Assadi. Molecular studies of agonist interactions with m1 receptors. *Society for Neuroscience*, 21: 2039, 1995.
13. Ojo, B. "Synthesis of novel amidine derivatives: development of selective muscarinic agonists for the treatment of Alzheimer's disease." Ph.D. Dissertation, The University of Toledo (1995).

14. Messer, W.S., Jr., Ojo, B., Zhang, H., Huzl, J.J. III, El-Assadi, A.A., Sbeih, S., and Edgar, M.A.N.; Development of novel 1,4,5,6-tetrahydropyrimidine derivatives as selective muscarinic agonists, in *Perspective in Receptor Research* (P. Angeli, U. Gulin and W. Quaglia, eds.) 10th Camerino-Noordwijkerhout Symposium, Universita'Degli Studi di Camerino, Aula Magna, Camerino, Italy, pp. 87-88 (1995).
15. Dunbar, P.G., Durant, G.J., Rho, T., Ojo, B., El-Assadi, A.A., Ngur, D.O., Periyasamy, S., Hoss, W.P. and Messer, W.S., Jr.; Design, synthesis, and neurochemical evaluation of 2-amino-5-alkoxycarbonyl-3, 4, 5, 6-tetrahydropyridines and 2-amino-5-alkoxycarbonyl-1, 4, 5, 6-tetrahydropyrimidines as M1 muscarinic receptor agonists. *J. Med. Chem.*, 1994, 37, 17, 2774-2782.
16. Ojo, B. "Synthesis of partially saturated pyridine, pyrimidine and 1, 2, 4-oxadiazole-based muscarinic agonists as potential candidates of therapy for Alzheimer's disease." M.S. Thesis, University of Toledo (1992).

List of Scholarly Abstracts and Presentations (Representatives)

1. Konkayala, S., Bumpus, P., Johnson, S., Ojo, B. and Biswas, B.K. *In vitro* investigation of Neem for higher yield of Azadirachtin and its biopesticidal applications. ARD 17th Biennial Research Symposium, Hyatt Regency Jacksonville Riverfront, Jacksonville, Florida, April 7-10, 2013.
2. Bumpus, P., Konkayala, S., Johnson, S., Ojo, B. and Biswas, B.K. Investigating Stevia for high yield and biomass production *in vitro*. ARD 17th Biennial Research Symposium, Hyatt Regency Jacksonville Riverfront, Jacksonville, Florida, April 7-10, 2013.
3. Johnson, S., Bumpus, P., Konkayala, S., Ojo, B. and Biswas, B.K. Investigating medicinally important phytochemicals of Peach while employing *in vitro* studies for PTSL (peach tree short life) evaluation. ARD 17th Biennial Research Symposium, Hyatt Regency Jacksonville Riverfront, Jacksonville, Florida, April 7-10, 2013.
4. Babatunde Ojo, Frank Hagelberg, Chanyun Xiao, Latasha Kincaid and Jerzy Leszczynski. *Ab initio* and semi-empirical molecular orbital calculations: Structure-property correlation of novel methylphenidate analogs as cocaine abuse treatment Agents. 9th International Conference on Current Trends in Computational Chemistry, Vicksburg, Mississippi, November 3-4, 2000.
5. Latasha Kincaid, Babatunde Ojo and Jerzy Leszczynski. Treatment Agents for Alzheimer's Disease: Theoretical study of amidine analogs by means of *ab initio* and semi-empirical molecular orbital calculations. 9th International Conference on Current Trends in Computational Chemistry, Vicksburg, Mississippi, November 3-4, 2000.
6. Jermaine Butler, Babatunde Ojo and Adegboye Adeyemo. Ligand exchange reactions involving

vitamin B1 complex and various porphyrin species. 77th Annual Meeting of the Georgia Academy of Science, Valdosta, Georgia, March 24-25, 2000.

