Dr. Edmund Moses Ndip

Selected Publications

- "Cultivating Success through Undergraduate Research Experience in a Historically Black College and University" Kesete Ghebreyessus, Edmund M. Ndip, Michelle K. Waddell, Oluwatoyin A. Asojo, and Peter N. Njoki***,** *Journal of Chemical Education* (2022), 99, 1, 307-316 (Article). DOI: 10.1021/acs.jchemed. 1c00416

Abstracts and Contributed Papers

- "A comparative study of substituent effects on the nonlinear optical properties of simple azobenzene and stilbene derivatives." Amir Johnson and Edmund Moses N. Ndip, *103rd Annual Meeting* of the Virginia Academy of Science, Virginia Journal of Science (SUMMER 2025).
- "Evaluating the nonlinear optical properties of some model photoswitchable materials for optoelectronic applications." Edmund Moses N. Ndip and Kesete Ghebreyessus, *102nd Annual Meeting* of the Virginia Academy of Science, Virginia Journal of Science (SUMMER 2024).
- "Molecular Modeling of mRNA-5'-Capping (Cap-0) in Post-Transcriptional Modifications." Morgan Bernard, Hayli Bonds, Jocelyn Curry, Cooper Green, Dr. Edmund M. Ndip, and Dr. Insu Frank Hahn, *102nd Annual Meeting* of the Virginia Academy of Science, Virginia Journal of Science (SUMMER 2024).
- "Materials for Photodynamic therapy (PDT): evaluation of linear and nonlinear (NLO) properties." E. M. N. Ndip, *Proceedings of the 101st Annual Meeting of the Virginia Academy of Science*, Virginia Journal of Science (SUMMER 2023)

Professional Presentations

- "A comparative study of substituent effects on the nonlinear optical properties of simple azobenzene and stilbene derivatives." Amir Johnson and Edmund Moses N. Ndip, *103rd Annual Meeting* of the Virginia Academy of Science, University of Virginia, Charlottesville, VA (May 22 – 23, 2025) [O]

- "Comparative Analysis of Substituent Effects on Linear and Nonlinear Optical Properties of Stibene, Azobenzene, and Associated Derivatives Utilizing Semi-Empirical Methods." Amir Johnson, Edmund M. Ndip, PhD, 29th Annual School of Science Research Symposium, Hampton University, Hampton, VA (April 17 – 18, 2025). [P]

- "Evaluating the nonlinear optical properties of some model photo switchable materials for optoelectronic applications." Edmund Moses N. Ndip and Kesete Ghebreyessus, *102nd Annual Meeting* of the Virginia Academy of Science, University of Mary Washington, Fredericksburg, VA (May 15 – 16, 2024) [O]

- "Molecular Modeling of mRNA-5'-Capping (Cap-0) in Post-Transcriptional Modifications." Morgan Bernard, Hayli Bonds, Jocelyn Curry, Cooper Green, Dr. Edmund M. Ndip, and Dr. Insu Frank Hahn, *102nd Annual Meeting* of the Virginia Academy of Science, University of Mary Washington, Fredericksburg, VA (May 15 – 16, 2024) [P]

- "Materials for photodynamic therapy (PDT): evaluation of linear and nonlinear (NLO) properties" Edmund Moses N. Ndip, 101st Annual Virginia Academy of Science Meeting, College of William and Mary, Williamsburg, VA (May 25 – 26, 2023) [O]

- "Polarizabilities and Hyperpolarizabilities: A Materials Design Tool for Molecular Electronics," Dr. Edmund. Ndip. 1st Annual NOBCChE Collaborative Virtual Conference, Hampton University, Hampton, VA (May 27, 2021) [O]

Professional Development (Workshops and Short Courses)

- Virtual Residency 2025 Summer Workshop on Becoming an Institutional Research Computing Leader, University of Oklahoma, Norman, OK., ***Aug 6-7, 2025.*** https://www.oscer.ou.edu/becominginstcileader2025. https://www.oscer.ou.edu/virtualresidency2025.php
- 2025 EMSL Summer School | From Artificial Intelligence and Machine Learning to Agent-Based Science, Pacific Northwest National Laboratory (PNNL) and online via Zoom, July 7 – 11, 2025. https://www.emsl.pnnl.gov/events/2025-emsl-summer-school?utm_campaign=2025+EMSL+Summer+School&utm_source=twitter&utm_medium=Mailchimp&utm_content=1740011681#presenters
- Virtual Residency 2025 Summer Workshop on Research Computing Facilitation, University of Oklahoma, Norman, OK, **June 23-27, 2025**. http://www.oscer.ou.edu /virtualresidency2025/. https://www.oscer.ou.edu/virtualresidency2025.php
- Spring 2025 Webinar Series Computational and Data Science (CDS-EXCHANGE), Kate Cahill et. al. https://sites.google.com/njit.edu/cds-exchange/webinar-series/spring-2025-series
  - *"Using Computational Science for Data Storytelling"* Teri Platt, Ph.D., Associate Professor, Department of Public Administration and Director of the Isabella T. Jenkins Honors Program at Clark Atlanta University [May 2, 2025]
  - *"Computing continuum extension to Science and Engineering Gateways through Cybershuttle: Enabling local to remote execution of computational and AI pipelines.***"** Dr. Sudhakar Pamidighantam, Georgia Institute of Technology. April 18, 2025
  - "*Effective Strategies for Engaging Undergraduate Students in High Performance Computing and Data Science Research Experiences,***"** Rosalia Gomez, Ed.D., Research Associate, Director of Education and Outreach, Texas Advanced Computing Center, The University of Texas at Austin. [March 14, 2025]
- American Chemical Society Short course / Webinar: "Emerging Areas on Biomaterials: Reshaping Medicine and Human Health" Meet the Experts: Angela Zhou (Manager Scientific Analysis and Insights, CAS. A division of the American Chemical Society.); Jiaxing Huang

