

Nicholas R. Sasing

[linkedin.com/in/nicholas-sasing/](https://www.linkedin.com/in/nicholas-sasing/)

RESEARCH INTERESTS

My primary interests are in the advancement of photovoltaic cells, batteries, and capacitors.

EDUCATION

University of Georgia
Graduate degree in Chemistry

Athens, GA
Aug 2020 - Present

University of Wisconsin-Madison
Bachelor of Science in Chemistry
Bachelor of Science in Economics

Madison, WI
Dec 2012
Dec 2012

RESEARCH EXPERIENCE

Inorganic projects, with the guidance of Dr. Tina Salguero **Dec 2020 - Present**
Mol₃ synthesis **Jan 2021 - Present**

- Synthesis via two separate methods (CVT and reductive metathesis)
- Analysis via PXRD, ASPXRD, SCXRD, SEM/EDS, and temperature-dependent Raman

NbS₃ synthesis **Jun 2021 - Present**

- Synthesis via CVT
- Analysis via PXRD, SEM/EDS, and Raman

MoS₃ synthesis **Jun 2021 - Present**

- Synthesis ongoing
- Analysis via PXRD, SEM/EDS, and Raman

TaS₂ synthesis **Aug 2021 - Present**

- Synthesis via CVT and solid state
- Analysis via PXRD

Industrial Hygienist with Naval Hospital Camp Pendleton
Diesel exhaust particulate exposure of Marines operating AAVs **Aug - Nov 2019**

- Sampling and analysis of potential over-exposure to Assault Amphibious Vehicle personnel

Weapons fire impulse noise measurements **Jun - Nov 2019**

- Sampling and analysis of impulse noise from various weapons systems via advanced meters

UW-Madison, with the guidance of Dr. Pamela Doolittle
Gold nanoparticle generation **Jun 2012 - Dec 2012**

- Generation of nanoparticles via environmentally considerate means

Silver solubility as a function of chloride concentration **Jan 2012 - May 2012**

- Monitored free ion concentration for metals as dependent upon of the concentration of other ions

Phosphorous and nitrogen content related to algae blooms **Jul 2011 - Dec 2011**

- Studying the direct effects of two ions on fresh-water algae growth
- Became foundation for culminating undergraduate analytical laboratory experiment

TEACHING EXPERIENCE

- Prevention of and Response to Suicide Bombing Incidents **Aug 2017 - May 2018**
- Taught three sessions to (45) Marines of local security force
- UW-Madison Faculty Assistant, Analytical Chemistry (H) 329 **Jun 2013 - Jul 2013**
- UW-Madison Faculty Assistant, Analytical Chemistry (H) 329 **Jan 2013 - May 2013**
- Instructed discussion and laboratory sections, held tutoring sessions, and graded exams and coursework. 20-25 students in each section. Professor was Dr. Linda Zelewski, Lab Director was Dr. Pamela Doolittle.

PUBLICATIONS

Sesing, N. Botero y su Descripción de la Violencia en Colombia. *¡Albricias!*, 28-29. Fall 2008.

PRESENTATIONS

- Air Quality Awareness, Camp Pendleton Environmental Security **2020**
- Developed slide deck involving the numerous aspects of air quality considerations and laws, presented to three groups aboard Camp Pendleton
- Lead Awareness and Ergonomics Awareness, Naval Hospital Camp Pendleton **Oct 2019**
- Developed two slide decks for the Safety Officers of 1st Marine Division and 1st Marine Logistics Group, potentially standardizing mandatory annual training for up to 45,000 personnel
- Local exhaust ventilation system operations, Naval Hospital Camp Pendleton **Sep 2019**
- Standardized measurements and understanding of vehicle exhaust and its capture with 20 Industrial Hygienists from five offices
- Noise measurement and control, Naval Hospital Camp Pendleton **Apr 2018**
- Instructed 25 hearing-conservation-related medical professionals
- Military-specific presentations **Nov 2014 – Present**
- Numerous classes concerning fire/LASER/motorcycle/HAZMAT/weapons safety, rear/forward/main construct, close air support, combat reports, communications equipment, detainee handling, and convoy operations/orders
- Undergraduate Poster Symposium, UW-Madison **May 2012**
- Presented research on silver solubility as a function of free ions

PROFESSIONAL HISTORY

- Student Laboratory Assistant, Center for Applied Isotope Studies, Athens, GA **Aug 2021 - Present**
- Operate three dual inlet mass spectrometers simultaneously, testing isotopic ratios for both carbon and hydrogen samples
- Physical Scientist, Environmental Security Department, Camp Pendleton **Nov 2019 - Jul 2020**
- Plan, coordinate, develop, and maintain oversight of MCB Camp Pendleton's air quality programs
 - Coordinate air quality studies and programs for a base with a population of over 70,000, monitor emissions and their sources, complete air quality reporting, and acquire/manage 250+ permits
 - Provide regulatory liaison and facilitate inspections and audits to ensure mandated compliance
- Industrial Hygienist, Naval Hospital Camp Pendleton **Nov 2018 - Nov 2019**
- Anticipate, recognize, evaluate, and control workplace environmental factors which may cause sickness, impaired health and well-being, or significant discomfort and inefficiency among workers.