7. Adegboye O. Adeyemo, George N. Williams, Babatunde Ojo and Olarongbe Olubajo. Reactions of vitamin B1 derivatives with metal (II) salts. Research Infrastructure In Minority Institution Symposium, Ritz Carlton Hotel, Downtown, Atlanta, Georgia, February 18-21, 2000.
8. Howard M. Deutsch, Margaret M. Schweri, Stephen Holtzman, Xiaocong Ye and Babatunde Ojo. Structure- activity relationships for methylphenidate analogs and comparison to Cocaine and Tropanes. American Chemical Society National Meeting, Boston, 1998.
9. Howard M. Deutsch, Babatunde Ojo, Xiaocong Ye, Margaret M. Schweri and Stephen Holtzman. Cocaine treatment agents: synthesis and pharmacology of N-substituted methylphenidate analogs. American Chemical Society National Meeting, Las Vegas, Nevada, 1997.
10. Ojo, B., Dunbar, P.G., Durant, G.J., Huzl, J.J. III, El-Assadi, A.A., Periyasamy, S., Ngur, D.O., Hoss, W.P. and Messer, W.S., Jr.; Synthesis and structure-activity relationships of novel amidine derivatives as muscarinic receptor subtype-selective agonists. Sixth International Symposium on Subtypes of Muscarinic Receptors, Fort Lauderdale, Florida, November 8-13, 1994.
11. Abuh, Y.F., Dunbar, P.G., Durant, G.J., Ojo, B., Periyasamy, S., Hoss, W.P., and Messer, W.S., Jr.; Synthesis of 2-amino-5-alkoxycarbonyl-3, 4, 5, 6-tetrahydropyridenes and 2-amino-1, 4, 5, 6-tetrahydropyrimidines for muscarinic receptor subtypes. Sixth International Symposium on Subtypes of Muscarinic Receptor, Fort Lauderdale, Florida, November 8-13, 1994.
12. Messer, W.S., Jr., Abuh, Y.F., El-Assadi, A.A., Liu, Y., Ojo, B. and Ryan, K.; Neurochemical evaluation of the selective m1 muscarinic receptor agonist CDD-0097-A. Sixth International Symposium on Subtypes of Muscarinic Receptors, Fort Lauderdale, Florida, November 8-13, 1994.
13. Ojo, B., Dunbar, P.G., Durant, G.J., Rho, T., El-Assadi, A.A., Periyasamy, S., Ngur, D.O., Hoss, W.P. and Messer, W.S., Jr.; Synthesis and structure-activity relationships of amide and hydrazide analogues of the M1 selective muscarinic agonist CDD-0034-C. 27th Annual Graduate Student Symposium in Medicinal Chemistry, State University of New York at Buffalo, Buffalo, NY, July 17-19, 1994.
14. Ojo, B.; Progress in Alzheimer's Therapy: synthesis and neurochemical evaluation of a new series of amidines as muscarinic receptor agonists. 15th Annual Sigma Xi Graduate Research Symposium, The University of Toledo, Toledo, Ohio, May 5, 1994.
15. Ojo, B. Rho, T., Dunbar, P.G., Durant, G.J, El-Assadi, A.A., Ngur, D., Periyasamy, S., Fang, Z., Hoss, W. and Messer, W.S., Jr.; The design, synthesis and neurochemical evaluation of a new series of 2-amino-3, 4, 5, 6-tetrahydropyridine and 2-amino-1, 4, 5, 6-tetrahydropyridine

derivatives as muscarinic receptors agonists. Abstract MEDI #190, 206th American Chemical Society National Meeting, Chicago, Aug. 22-27, 1993.

