

Kefa Karimu Onchoke, Ph.D.

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MISSION: Educator/ Analytical/ Environmentalist / Computational / Chemistry Laboratory Management

I. EDUCATION

- 1. Ph.D.** The Ohio State University, OH (Analytical Chemistry), 2006.
Advisor: Prof. Prabir K. Dutta, *Co-Advisor:* Prof. Christopher M. Hadad
Thesis Title: *Experimental and Theoretical Studies of Nitrated Polycyclic Aromatic Hydrocarbons.*
 - 2. M.S.** Hampton University, VA (Environmental Analytical Chemistry), 2000.
Advisor: Prof. Isai T. Urasa
Thesis Title: *The Influence of Biosolids on Metal Uptake by Plants*
 - 3. B.Sc.** University of Nairobi, Kenya, Chemistry, 1989.
Undergraduate project Title: "The Insecticidal Activity of a Chloroform Extract from *Elaeodendron buchananii* against 5th instar desert locusts" undergraduate research project with written thesis/report. June 1989, University of Nairobi, Kenya.
Advisors: Professors I. J. O. Jondiko (Chemistry) & R.W. Mwangi (Botany)
 - 4.** National (Pre-University) Youth Service, Gilgil, Kenya. 1986.
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Research Interests (Analytical /Environmental /Computational /Physical-Organic)

- Environmental/Analytical Research:** Plant bioremediation studies; metal speciation (and interaction with PAHs) in composted wastewater sludges; studies of nitrated Polycyclic Aromatic Hydrocarbons: synthesis, characterization via ¹H/¹³C NMR, IR/Raman, fluorescence, UV-Vis, HPLC, MPLC, Ion Chromatography, SEM/EDX, TGA, ICP-OES/MS; synthesis, characterization and the effects of particulates on human cells; synthesis, characterization and effects of nitrated polycyclic aromatic hydrocarbons upon human cells; characterization of PAHs with NMR techniques.
- Computational Chemistry (and physical-organic) studies** of various molecules of biological interest; photochemistry of nitrated PAHs (singlet states, triplet states, radical anions); carcinogenicity of particulates Molecular Modeling, Computational studies of PAHs, electronic structure calculations; Docking Studies; Vibrational/molecular Spectroscopy; Electronic structure calculations; DFT calculations of the electronic excited states; electronic structures of molecules, structure-reactivity relationships,
- Wastewater sludges** Metal speciation (and interaction with PAHs) in *composted wastewater sludges*; Studies of Nitrated Polycyclic Aromatic Hydrocarbons (NPAHs).
- Studies of *Emerging Pollutants in water and wastewater.*
- Spectroscopy and Chromatography:** Synthesis, characterization via ¹H/¹³C NMR, IR/Raman, fluorescence, UV-Vis, HPLC, MPLC, and ion chromatography; Synthesis, characterization, and the effects of particulates on human cells; Synthesis,

characterization and effects of Nitrated Polycyclic Aromatic Hydrocarbons upon human cells; Characterization of PAHS with atomic, molecular spectroscopy, and NMR techniques; Computational Chemistry of various molecules of biological interest.

- f) **Photochemistry**: Photochemistry of nitrated PAHs (singlet states, triplet states, radical anions); Carcinogenicity of particulates; Molecular modeling, Computational studies of PAHs, electronic structure calculations; Docking studies; Vibrational/molecular spectroscopy.
- g) **Electrochemical Studies** of PAHs and other molecules of interest.
- h) **Water and food chemistry**. Assessment of water and wastewater quality, and food quality.

II. PROFESSIONAL EXPERIENCE

- 9/2016-Present: Professor of Chemistry & Biochemistry - Stephen F. Austin State University.
- 2013 - 2018 Faculty Senate (Elections Committee Chair 2017, Distance Education Committee member)
- 9/2012 -8/2016 Associate Professor of Chemistry - Stephen F. Austin State University
- 9/2006 - 8/2012 Assistant Professor of Chemistry (Analytical/Environmental) - Stephen F. Austin State University.
- 1-8/2006 Adjunct Chemistry Instructor, Columbus State Community College, OH.
- 2000 -2005 Research/Teaching Assistant, The Ohio State University.
- 1998 -2000 Graduate Research Assistant, Hampton University.
- 6-9/1998 Minority Health International Research Training (MHIRT), University of Dar es Salaam, Tanzania
- 1990 -1997 Water Research Officer, Public Service, Kenya
- 1988-1989 Undergraduate Research Assistant, University of Nairobi, Kenya
- 1985-1990 High School Science Teacher - Taught Sciences and Languages

Graduate Faculty Status

- 2008 – Present **Graduate** Faculty Status (Full Membership)
- 2006 – 2007 **Graduate** Faculty Status (Associate Membership)

ADVISING

- Advised freshmen, juniors & seniors, 2016/2017/2018/2019/2020 (at least 9 students each year)
- Advised freshmen, juniors & seniors, 2015/2016 (9 students)
- Advised freshmen, juniors & seniors, 2014 (20 students)
- Advised freshmen, juniors & seniors, 2013 (10 students)
- Advised freshmen, juniors & seniors, 2012 (20 students)
- Advised freshmen, juniors & seniors, 2011 (6 students)
- Advised freshmen, juniors & seniors, 2010 (6 students)
- Advised, juniors & seniors, 2009 (6 students)
- Advised freshmen students, 2008 (4 students)

Mentoring of Undergraduate and Graduate Students in Research

- (a) Have trained 26 undergraduate students in research projects/Honors thesis. Many of the students are co-authors in refereed research papers.
- (b) Research Director to 4 Masters (at SFASU), and committee member to 1 PhD student (Bharathiar University)
- (c) Mentored many undergraduate students (> 10) in Research during a Carnegie African Diaspora Fellowship program in Kenya @ Machakos University. May 20 – August 17, 2021.
- (d) Mentored 4 Master's graduate students in research at Machakos University during a Carnegie African Diaspora Fellowship Program. May 20 – August 17, 2021

At Professoriate Level

- (a) Evaluated the Promotion of two Assistant Professors to Associate Professors (Jordan) 2019, 2020
 - (b) Assessed the Promotion of Associate Professor to Full Professor (2019) in USA.
 - (c) Assessed the Promotion of Associate Professor to Full Professor (2019) in Jordan.
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II. RESEARCH FUNDING

(a) Internal Grant Support

Stephen F. Austin State

- 1. 2023 - Welch Grant to conduct SRE in Summer 2022, Awarded Summer (June – August) 2023 - \$1350 plus fringe \$225 (Department of Chemistry & Biochemistry)
- 2. 2023 Summer Undergraduate Research Experience (SURE), Awarded by SFASU, College of Science and Mathematics \$1300 + \$ 700 (for Reagents and Chemicals) and \$ 500 for student scholarships.
- 3. 2022 Summer Undergraduate Research Experience (SURE), Awarded by SFASU, College of Science and Mathematics \$1300 + \$ 700 (for Reagents and Chemicals) and \$ 500 for student scholarships.
- 4. 2022 - Welch Grant to conduct SRE in Summer 2022, Awarded Summer (June – August) 2022 - \$1350 plus fringe \$225 (Department of Chemistry & Biochemistry).
- 5. Minigrant (Publication support from ORSP and Chem & Biochem. Dept. for a *Results in Chemistry* article (\$ 1,000) Nov. 2, 2021. Funded.
- 6. Publication for a *World Journal of Chemical Education* paper, May 2, 2021 (\$390) Self-funded
- 7. Publication support for a *Data in Brief* article (\$ 700) Feb., 12, 2021. Self-Funded.
- 8. Minigrant (Publication support from ORSP & Chem. & Biochem. Dept.) (\$ 750) March 1, 2021. In support of a *Data in Brief* Article. Funded.
- 9. Wisely Fellow Undergraduate Research Mentor Competition, FY 2020. \$1,000. Competed. Funded.
- 10. Publication support (\$ 600) December 5, 2019. Self-Funded.
- 11. Minigrant (Publication support from ORSP & Chem. & Biochem. Dept.) (\$ 600) September 2, 2019. Funded.
- 12. Minigrant (Publication support from ORSP and Chem. & Biochem. Dept.) (\$ 541) & Publication Support (MDPI 350 CHF equivalent to \$ 360). 2018.
- 13. Minigrant (Publication support from ORSP & Chem. & Biochem. Dept.) (\$ 600) Jan. 27, 2016. Funded.
- 14. Concentrations of Polycyclic Aromatic Hydrocarbons in Biosolids (Wastewater Sludge) from Nacogdoches and Lufkin Wastewater Treatment Plants. ~ \$ 9K Not Funded. 2017.
- 15. "Studies of Chrysenes" ORSP (STEM Research and Learning Center. Summer 2014. \$ 11,386

