Wesley T. Honeycutt

Curriculum Vitae

111 E. Chesapeake St.
Norman, OK 73019
+1 (918) 214 2519
honeycutt@ou.edu
wesleythoneycutt.com

Education

2012–2017 **Ph.D.**, *Oklahoma State University*, Stillwater, OK, *Chemistry.*
Nicholas F. Materer Research Group

Dissertation *Development and Applications of Chemical Sensors for the Detection of Atmospheric Carbon Dioxide and Methane*

2006–2011 **B.Sc**, *University of Oklahoma*, Norman, OK, *Chemistry.*
Robert L. White Research Group

Thesis *Methods of Environmental Tobacco Determination by Gas Chromatography*

Peer-Reviewed Publications

Wesley T. Honeycutt and Eli S. Bridge. UnCanny: Exploiting reversed edge detection as a basis for object tracking in video. *Journal of Imaging*, 7(5), 2021. ISSN 2313-433X. doi: 10.3390/jimaging7050077

Wesley T. Honeycutt, Taehwan Kim, M. Tyler Ley, and Nicholas F. Materer. Sensor array for wireless remote monitoring of carbon dioxide and methane near carbon sequestration and oil recovery sites. *RSC Advances*, 11(12): 6972–6984, 2021. doi: 10.1039/D0RA08593F

Wesley T. Honeycutt, Alyse V. Heaston, Jeffrey F. Kelly, and Eli S. Bridge. LunAero: Automated "Smart" Hardware for Recording Video of Nocturnal Migration. *HardwareX*, 7:e00106, April 2020. ISSN 2468-0672. doi: 10.1016/j.ohx.2020.e00106

Wesley T. Honeycutt, M. Tyler Ley, and Nicholas F. Materer. Precision and Limits of Detection for Selected Commercially Available, Low-Cost Carbon Dioxide and Methane Gas Sensors. *Sensors*, 19(14), 2019. ISSN 1424-8220. doi: 10.3390/s19143157

Conference Papers

Jamey Jacob, Taylor Mitchell, Wesley T. Honeycutt, Nicholas F. Materer, and Peter Clark. Monitoring of Carbon Dioxide and Methane Plumes from Combined Ground-Airborne Sensors. In *Convection and Boyancy Driven Flows: Environmental*, volume 61 of *20*. APS, November 2016

Wesley T. Honeycutt, Hayden Hamby, Allen Apblett, and Nicholas F. Materer. Uptake kinetics of heavy metals from water using a high surface area supported inorganic metal oxide. In *Abstracts of Papers, 247th ACS National Meeting & Exposition, Dallas, TX, United States, March 16-20, 2014*, pages ENVR–272. American Chemical Society, 2014

Wesley T. Honeycutt, Evgueni B. Kadossov, Allen W. Apblett, and Nicholas F. Materer. Selectivity and kinetic behavior of heavy metal and radionuclides on supported ion-exchange adsorbant. In *Abstracts of Papers, 249th ACS National Meeting & Exposition, Denver, CO, United States, March 22-26, 2015*, pages I+EC–44. American Chemical Society, 2015

Work Experience

2021– **Postdoctoral Research Associate**, *GeoCarb*, Norman, OK.
Development of custom portable terrestrial column measurement devices for satellite validation.

2021– **Postdoctoral Research Associate**, *X-GEM Project*, Norman, OK.
Transdisciplinary (electrical engineering, architecture, social sciences) postdoctoral research on greenhouse gases as well as co-PI leadership responsibilities related to Big Idea Challenge Grant at OU.

2017–2020 **Postdoctoral Research Associate**, *Oklahoma Biological Survey, OU*, Norman, OK.
Postdoctoral work coordinating part of the OU Aeroecology University Strategic Initiative at OU-OBS. Developed robotics, sensors, and computer vision technology for ecological applications, gaining experience in Python, C, C++, and CAD.

2016– **Owner**, *BNH Technologies LLC.*, Stillwater, OK.
Started company to act as a face of my consulting and technology development projects. Fulfilled multiple consulting contracts through this entrepreneurial venture.

