Philip P. Rodenbough, Ph.D.

Curriculum Vitae – Updated 11/2018

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Education

Columbia University in the City of New York		New York NY, USA
Ph.D., Materials Chemistry		Oct. 2016
Dissertation: Crystallite Size Dependency of the Pressure and Temperature Response in Nanoparticles of Ceria and Other Oxides		
M.Phil., Chemistry		Feb. 2015
M.A., Chemistry		May 2013
University of Washington – Seattle		Seattle WA, USA
B.S., Chemistry, ACS certified, College Honors		Dec. 2008
B.A., Biochemistry, Philosophy minor, College Honors		Dec. 2008

Academic Appointments

Visiting Professor — Kinshasa, DRC
University of Kinshasa — Aug. 2018 – June 2019
Faculty of Sciences / Chemistry Department

Lecturer of Scientific Writing — Abu Dhabi, UAE
New York University Abu Dhabi — Jan. 2018 – present
Division of Arts & Humanities
Writing Program / Graduate & Postdoctoral Program

Postdoctoral Teaching Fellow — Cairo, EG
The American University in Cairo — Aug. 2017 – Dec. 2017
University Core Curriculum / School of Sciences & Engineering

Postdoctoral Associate — Abu Dhabi, UAE
New York University Abu Dhabi — Sept. 2016 – Aug. 2017
Division of Science / Chemistry Program

Awards, Service, & Leadership	• Fulbright US Scholar Award to the Democratic Republic of the Congo	2018/2019
	• Postdoctoral Council member at New York University Abu Dhabi	2016/2017
	• Materials Research Society Foundation funding awardee	Fall 2016
	• Fellow of JUAMI: The Joint US-Africa Materials Institute	Summer 2016
	• Steering Committee of the Columbia University Graduate Student Advisory Council	2015/2016
	• Columbia Graduate Consulting Club 2015 Competition team leader	Summer 2015
	• Conference Travel Award from Gordon Research Conferences	Summer 2015
	• Columbia Graduate Student Advisory Council Service Award for outstanding dedication to student life	Spring 2015
	• SciFinder® Future Leader in Chemistry Award	Summer 2014
	• Conference Travel Awards from NOGLSTP	Summer 2014
	• Teagle Foundation Teaching Fellowship	2013/2014
	• Honorable Mention, NSF & Ford Foundation doctoral fellowship competitions	Spring 2012
	• Faculty Fellowship, Chemistry Department of Columbia University	2011 – 2016
	• Washington NASA Space Grant Consortium SURP Award	Summer 2008
	• Mary Gates Research Scholarship	2007/2008
Recent Projects	• Founder and Manager of the Scientific Writing Program at New York University Abu Dhabi	Spring 2018 – present
	• Editorial Associate at Materialia (Acta Materialia, Inc. / Elsevier)	Spring 2018 – present
	• MITx Course Development Specialist at the MIT Office of Digital Learning	2017/2018
	• Co-Founder and Manager of the Chemistry on Computers in Kenya Project	2016 – 2018
	• Fellow at Columbia Technology Ventures	2014 – 2016
Additional Experience	• United States Peace Corps Volunteer: High School Chemistry Teacher	Guinea & Burkina Faso 2009 – 2011
	• Research Scientist / Engineer Assistant, University of Washington	Seattle WA, USA 2009

Academic Publications *(PEER-REVIEWED)*

[13] Rodenbough, P. P.; Manyilizu, M.C. Chemistry on Computers in East Africa: An Exercise in Cross-Cultural Collaboration. In Preparation.

[12] Rodenbough, P. P.; Karothu, D. P.; Gjorgjieva, T.; Commins, P.; Hara, H.; Naumov, P. Reversible Photolysis of Nitrosobenzene *cis*-Dimer Monitored In Situ by Single Crystal Photocrystallography. *Cryst. Growth Des.* **2018**, *18* (3), 1293-1296. doi:10.1021/acs.cgd.8b00031.