16. SFASU Faculty Research Grant, “Spectroscopic Signatures of Nitrated Benzantrones – Hazardous Environmental Contaminants”, Funded. 9/2013 – 8/2014. \$ 24,200
17. SFASU Faculty Research Grant “Spectroscopic Signatures of Nitrated Benzantrones – Hazardous Environmental Contaminants. 5/2011 – 8/2012. \$ 22,700 ** - *Not Funded*
18. SFASU Faculty Research Grant “Spectroscopic Signatures of Nitrated Cyclopenta-fused Polycyclic Aromatic Hydrocarbons. 5/2007 – 8/2008. Funded. \$ 19,050
19. SFASU Instrument Grant, “A proposal for the Purchase of an Atomic Absorption Spectrophotometer” (Co-P.I. with Wayne Boring, Michael Janusa, David Ownby), 1/2007. Funded. \$50 K
20. Awarded SFASU minigrant for purchase of a computational software. 9/06. Funded. \$ 2,000
21. Awarded SFASU minigrant for purchase of a Gaussian 03 computational software. 9/06. Funded \$ 875

(b) External scholarships and Fellowships

21. The Center for Applied Research and Rural Innovation (CARRI) Grant, Oct.10, 2022, \$ 21,050, funded, Dec. 2022.
22. **2020/2021 Carnegie African Diaspora Fellow** for “Collaborative Research in Analytical/Environmental Chemistry and Strengthening of the Existing Master of Science Analytical Chemistry Curriculum and Undergraduate Bachelor of Science in Analytical Chemistry Programs” at Machakos University, Kenya.
 - This is a peer reviewed, rigorous process undertaken by the Institute of International Education (IIE) based on its peer review system for Fulbright scholarships – and fellows are selected from a ‘long short-list’. Awarded
23. **2022/2023 Carnegie African Diaspora Fellow** for “Collaborative Research in Analytical/Environmental Sciences and Strengthening of the Existing Master of Science Environmental Science Curriculum and Undergraduate Bachelor of Science in Analytical Environmental Science” at Federal University of Agriculture, Abeokuta, Nigeria, Applied on March 3, 2022. Not Funded.
24. **2019/2020** Applied for a **Fulbright Scholarship** FY 2021- 2022; **Selected** as **Alternate**.
25. **2019 Carnegie African Diaspora Fellowship** Program for a “Curriculum Development” at Machakos University, Kenya. Selected but not funded.
26. **2015/2016** Applied for a Fulbright Scholarship FY 2016 - 2017; Not selected
27. **2014 Carnegie African Diaspora Fellowship** Program for an “Open Project at Federal University Lokoja, Nigeria”; One of two candidates. Was not selected.
28. Secured Permanent Faculty Computational WebMO Resource Units via Center for Workshops in Chemical Sciences to access Supercomputer Center at Illinois. Aug. 2010

Submitted (Not funded)

29. 2023 The Ambassador’s Distinguished Scholars Program in Ethiopia (ADSP), Submitted on July 1, 2023: “Analytical/Environmental Chemistry Education: A Collaborative Teaching and Research Integrative Approach” in Ethiopia.

30. 2021 Fulbright US Scholar, Submitted on Sept. 15, 2021: “Analytical/Environmental Chemistry Education: A Collaborative Teaching and Research Integrative Approach” at University of Namibia.
 31. ACS PRF Grant Oct. 2020 “Mechanistic Understanding of the Molecular and Degradation Reactions of PAHs on Nano-particulate Surfaces: A Coupled Computational and Experimental Approach” submitted on 10/15/2020. \$ 70,000, Under Review. PRF# 62324-UR4. Not funded, May 2021. Good Reviews feedback.
- Submitted - Not funded.**
32. 2018 Fulbright US Scholar, Submitted on Sept. 15, 2021: “Analytical/Environmental Chemistry Education: A Collaborative Teaching and Research Integrative Approach” at University of Namibia.
 33. 2016: Fulbright Scholar Program “Spectroscopic, Chromatographic, and Electrochemical Studies of Mono-Nitrated Chrysenes: Hazardous Environmental Pollutants. FY 2017-2018 @ Mbarara University, Uganda
 34. 2017 “Concentrations of Polycyclic Aromatic Hydrocarbons in Biosolids (Wastewater Sludge) from Nacogdoches and Lufkin Wastewater Treatment Plants”. SFASU, \$ 10K Not Funded.
 35. Welch Fellowship competition; Applied for a “Norman Hackerman Award in Chemical Research”; Not funded. **9/2015**
 36. **Fulbright Fellowship:** Applied for \$11,000 to do Research at an African University, to train faculty and graduate students **Aug/2015**. FY 2016-2017. Not funded

NSF

37. “Spectroscopic, Chromatographic and Electrochemical Studies of mono-nitrated chrysenes: Hazardous Environmental pollutants”, \$418,811** **Not funded**. 10/31 2014
38. “MRI: Acquisition of a 400 MHz NMR Spectrometer for Integrated Research and Education” (Co-PI with Shiyu Li, Michael Korn, Zhizhen Zhang). 2009. \$315,765 ** (Not funded). Jan1/2009
39. “MRI: Acquisition of a 400 MHz NMR Spectrometer for Integrated Research and Education” (Co-PI with Shiyu Li, Michael Korn, Zhizhen Zhang). 2008. \$315,765 ** (Re-submitted). 2/2008)
40. “MRI: Acquisition of a 400 MHz NMR Spectrometer for Integrated Research and Education” (Co-PI with Shiyu Li, Michael Korn, Zhizhen Zhang). 2007. \$315,765 ** (Re-submitted). 2/2007
41. “Acquisition of a 300 MHz Nuclear Magnetic Resonance Spectrometer” (Co-PI with Michael Janusa, Chunmei Li). 2007. **\$253,745****. 6/2007 Not funded.

42. NSF Grant “MRI: Acquisition of a 400 MHz NMR Spectrometer for Integrated Research and Education” (Co-PI with Shiyu Li, Michael Korn, Zhizhen Zhang). 2007. \$315,765
**1/2007
43. “Composition of Bio-oil from Loblolly Pine” (Co-PIs Wayne C. Boring, Anthony J. Duben, Michael A. Janusa, Gary D. Kronrad). 3/2007. 2007 \$ 112,000K

III. FELLOWSHIPS, HONORS AND AWARDS

- 2023 The Center for Applied Research and Rural Innovation (CARRI) Grant, Oct.10, 2022, \$ 21,050, funded, Dec. 2022.
- 2021 Carnegie African Diaspora Fellowship Program Fellow (CADFP) @ Machakos University, Kenya (May 19 – August 17, 2021) ~ \$ 20,000
- 2021 Certified Online Instructor, Center for Teaching and Learning, Stephen F. Austin State University, TX (May 2021). OIC training and online course module best practices. April 21, 2021.
- 2021 Applied for Fulbright fellowship to Sub-Saharan Africa FY 2021-2022. Was recommended for fellowship, though not selected due to competition and funding.
- 2020 Wisely Fellow Undergraduate Research Mentor, FY 2020. Applied \$1,000. Competed. Funded.
- 2020 Carnegie Africa Diaspora Fellowship program to Africa – funded. Paused due to COVID till May 19, 2021.
- 2019 Applied for Fulbright fellowship to Sub-Saharan Africa FY 2020-2021. Was selected as an **Alternate**.
- 2018 Fulbright Fellowship application. Recommended for fellowship but was not selected as a finalist.
- 2015 Honorable Mention (SFASU), Award for “Distinguished Award for Grant” submitted to NSF.
- 2014 2014 **SFASU Foundation Faculty Achievement Award in Research**
- 2014 Recognition for Presenting a Lecture, East Texas ACS section “Lead and Copper Uptake by Rapid Radish (*Raphanus sativus L*): Influence of Biosolids”, Feb. 20, 2014, Nacogdoches, Texas
- 2013 Nominated for the Faculty Achievement Award for Research, 2013.
- 2013 Nominated for Welch foundation – Norman-Hackerman Award in Chemical Sciences
- 2010 Recognized in “Marquis Who is Who in America” (published 2009, 64th Edition).
- 2009 Participation & completing the 2009 CWCS Workshop on “NMR: Fundamentals and Applications”, NSF Workshop in Chemical Sciences, University of Georgia, GA, May 17 -22, 2009.
- 6/2008 American Chemical Society, Certificate of Recognition – in recognition of 5 years of service to ACS as a member.
- 5/2007 Certificate of Recognition - Participation & completing the 2007 CWCS Workshop on Modeling Biomolecules. An NSF Workshop, Jackson State University, MS, May 20 - 24 2007.
- 10/25, 2005 STEM Workshop, Northwestern University, Evanston, Illinois
- 2005 Albert L. Henne Graduate Research Competition, Honorable Mention (4/15, 2005)
- 2004-2005 Lubrizol Industrial Fellowship Award, The Ohio State University

- Certificate of Appreciation - Participation in the 2nd Annual Workshop, The Environmental Molecular Science Institute, Ohio State University, Columbus, OH, June 9 -10 2003.
- 2000-2006 Teaching/Graduate Assistant Fellowships at Ohio State University.
- 2000 Certificate of Award – Poster Presentation, Hampton University, 5th Annual Student Research Symposium, 5th February 2000.
- 1998-2000 University Fellowship, Hampton University, Hampton, VA.
- 1998 Study Abroad at the University of Dar es Salaam (Minority Introduction to Research Training, MIRT) June 1998 - Sept. 1998
- 1997 Attended Seminar on *Report Writing and Presentation* at the Kenya Institute of Administration.
- 1986 Awarded Scholarship to the University of Nairobi.
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IV. THESIS AND DISSERTATION COMMITTEES

Graduate Students Advised:

As Director of Research

- (a) Director: Oluwadamilola Fateru (Research advisor, Summer 2017 – December 2019) – Influence of biosolids on metal uptake
- (b) Salomey Sasu (Research advisor, Fall 2013 –Spring 2015) - Assessment of Metal Cations /Anions and Determination of Cr(VI) from the Nacogdoches Wastewater Treatment Plant Using Ion Chromatography and Inductively Coupled Plasma Optical Emission Spectroscopy
- (c) Jorge J Ojeda (Research advisor, Fall 2013 – Summer II 2015) - Part 1: Synthesis, Chromatographic, and Spectroscopic Characterizations of Benzanthrone and its Mono-Nitrated Derivatives. Part 2: Determination of Polycyclic Aromatic Hydrocarbons in Soil Samples from Diboll, TX
- (d) Alexis Sanchez (Research advisor, Fall 2013 – Fall 2015) - “Chromatographic, Spectroscopic, and Electrochemical Studies of Benzo(A)Pyrene Derivatives: 9,10- Dihydrobenzo(a)pyren-7(8h)-one and 7,8,9,10-tetrahydrobenzo(a)pyrene.