16. Ojo, B., Rho, T., Dunbar, P.G., Durant, G.J., El-Assadi, A.A., Periyasamy, S., Ngur, D.O., Hoss, W.P., and Messer, W.S., Jr.; Synthesis and structure-activity relationships of 2-amino-3, 4, 5, 6-tetrahydropyridine and 2-amino-1, 4, 5, 6-tetrahydropyrimidine analogues of the M1 selective muscarinic agonist CDD-0034-C. 26th Annual Graduate Student Symposium in Medicinal Chemistry, Purdue University, West Lafayette, Indiana, IN., June 27-29, 1993.
17. Ojo, B.; Alzheimer's Therapy: an approach based on the design, synthesis and biological activity of a new series of 2-amino-3, 4, 5, 6-tetrahydropyridine and 2-amino-1, 4, 5, 6-tetrahydropyrimidine derivatives as muscarinic receptor agonists. 14th Annual Sigma Xi Graduate Research Symposium, The University of Toledo, Toledo, Ohio, May 7, 1993.
18. Ojo, B.; Synthesis of new benzene-substituted 2, 3-dihydropyrrolo [2, 1-b]-quinazolin-9-(1H)-one analogues as potential cardiovascular agents related to the quinazoline alkaloids: Vasicine and Vasicinone. 13th Annual Sigma Xi Graduate Research Symposium, The University of Toledo, Toledo, Ohio, May 8, 1992.
19. Ojo, B. and Chowdhury, B.K.; Synthesis and characterization of benzene-substituted bromo- and chloro-analogues of deoxyvasicinone. 14th Annual National Conference of the Chemical Society of Nigeria, Nigeria, September 26-29, 1989.
20. Ojo, B. and Chowdhury, B.K.; Synthesis of 6-bromo-5-hydroxyl-4-methoxydeoxyvasicine (Part 1): A new analog of deoxyvasicine in the quinazoline group of compounds. 14th Annual National Conference of the Chemical Society of Nigeria, Nigeria, September 26-29, 1989.
21. Ojo, B., Chowdhury, B.K., Bodhanker, S.L.; Vasicinone and related compounds: Synthesis of halogen-substituted analogues of deoxyvasicinone for oxytocic and bronchodilator activity. 14th Annual National Conference of the Chemical Society of Nigeria, Nigeria, September 26-29, 1989.
22. Ojo, B. "Synthesis of 3, 5-disubstituted aniline derivatives as chromogenic enzyme substrates." B.Sc. Thesis, The University of Lagos (1981).

Editorial Board Position

1. A member of Editorial Board for *Frontiers in Experimental Pharmacology and Drug Discovery*.
2. A member of Editorial Board for *Synthetic Communications*
3. A member of Editorial Board for the *International Journal of Medicinal Chemistry*.

Federal Research Grant Award Funding and Support

1. Development of Cocaine Abuse Treatment Agents. MBRS-SCORE, from the National Institute of General Medical Sciences (NIGMS, NIH), 1S06GM060314-01A1, for four years. 04/01/2001.
2. NIH/SSU EARDA Faculty Research Development Award. Development of Cocaine Abuse Treatment Agents. Grant #: 5GD11 HD 32861-06, 03/01/2000 – 12/1/2000.
3. Site Directed Treatment Agents for Cocaine Abuse. *3R01DA006305-09S1*- Research Supplement (100% effort), 4/1/97-8/31/99, for three years, from the National Institute on Drug Abuse (NIDA).

Honors and Awards (Representative)

1. National Role Model Award – 2013 Minority Access NATIONAL Role Models Conference, Washington, DC – September 27-29, 2013.
2. Induction into BKX/NIS Scientific Honors Society – Fort Valley State University Chapter (April 2011).
3. Recipient and Inductee, 2000 Outstanding Intellectuals of the 21st Century, International Biographical Center (IBC), Cambridgeshire, England (August 2007).
4. Recipient and inductee, Outstanding Scientists of the 21st Century, International Biographical Center (IBC), Cambridgeshire, England (August 2007).
5. Recipient and Inductee, WHO-IS-WHO International of Professionals for distinguished professional career in medical science drug design, research and development (1999).