2013–2017 **Research Assistant**, *OSU Department of Chemistry*, Stillwater, OK.
Worked as a research assistant to Prof. Nicholas F. Materer. Primary research was development of a network sensor array for CO_2 and CH_4 monitoring near injection wells. Secondary projects included uranium uptake kinetics on metal oxide sorbents, health implicaiton of aerosols in electronic cigarettes, and peroixde explosives detection.

2013–2013 **Contract Scientist**, *XploSafe LLC.*, Stillwater, OK.
Subcontract work testing novel sorbent materials.

2012–2013 **Teaching Assistant**, *OSU Department of Chemistry*, Stillwater, OK.
Taught lab sections of CHEM 1414 "Chemistry for Engineers" and teaching assistance for labs and lectures of CHEM 1314 "Chemistry for Non-Majors" for two semesters each. Recieved exceptional reviews from students above the departmental average.

2012–2012 **Substitute Teacher**, *Bartlesville Public Schools*, Bartlesville, OK.
Substitute teacher for Chemistry, Biology, Theater, Speech, and At-Risk classes between previous contract work ending and starting graduate studies.

2011–2012 **Lab Technician**, *Chevron Phillips Chemical Co.*, Bartlesville, OK.
Worked in Rheology and Additive Characterization labs in relation to the production of polyethylene and other specialty polymers.

Teaching & Curriculum

LaTeX Workshops	Developed Carpentries-style workshop curriculum for introductory LaTeXskills for OU Libraries. Workshop is requested by departments (including math and geography) as well as campus wide research events (RezBaz) through the libraries. Asked to lead instruction of the workshop at least once per semester since 2019
LaTeXIntro	Developed a short presentation for OU Libraries to introduce LaTeXto students in under an hour. Taught since 2018
Ti*k*Z Intro	Developed a short presentation for OU Libraries to introduce Ti*k*Z to students in under an hour. Taught since 2020
Graduate TA	Taught multiple lab sections including Freshman Chemistry for Non-Majors and Chemistry for Engineers
Substitute	Performed substitute teaching at Bartlesville High School for Chemistry, Biology, and Theater

Presentations

Seminar	On Sustainability as a Cyber-Physical-Social System	*Sept. 17th, 2021*
	Seminar given to the SRL@OU "Conversations" Series	
Talk	OU Biologging Practicum	*Nov. 17th, 2017*
	Informal presentation of LunAero design and technical aspects encountered during volunteer phase.	
Talk	ACS 62nd Annual Pentasectional	*Mar. 25th, 2017*
	Discussion of Carbon Dioxide and Methane Concentration Spikes from an Airfield near Stillwater, OK and a Carbon Sequestration Site near Farnsworth, TX	
Talk	Baylor 6th Annual New Venture Competition	*Feb. 25th, 2017*
	Redcedar Products Business Plan Presentation	
Talk	I2E Love's Cup Competition	*Feb. 17th, 2017*
	Redcedar Products Business Plan Presentation	
Poster	ACS 61st Annual Pentasectional	*Apr. 9th, 2016*
	Development of a Networked Sensor Array for Gas Microseepage Detection near Injection Well Sites	
Poster	OSU Chemistry Open House	*Feb. 20th, 2016*
	Development of a Networked Sensor Array for Gas Microseepage Detection near Injection Well Sites	
Poster	OSU 27th Annual Research Week	*Feb. 16th, 2016*
	Development of a Networked Sensor Array for Gas Microseepage Detection near Injection Well Sites	

Talk ACS 60th Annual Pentasectional *Apr. 11th, 2015*

Selectivity and Kinetic Behavior of Heavy Metal and Radionuclides on Supported Ion-Exchange Adsorbant

Poster ACS 249th Meeting-SciMix *Mar. 23rd, 2015*

Selectivity and Kinetic Behavior of Heavy Metal and Radionuclides on Supported Ion-Exchange Adsorbant

Talk ACS 249th Meeting-Uranium in Seawater *Mar. 23rd, 2015*

Selectivity and Kinetic Behavior of Heavy Metal and Radionuclides on Supported Ion-Exchange Adsorbant

Talk ACS 59th Annual Pentasectional *Apr. 12th, 2014*

Uptake Kinetics of Heavy Metals from Water Using a High Surface Area Supported Inorganic Metal Oxide