Committee member in the following Master’s Thesis and PhD Dissertation

- (a) Matthew Oliver, April 2022 – May 2023 (Physics), Masters committee member
- (b) Olawunmi Taiwo (Summer 2018 – 4/17/2020); Chemistry & Biology Department.
- (c) Dara Winsted (Summer 2018 – SP2020) – Environmental Science
- (d) Olawunmi Taiwo (Summer 2018 – SP2020); Chemistry & Biology Department
- (e) Mr. William Welles (Masters Committee member, Environ. Science (SFASU) 2014-2018)
- (f) Mr. James McMullen (2015 -2016, Committee member, Environ. Scie.)
- (g) Morgan Anderson (Summer 2018 – May 2019) – Chemistry & Biochemistry
- (h) Mukund Bhandari, Master’s Thesis Committee member, July 2015 “Extraction and Identification of water soluble compounds from Rumex Crispus leaf and Root; an In-Vivo Analysis as A Suppressive Agent for Colon Carcinoma, Biology
- (i) Mr. Curtis Fletcher (Spring 2012, Committee member, Environ. Science (SFASU)
- (j) Ph.D. Dissertation Committee Member (External Examiner and Reviewer) for Ms. Anusha Priyadarshini (PSG College of Arts and Science – An Autonomous College affiliated to Bharatiar University, India), 6/13/2016 - Nov. 2016

Professorial Level

- a) Assessed Promotion of Assistant Professor to Associate Professor (XXX University, Jordan) 2019.
 - b) Assessed the Promotion of Associate Professor to Full Professor (2019), in USA.
 - c) Assessed Promotion of Assistant Professor to Associate Professor (XXX University, Jordan) March 2020.
 - d) Assessed Promotion of Associate Professor to Full Professor (XXX University, Jordan) July 2020.
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V. PUBLICATIONS

Note: (§) denotes undergraduate co-author

1. Kefa K. Onchoke, "Speciation of Elements via a Sequential Extraction Procedure in Municipal Wastewater Biosolids from Three Rural WWTP in East Texas (USA)." *World Journal of Analytical Chemistry*, vol. 8, no. 1 (2023): 6-12. doi: 10.12691/wjac-8-1-2
2. **Kefa K. Onchoke***, Veronica Okello, "Student perceptions of current curriculum in chemistry: A case study from four universities in Kenya (East Africa)", Submitted to *Discover Education*, Submission ID: dd7a1cf0-f7d2-449c-9be2-7158a5935b71 V.2 on March 21, 2023.
3. Kefa Onchoke, Oluwadamilola O. Fateru, "Effect of Perlite-Biosolid composition on Growth and Uptake of Cd and Mn by radish (*Raphanus sativus* L) under Greenhouse conditions", Submitted to *Applied Water Science* in Feb 2023. MS. # AWSC-D-23-00087R2
4. Kefa K. Onchoke, Gary Lopez[§], & Anthony M. Broom[§], "Detection of Carbamazepine, Diclofenac, and Ketoprofen Via a SPE-HPLC-PDA Method in a Municipal Wastewater Treatment Plant in East Texas, USA", *Analytical Chemistry Letters*, 13 (2), 2023 pp 127 - 140. DOI: 10.1080/22297928.2023.2224341
5. **Kefa K. Onchoke**, Christopher M. Franclemont[§], "Performance Evaluation and Removal Efficiencies of Metals and Anions from a Rural Municipal Wastewater Treatment Plant in Lufkin, East Texas (USA)" *Environmental Monitoring and Assessment*. **194**, 920 (2022). <https://doi.org/10.1007/s10661-022-10622-7>
6. **Kefa K. Onchoke**, Oluwadamilola O. Fateru, Robert B. Friedfeld, Paul W. Weatherford, "Evaluation and Analysis of Perlite and Municipal Wastewater Sludge (Biosolids) from Three Wastewater Treatment Plants in East Texas, USA" *Environmental Monitoring and Assessment*. **194**, 121 (2022). 18 Pages. <https://doi.org/10.1007/s10661-022-09794-z>
7. **Kefa K. Onchoke**, Oluwadamilola Fateru^{§§}, "Evaluating Bioavailability of Elements in Municipal Wastewater Sludge (Biosolids) from Three Rural Wastewater Treatment Plants in East Texas (USA) by a Sequential Extraction Procedure", *Results in Chemistry*, Volume 3, January 2021, 100211 <https://doi.org/10.1016/j.rechem.2021.100211>
8. **Kefa K. Onchoke**, Emily E. Dowdy[§], "Student Success in Five Concepts: A Six-Year Study in an Introductory Chemistry Course for Non-Science Majors". *World Journal of Chemical Education*, April 2021, Vol. 9, No. 2, 46-49 DOI:10.12691/wjce-9-2-2

9. **Kefa K. Onchoke**, Pressley S. Nicholson[§], Josephine Taylor, Robert B. Friedfeld, Leslie G. Cecil, “Structural and compositional data of Maya pottery samples from Lake Petén Itzá, Guatemala: Central America”, *Data in Brief* Volume 35, April 2021, 106886, <https://doi.org/10.1016/j.dib.2021.106886>
10. **Kefa K. Onchoke**, “¹³C NMR Chemical Shift Assignments of Nitrated Benzo(a)pyrenes based on two-dimensional Techniques and DFT/GIAO Calculations” *Results in Chemistry* Vol. 3, Jan. 2021, 100099, <https://doi.org/10.1016/j.rechem.2021.100099>
11. **Kefa K. Onchoke**, Pressley S. Nicholson[§], Leslie G. Cecil, Robert B. Friedfeld, Josephine Taylor, Wayne P. Weatherford, “Comprehensive Structural and Compositional Investigation of Maya Pottery Samples from Lake Petén Itzá, Guatemala”, *J. Archaeol. Sci. Rep.* 36 (2021) 102767 (PP 1-10) <https://doi.org/10.1016/j.jasrep.2020.102767>
12. Kefa K. Onchoke, Vibrational Spectroscopic Studies of Nitrated Polycyclic Aromatic Hydrocarbons (NPAHs): A Review (1960 - 2019). *Vib. Spectrosc.* Volume 109, July 2020, Pages 103072. (pages 1-18), <https://doi.org/10.1016/j.vibspec.2020.103072>
13. **Kefa K. Onchoke**, “Data on GC/MS Elution profile, ¹H and ¹³C NMR Spectra of 1-, 3-, and 6-Nitrobenzo[a]pyrenes” *Data in Brief*, 28 (2020) 104995 1–12. <https://doi.org/10.1016/j.dib.2019.104995>
14. **Kefa K. Onchoke** (2019), (Data Shared on **Mendeley**) “Data on GC/MS Elution profile, ¹H and ¹³C NMR Spectra of 1-, 3-, and 6-Nitrobenzo[a]pyrenes”, Mendeley Data, V1, <http://dx.doi.org/10.17632/wnf4nc2z5k.1> **Published: 31 Mar 2020**
15. Onchoke, K.K. & J.J. Ojeda. 2019. Synthesis of 2-, and 3-nitrobenzanthrone via direct nitration of benzanthrone with nitric acid/acetic acid. *Texas J. Sci.* 71: Article 9. https://doi.org/10.32011/txjsci_71_1_Article9.
16. (a) **Kefa K. Onchoke**, JJ Ojeda, Michael A. Janusa “Polycyclic Aromatic Hydrocarbons in Soil Samples from Diboll, East Texas (USA)”; *Analytical Chemistry Letters*, 9(3): 273 – 290, 2019. <https://doi.org/10.1080/22297928.2019.1644195>.
(b) **Kefa K. Onchoke**, JJ Ojeda, Michael A. Janusa, “Polycyclic Aromatic Hydrocarbons in Soil Samples from Diboll, East Texas (USA)” *August 13, 2018. Preprint* <https://www.preprints.org/manuscript/201808.0401>
17. **Kefa Karimu Onchoke**, Antonio D. Trevino[§], “Electrochemical Characteristics of Benzantrone Studied via Cyclic Voltammetry: Charge Transfer Redox Processes”, *Analytical Chemistry Letters*; 9(2): 128-142, 2019. <https://doi.org/10.1080/22297928.2019.1613926>
18. **Kefa K. Onchoke**, Christopher M. Franclemont[§], Paul W. Weatherford, “Data on Ion composition and X-ray diffraction patterns of biosolids from wastewater treatment plants in Lufkin and Nacogdoches, Texas, USA”, *Data in Brief*, 20 (2018) 880 – 888. <https://doi.org/10.1016/j.dib.2018.08.087>
19. **Kefa K. Onchoke**, Christopher M Franclemont[§], Paul Wayne Weatherford, “Structural Characterization and Evaluation of Municipal Wastewater Sludge (Biosolids) from two

