

# Stacy L. Queern, Ph.D.

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• 618-340-3550 • [stacy.queern@gmail.com](mailto:stacy.queern@gmail.com) •

## Education:

**Washington University in St. Louis**, St. Louis, MO

Doctor of Philosophy, 2018

Concentration (GPA): Nuclear Chemistry (3.8/4.0)

Research: <sup>89</sup>Zr-nano-hydroxyapatite-phospha-TOC as a new PET imaging agent

**Southern Illinois University at Edwardsville**, Edwardsville, IL

Bachelors of Science, 2013

Major: Chemistry, Mathematical Studies

Minor: Physics

Research: Location of transition states of organometallics via computational chemistry;  
Mathematical modeling of immune system versus tumor growth

**Southwestern Illinois College**, Belleville, IL

Associate of Science, 2008

Associate of Engineering: Chemical, 2010

## Experience:

5/2023-Present

**Project Integration & Material Accountability Group Leader (PIMA Group)**,

Oak Ridge National Laboratory

Responsible for development and mentoring of staff members in the group.

Identify essential needs in staffing, interview potential candidates and support staff onboarding. Provide performance review for my direct reports at least twice a year. Develop, optimize, and maintain material handling and accountability operations and training procedures. Coordinate laboratory needs for new and ongoing projects. Maintain strong communication with upper management and throughout all divisions within the Isotope Science and Engineering Directorate. Assist program managers with cost studies and identifying project needs. Provide subject matter expert guidance for projects such as Pm-147, Ni-63, Ho-166m and C-14 as needed.

6/2022-5/2023

**R&D Staff Radiochemist (RPD Group)**, Oak Ridge National Laboratory

Continue R&D associate staff responsibilities. Develop new research proposals. Guide and mentor junior staff, students, and postdocs. Serve on interview committees. Represent the division, section, or group for recruiting and assessment and planning committees. Increase potential collaborations by interacting with senior internal and external candidates. Maintain strong communications with stockholders, customers, management, and staff.

8/2020-6/2022

**R&D Associate Staff Radiochemist (EIR Group)**, Oak Ridge National Laboratory

Product manager or principal investigator for Ni-63, Ho-166m, Pm-147 and C-14. Backup principal investigator for Ac-225 cGMP. Lab space manager for labs in a Cat II nuclear facility. Maintain the ICP-OES instrument. Develop cost studies, processing work plans, safety documentation, status reporting, training and operation protocols, separations, purification, quantification, and handling of radioisotopes. Maintain strong communication with all personnel, a clean and safe lab, manage participates and required training, and follow protocols to

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remove legacy. Maintain training to perform work safely in a fume hood, gloveboxes, shielded hot cells and on the benchtop. Handling and processing of radioactive materials and hazardous chemicals. Assisted in target fabrication, HFIR target packages, troubleshoot production issues, support technical work and efforts to bring the program up to cGMP including writing the main portion of the drug master file for the FDA.

1/2019-8/2020

**Postdoctoral Research Assistant (MIRI Group)**, Oak Ridge National Laboratory  
Chemical separation of promethium-147 from neodymium on tracer level and production scale levels. Exposure to Scale (Origen) and MCNP software. Maintain strong communication with PI and group leader. Write monthly report summaries for project progress. Assist in bringing an ICP-OES on and develop operating and training protocols. Assist in the target fabrication for holmium-166m production. Maintain up-to-date training for radiation, radioactive and chemical hoods and gloveboxes, nuclear criticality safety, and the appropriate facility access. Trained on the actinium-225 production and cGMP process.

12/2013-1/2019

**Graduate Research Assistant (Lapi Group)**, University of Alabama at Birmingham, Washington University in St. Louis (12/2013-12/2015)  
Development of new class of  $^{89}\text{Zr}$  radiotracers for PET imaging and researching new methods of production for radionuclides including  $^{89}\text{Zr}$  and  $^{15}\text{O}$ . Supervision and training of undergraduate students in radioisotope development and radioanalytical techniques. Assist in the new laboratory setup, writing procedures, and setting up chemical and radioactive guidelines. Manage instrumentation and users, develop operating and training procedures, and maintain the ICP-MS.