[11] Rodenbough, P. P.; Chan, S.-W. Thermal Oxygen Exchange Cycles in Mixed Manganese Perovskites. *Ceram. Int.* **2018**, *44* (2), 1343-1347. doi:10.1016/j.ceramint.2017.08.168.
[10] Rodenbough, P. P.; Chan, S.-W. Crystallite-Size Dependency of the Pressure and Temperature Response in Nanoparticles of Magnesia. *J. Nanopart. Res.* **2017,** *19* (7), 241. doi:10.1007/s11051-017-3922-7.
[9] Rodenbough, P. P.; Lipatov, M.; Chan, S-W. Crystallite Size Dependency of Thermal Expansion in Ceria Nanoparticles. *Mater. Chem. Phys.* **2017**, *192*, 311-316. doi:10.1016/j.matchemphys.2017.01.031.
[8] Rodenbough, P. P.; Zheng, C.; Liu, Y.; Hui, C.; Xia, Y.; Ran, Z.; Hu, Y.; Chan, S.-W. Lattice Expansion in Metal Oxide Nanoparticles: MgO, Co_3O_4 , & Fe_3O_4. *J. Am. Ceram. Soc.* **2016**, *100* (1), 384-392. doi:10.1111/jace.14478.
[7] Song, J.; Rodenbough, P. P.; Zhang, L.; Chan, S.-W. Size-Dependent Crystal Properties of Nanocuprite. *Int. J. Appl. Ceram. Technol.* **2016**, *13* (2), 389–394. doi:10.1111/ijac.12486.
[6] Rodenbough, P. P.; Vanti, W. B.; Chan, S.-W. 3D-Printing Crystallographic Unit Cells for Learning Materials Science and Engineering. *J. Chem. Educ.* **2015**, *92* (11), 1960–1962. doi:10.1021/acs.jchemed.5b00597.
[5] Song, J.; Rodenbough, P. P.; Xu, W.; Senanayake, S. D.; Chan, S.-W. Reduction of Nano-Cu_2O: Crystallite Size Dependent and the Effect of Nano-Ceria Support. *J. Phys. Chem. C* **2015**, *119* (31), 17667–17672. doi:10.1021/acs.jpcc.5b04121.
[4] Rodenbough, P. P.; Song, J.; Walker, D.; Clark, S. M.; Kalkan, B.; Chan, S.-W. Size Dependent Compressibility of Nano-Ceria: Minimum near 33 nm. *Appl. Phys. Lett.* **2015**, *106* (16), 163101. doi:10.1063/1.4918625.
[3] Wei, S.; Xia, J.; Dell, E. J.; Jiang, Y.; Song, R.; Lee, H.; Rodenbough, P.; Briseno, A. L.; Campos, L. M. Bandgap Engineering through Controlled Oxidation of Polythiophenes. *Angew. Chemie Int. Ed.* **2014**, *53* (7), 1832–1836. doi:10.1002/anie.201309398.
[2] Crowther, G. J.; Napuli, A. J.; Gilligan, J. H.; Gagaring, K.; Borboa, R.; Francek, C.; Chen, Z.; Dagostino, E. F.; Stockmyer, J. B.; Wang, Y.; Rodenbough, P. P.; … Kuhen, K. L. Identification of Inhibitors for Putative Malaria Drug Targets among Novel Antimalarial Compounds. *Mol. Biochem. Parasitol.* **2011**, *175* (1), 21–29. doi:10.1016/j.molbiopara.2010.08.005.
[1] Crowther, G. J.; He, P.; Rodenbough, P. P.; Thomas, A. P.; Kovzun, K. V; Leibly, D. J.; Bhandari, J.; Castaneda, L. J.; Hol, W. G. J.; Gelb, M. H.; Napuli, A. J.; Van Voorhis, W. C. Use of Thermal Melt Curves to Assess the Quality of Enzyme Preparations. *Anal. Biochem.* **2010**, *399* (2), 268–275. doi:10.1016/j.ab.2009.12.018.

General Publications

[5] "Scientific research in Africa: More than an economic boost." Polity ZA. July 8, 2015. [link]
[4] "Geothermal power in Kenya is heating up." In On Africa (formerly Consultancy Africa Intelligence). April 15, 2015. [link]
[3] "LGBT Nigeria: One year after the Same-Sex Marriage Prohibition Act." Polity ZA. March 20, 2015. [link]
[2] "On Being LGBT in West Africa." RightsViews: Opinion and research from the human rights community at Columbia University. March 6, 2015. [link]

[1] “Peace through Chemistry.” inChemistry Magazine. February/March 2014 issue. Cover story. Pp 12-14. [link]

Academic Conferences

[16] 2nd Edition of the Congolese Language Supporter Society (CLASS) International Annual Conference. Oral presentation [accepted]: The Importance of Good Scientific Writing for Scientists Everywhere.	Kinshasa, DRC Nov. 1-3, 2018
[15] Open Education Global Conference 2018. Contributing non-present author: Strategies for Assessment in MOOCs.	Delft, NL April 25, 2018
[14] NYUAD Writing Studies Working Group Conference. Panelist: What Counts as Evidence? Where, how, and when?	Abu Dhabi, UAE Apr. 18 – 19, 2018
[13] University of KwaZulu-Natal: Health, Economics, and HIV/AIDS Research Division (HEARD) Workshop on Conducting HIV/AIDS Research in Challenging Environments. Oral presentation: Reflections on the West African Context. Invited speaker.	Durban, ZA Feb. 19, 2018
[12] 9th International Conference of the African Materials Research Society. Oral presentation: Learning Chemistry on Computers in African Contexts. Travel award winner.	Gaborone, BW Dec. 11-14, 2017
[11] American Chemical Society Meeting. Oral presentation: Chemical X-Ray Photodiffraction for Structural Characterization of Short-Lived Intermediates. Travel award winner.	San Francisco CA, USA Apr. 2-6, 2017
[10] Ras al-Khamiah Center for Advanced Materials: International Workshop on Advanced Materials (IWAM). Conferee.	Ras al-Khaimah, UAE Feb. 19 – 21, 2017
[9] Joint US-Africa Materials Institute Conference. Conferee/Fellow. Travel award winner.	Arusha, TZ May 30 – June 10, 2016
[8] American Association for the Advancement of Science 2016 Annual Meeting: Global Science Engagement. Poster presentation: Thermal Cycles of Perovskite Manganese Oxides for Syngas Production.	Washington DC, USA Feb. 14, 2016
[7] Materials Research Society. Poster presentation: Size-Dependence of Bulk Modulus for Nanoceria.	Boston MA USA Nov. 30, 2015
[6] American Association for the Advancement of Science: Science and Human Rights Coalition Meeting on Business and Human Rights. Poster presentation: Peace through Chemistry. Student poster competition finalist.	Washington DC, USA July 16, 2015
[5] Synchrotron Radiation Instrumentation 2015 Conference. Poster presentation: Size-Dependence of Bulk Modulus for Nanoceria.	New York NY, USA July 6 – 10, 2015
[4] Gordon Research Conference on Chemistry Education Research & Practice: Chemistry Education as an Agent in Global Progress. Poster presentation: Peace through Chemistry. Travel award winner.	Lewiston ME, USA June 21 – 26, 2015