Poster ACS 247th Meeting-Environmental Section *Mar. 19th, 2014*

Uptake Kinetics of Heavy Metals from Water Using a High Surface Area Supported Inorganic Metal Oxide

Poster ACS 247th Meeting-SciMix *Mar. 17th, 2014*

Uptake Kinetics of Heavy Metals from Water Using a High Surface Area Supported Inorganic Metal Oxide

Talk Graduate Student Seminar *Mar. 11th 2014*

Fractal Aggregate Formation of Aerosols

Talk Proposal Defense/Ph.D. Candidacy Exam *Jun. 17th 2014*

The Degradation Products and Particle Aggregation Properties of Electronic Cigarette Vapor

Talk Chevron Phillips Chemical Co. *Nov. 2011*

Processing Aid Efficiency Evaluation

Poster University of Oklahoma Chemistry Senior Thesis Presentations *May 2011*

Methods of Environmental Tobacco Determination by Gas Chromatography

Talk University of Oklahoma Chemistry Capstone Lecture *Apr. 2011*

Green Chemistry and Industrial Ecology

Awards

Library Partner Award - University of Oklahoma Libraries *2019*

1st Place Greater Oklahoma City Chamber Healthcare Award *Mar. 23rd, 2017*

1st Place Baylor Power of Business Award *Feb. 25th, 2017*

Honorable Mention	Baylor New Venture Competition	*Feb. 25th, 2017*
Fellowship	Creativity, Innovation, Entrepreneurship Scholar	*Aug. 30th, 2016*
1st Place	ACS 61st Annual Pentasectional	*Apr. 9th, 2016*
2nd Place	OSU 27th Annual Research Week	*Feb. 16th, 2016*

Professional and Honorary Affiliations

American Chemical Society	*Member*
Phi Lambda Upsilon	*Member & Officer*
Chemistry Graduate Student Society	*Member & Officer*
Boy Scouts of America	*Eagle Scout Rank*

Funding (PI or Co-PI)

2021 *Engineering Internships to Develop Regional-Scale Gas Modeling Added Value Product for Flogistix' Vapor Recovery Services.* **OCAST Intern Partnership IP21.2-016; $32,500 for 2 yrs.**

2021 *X-GEM: Enhancing Future Community Sustainability via Greenhouse Gas Emission Monitoring.* **OU Big Idea Challenge: $75,000/yr.**

2018 *LunAero Crowdfunding.* **OU Thousands Strong; $2,000**

2017 *Redcedar Products* - Business Proposal. **direct funding raised: $10,500 + $75,000 cost sharing**

June 2014 *The Degradation Products and Particle Aggregation Properties of Electronic Cigarette Vapor* - Approved for funding but below the pay line. **OCAST Health HR14-025; $135,000**

Service and Leadership Roles

Reviewer	MDPI Journals (∼1 article/month)	*2021–*
Reviewer	NASA	*2019–*
Panelist	What to Expect After Graduate School Panel at OU	*2017*
President	Phi Lambda Upsilon	*2016-2017*
President	OSU Chemistry Graduate Students Society	*2016-2017*
Treasurer	Phi Lambda Upsilon	*2014-2016*
Production Assistant	ACS 59th Annual Pentasectional	*2014*

Technical License

ARRL Amateur Radio License-Technician *Granted 1999*

Equipment Experience

- Atomic Absorbance Spectrometry
- Atomic Emission Spectrometry
- Atomic Force Microscopy
- BET Surface Analysis
- Dynamic Mechanical Analysis
- Dynamic Scanning Calorimetry
- FDM 3D Printing
- Filter Fluorometry
- Gas Chromatography
- Infrared Spectrometry
- Laser CNC
- Liquid Chromatography
- Mass Spectrometry
- Nuclear Magnetic Resonance
- Pycnometry
- Rheometry
- Scanning Electron Microscopy
- Transmission Electron Microscopy
- UV/Vis Spectrophotometry
- X-ray Photoelectron Spectroscopy

Software Experience

- Arduino-C
- Bash
- C
- C++
- EagleCAD
- Fusion360 CAD
- KiCAD
- LaTeX
- LibreCAD
- Microsoft Office
- OpenSCAD
- OriginPro
- Processing
- Python