Rural Wastewater Treatment Plants in East Texas, USA” *Spectrochimica Acta A*, Volume 204, 5 November 2018, Pages 514–524. doi:[10.1016/j.saa.2018.06.096](https://doi.org/10.1016/j.saa.2018.06.096)

20. **Kefa Karimu Onchoke**, Isai T. Urasa, Barbara G. Shipes, “Influence of Composted Wastewater Sludge (CWS) on Lead and Copper Uptake by Radish (*Raphanus sativus* L.)”, *Compost Science and Utilization*, 2018, pages 1-12.
<https://doi.org/10.1080/1065657X.2018.1496044>.
21. **Kefa K. Onchoke**, Salomey A. Sasu; “Determination of hexavalent chromium (Cr⁺⁶) by Using Ion chromatography and UV-Vis spectrophotometry in samples from Nacogdoches wastewater treatment plant, East Texas (USA)” *Advances in Environmental Chemistry*, 2016(2):1-10, <http://dx.doi.org/10.1155/2016/3468635>
22. **Kefa K. Onchoke***, Saad Chaudhry[§], Jorge J. Ojeda, “Vibrational and Electronic Spectra of 2-Nitrobenzanthrone: An Experimental and Computational Study”, *Spectrochimica Acta A*, 153: 402-414, 2016. doi:10.1016/j.saa.2015.08.053
23. **Kefa K. Onchoke**, Michael A. Janusa, Salomey A. Sasu, “Evaluation of the Performance of a Rural Municipal Wastewater Treatment Plant in Nacogdoches, East Texas (USA) “, *Chemistry & Ecology*, 31(6):567-582, 2015. <http://dx.doi.org/10.1080/02757540.2015.1029463>
24. **Kefa K. Onchoke**, Matthew Parks[§]: Corrigendum to “Experimental and Theoretical Study of Vibrational Spectra of 3-Nitrofluoranthene” *J. Mol. Struct.*, 1080 (2015) 188.
25. **Kefa K. Onchoke**, “A TD-DFT Study of the Absorption Spectra of Mono-Nitrated Fluoranthenes”, *Comput. Theoret. Chem.*; 1042: 23-34, 2014.
doi:10.1016/j.comptc.2014.04.027
26. **Kefa K. Onchoke**, Jorge J. Ojeda[§], “A DFT Study of Vibrational Spectra and Mutagenicity Predictions of Mononitrated Fluoranthenes”, *Polycycl. Aromat. Cpds.* 33(5): 473–500, 2013. DOI:10.1080/10406638.2013.810654
27. **Kefa K. Onchoke**, Prabir K. Dutta, Matthew E. Parks[§], Mireya Martinez[§], “Vibrational and Electronic Spectra of 9,10-dihydrobenzo(a)pyren-7(8H)-one and 7,8,9,10-tetrahydrobenzo(a)pyrene: An Experimental and Computational Study”, *Spectrochim. Acta A: Mol. Biomol. Spectrosc.*; 81(2): 162-171, 2011. doi:10.1016/j.saa.2011.05.091
28. **Kefa K. Onchoke**, Mathew E. Parks[§], “Experimental and Theoretical Study of Vibrational spectra of 3-nitrofluoranthene”, *J. Mol. Struct.*, 99: 22-28, 2011.
doi:10.1016/j.molstruc.2011.04.033
29. **Kefa K. Onchoke**, “DFT/TD-DFT Investigation of Optical Absorption Spectra, Electron Affinities, and Ionization Potentials of Mono-nitrated Benzantrones”, *Comput. Theoret. Chem.*; 963(1): 40-50, 2011. doi:10.1016/j.comptc.2010.09.007
30. Subham Vyas, **Kefa K. Onchoke**, C. S. Rajesh, Christopher M. Hadad, Prabir K. Dutta “Optical Spectroscopic Studies of Mononitrated Benzo[a]pyrenes”, *J. Phys. Chem. A* 113(45), 12558–12565, 2009 (Russell Pitzer Festschrift).

31. **Kefa K. Onchoke**, Mathew E. Parks[§], Amanda Nolan[§], “A DFT Study of the Vibrational Spectra of 1-, and 2-Nitrotriphenylene”, *Spectrochim. Acta A: Mol. Biomol. Spectrosc.*; 74(2): 579-587, 2009.
32. **Kefa K. Onchoke**, “Structure-Mutagenicity Relationships and Energies of 1-, and 2-Nitrotriphenylenes”, *J. Mol. Struct. (Theochem)* 899(1-3): 79–85, 2009.
33. **Kefa K. Onchoke**, “Density Functional Theoretical Study of Mono-nitrated Fluoranthenes” *Polycycl. Aromat. Cpds.* 28(3): 193–212, 2008.
34. **K. K. Onchoke**, C. M. Hadad, P.K. Dutta, “Structure and Vibrational Spectra of Mononitrated Benzo[a]pyrenes”, *J. Phys. Chem. A*, 110(1): 76-84. 2006
35. **Kefa K. Onchoke**, Christopher M. Hadad, Prabir K. Dutta, “A Density Functional Theoretical Study of Nitrated Polycyclic Aromatic Hydrocarbons” *Polycycl. Aromat. Cpds.* 24(1): 37-64, 2004.

To be submitted

36. Kefa K. Onchoke, “Health Risk Assessment of Element Concentrations in Selected Foodstuffs in Nacogdoches City, East Texas, USA”

Dissertations/Thesis

37. Ph.D. Dissertation, “*Experimental and Theoretical Studies of Nitrated Polycyclic Aromatic Hydrocarbons*”, The Ohio State University (2006), Advisor: *Professor Prabir K. Dutta*.
38. M.S. Thesis, “*The Influence of Biosolids on Metal Uptake by Plants*”, Hampton University (2000), Advisor: *Professor Isai T. Urasa*.
39. Onchoke, K. K. **1998**. “*Water Quality and Health*”, MIRT-University of Dar es Salaam Program Reports (Unpublished)
40. B.Sc. (Hons.) Project, (June 1989), **Kefa K. Onchoke**, “The Insecticidal Activity of a Chloroform Extract from *Elaeodendron buchananii* against 5th Instar Desert Locusts” undergraduate research project with written thesis/report., University of Nairobi, Kenya
Advisor: Professors I. J. O. Jondiko & R. W. Mwangi.

VI. PRESENTATIONS AND TALKS

*** Oral presentations by K. K. Onchoke, § = Undergraduate students**

1. Madison McFarland[§] and Kefa Onchoke, “Spectroscopic studies of Pottery Sherds from Guatemala”, Summer Undergraduate Research Experience (SURE), SFASU College of Science and Mathematics, August 3, 2023.
2. Gary Lopez, Anthony Broom, Kefa Onchoke, “Spectroscopic (UV-Vis and fluorescence) and chromatographic (HPLC) studies of pharmaceuticals in Nacogdoches wastewater treatment plant”, Texas Academy of Science 126th Annual Meeting, March 03 – 04, 2023. **Angelo State University – Oral by Gary & Broom**
3. Anthony M. Broom[§], Gary Lopez[§], Kefa K. Onchoke, “Spectroscopic (UV-Vis and fluorescence) and chromatographic (HPLC) studies of pharmaceuticals in the