06/2017-08/2017

**Summer Research**, Brookhaven National Laboratory, Shirley, NY  
Investigate the distribution coefficients for different transition metals, solvent determination for generator elutions, setup and evaluation of generators. Supervision and training of summer interns in proper laboratory techniques and concepts.

08/2013-12/2015

**Teaching Assistant**, Washington University in St. Louis  
Teach undergraduate level chemistry labs: Freshman Chemistry, Nuclear Chemistry. Supervise labs and grade exams, labs, and homework.

02/2012-08/2013

**Intern**, Tripos-Certara, St. Louis, MO  
Quality control analyst for pharmaceutical modeling and simulation software development for SYBYL and Muse software on Windows, MAC, and Linux.

06/2013-08/2013

**Peer Tutor Specialist**, Southwestern Illinois College, Granite City, IL  
Mathematics and Science Specialist for Southwestern Illinois College Learning Center. Tutor all areas of math and science offered by the college. Assist student workers/peer tutors when needed.

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08/2008 – 01/2011 **Peer Tutor**, Southwestern Illinois College, Belleville, IL  
Tutor: Chemistry, Mathematics, Biology and Physics

11/2003 – 09/2008 **Dispatcher**, MCSD, Waterloo, IL  
Primary task was answering calls including 911, the county sheriff landline, and the radio transmissions for all emergency personal including EMS, fire, multiple police departments and county coroner. Manage and evaluate crisis situations. Dispatch proper personal including EMS, fire, and police. Responsibilities included maintaining the safety of responding personnel and mitigating and unforeseen risk. Manage the dispatch center which included supervising inmates, assist in registering inmate, data entry, receiving bond payment for prisoners. Continuous education to maintain all license and certificates, and to learn about evolving criminal activities that would help in the risk assessment process.

**Other Experience:** **Office Manager**, Traube Tent, Columbia, IL (~2 years)  
Quoting products and services, scheduling service and product delivery and set up, maintaining an inventory log, and other administration duties such as payroll, daily reports, data entry, field calls, maintain other work documentations.

**Associate Manager**, Fazoli's, Waco, Tx and Fairview Heights, IL (~2 years)  
Customer service, employee management including hiring, termination, training, and scheduling, store management including daily operations, opening and closing the restaurant and inventory records.

**Research Skills:**

- Proper handling of radioactivity. Experienced in radiochemical separations, radiolabeling and stability studies.
- Computational calculations and simulations: Scale, MCNP, Spartan, SRIM/TRIM, GEANT4, SYBYL, and Mathcad.
- Analytical Instrumentation: HPGe gamma spectroscopy, HPLC separations, TLC, DLS, TEM, SEM, ICP-MS, ICP-OES, QTOF and Gamma Counter. Developing targets for specific radioisotopes.
- Introductory programming skills: C++, python, MATLAB, root, Linux and Unix navigation and commands.

**Appointments:** **ORNL Seed Review Committee**, 2022, 2023  
**ORNL Gives Committee**, 2021, 2022, 2023

**Awards:** **ISED Job Juggler**, 2023 (ORNL, ISED)  
**Supplement Performance Award**, 2021 (ORNL, RSTD)  
**Alavi-Mandell Award**, 2020 (SNMMI, JNM Article)  
**ISRS 2017 DOE Travel Bursary Award**, 2017 (ISRS)  
**WTTC16 DOE Travel Bursary Award**, 2016 (WTTC)  
**Outstanding Teaching Assistant Award**, 2015 (WUSTL)  
**ISRS 2015 DOE Travel Bursary Award**, 2015 (ISRS)  
**Ella Ott Weisman Award**, 2013 (SIUE)

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**Physical Chemistry Award, 2012 (SIUE)**  
**Outstanding Math Student Award, 2009 (SWIC)**  
**Who's Who Among Students in American Junior College, 2009 (SWIC)**

