

# Philip P. Rodenbough, Ph.D.

CURRICULUM VITAE – UPDATED 1/2020

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## CONTACT

### WORK CONTACT

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### ALTERNATIVE CONTACT

Mail: 603 W 115<sup>th</sup> St #212, New York NY, USA  
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## EDUCATION

### **Columbia University in the City of New York**

*Ph.D.*, Materials Chemistry

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

New York NY, USA

Oct. 2016

### **University of Washington – Seattle**

*B.S. with College Honors*, Chemistry major – ACS certified

Seattle WA, USA

Dec. 2008

*B.A. with College Honors*, Biochemistry major, Philosophy minor

Dec. 2008

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## ACADEMIC

### **New York University Abu Dhabi**

Abu Dhabi, UAE

## APPOINTMENTS

*Lecturer of Scientific Writing*

Jan. 2018 – present

↪ Division of Arts & Humanities / Writing Program  
↪ Graduate & Postdoctoral Program

### **Fulbright US Scholar Program** (US Dept. of State)

Fulbright US Scholar in Sub-Saharan Africa

Kinshasa, DR Congo, &

Abidjan, Côte d'Ivoire

Aug. 2018 – Aug. 2019

*Visiting Professor*, Chemistry Department, University of Kinshasa, DR Congo

*Visiting Professor*, Research Institute, University of Félix Houphouët-Boigny, Côte d'Ivoire

*Consultant*, Ministry of Education, Côte d'Ivoire

### **The American University in Cairo**

*Postdoctoral Teaching Fellow*

Cairo, EG

↪ University Core Curriculum

Aug. 2017 – Dec. 2017

↪ School of Sciences & Engineering / Chemistry Department

### **New York University Abu Dhabi**

*Postdoctoral Associate*

Abu Dhabi, UAE

↪ Division of Science / Chemistry Program

Sept. 2016 – Aug. 2017

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AWARDS, SERVICE, & LEADERSHIP	• Fulbright US Scholar Award to Sub-Saharan Africa	2018/2019
	• Postdoctoral Council, 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, Columbia U. 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 Award from NOGLSTP	Summer 2014
	• Teagle Foundation Teaching Fellowship	2013/2014
	• Honorable Mention, NSF & Ford Foundation predoctoral 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 & Manager, Scientific Writing Program at NYUAD	Spring 2018 – present
	• Editorial Associate at <i>Materialia</i> (Acta Materialia, Inc. / Elsevier)	Spring 2018 – present
	• MITx Course Development Specialist, MIT Office of Digital Learning	2017/2018
	• Co-Founder & Manager, 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
PEER- REVIEWED ACADEMIC PUBLICATIONS	[13] <u>Rodenbough, P. P.; Manyilizu, M. C.</u> Developing and Piloting Culturally Relevant Chemistry Pedagogy: Computer-Based VSEPR and Unit Cell Lesson Plans from Collaborative Exchange in East Africa. <i>J. Chem. Educ.</i> <b>2019</b> , <i>96</i> (6), 1273–1277. doi: <a href="https://doi.org/10.1021/acs.jchemed.8b00979">10.1021/acs.jchemed.8b00979</a>	
	[12] <u>Rodenbough, P. P.; Karothu, D. P.; Gjorgjeva, T.; Commins, P.; Hara, H.; Naumov, P.</u> Reversible Photolysis of Nitrosobenzene <i>cis</i> -Dimer Monitored In Situ by Single Crystal Photocrystallography. <i>Cryst. Growth Des.</i> <b>2018</b> , <i>18</i> (3), 1293-1296. doi: <a href="https://doi.org/10.1021/acs.cgd.8b00031">10.1021/acs.cgd.8b00031</a> .	
	[11] <u>Rodenbough, P. P.; Chan, S.-W.</u> Thermal Oxygen Exchange Cycles in Mixed Manganese Perovskites. <i>Ceram. Int.</i> <b>2018</b> , <i>44</i> (2), 1343-1347. doi: <a href="https://doi.org/10.1016/j.ceramint.2017.08.168">10.1016/j.ceramint.2017.08.168</a> .	
	[10] <u>Rodenbough, P. P.; Chan, S.-W.</u> Crystallite-Size Dependency of the Pressure and Temperature Response in Nanoparticles of Magnesia. <i>J. Nanopart. Res.</i> <b>2017</b> , <i>19</i> (7), 241. doi: <a href="https://doi.org/10.1007/s11051-017-3922-7">10.1007/s11051-017-3922-7</a> .	
	[9] <u>Rodenbough, P. P.; Lipatov, M.; Chan, S-W.</u> Crystallite Size Dependency of Thermal Expansion in Ceria Nanoparticles. <i>Mater. Chem. Phys.</i> <b>2017</b> , <i>192</i> , 311-316. doi: <a href="https://doi.org/10.1016/j.matchemphys.2017.01.031">10.1016/j.matchemphys.2017.01.031</a> .	
	[8] <u>Rodenbough, P. P.; Zheng, C.; Liu, Y.; Hui, C.; Xia, Y.; Ran, Z.; Hu, Y.; Chan, S.-W.</u> Lattice Expansion in Metal Oxide Nanoparticles: MgO, Co <sub>3</sub> O <sub>4</sub> , & Fe <sub>3</sub> O <sub>4</sub> . <i>J. Am. Ceram. Soc.</i> <b>2016</b> , <i>100</i> (1), 384-392. doi: <a href="https://doi.org/10.1111/jace.14478">10.1111/jace.14478</a> .	
	[7] <u>Song, J.; Rodenbough, P. P.; Zhang, L.; Chan, S.-W.</u> Size-Dependent Crystal Properties of Nanocuprite. <i>Int. J. Appl. Ceram. Technol.</i> <b>2016</b> , <i>13</i> (2), 389–394. doi: <a href="https://doi.org/10.1111/ijac.12486">10.1111/ijac.12486</a> .	