- Nacogdoches wastewater treatment plant”, ACS 2022 Southwest Regional Meeting (SWRM) at Baton Rouge, Nov. 6, 2022. Poster presentation.
4. Madison McFarland[§] and Kefa Onchoke, “Spectroscopic and Chromatographic studies of Pottery Sherds from Guatemala”, Undergraduate Research Showcase, Nov. 10, 2022 at SFASU.
 5. Gary Lopez[§], Anthony Broom[§], and Kefa Onchoke, “Detection of Carbamazepine, Diclofenac, and Ketoprofen Via a HPLC-PDA Method in a Municipal Wastewater Treatment Plant in East Texas, USA”, Undergraduate Research Showcase, Nov. 10, 2022 at SFASU
 6. Karl Vedan[§] and Kefa Onchoke, “Spectroscopic and Electrochemical studies of dibenz[a,h]anthracene (DBaA): an environmental mutagen” Undergraduate Research Showcase, Nov. 10, 2022 at SFASU
 7. Kefa K Onchoke, “Vibrational, optical absorption, and electronic spectra of 6-amino-, and 6-nitrochrysene: An experimental and computational study”, ACS 2022 Southwest Regional Meeting (SWRM) at Baton Rouge, Nov. 6, 2022. **Oral** presentation.
 8. Anthony M. Broom[§], Gary Lopez[§], Kefa K. Onchoke, “Spectroscopic (UV-Vis and fluorescence) and chromatographic (HPLC) studies of pharmaceuticals in the Nacogdoches wastewater treatment plant”, ACS 2022 Southwest Regional Meeting (SWRM) at Baton Rouge, Nov. 6, 2022. Poster presentation.
 9. Gary Lopez[§], Anthony Broom[§], and Kefa Onchoke, “Spectroscopic (FT-IR, UV-Vis, and Fluorescence) and HPLC-PDA Studies of Carbamazepine, Diclofenac and Ketoprofen”. Stephen F. Austin State University, Nacogdoches, Texas. 125th Annual Texas Academy of Science Meeting held on February 25-27, 2022, University of Houston at Clear Lake. Poster presentation
 10. Joshua Spencer Hamilton[§], Kefa Karimu Onchoke, “A Method for the Determination of Pesticides in Wastewater Samples with High Performance Liquid Chromatography with Photodiode-Array (PDA) and Fluorescence Detectors”. Stephen F. Austin State University, Nacogdoches, Texas. 125th Annual Texas Academy of Science Meeting held on February 25-27, 2022, University of Houston at Clear Lake. Poster presentation
 11. Kefa K. Onchoke, “Comprehensive Structural and Compositional Investigation of Maya Pottery Sherds from Lake Petén Itzá, Guatemala, Central America. Stephen F. Austin State University, Nacogdoches, Texas”. Kefa K. Onchoke 125th Annual Texas Academy of Science Meeting held on February 25-27, 2022, University of Houston at Clear Lake. **Oral** presentation.
 12. Karl Vedan[§] & Kefa K. Onchoke, “Spectroscopic and Electrochemical studies of dibenz[a,h]anthracene (DBaA): an environmental mutagen”. 125th Annual Texas Academy of Science Meeting held on February 25-27, 2022, University of Houston at Clear Lake. **Oral** presentation.

13. *Kefa Onchoke, "Teaching Science and Practical Subjects Online", Presented to Faculty and Staff at Machakos University, August 5, 2021. Oral Presentation
14. *Kefa K. Onchoke, Synthesis, Chromatographic, and Spectroscopic Characterizations of Mono-nitrated Benzanthrones, Virtual Conference held at Machakos University, 3rd Annual International Conference on June 25, 2021- Oral Conference
15. *Kefa Onchoke, "Vibrational and Electronic Spectra of 2-Nitrobenzanthrone: An Experimental and Computational Study, 11th June 2021 @ Multimedia University
16. Kefa K. Onchoke, Madilynn Dewell[§], "Elution Profiles of Eleven PAHs on a C-18 Chromatographic Column Using an HPLC-UV Method", National Honors Undergraduate Collegiate Conference, November 2020, Virtual Conference held at Dallas. Oral Presentation
17. *Kefa Onchoke, "Experimental and Theoretical Studies of Nitrated PAHs" at Kenyatta University, Kenya. Presentation to faculty, graduate, and undergraduate students. Oral. June 7, 2021.
18. *Kefa K Onchoke, "¹³C NMR Chemical Shift Assignments of Nitrated Benzo[a]pyrenes Based on Two-Dimensional Techniques and DFT/GIAO Calculations", Texas Academy of Science, 123rd Annual Meeting, Feb. 28, 2020, held at Stephen F. Austin State University. Oral talk
19. Brett P Horalan Jr.[§], Kefa K. Onchoke, "Influence of Composted Wastewater Sludge (CWS) on Zinc Uptake by broccoli (*Brassica oleracea* var.), Texas Academy of Science, 123rd Annual Meeting, Feb. 28, 2020, held at Stephen F. Austin State University.
20. Kefa K. Onchoke, Madilynn Dewell[§], "Elution Profiles of Eleven PAHs on a C-18 Chromatographic Column Using an HPLC-UV Method", Texas Academy of Science, 123rd Annual Meeting, February 28, 2020, held at Stephen F. Austin State University.
21. Kefa K. Onchoke, Patrick Ellis[§], "Spectroscopic and electrochemical studies of benz(a)anthracene, dibenz(a,h)anthracene, and pyrene" 2019 Undergraduate Research Conference, held at Stephen F. Austin State University Conference, April 16, 2019.
22. Oluwadamilola Olasumbo Fateru, Kefa K Onchoke, "Influence of Composted Wastewater Sludge (CWS) on Cadmium and Manganese Uptake by Radish (*Raphanus sativus* L.), 2019 Stephen F. Austin State University Women in STEM Conference, April 16, 2019.
23. Oluwadamilola Olasumbo Fateru, Kefa K Onchoke, "Influence of Composted Wastewater Sludge (CWS) on Cadmium and Manganese Uptake by Radish (*Raphanus sativus* L.), 2019 Texas Academy of Science, 122nd Annual Meeting, March 1-2, 2019 at Howard Payne University, Brownwood, TX.
24. Kefa K Onchoke, "Vibrational and Electronic Spectra of 2-Nitrobenzanthrone: An Experimental and Computational Study", 2019 Texas Academy of Science, 122nd

Annual Meeting, March 1-2, 2019, held at Howard Payne University, Brownwood, TX
Oral presentation.

25. Oluwadamilola Olasumbo Fateru, Kefa K Onchoke, "Influence of Composted Wastewater Sludge (CWS) on Cadmium and Manganese Uptake by Radish (*Raphanus sativus L.*), 2019 Texas Academy of Science, 122nd Annual Meeting, March 1-2, 2019, at Howard Payne University, Brownwood, TX.
26. Kefa K. Onchoke, Patrick Ellis[§], "Spectroscopic and electrochemical studies of benz(a)anthracene, dibenz(a,h)anthracene, and pyrene" 2018 Southwest Regional ACS Meeting that will be held in Little Rock, AR, November 7-10, 2018.
27. Kefa K Onchoke, Pressley S Nicholson[§], Leslie Cecil - Structural and Compositional Investigation of Pottery Samples from Guatemala - Symposium on Arts and Research April 19, 2017, SFASU, Nacogdoches, TX.
28. Onchoke, K. K. (Presenter & Author), Franclemont. C. (Presenter & Author) [§], Weatherford, W. P. (Other), 73rd Southwest Regional Meeting of the American Chemical Society, Lubbock, TX, United States, October 29-November 1, SWRM- Conference, "Characterization and evaluation of municipal wastewater sludge (biosolids) from Nacogdoches and Lufkin wastewater treatment plants in East Texas, USA," ACS, Lubbock. (October 31, 2017).
29. Kefa K. Onchoke, Christopher Franclemont[§], "Analysis of Metal and Anion Content in Wastewater and Biosolids from the Nacogdoches and Lufkin Wastewater Treatment Plants", Undergraduate Research Conference, SFASU, April 18, 2017.
30. Kefa K. Onchoke, Jorge J. Ojeda, Michael A. Janusa, "Polycyclic Aromatic Hydrocarbons in Soil Samples from Diboll, East Texas (USA)", Symposium on Arts and Research April 19, 2017, SFASU, Nacogdoches, TX.
31. The Welch Conference: 60th Conference on Chemical Research, Houston, Texas, "Frontiers in Imaging", October 24-25, 2016.
32. Kefa K Onchoke, Christopher Franclemont[§], "Determination of element concentrations (and risk assessment) in fish purchased from stores in Nacogdoches, East Texas, USA", Bright Ideas Conference, Stephen F. Austin State University, May 4, 2016, Nacogdoches, TX.
33. Kefa K Onchoke, Christopher Franclemont[§], "Determination of element concentrations (and risk assessment) in fish purchased from stores in Nacogdoches, East Texas, USA", 30th Anniversary National Conference on Undergraduate Research; University of North Carolina-Asheville, April 7-9, 2016.
34. Kefa K Onchoke, Christopher Franclemont[§], "Determination of element concentrations (and risk assessment) in fish purchased from stores in Nacogdoches, East Texas, USA", Texas Academy of Science, 119th Annual Meeting, March 4-6, 2016, held at TTU Center at Junction, TX

