

VITA

Firew T. Gemedo

Assistant Professor of Chemistry

East Texas Baptist University

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EDUCATION:

Ph.D.	Bowling Green State University	2017-2022
MChem	Bowling Green State University	2017-2022
MSc	Addis Ababa University	2006-2008
Bed	Dilla University, Ethiopia	2000-2004

TEACHING EXPERIENCE:

Assistant Professor of Chemistry	East Texas Baptist University	2024-Present
Assistant Teaching Professor	Bowling Green State University	2022-2023
Teaching Assistant	Bowling Green State University	2017-2022
Assistant Professor of Chemistry	Mettu University, Ethiopia	2014-2017
Lecturer	Dilla University, Ethiopia	2008-2014
Graduate Assistant	Dilla University, Ethiopia	2005-2006

OTHER EXPERIENCES:

Chemist	SmartSolve Industries	2022-2024
Research Assistant	Bowling Green State University	2017-2022
Vice President, Business and Development	Mettu University	2015-2017
School of Physical Science, Chair	Dilla University	2011-2013
Chemistry Department, Chair	Dilla University	2009-2010

PROFESSIONAL DEVELOPMENT EXPERIENCES:

Training:

- Higher Diploma Program
- Basic Bible Certificate

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- Leadership Bible Certificate
- International Brain Research Organization (IBRO) certificate

Research Experience:

Spectroscopy

- Preparing coordination compounds with varying composition and concentration for spectroscopic measurements and characterization in different polar and non-polar solvents.
- Preparing Inorganic Complexes for spectroscopic measurements.
- Measurements: Nanosecond and Femtosecond pump-probe experiments, UV-Vis measurements, fluorescence measurements.
- Data analysis: Origin Software, ChemDraw, data fitting (consecutive and parallel decays, deconvolution fitting, fast Fourier transform).
- Optics: aligning beams in Femtosecond experiments for Hurricane Laser system, setting Berek, Setting Glans, finding overlap for pump-probe experiments, and performing experiments.

Instrumentation

- Transient Absorption Spectroscopy
- UV-Vis Spectrometry
- Emission Spectrofluorometry
- WVTR Measurement

PRESENTATIONS AND PUBLICATIONS:

1. Gameda, T. F. *Ultrafast Excited State Dynamics of Inorganic Molecules Related to Modern Light Harvesting Applications*. 2022. Bowling Green State University, Doctoral dissertation. OhioLINK Electronic Theses and Dissertations Center, http://rave.ohiolink.edu/etdc/view?acc_num=bgsu1668230082355006.
2. Gameda, T. F.; Vorobyev, V.; Tarnovsky, A.N. Ultrafast solution-phase photophysical and photochemical dynamics of hexaiodobismuthate(III), the heart of bismuth halide perovskite solar cells. *Phys. Chem. B*, **2022**, *126*, 6, 1254-1267.
3. Budkina, D. S.; Gameda, F. T.; Matveev, S. M.; Tarnovsky, A. N. Ultrafast dynamics in LMCT and intraconfigurational excited states in hexahaloiridates (iv), models for heavy transition metal complexes and building blocks of quantum correlated materials. *Phys. Chem. Chem. Phys.* **2020**, *22*, 30, 17351-17364.
4. Gameda, T. F.; Mesfin R. Abshiro, R. M.; Mustafa, A. Excitation Wavelength Dependence of Dual Fluorescent Molecules, *Int Res J Pure Appl Chem*, 13(4): 1-15, 2016; Article no.IRJPAC.31560, ISSN: 2231-3443, NLM ID: 101647669, 2017. http://www.journalrepository.org/media/journals/IRJPAC_7/2017/Mar/Gameda1342017IRJPAC31560.pdf

5. Gemed, T. F. A Review on Effect of Solvents on Fluorescent Spectra, *Chem. Sci. Int. J.*, 18(3): 1-12, 2017; Article no.CSIJ.32006 Previously known as American Chemical Science Journal ISSN: 2249-0205.
http://www.journalrepository.org/media/journals/CSIJ_53/2017/Mar/Gemeda1832017CSIJ32_006.pdf
6. Gemed, T. F., Enriched Biogas for Transportation use: Review paper on Methods of production, *IJMER*, Volume 6, Issue 1(3), January 2017.
7. Gemed, T. F.; A.N. Ultrafast solution-phase photophysical and photochemical dynamics of hexabromobismuthate(III), *under Preparation*

Blogs

1. COMPOSTING: AN OVERVIEW; <https://smartsolve.com/news/composting-an-overview/>
2. BIO-BASED PLASTICS, DEGRADATION, BIODEGRADATION AND COMPOSTABILITY: <https://smartsolve.com/news/bio-based-plastics-degradation-biodegradation-and-compostability/>
3. HOME COMPOSTABILITY AT SMARTSOLVE INDUSTRIES: <https://smartsolve.com/news/home-compostability-at-smartsolve-industries/>

Booklet

1. The Sun of Righteousness: <https://smartsolve.com/news/solar-eclipse-event-in-northwest-ohio/>

Academic Conference and Poster Presentation

Title: Ultrafast Dynamics of IrCl₆²⁻ complexes upon excitation into intraconfigurational metalcentered and ligand-to-metal charge transfer (LMCT) electronic states

- Ohio Photochemical Society Meeting May 30, 2019 - June 1, 2019
- 27th Winter Inter-American Photochemical Society Conference Jan 2-5, 2018

Professional Membership

- Inter-American Photochemical Society
- Ohio Photochemical Society
- The Ethiopian Physics Society in North America
- Ethiopia Chemical Society
- Royal Chemical Society

OTHER RELEVANT INFORMATION:

Flexible Food packaging application

- Biopolymers (nature, properties and polymer blending)
- Biodegradation and Compostability
- Environmental impact of single-use plastics

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- Barrier Properties (WVTR, Water-vapor transmission rate, OTR, Oxygen transmission rate, Grease barrier)
- Polymer Coating on papers

Research Interest

- Photophysics and Photochemistry of molecules relevant to solar energy conversion and storage, and their interaction with surrounding molecules.
- Ultrafast dynamics of environmentally and biologically relevant molecules and their interaction with surrounding solvent molecules.
- Interrelations between God's Light, Understanding, and Natural Light