- Complete periodic industrial hygiene (PIH) surveys of 10 units aboard Camp Pendleton. This included surveying 104 shops and 441 processes for these units, ensuring the well-being of their 4,320 active duty service members, 363 reserve service members, 14 civilian employees, and 41 contractors.
- Measure and analyze welding fume, respirable silica, and diesel exhaust exposure. Measure local exhaust ventilation, light, and noise levels, and evaluate respiratory protection, hearing conservation, personal protective equipment, blood-borne pathogens, occupational reproductive hazard, sight conservation, lead, hazardous material/waste, engineering controls, and ergonomics programs.

Logistics Officer, United States Marine Corps (see federal resume) **Nov 2013 - Present**

- Logistics Officer (Reserve), 4th Air Naval Gunfire Liaison Company, Force Headquarters Group
- Logistics Officer (Reserve), 4th Light Armored Reconnaissance Battalion, 4th Marine Division
 - Provided for 406 Marines and Sailors for one month in NATO exercise in Norway
- Maintenance Management Officer, Company Executive Officer, Headquarters Battalion, 1st Marine Division
 - Managed the equipment readiness of gear set valued at over \$130 million and the support and training of 700 personnel
- Assistant Logistics Officer, 1st Battalion, 1st Marines, 1st Marine Division
 - Oversaw the provision of all facets of logistics for a 1,200 person force engaged in exercises across Australia for a period of 7 months
- Motor Transport Platoon Commander, Headquarters Battalion, 1st Marine Division
 - Provided leadership for 60 personnel in support of pre-deployment training and tactical motor-transport

Analytical Stockroom Assistant, UW-Madison **Aug 2013 - Oct 2013**

- Prepare solutions and laboratory equipment for eight laboratory sections

COMMUNITY SERVICE

UGA Academic Honesty, Athens, GA **Aug 2020 - Present**

Academic Honesty Panelist

- Review materials related to an academic honesty allegation, hear from the instructor and student, and decide whether or not a violation of the policy has occurred

UGA Student Veterans Association **Sep 2020 - Present**

Chapter Vice President

- Plan and support veteran-related events, including veteran recognition and collaboration with charitable partners
- Serve on the Dean-of-Students-led board for the replacement of the Student Veterans Resource Center Director

Navy and Marine Corps Relief Society, Camp Pendleton, CA **Apr 2019 - Jan 2021**

Thrift Store and Public Outreach Volunteer

- Sort, test, and prepare merchandise for sale at a non-profit thrift store
- Educate active duty Marines and Sailors about the benefits available through the society
- 430+ hours volunteered

Seasons Hospice and Palliative Care, Vista, CA **Sep 2018 - Feb 2020**

Hospice Volunteer

- Provide comfort to patients and their family during hospice care
- 40 hours volunteered

Saint Vincent de Paul Food Pantry, Madison, WI **Jan 2013 - Oct 2013**

Food Pantry Volunteer

- Stock food and basic life items, assist clients in selection of items
- 85 hours volunteered

HONORS AND AWARDS

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|---|-----------------|
| Selection for UGA Chapter of the Blue Key National Honor Society | Mar 2021 |
| Military Outstanding Volunteer Service Medal | Apr 2020 |
| Meritorious Service Medal | May 2018 |
| 2017 Marine Corps Individual Safety Award | Feb 2018 |
| Recognition of Outstanding Student Employee Award, UW-Madison Housing | May 2014 |

TECHNICAL SKILLS

OSHA 10-hour, Hazardous Materials Prep & Response, chemical safety training for faculty, HAZMAT-handler certified, LabView, Matlab, Microsoft Programs, Powder XRD, Raman spectroscopy, Dual Inlet Mass Spectroscopy, HPLC, SEM/EDS, ICP-OES, UV-Vis spectrophotometry, sampling for noise, mold, light, and various fumes/gasses/and respirable particles

LANGUAGES

Native English, intermediate Spanish, basic German