35. Kefa K. Onchoke, "DFT/TD-DFT Study of the Absorption Spectra of Mono-nitrated Fluoranthenes", Bright Ideas Conference, 2016, Nacogdoches, TX,
36. Kefa K. Onchoke, Alex W. Sanchez, "Spectroscopic and chromatographic studies of benzo(a)pyrene derivatives", Bright Ideas Conference, Stephen F. Austin State University, April 29, 2015, Nacogdoches, TX.
37. Kefa K. Onchoke, Salomey A Sasu, "Determination of Cr(VI) from sample collected from Nacogdoches wastewater treatment plant, East Texas (USA)", Bright Ideas Conference, Stephen F. Austin State University, April 29, 2015, Nacogdoches, TX.
38. Kefa K. Onchoke, Saad N Chaudhry[§], "Experimental and theoretical studies of the vibrational spectra of 2-Nitrobenzanthrone" 70th Southwest Regional Meeting of the American Chemical Society, Fort Worth, TX, United States, November 19-22, 2014
39. Kefa K. Onchoke, Alex W. Sanchez, "Spectroscopic and chromatographic studies of 7,8,9,10-tetrahydrobenzo(a)pyrene and 9,10-dihydrobenzo(a)pyren-7(8H)-one (7,9,10-H₄BaP and 9,10-H₂BaP)", 70th Southwest Regional Meeting of the American Chemical Society, Nov 21/2014, Fort Worth, TX.
40. Kefa K. Onchoke, Salomey A Sasu, "Evaluation of the performance of a rural municipal wastewater treatment plant in Nacogdoches, East Texas (USA)", 70th Southwest Regional Meeting of the American Chemical Society, Fort Worth, TX, United States, November 19-22, 2014, **Oral**
41. Kefa Onchoke, "DFT/TD-DFT Investigation of Optical Absorption Spectra, Electron Affinities, and Ionization Potentials of Mono-nitrated Benzanthrones", 2014. Bright Ideas Conference, SFASU
42. *Kefa K. Onchoke, "Lead and Copper Uptake by Rapid Radish (*Raphanus sativus* L.): Influence of Biosolids", ACS East Texas Meeting, Feb. 20, 2014, Nacogdoches, TX., **Oral**
43. Kefa K. Onchoke, Antonio D. Trevino[§] 2014 Bright ideas Conference, "Electrochemical Studies of polycyclic aromatic Compounds", Poster
44. Kefa K. Onchoke, J. J. Ojeda[§], "A Computational Study of the Vibrational Spectra of Mononitrated Fluoranthenes" - 68th Southwest Regional Meeting of the American Chemical Society, Nov 6/2012, Baton Rouge, LA
45. Kefa K. Onchoke, Merlly Zavala (2012)[§] – "Analysis of Zinc and Copper in Foods", **2012 Undergraduate Research Conference: Celebrating Academic Diversity, Poster**, April 10, 2012
46. Kefa K. Onchoke, Jorge Ojeda (2012)[§] – "*Raman and Infrared Study of Select Thiadiazole Derivatives*", **2012 Undergraduate Research Conference: Celebrating Academic Diversity, Poster**, April 10, 2012

47. Kefa K. Onchoke, Mireya Martinez[§], “Vibrational and UV/Vis Spectra of 9,10-dihydrobenzo(a)pyren-7(8H)-one and 7,8,9,10-tetrahydrobenzo(a)pyrene: An Experimental and Computational Study”, “Undergraduate Research Conference” **Poster**, April 7, 2011, Stephen F. Austin State University, SFASU
48. *Kefa K. Onchoke, “Vibrational and UV/Vis Spectra of 9,10-dihydrobenzo(a)pyren-7(8H)-one and 7,8,9,10-tetrahydrobenzo(a)pyrene: An Experimental and Computational Study”, 114th Annual Meeting, Texas Academy of Science, March 3-5, 2011; St. Edward’s University, Austin, TX.
49. ***Kefa K. Onchoke**, “Nitrated Polycyclic Aromatic Hydrocarbons Study: Synergy between Experimental and Computational Studies” Stephen F. Austin State University, College of Mathematics and Science Seminar, Nov. 19, 2010.
50. **Mireya Martinez[§], Matthew E. Parks[§], Amanda H. Nolan[§], Kefa K. Onchoke** (2010) “Experimental and Theoretical Study of the Vibrational and Optical Properties of 9,10-dihydrobenzo(a)pyrene-7(8H)-one and 7,8,9,10-tetrahydrobenzo(a)pyrene” Undergraduate Research Talk at Rice University, October 23, 2010, “2010 Regional Undergraduate Chemistry Symposium”, Rice University. (Mireya was the speaker)
51. **Kefa K. Onchoke, Matthew E. Parks[§], Amanda Nolan[§]**, “Vibrational Spectra of 1- and 2-Nitrotriphenylene: A DFT Study”, “Undergraduate Research Conference” **Research Talk**, April 22, 2010, Stephen F. Austin State University, SFASU (Amanda was the Speaker)
52. **Kefa K. Onchoke, Mireya Martinez[§], Matthew E. Parks[§], Amanda Nolan**, “Vibrational Spectra of 1- and 2-Nitrotriphenylene: A DFT Study”, Undergraduate **Research Talk** at Rice University, October 24, 2009, “2009 Regional Undergraduate Chemistry Symposium”, Rice University. (Amanda won honorable mention)
53. Kefa K. Onchoke, Matthew E. Parks[§], “Spectroscopic Studies of Fluoranthene and 3-Nitrofluoranthene” Undergraduate Research Talk at Stephen F. Austin State University, March 31, 2009, SFASU Nacogdoches, Texas.
54. **Kefa K. Onchoke, Matthew E. Parks[§]**, “Spectroscopic Studies of Fluoranthene and 3-Nitrofluoranthene” Undergraduate **Research Talk** at Stephen F. Austin State University, March 31, 2009, SFASU Nacogdoches, Texas.
55. **Kefa K. Onchoke, Matthew E. Parks[§]**, *“Experimental and Density Functional Theoretical Study of Mono-Nitrated Fluoranthenes: Correlations to Mutagenicity”*, 64th Southwest Regional ACS Meeting (SWRM) (October 1- 4, 2008), Little Rock, Arkansas.
56. **Kefa K. Onchoke**, “*Optical Spectroscopic Studies of Mono-Nitrated Benzo[a]pyrenes*”, Bright Ideas Conference, April 24, 2008, Stephen F. Austin State University, Nacogdoches, TX
57. **Kefa K. Onchoke, Matthew E. Parks[§]**, “*Density Functional Theoretical Studies of Nitrated Fluoranthenes*”, Bright Ideas Conference, April 24, 2008, Stephen F. Austin State University, Nacogdoches, TX.

Presentations and Talks (Cont'd)

58. ***Kefa K. Onchoke**, *Experimental and Theoretical Studies of Nitrated Polycyclic Aromatic Hydrocarbons*”, Department of Chemistry, May 2, 2006, Stephen F. Austin State University, Nacogdoches, TX.
59. ***Kefa K. Onchoke**, *Experimental and Theoretical Studies of Nitrated Polycyclic Aromatic Hydrocarbons*” Analytical Division Seminar, Department of Chemistry, March 7, 2006, The Ohio State University, Columbus, OH.
60. ***Kefa K. Onchoke**, *Experimental and Theoretical Studies of Nitrated Polycyclic Aromatic Hydrocarbons*” Analytical Division Seminar, Department of Chemistry, Nov. 7, 2005, Missouri State University, Springfield, MS.
61. **Kefa K. Onchoke**, James W. Waldman, J. F. Long, A. Phipps, M. V. Williams, P. K. Dutta, “Synthesized Model Environmentally Relevant Particles: A Look at the Size Effects upon Human Macrophages” June 15-17, 2005, Environmental Molecular Science Institute/North Central NOM Workshop, The Ohio State University, Columbus, OH.
62. **Kefa K. Onchoke**, C. M. Hadad, P.K. Dutta, *Experimental and Theoretical Studies of Nitrated Polycyclic Aromatic Hydrocarbons*” Evans Lecture, Oct. 28, 2004.
63. ***Kefa K. Onchoke**, R. L. Kristovich, C. M. Hadad, P.K. Dutta “Experimental and Theoretical Studies of Nitrated Polycyclic Aromatic Hydrocarbons” June 14-15, 2004. Environmental Molecular Science Institute, 3rd Annual Workshop, The Ohio State University, Columbus, OH.
64. **Kefa K. Onchoke**, C.M. Hadad, P.K. Dutta, “Experimental and Theoretical Studies of Nitrated Polycyclic Aromatic Hydrocarbons” October 28, 2004, Evans Lecture, Graduate Student Poster, The Ohio State University, Columbus, OH.
65. **Kefa K. Onchoke**, C.M. Hadad, P.K. Dutta, “A Density Functional Theory Study of Nitro Polycyclic Aromatic Hydrocarbons: Examining Correlation between Nitro Group Orientation and Biological Activity” June 9-10, 2003, Environmental Molecular Science Institute, 2nd Annual Workshop, The Ohio State University, Columbus, OH.
66. **Kefa K. Onchoke**, R. L. Kristovich, C. M. Hadad, P.K. Dutta, “The reaction of Benzo[a]pyrene with NO₂; A Study of the Nitropolycyclic Aromatic Hydrocarbon Products formed” April 15, 2002, 1st Environmental Molecular Science Institute Workshop, The Ohio State University, Columbus, OH (Poster presentation).
67. ***Kefa K. Onchoke**, R. L. Kristovich, P.K. Dutta, “Reactions of Benzo[a]pyrene with NO₂; Theoretical Studies” Analytical Division Seminar, Department of Chemistry, January 15, 2000, The Ohio State University, Columbus, OH.
68. I. T. Urasa, **Kefa Onchoke**, “Influence of Bio-Solids on Heavy Metal Uptake by Plants”, 5th Annual Student Research Symposium, February 5th, 2000, Hampton University, Hampton, VA