(Chair Professor of Materials, Westlake University, China.); Jian Yang (Chair Professor in Biomaterials and Regenerative Engineering & Associate Vice President, Westlake University, China.); Benjamin Cooper (Head of Research and Development, Ortholevo, USA.); Janet Sasso (Information Scientist, CAS, a division of the American Chemical Society.). August 13, 2024. app.connect.discoveracs.org.

- Spring 2024 Computational and Data Science Webinar Series (Kate Cahill et al). https://www.youtube.com/playlist?list=PLxLosWLxhx5ef03060F-pExqpoL6CADU8. The Webinar Series included the following presentations:
  - Computational Thinking, Dr. Kate Cahill, New Jersey Institute of Technology, Newark, NJ. (March 1, 2024)
  - Data Visualization for Computational & Data Science, Dr. Vetria Byrd, James Madison University, Harrisonburg, VA (March 8, 2024)
  - Introduction to Modeling and Simulation, Dr. Ahlam Tannouri, Morgan State University, Baltimore, MD. (April 12, 2024)
  - Introducing Matrix Methods for Data Science and Machine Learning, Dr. Karen Rios-Soto, University of Puerto Rico, Mayaguez, PR (May 10, 2024
  - Science Gateways as a Classroom Resource for Computational and Data Analytics Tools, Dr. Tandabany Dinadayalane, Clark Atlanta University, Atlanta, GA (May 17, 2024).
- Recitation Series on NanoHUB Simulation Tools for Semiconductor Education and Workforce Development. January 2022 – Present. http://nanohub.org (Prof. Gerhard Klimeck, Director)
- BioPACIFIC MIP Summer School 2022 Virtual Topical Sessions. NSF Materials Innovation Platform DMR 1933487 UCSB & UCLA. July 18 - 21, 2022. https://biopacificmip.org/ (Dr. Tal Margalith – Director)
- MMBioS National Center for Multiscale Modeling of Biological Systems. NIH Biomedical Technology and Research Resource (BTRR) Cell Modeling Virtual Workshop 2022 (July 11 – 15, 2022). https://mmbios.pitt.edu/ (Dr. Rozita Laghaei, Pittsburgh Supercomputing Center, Carnegie Mellon University).
- MMBioS National Center for Multiscale Modeling of Biological Systems. NIH Biomedical Technology and Research Resource (BTRR) Virtual Hands-on Workshop on Computational Biophysics 2022 (July 5 – 8, 2022). https://mmbios.pitt.edu/workshops/56-outreach/workshops/2022-workshops (Dr. Rozita Laghaei, Pittsburgh Supercomputing Center, Carnegie Mellon University).
- OSCER ACI-REF Virtual Residency Introductory 2022 Workshop on Research Computing Facilitation, University of Oklahoma, Norman, OK (June 27 – July 1, 2022). http://www.oscer.ou.edu/virtualresidency2020.php (Dr. Henry Neeman, OU Supercomputing Center).

Awards / Honors

- Certificate of Completion UNCF Strategic Education, Inc. University Partnerships "Advanced Student Engagement Techniques" Workshop (June 29 -July 22, 2021)
- African Scientific Institute (ASI) Fellow ('20 -)
- Councilor, Chemistry Division of the Virginia Academy of Sciences (2019 – 2025)

INSTRUCTIONAL ACTIVITIES: Instructional activities include teaching undergraduate courses in general, organic, and physical chemistry, and graduate courses in physical chemistry and spectroscopy. Representative courses include: . CHE 101 (General, Organic and Biological Chemistry), Undergraduate Research (CHE 114, 214, 314, 315, 414, 415), Organic Chemistry I, II (CHE 301, 302 – Laboratory and/or Lecture), Physical Chemistry I, II (CHE 401, 402 – Lecture and Laboratory), Molecular Spectroscopy (CHE 505) – Graduate, Advanced Physical Chemistry I, II (CHE 613, 614) – Graduate, Pre-Med Chemistry I, II (MSD 621, 622), Thesis Research (CHE 650, CHE 681). We are also involved in the modernization of the Physical Chemistry Laboratory Curriculum with the introduction of experiments in laser and Raman spectroscopies using facilities at the Graduate Physics Research Center (GPRC)