Workshop Training Program (Representative)

1. Attended Quality Education for Minorities (QEM) Network/NSF Proposal Development Workshop for HBCU-UP Research Initiation Award (RIA) workshop sponsored by the National Science Foundation – January 19-20, 2013 at the Four Points by Sheraton BWI Airport Hotel, Baltimore, Maryland.
2. Attended the UK/NIGMS Faculty Grant Writing Workshop sponsored by the National Institute of Health (NIH), National Institute of General Medical Sciences (NIGMS), and the University of Kentucky Outreach Center for Science – May 9-11, 2011.
3. Attended Quality Education for Minorities (QEM) Network/NSF Information and Chemistry Proposal Development workshop sponsored by the MPS Chemistry Division (CHE) of the National Science Foundation – January 14-15, 2011 at the Four Points by Sheraton BWI Airport Hotel, Baltimore, Maryland.
4. Attended the Fifth Annual Grantsmanship Institute Training Conference at the Fort Valley State University, Fort Valley, Georgia – September 21, 2009.
5. Project Management Workshop with Microsoft Project 2003 at the Division of Natural Sciences of Atlanta Metropolitan College – October, 2007.
6. Teaching Online Opportunities Workshop at the Division of Natural Sciences of Atlanta Metropolitan College – October – November, September 2007 through November, 2007.
7. 6th Annual Conference on Assessment at the Kennesaw State University, Continuing Education

- Unit, Kennesaw – September, 2007.
8. Molecular Modeling in Undergraduate Curriculum workshop at the University of South Carolina, SC, April 20, 2001.
 9. Strategies for Assessment of Student Learning at the Savannah State University, Savannah, GA, September 8-9, 2000.
 10. NSF/JSU Computational Center for Molecular Structure and Interactions (CCMSI) Summer Institute at the Jackson State University, Jackson, MS, June 5 – August 4, 2000.
 11. SCI Technologies Lab works at the Georgia Institute of Technology, Atlanta, GA, February 12, 2000.
 12. Web based Chemistry Education at the Kennesaw State University, Kennesaw, GA, November 5, 1999.
 13. Eleventh International Conference on Current Trends in Computational Chemistry, Jackson, Mississippi, November 1-2, 2002.
 14. Ninth International Conference on Current Trends in Computational Chemistry, Vicksburg, Mississippi, November 3-4, 2000.
 15. Sixth International Symposium on Subtypes of Muscarinic Receptors, Fort Lauderdale, Florida, November 8-13, 1994.

Membership in Professional Organizations

1. 2010 BKX/NIS Scientific Honor Society – FVSU Chapter
2. 1990- Member, American Chemical Society (ACS)
3. 1990- Member, Division of Medicinal Chemistry of ACS
4. 1992- Member, Society for Neuroscience
5. 2000- Member, National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChe)
6. 2001- Member, American Association of University Professors (AAUP)
7. 2001- Member, American Association for the Advancement of Science
8. 2008 - Member, Georgia Academy of Science

Research Interests

1. Heterocyclic Chemistry Drug Development Research: Design, synthesis and development of cyclic amidine derivatives (heterocyclic compounds) as selective m1 muscarinic receptor agonists for the treatment of the cognitive deficits and memory impairments found in Alzheimer's disease.
2. Natural Product Drug Development Research: Collaborative research with the National Institute for Pharmaceutical Research and Development (Abuja, Nigeria) for the development of quinazoline derivatives as novel bronchodilator and anticonvulsant agents based on natural products, and other agents that may be of possible clinical utility in such condition as premenstrual tension, dysmenorrheal or threatened abortion.
3. Anticancer Drug Development Research: Design, synthesis and development of novel and selective Topoisomerase II inhibitors for treatment of cancer.
4. CNS Drug Development Research: Design and synthesis of selective, efficacious and centrally active serotonergic/nicotinic agents for the treatment of CNS disorders such as migraine and psychosis. Design, synthesis and development of novel and selective treatment agents for

neurological disorders.

5. Quantum and Computational Medicinal Chemistry. Theoretical model chemistries by means of *ab initio* and semi-empirical molecular orbital calculations to study structures and properties of novel compounds of importance in biology and medicine.