69. I. T. Urasa, and ***Kefa Onchoke** “Influence of Bio-Solids on Heavy Metal Uptake by Plants”, Virginia Academy of Sciences 77th Annual Meeting, Old Dominion University, Norfolk, Virginia, May 27th, 1999.
70. I. T. Urasa and **Kefa Onchoke**, “Water Quality Profile of the City of Dar es Salaam: Physico-Chemical Parameters” 4th Annual Student Research Symposium, February 13th, 1999, Hampton University, Hampton, VA.
71. I. T. Urasa, J. Greene, **K. Onchoke**, and D.S. Mosha, “Water Quality Profile of the City of Dar es Salaam: Physico-Chemical Parameters”, National Minority Research Symposium, New York, November 21-25, 1998.
72. I. T. Urasa, J. Greene, ***K. Onchoke**, and D. S. Mosha, “Water Quality Profile of the City of Dar es Salaam: Physico-Chemical Parameters”, University of Dar es Salaam, Tanzania, Sept. 1998.
73. ***Kefa K. Onchoke**, I. J. O. Jondiko, R. W. Mwangi, “The Insecticidal Activity of a Chloroform Extract from *Elaeodendron buchananii* against 5th Instar Desert Locusts” undergraduate research project with written thesis/report. June 1989, University of Nairobi, Kenya

VII. CONFERENCES ATTENDED

1. At Machakos University, 3rd Annual International Conference on June 25, 2021- Oral presentation (by Kefa Onchoke).
2. National Undergraduate Honors Conference, Held Virtually (Dallas, TX, Nov. 2020).
3. Texas Academy of Science, 123rd Annual Meeting, February 28-29, 2020, Stephen F. Austin State University, Nacogdoches, TX.
4. SFASU Undergraduate Research Conference (URC) 2019
5. SFASU Undergraduate Research Conference 2019
6. SFASU 2019 – graduate Conference
7. Texas Academy of Science, 122nd Annual Meeting, March 1-2, 2019, Howard Payne University, Brownwood, TX.
8. SWRM- Conference, "Spectroscopic and electrochemical studies of benz(a)anthracene, dibenz(a,h)anthracene, and pyrene, USA", 74th Annual SWRM Conference, ACS, Little Rock, AR. (Nov. 7-10, 2018).
9. The 62nd Welch Conference (2018): Welch Conference on Chemical Research, "Water: Science and Technology", Houston, Texas, October 22-23, 2018.
10. Symposium on Arts and Research Conference, SFASU, April 18 & 19, 2018. Local section.

11. SWRM- Conference, "Characterization and evaluation of municipal wastewater sludge (biosolids) from Nacogdoches and Lufkin wastewater treatment plants in East Texas, USA," ACS, Lubbock. (October 31, 2017).
12. Undergraduate Research Conference, Symposium on Arts and Research Conference, SFASU, April 18, 2017. Local section.
13. Symposium on Arts and Research April 19, 2017, SFASU, Nacogdoches, TX.
14. The Welch Conference: 60th Conference on Chemical Research, Houston, Texas, "Frontiers in Imaging", October 24-25, 2016.
15. 30th Anniversary National Conference on Undergraduate Research; University of North Carolina Asheville, April 7-9, 2016 Texas Academy of Science,
16. Texas Academy of Science, 119th Annual Meeting, March 4-6, 2016 held at TTU Center at Junction, TX
17. The Welch Conference: 59th Conference on Chemical Research, Houston, Texas, "Next Generation Medicine", October 26-27, 2015.
18. Kefa K Onchoke, Alex W. Sanchez, "Spectroscopic and chromatographic studies of 7,8,9,10-tetrahydrobenzo(a)pyrene and 9,10-dihydrobenzo(a)pyren-7(8H)-one (7,9,10-H₄BaP and 9,10-H₂BaP)", Bright Ideas Conference, Stephen F. Austin State University, April 29, 2015, Nacogdoches, TX
19. Kefa K Onchoke, Salomey Sasu, "Cr (VI) analysis in Nacogdoches Wastewater Treatment Plant". Bright Ideas Conference, Stephen F. Austin State University, April 29, 2015, Nacogdoches, TX.
20. Kefa K Onchoke, Saad N Chaudhry, "Experimental and theoretical studies of the vibrational spectra of 2-Nitrobenzanthrone" 2014 Southwest Regional Meeting of the American Chemical Society, Nov 21/2014, Fort Worth, TX
21. Kefa K Onchoke, Alex W. Sanchez, "Spectroscopic and chromatographic studies of 7,8,9,10-tetrahydrobenzo(a)pyrene and 9,10-dihydrobenzo(a)pyren-7(8H)-one (7,9,10-H₄BaP and 9,10-H₂BaP)", 2014 Southwest Regional Meeting of the American Chemical Society, Nov 21/2014, Fort Worth, TX
22. Kefa K Onchoke, Salomey A Sasu, "Evaluation of the performance of a rural municipal wastewater treatment plant in Nacogdoches, East Texas (USA)", 2014 Southwest Regional Meeting of the American Chemical Society, Nov 19/2014, Fort Worth, TX. Oral
23. The Welch Conference: 57th Conference on Chemical Research, Houston, Texas, "Large Problems in Life Chemistry", October 27-28, 2013.
24. NSF Sponsored cCWCS (Chemistry Collaborations, workshops & communities of Scholars) Environmental Chemistry Workshop, Georgia State University, Atlanta, Georgia, May 19-24, 2013.

25. 68th Southwest Regional Meeting of the ACS in Baton Rouge Nov. 7-12, 2012.
26. Theoretical and Computational Workshop, June 12 - June 17, 2011, Salt Lake City, Utah.
27. Texas Academy of Science, 114th Annual Meeting, March 3-5, 2011 held at St. Edward's University, Austin, TX.
28. The Welch Conference: 54th Conference on Chemical Research, Houston, Texas, "Green Chemistry and Sustainable Energy" October 25-26, 2010.
29. "2010 Regional Undergraduate Chemistry Symposium", Weiss School of Natural Sciences, Department of Chemistry, Rice University, October 23th, 2010.
30. "Computational Chemistry for Chemistry Educators", NSF Workshop in Chemical Sciences, San Jose State University, California, August 1-7, 2010.
31. Bright Ideas Conference, April 12, 2010, Stephen F. Austin State University, Nacogdoches, TX. (Presented poster).
32. Undergraduate Research Symposium at Stephen F. Austin State University, April 22, 2010, SFASU Nacogdoches, Texas- (A. Nolan was Undergraduate Key note speaker).
33. "2009 Regional Undergraduate Chemistry Symposium", Weiss School of Natural Sciences, Department of Chemistry, Rice University, October 24th 2009.
34. "NMR: Fundamentals and Applications", NSF Workshop in Chemical Sciences, University of Georgia, GA, May 17 -22, 2009.
35. Undergraduate Research Symposium at Stephen F. Austin State University, March 31, 2009, SFASU Nacogdoches, Texas.
36. NMR Applications in the Undergraduate Curriculum, (Anasazi Instruments), Friday, Jan. 9, 2009, University of St. Thomas, Houston, Texas.
37. 64th Southwest Regional ACS Meeting (SWRM) (October 1- 4, 2008), Little Rock, Arkansas.
38. Bright Ideas Conference, April 24, 2008, Stephen F. Austin State University, Nacogdoches, TX. (Presented 2 posters)
39. The Welch Conference: 51st Conference on Chemical Research, Houston, Texas, "Physical Biology - From Atoms to Cells" October 22-23, 2007.
40. "Modeling Biomolecules" NSF Workshop in Chemical Sciences, Jackson State, University, MS, May 20 -25, 2007.
41. The Welch Conference: 50th Conference on Chemical Research, Houston, Texas, "Exploring the Complexity of Signaling Pathways" October 23-24, 2006.

42. Environmental Molecular Science Institute/North Central NOM Workshop, The Ohio State University, Columbus, OH, June 15-17, 2005.
 43. Environmental Molecular Science Institute, 3rd Annual Workshop, The Ohio State University, Columbus, OH, June 14-15, 2004.
 44. Environmental Molecular Science Institute, 2nd Annual Workshop, The Ohio State University, Columbus, OH, June 9-10, 2003.
 45. 1st Environmental Molecular Science Institute Workshop, The Ohio State University, Columbus, OH (Poster presentation), April 15, 2002.
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VIII. TEACHING EXPERIENCE & COURSES TAUGHT

Assistant/Associate/ Full Professor of Chemistry, Stephen F. Austin State University,
8/2006 – 8/2012, 9/2012-2015, 9/2016 – Present

COURSES TAUGHT

CHE 526/5126 Chromatographic Methods of Analysis

CHE 590 Thesis Writing

CHE 521 – Advanced Analytical Chemistry

CHE 520 – Environmental Chemistry

CHE 4443/4043L – Instrumental Analysis Course and Lab

CHE 420 – Environmental Chemistry

CHE 420L – Environmental Chemistry Lab

CHE 330L - Organic Chemistry I Lab

CHE 231 – Analytical Chemistry

CHE 134 - General Chemistry II

CHE 134L - General Chemistry II (Lab)

CHE 133 - General Chemistry I

CHE 112 - Introductory Chemistry II for Nonscience majors

CHE 111 - Introductory Chemistry I for Nonscience majors

CHE 111L - Introductory Chemistry I for Nonscience majors (Lab)

Adjunct Instructor: Columbus State Community College, (January – Aug. 2006)

CHEM. 172/172 L – General Chemistry II and &Lab.