	[3] NOGLSTP: Out to Innovate Conference. Conferee. Travel award winner.	Atlanta GA, USA Nov. 7 – 9, 2014
	[2] American Chemical Society Meeting. Conferee. Travel award winner.	San Francisco CA, USA Aug. 10 – 15, 2014
	[1] Inaugural Pacific Northwest Undergraduate Research Symposium on Organic Chemistry and Chemical Biology. Poster presentation: Synthesis and Study of Small-Molecule Inhibitors of Secreted Phospholipase A2.	Corvallis OR, USA Aug. 11, 2008

Press	[4] NYUAD's Newest Fulbright US Scholar. NYUAD Press Release. [link]	July 2018
	[3] NYUAD Chemist Helps Bring Digital Courseware to Schools in Kenya. NYUAD Press Release. [link]	February 2017
	[2] Grassroots Grant Recipients 2016. Materials Research Society Foundation Press Release. [link]	December 2016
	[1] #PoetweetsNYC winners announced. Metro. [link]	April 2015

Teaching	Course Developer: Scientific Writing, NYU Abu Dhabi, UAE	Spring 2018
	Lecturer: Writing Center, NYU Abu Dhabi, UAE	Spring 2018
	Instructor: Scientific Thinking SCI 1020, AUC, Egypt	Fall 2017
	Instructor: General Chemistry CHEM 1005, AUC, Egypt	Fall 2017
	TA: Foundations of Science 3 & 4 Lab, NYU Abu Dhabi, UAE	Fall 2016
	Consultant/Tutor: tech start-up CEO, NY, USA	Summer 2016
	TA: General Chemistry I, Barnard College, NY, USA	Fall 2015
	TA: Organic Chemistry Lab, Columbia University, NY, USA	Sum. 2013, Spr. 2012, Fall 2011
	Fellow: Teagle Teaching Foundation, Columbia Univ., NY, USA	2013/2014
	TA: Organic Chemistry II, Columbia University, NY, USA	Spring 2014
	TA: General Chemistry I, Columbia University, NY, USA	Spring 2013
	Teacher: Chemistry, Physical Sciences, & English, Lycée de Yembering, Guinea	2010/2011
	Instructor: English, US Embassy English Program, Burkina Faso	Summer 2010
	Teacher: Physical Sciences & Computer Literacy, Lycée Kourita de Koupéla, Burkina Faso	2009/2010
	Tutor: Chemistry, CLUE, University of Washington, WA USA	2007 – 2009

Affiliations

American Chemical Society (ACS)
- *CHEMISTRY INTERNATIONAL / INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY (IUPAC) US-AFFILIATE*
- *NEW YORK LOCAL SECTION*
- *CHEMICAL EDUCATION DIVISION*

Materials Research Society (MRS)

American Crystallographic Association (ACA)
- *INTERNATIONAL UNION OF CRYSTALLOGRAPHY (IUCR) REGIONAL ASSOCIATE SOCIETY*
- *AMERICAN INSTITUTE OF PHYSICS (AIP) MEMBER SOCIETY*
- *AFRICAN CRYSTALLOGRAPHY INITIATIVE – SUPPORTER*

American Ceramic Society (ACerS)
- *BASIC SCIENCE DIVISION*
- *EDUCATION AND PROFESSIONAL DEVELOPMENT COUNCIL*

American Association for the Advancement of Science (AAAS)
CHEMISTRY, EDUCATION, & SOCIETAL IMPACTS SECTIONS
Council of Science Editors (CSE)
International Writing Centers Association (IWCA)
The Metals Society (TMS)
Professional Communication Society (PCS) of the Institute of Electrical and Electronics Engineers (IEEE)
Congolese Language Supporter Society (CLASS) – International Member

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Invited Peer-Reviewer

Journal of Chemical Education (ACS)
Journal of Applied Crystallography (IUCr)
Crystals (MDPI)
Metals (MDPI)
Materials (MDPI)
Education Sciences (MDPI)

Languages

English: Native speaker
French: Full professional fluency
Arabic: Active learner
Indigenous West & Central African Languages: Learned some very limited Mooré, Pulaar, Lingala, and others