**Shashika Nadishani Bandara**

**Academic:** Department of Chemistry **Home:** 1608 University Court,

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**Personal:** Born November 17, 1988, Sri Lanka

**Education:**

Ph.D. Candidate in Chemistry, University of Kentucky, Lexington, KY

Expected Graduation: 2021; Advisor: Prof. David A. Atwood

B.Sc. Honors Degree in Chemistry second class (upper division), University of Peradeniya, Sri Lanka, 2014, Thesis title: “Removal of Chloride and Fluoride anions from water using Laboratory prepared activated coconut coir; Advisor: Prof. A.D.L.C. Perera; Subsidiary subjects: Zoology and Botany

**Research Experience:**

The University of Kentucky, (May 2017 - present) Developing dithiol molecules that strong covalent bonds with heavy metals, develop water remediation methods, synthesis and characterization of colored dithiol compounds as an efficient method for the detection of heavy metals. Laboratory work includes standard synthesis, inert atmosphere vacuum line techniques, other analyses (TGA, DSC, NMR, UV-visible, infrared, GC-MS, XPS) and computational analysis.

**Skills:**

Fourier Transform Infrared Spectroscopy (FTIR), Raman Spectroscopy, Nuclear Magnetic Resonance (NMR), X-Ray Diffraction (XRD), UV-vis Spectroscopy, X-Ray Photoelectron Spectroscopy (XPS), Thermogravimetric Analysis (TGA), Differential Scanning Calorimetry (DSC), Gas Chromatography (GC), Gas Chromatography-Mass Spectrometry (GC-MS); Computer: OriginPro, Visual MINTEQ, ChemDraw, Endnote, Zotero, Reaxys, Mercury (single-crystal X-ray data analysis and visualization), Avogadro.

**Appointments (Teaching Assistant):**

University of Kentucky

Spring Semesters 2016, 2017, 2018, and 2019: Organic Chemistry laboratory I (CHE 231)

Fall Semesters 2016, 2017, 2019: Organic Chemistry laboratory II (CHE 233)

Fall 2018: Inorganic Chemistry laboratory (CHE 412)

University of Peradeniya

Fall Semesters 2014 and 2015: Department of Chemistry (CH 348, 328, 109)

Spring 2015: Advanced Analytical Chemistry laboratory (CH 511)

**Fellowships, Honors, and Awards:**

Max Steckler Fellowship for Outstanding Oral Qualifying Exam Award, Department of Chemistry, University of Kentucky (Spring 2018-2019)

**Industrial Internship:**

Determination of Sucralose Concentration in Carbonated Beverages. - External Supervisor: Perera, U., Internal Supervisor: Prof. Perera, A.D.L.C. (Ceylon Cold Stores, Kaduwela); Jan., Feb. 2014

**Publications:**

IPURSE 2015: “Preliminary study on the use of activated coconut coir as an adsorbent for Cl- and F–*Proceedings of the Peradeniya University International Research Sessions, Sri Lanka”,* Bandara, H.K.M.S.N., Perera, A.D.L.C.; Kottegoda, N.; IPURSE 2015/2016.

**Presentations:**

(6) “Thiol as Heavy Metal Capturing Agents”. Bandara, S.N.; Atwood, D.A; Parkin, S.; MRS annual symposium, September 2019, University of Kentucky (oral)

(5) “Heavy Metal Capture and Detection Using Colored Synthetic Dithiols.” Bandara, S.N.; Parkin. S.; Atwood, D. A., 2019 KY NSF EPSCoR SuperCollider, 2019 (poster)

(4) “Aqueous Toxic Heavy Metal Detection Using Colored Synthetic Dithiolates.” Bandara, S.N.; Atwood, D. A., Naff Symposium, University of Kentucky, 2019 (poster)

(3) “Heavy Metal Capture and Detection Using Colored Synthetic Dithiols.” Bandara, S.N.; Soriano, A. V.; Atwood, D. A., 2019 KWRRI Annual Symposium, 2019 (poster)

(2) “Aqueous Toxic Heavy Metal Detection Using Colored Synthetic Dithiolates.” Bandara, S.N.; Atwood, D. A., Naff Symposium, University of Kentucky, 2018 (poster)

(1) “Corrosion Chemistry and its Prevention.” Bandara. S.N.; Prof. Namal Priyantha, Final year research poster session, University of Peradeniya, Sri Lanka, December 2014. (poster)

**Professional memberships:**

Electrochemical Society-UK chapter (member, June 2019, September - present)

**Research Mentoring Experience:**

Train and supervise undergraduate students in laboratory research activities including inorganic synthesis, characterization, and analysis. (August 2018 - present)

**Outreach Activities:**

2019 April Volunteered for Kentucky Science Olympiad State Tournament.

2018 Fall Volunteered as a connection team member assisting with international incoming graduate students, Department of Chemistry, University of Kentucky