CHEM 173 - General Chemistry

CHEM. 113 - General and Biological Chemistry Lecture & lab

CHEM. 101 - Natural Science for Non-majors

CHEM. 100 - Introductory Chemistry

CHEM. 100L - Introductory Chemistry lab

Teaching Assistant: The Ohio State University

Chem. 823 - Advanced Analytical Spectroscopy

Chem. 721 - Advanced Analytical Chemistry – Course covered analytical techniques

Chem. 588 – Analytical Instrumental course for senior undergraduates

Chem. 121 - Analytical Laboratory Course

Chem. 123 - General Chemistry (Analytical Laboratory Course)

IX. SERVICE

A. Departmental Committees:

Chair (Capstone Committee 2017 -2019)
Chair, Promotion and Tenure committee (2018 -2019)
Faculty Search Committee member for two inorganic chemists, 2016 - 2017
Faculty Search Committee member for organic chemist, 2013
Safety Committee Chair 2009 -2013
Member, CHE 100 Committee 2009/2010
Member, CHE 101 Committee 2012
Member, Awards Banquet 2006-2007, F2014 - 2015
Recruitment/Retention Committee 2006-present
Graduate Advisory Committee 2008-present; 2012, 2013, 2014 - 2016
Chemistry Newsletter committee 2008 - present
Faculty Search Committee member for Biochemist 2007 – 2008
Safety Committee 2006 – 2014, Chair safety Committee 2013,
Welch Awards Committee 2008-present; Chair (2014 - present)
Promotion/Tenure Policy committee (2012, 2013, 2014, 2015, 2016)

Outreach – member Outreach committee

Showcase Saturday in recruiting students March 24, 2018
Showcase Saturday in recruiting students March 23, 2017
Showcase Saturday in recruiting students
Chemistry Website (2012 -2014)
Instrumentation, 2012 - present
CHE 111 Core assessment committee member 2006 - present
CHE Core Assessment CHE 101, 2012 - present
Core Assessment CHE 134, 2013, 2014, 2015
Core Assessment CHE 133, 2014, 2015
Awards Banquet/Social 2014, 2015,

B. UNIVERSITY SERVICE

1. University Graduate Council member, 2022 - 2025.
2. Faculty Senate, Policy Committee member, Member. (September 1, 2019- 2020).
3. Faculty Senate, Distance Education Committee member, Member. (September 1, 2015- 2020).
4. Faculty Senator representing the College of Science and Math (2014 – 2020)
5. Faculty Senator; member of the Academic Affairs and Elections committees. (2015 – 2017).
6. Service Learning Committee, Member. (March 29, 2010).
7. Showcase Saturday, Poster presenter. March 29/2008, March 27/2010, March 26/2011, March 25, 2017

C. COLLEGE OF SCIENCE AND MATHEMATICS

1. Promotion and Tenure Committee to Full Professor, member (2017 – present)
2. Undergraduate Research Council; was College representative during the Undergraduate Research Conference meetings 2010 -2015
3. Undergraduate Research Council 2010 -2015 (Research paper authored by Amanda and Parks was posted on the National Undergraduate Research Council website)

X. PROFESSIONAL EXPERIENCE (Peer Reviews, Journals & Books)

Reviewer for the following organizations, books, and journals.

(a) Reviewer of Proposals

NSF: NSF Grant Reviewer (CHE – ECS, FY 2023, Reviewed 17 Proposals)

NSF: NSF Grant Reviewer (CHE – ECS, FY 2021, Reviewed 10 Proposals)

NSF: NSF Grant Reviewer (CHE – ECS, FY 2019, Reviewed 16 Proposals)

NSF: NSF Grant Reviewer (CHE – ECS, 2018 Reviewed ~ 30 Proposals)

NSF: NSF Grant Reviewer (CHE – ECS, FY 2017, 30 proposals)

NSF: NSF Grant Reviewer (CHE – ECS, FY 2016, Reviewed > 10 Proposals)

(b) Books:

1. Reviewed Revell Book *Introductory Chemistry*. Chapt. 3, 4 (Chapter 3 – Atoms, Chapt. 4 *Light and Electronic Structure* – May 1 –May 15, 2019).
2. Reviewed a Sapling Interactive Books Intro Chem Chapt. 8, 10, 19 review (Introductory Chemistry, June 4, 2018).
3. Reviewed two chapters of an online digital textbook, “*Introductory Chemistry*” in preparation for the second edition – W H Freeman and Co., NY. (June 27, 2016)
4. Reviewed Book, “*Exploring Chemical Analysis 4e*” in preparation for the fifth edition – W H Freeman and Co., NY. (May 20, 2010)
5. Reviewed content, prospectus and 4 chapters of a draft textbook for a one-semester **Proposed General, Organic, and Biological Chemistry Textbook: (*The Basics of General, Organic, and Biological Chemistry*)** for pre-nursing students, Oxford University press, Jan. 26, 2010.
6. Reviewed content in book, “*Chemistry: Structure, Bonding and Reactivity – An Atoms First Approach*” Sept. 2009
7. Reviewed Prologue & Chapters 1-2 in book, “*General, Organic and Biological Chemistry: Structures of Life*”, by Karen C. Timberlake 3rd Edition (2008)

(c) PEER REVIEWING JOURNALS Articles

Journals (61 journal papers reviewed, in addition reviewed >10 NSF proposals in 2016, > 30 for NSF in 2017-2018, 16 NSF proposals FY 2019)

1. *16 NSF proposals FY 2019*
2. *>10 NSF proposals (2016)*
3. *> 30 NSF Proposals (2017, & 2018)*
4. *Water, Air and Soil Pollution, (1 MS, August 2023).*
5. *International Journal of Biomaterials (Hindawi journal, 1 MS 2023).*
6. *Disciplinary and Interdisciplinary Science Education Research (DISER) 2023 (IMS). Springer*
7. *Environmental Technology and Innovation 2023 (2 manuscripts). Elsevier*
8. *Resources, Conservation & Recycling (2023, 1 paper); Elsevier*
9. *Applied Water Science 2 papers (2023). Springer*
10. *Water, Air and Soil Pollution, (1 MS, 2023). Springer*
11. *Environmental Monitoring and Assessment (June 8, 2022, 1 paper), Springer*
12. *Discover Water (Oct. 11, 2021 , 1 paper), Springer*

13. *Foods* April 20, 2021, May 3 2021 (2 papers)
14. *Environmental Health Insights* (2021) (For SAGE publisher)
15. *Sustainability*, June 5, 2019 (1 paper)
16. *Agronomy* (1 Paper 2019)
17. *PeerJ – Life and Environmental Sciences* – 1 paper (July 21,2019)
18. “*Molecules*” 1 paper July 9, 2019.
19. *Journal “Molecules” MS # Molecules] Manuscript ID: Molecules* (1 paper 2019)
20. *J. Mol Structure* 2019 – 1 paper, Elsevier
21. *Environ. Sci. and Technol.* 2018. ACS
22. *Journal “Molecules” MS # Molecules] Manuscript ID: Molecules-308107* (1 paper 2018).
23. *Journal “Molecules” MS # Molecules] Manuscript ID: Molecules-275670* (1 paper 2018).
24. *Journal “Separation” MS # Separations] Manuscript ID: separations-247149* (1 paper 2017).
25. *Coloration Technology* (1 paper, Nov. 2016). Elsevier
26. *Journal of Physical Chemistry* (1 paper, 2016)
27. *Computational and Theoretical Chemistry* (1 paper 2016)
28. *Spectrochimica Acta A: Mol. & Biomol. Spectrosc.* (1 Paper 2016)
29. *Journal of Theoretical and Computational Chemistry* 2 article, 12/27/2015, March 2017, December 2017, World Scientific Publishing Co
30. *Chemistry and Ecology*, 1 article 4/20/2015, 1paper (MS # GCHE-2017-0173)Taylor & Francis
31. *Journal of Molecular Physics* (1 paper 2014), Taylor & Francis
32. *Computational and Theoretical Chemistry* (1 paper 2014, 1 paper, 2012), Elsevier
33. *Spectrochimica Acta A: Mol. & Biomol. Spectrosc.* (1 Paper 2014, 1 Paper 2011, 1 Paper 2009), Elsevier
34. *Analyst* (2 papers 2012), RSC
35. *J. Molecular Structure* (1 paper 2012, 1 paper 2019), Elsevier
36. *Environmental Toxicology and Chemistry* (1 Paper 2012, 1 Paper 2009, 2 Papers 2008), Wiley
37. *Chemosphere* (1 paper, 2012), Elsevier
38. *Journal of Physical Chemistry A* (1 paper Feb. 2012), ACS
39. *Journal of Molecular Modeling and Graphics* (1 paper 2011), Elsevier
40. *Canadian Journal of Chemistry* (1 paper, 2011)
41. *Journal of Undergraduate Chemistry Research* (3 papers 2010)
42. *Journal of Physical Organic Chemistry* (1 Paper 2009), Wiley
43. *Journal of Hazardous Materials* (1 Paper, 2008), Elsevier
44. *Graduate Research paper (Environmental Science & Technology)* (1 Paper 2008; 1 Paper 2007)

XIII. Membership and Associations:

- The American Chemical Society (2002 - Present).
- Texas Academy of Science (senior member, 3/2011 - present).
- Virginia Academy of Sciences (1999 - 2000).
- African Medical Research Foundation (1994 -1997)