

BASIL MUGAGA NAAH CURRICULUM VITAE

EDUCATION

Ph.D. Chemical Education, Middle Tennessee State University	2012
M.S. Analytical Chemistry, University of Siegen, Germany	2005
B.S. Biochemistry, University of Ghana, Legon	2000

AUTHORING EXPERIENCE

BOOKS

- Concepts in Chemistry for Pre-service Elementary and Middle School Teachers
- Concepts in Chemistry Workbook for Pre-service Elementary and Middle School Teachers

BLOGGING

- Owner and writer of blog: <https://masterconceptsinchemistry.com>

TEACHING EXPERIENCE

Lecturer, Wright State University, Dayton, OH **2019 to Present**

- Taught general chemistry (CHM 1210)
- Taught introduction to general chemistry (CHM 1010)
- Taught concepts in chemistry (CHM 2450)

Instructor, Wright State University, Dayton, OH **2013 to Present**

- Revised and taught concepts in chemistry (CHM 2450/6450) for pre-service teachers.
- Revised and taught concepts in chemistry (CHM 3460/6500) for pre-service teachers.
- Developed and taught guided-inquiry experiments for pre-service teachers.

Substitute Teacher, Rutherford County Public Schools, Murfreesboro, TN **2013**

- Substituted for teachers on temporary assignment

Instructor, Middle Tennessee State University, Murfreesboro, TN **2012 to 2013**

- Taught general chemistry and physical science labs.

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Visiting Assistant Professor, University of the South, Sewanee, TN **2012**

- Taught general chemistry.
- Implemented and taught guided-inquiry experiments.

Graduate Teaching Assistant, Middle Tennessee State University, Murfreesboro, TN **2006 to 2012**

- Taught biochemistry and organic chemistry labs.
- Taught general chemistry and physical science labs

Co-Instructor, Middle Tennessee State University, Murfreesboro, TN **2011**

- Taught undergraduate students in FirstStep program synthesis and characterization of silver and gold colloids for surface-enhanced Raman spectroscopy.

Graduate student Instructor, Middle Tennessee State, Murfreesboro, TN **2009 to 2010**

- Tutored organic chemistry I and II
- Tutored general chemistry I and II
- Tutored physical science

Science Teacher, Tamale Secondary School, Tamale, Ghana **1999 to 2001**

- Taught high school chemistry

Science Teacher, Saint Charles Secondary School, Tamale **2001 to 2002**

- Taught high school chemistry and general science

MENTORSHIP EXPERIENCE

- Mentored three undergraduates in the FirstStep program at MTSU **2011**

CERTIFICATIONS

Certified Quality Matters Member **2014**

- Learned best practices for online course design
- Applied quality matters rubric to evaluate an online course

Project Wet and Healthy Water Healthy People Facilitator **2015**

- Learned new ways to integrate project wet activities with state science standards
- Developed and taught project wet lesson plan

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AWARDS

- 6th International Multi-Conference on Complexity, Informatics & Cybernetics
Best Paper Award **2015**
- Green Chemistry Student Travel Award **2007**

PUBLICATIONS

1. Naah, B. M., (2015) Enhancing pre-service teachers understanding of students' misconceptions in learning chemistry. *Journal of College Science Teaching*, 45(2), 41-47.
2. Lunsford, S. & Naah B. M., (2015). Science and Math Lesson Plans to Meet the Ohio Revised Science Standards and the Next Generation of Standards for Today; Technology (Excel). *Journal on Systemics, Cybernetics and Informatics*, 13(1), 48-50.
3. Naah, B., M. & Sanger, J. M., (2012). Identifying students' misconceptions in writing balanced chemical equations for ionic compounds dissolved in water. *Chemistry Education Research and Practice*, 13, 186-194.
4. Naah, B. M. & Sanger, J. M., (2012). Investigating students' understanding of the dissolving process. *Journal of Science Education and Technology*, 22(2), 103-112.
5. Naah, B., M., Chong, N. S. & Liang, C., (2009). Synthesis and characterization of functionalized mesoporous carbon acid catalyst for biodiesel production. *Preprints of Symposia-American Chemical Society, Division of Fuel Chemistry*, 54(1), 171-172.

SCHOLARLY PRESENTATIONS

Biennial Conference on Chemical Education, University of Northern Colorado, Greeley, CO, 2016

1. Can students explain how energy is generated during a chemical reaction? Evaluating introductory general chemistry students' understanding of the energy concept

Chemistry Department Seminar, Wright State University, Dayton, OH 2015

2. Improving students' understanding of the energy concept in an introductory general chemistry course

6th International Multi-Conference on Complexity, Informatics & Cybernetics Orlando, FL 2015

3. Integrating Excel Technology into Science and Math Lesson Plans to Meet the Ohio Revised and Next Generation Science Standards.

American Chemical Society National Meeting, Anaheim, CA 2011

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4. Identifying students' misconceptions of writing balanced chemical equations for ionic compounds dissolved in water.
5. Using multiple-choice visuals to assess students' understanding of ionic compounds dissolving in water.

11th Annual Green Chemistry and Engineering Conference, Washington, DC 2007

6. Advantages of Heterogeneous Catalysts for Biodiesel Production

Scholars' week, Middle Tennessee State University, Murfreesboro, TN 2011

7. Using multiple-choice visuals to assess students' understanding of ionic compounds dissolving in water.

Scholars' week, Middle Tennessee State University, Murfreesboro, TN 2009

8. Synthesis and characterization of functionalized mesoporous carbon acid catalyst for biodiesel production.

PROFESSIONAL SERVICE

Chemistry Content writer for Melscience (2019 to present)

- Wrote chemistry lessons for middle and high school

Reviewer (2015 to present)

- Reviewed journal articles for Journal on Systemics, Cybernetics and Informatics

Reviewer (Oxford University Press, 2015)

- Reviewed the text: Chemistry: The molecules of life.

Evaluator

- Scored 3rd-graders' essays for content organization, grammatical convention, and ability to communicate (Measurement Incorporated, 2013)
- Scored graduated students' posters for presentation, content, and novelty (Wright State University, 2015)

Committees Served

- Undergraduate Petition Committee (2017 to present)
- University Common Text Committee (2014 to 2016)
- First Year General Chemistry Committee (2014 to present)

AFFILIATIONS

- American Chemical Society