[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](https://doi.org/10.1021/acs.jchemed.5b00597).

[5] Song, J.; Rodenbough, P. P.; Xu, W.; Senanayake, S. D.; Chan, S.-W. Reduction of Nano- $\text{Cu}_2\text{O}$ : 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1002/anie.201309398).

[2] Crowther, G. J.; Napuli, A. J.; Gilligan, J. H.; Gagaring, K.; Borboa, R.; Francek, C.; Chen, Z.; D'Agostino, 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](https://doi.org/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](https://doi.org/10.1016/j.ab.2009.12.018).

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OTHER PUBLICATIONS

[8] “How to Write a Compelling (Materials) Science Paper.” Editorial. *Materialia* **2019**, 6, 100339, with Mao, Z.; Gault, B. doi:[10.1016/j.mtla.2019.100339](https://doi.org/10.1016/j.mtla.2019.100339)

[7] “The J. Stat. Mech.-Motherboard Rule: A Scientific Writing Principle.” Times Higher Education. **2019**. [\[link\]](#)

[6] “Chemistry on Computers in East Africa – Lesson Plans from Collaborative Exchange.” Preprint. *AfricArXiv*. **2019**, with Manyilizu, M.C. doi:[10.31730/osf.io/hmwq3](https://doi.org/10.31730/osf.io/hmwq3)

[5] “Scientific research in Africa: More than an economic boost.” *Polity ZA*. **2015**. [\[link\]](#)

[4] “Geothermal power in Kenya is heating up.” In *On Africa* (formerly *Consultancy Africa Intelligence*). **2015**. [\[link\]](#)

[3] “LGBT Nigeria: One year after the Same-Sex Marriage Prohibition Act.” *Polity ZA*. **2015**. [\[link\]](#)

[2] “On Being LGBT in West Africa.” *RightsViews: Opinion and research from the human rights community at Columbia University*. **2015**. [\[link\]](#)

[1] “Peace through Chemistry.” in *Chemistry Magazine*. February/March **2014**. Cover story. Pp 12–14. [\[link\]](#)

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ACADEMIC CONFERENCES

[18] W-STEM Conference at the American University of Sharjah. Oral presentation: Scientific Writing Support in a Graduate Program Sharjah, UAE Nov. 28 – 29, 2019

[17] 2<sup>nd</sup> Pan-African Crystallography Conference. Oral presentation: Chemistry on Computers in East Africa – Lesson Plans from Collaborative Exchange. Accra, GH Jan. 28 – Feb. 1, 2019

[16] 2<sup>nd</sup> Edition of the Congolese Language Supporter Society (CLASS) International Annual Conference. Keynote address: The Importance of Good Scientific Writing for Scientists Everywhere. Kinshasa, DRC Nov. 1 – 3, 2018

[15] Open Education Global Conference 2018. Contributing non-attending 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-Khamiah, 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. <a href="#">[link]</a> [3] NYUAD Chemist Helps Bring Digital Courseware to Schools in Kenya. NYUAD Press Release. <a href="#">[link]</a> [2] Grassroots Grant Recipients 2016. Materials Research Society Foundation Press Release. <a href="#">[link]</a> [1] #PoetweetsNYC winners announced. Metro. <a href="#">[link]</a>	July 2018 February 2017 December 2016 April 2015
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**AFFILIATIONS**

- American Association for the Advancement of Science (AAAS)**  
*CHEMISTRY, EDUCATION, & SOCIETAL IMPACTS SECTIONS*
- American Ceramic Society (ACerS)**  
*BASIC SCIENCE DIVISION*  
*EDUCATION AND PROFESSIONAL DEVELOPMENT COUNCIL*
- American Chemical Society (ACS)**  
*CHEMISTRY INTERNATIONAL / INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY (IUPAC) US-AFFILIATE*  
*NEW YORK LOCAL SECTION*  
*CHEMICAL EDUCATION DIVISION*
- American Crystallographic Association (ACA)**  
*INTERNATIONAL UNION OF CRYSTALLOGRAPHY (IUCR) REGIONAL ASSOCIATE SOCIETY*  
*AMERICAN INSTITUTE OF PHYSICS (AIP) MEMBER SOCIETY*  
*AFRICAN CRYSTALLOGRAPHY INITIATIVE – SUPPORTER*
- Congolese Language Supporter Society (CLASS) – International Member**
- Consortium on Graduate Communication (CGC)**
- Council of Science Editors (CSE)**
- International Writing Centers Association (IWCA)**
- Materials Research Society (MRS)**
- The Minerals, Metals, & Materials Society (TMS)**
- Professional Communication Society (PCS) / Institute of Electrical & Electronics Engineers (IEEE)**

INVITED PEER-	<i>Asian English for Specific Purposes Journal</i>
REVIEWER	<i>Crystals</i> (MDPI Journal)
OR REFEREE	<i>Education Sciences</i> (MDPI Journal)
	<i>Journal of Applied Crystallography</i> (IUCr Journal)
	<i>Journal of Chemical Education</i> (ACS Journal)
	<i>Materials</i> (MDPI Journal)
	<i>Metals</i> (MDPI Journal)
	<i>New Journal of Chemistry</i> (RSC Journal)
	<i>Scholar Rescue Fund</i> (IIE Program)