## Certifications:

**Lean Six Sigma Green Belt, 2023 (ORNL)**  
**Crucial Conversations for Mastering Dialogue, 2022 (ORNL)**  
**Project Management Essentials, 2022 (ORNL)**  
**Local Emergency Squad Training, 2022 (ORNL)**  
**Manipulator Operations, 2021 (ORNL)**  
**DOT Radioactive Materials Transport – Non shipper, 2021 (ORNL, Current)**  
**Lab Space Manager, 2021 (ORNL)**  
**On-the-job Instructor Training, 2020 (ORNL)**  
**General Respirator Training and Fit Test, 2019 (ORNL, Current)**  
**Nuclear Criticality Safety Fundamentals, 2019 (ORNL, Current)**  
**Radiation Worker 2 Training, 2019 (ORNL, Current)**  
**SCALE/ORIGEN Standalone Fuel Depletion, Activation, and Source Term Analysis, 2019 (ORNL)**  
**Radiation Safety for Handling PET Radioactive Material Certification, 2014 (WUSTL)**  
**Radiation Safety for Handling Radioactive Material Certification, 2014 (WUSTL)**  
**National Teaching and Learning Certification, 2011 (SIUE)**  
**Tutor Certification, Level I, 2009 (SWIC)**

## Memberships:

**American Chemical Society, Since 2010**  
**American Nuclear Society, Since 2021**

## Publications:

**Queern, S. L.,** Cardman, R., Welder, A., Loveless, C. S., Shepherd, M. R., Lapi, S. E. (2019) Production of  $^{15}\text{O}$  for medical applications via the  $^{16}\text{O}(\gamma, n)^{15}\text{O}$  reaction. **Journal of Nuclear Medicine**; 60 (3); 424-428

**Queern, S. L.,** (2018) Radiolabeled nanohydroxyapatite as a platform for the development of new PET imaging agents. **Arts & Sciences Electronic Theses and Dissertations**, 1712

**Queern, S. L.,** Aweda, T. A., Massicano, A. V. F., Clanton, N. A., Sayed, R. E., Sader, J. A., Zyuzin, A., Lapi, S. E. (2017) Production of Zr-89 using sputtered yttrium coin targets. **Nuclear Medicine and Biology**; 50; 11-16

**Queern, S. L.,** Aweda, T. A., Burkemper, J. L., Ketring, A., Lapi, S. E. (2016) Preliminary studies of  $^{89}\text{Zr}$ -Nano-Hydroxyapatite as a new platform for targeted PET agents. **Journal of Nuclear Medicine**; 87(supplement 2); 385

Aweda, T. A., Muftuler, F. Z. B., Massicano, A. V. F., Gadhia, D., **Queern, S. L.,** McCarthy, K. A., Bandyopadhyay, A., Gao, J., Lapi, S. E. (2019) Radiolabeled cationic peptides for targeted imaging of infection. **Contrast Media Mol I**; 2019; 1-11

Sayed, R. E., Massicano, A. V. F., **Queern, S. L.,** Loveless, C. S., Lapi, S. E. (2019) Manganese-52 production cross-section measurements via irradiation of natural chromium targets up to 20 MeV. **Appl Radiat Isot**; 147; 165-170

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Loveless, C. S., Radford, L. L., Ferran, S. J., **Queern, S. L.**, Shepherd, M. R., Lapi, S. E. (2019) Photonuclear production, chemistry, and in vitro evaluation of the theranostic radionuclide  $^{47}\text{Sc}$ . **EJNMMI Research**; 9:42

Crawford, C. L., Dalecki, A. G., Narmore, W. T., Hoff, J., Hargett, A. H., Renfrow, M. B., Zhang, M., Kalubowilage, M., Bossmann, S. H., **Queern, S. L.**, Lapi, S. E., Hunter, R. N., Bao, D., Augelli-Szafran, C. E., Kutsch, O., Wolschendorf, F. (2019) Pyrazolopyrimidinones, a novel class of copper-dependent bactericidal antibiotics against multi-drug resistant *S. aureus*. **Metallomics: Integrated Biometal Science**; 11 (4); 784-798

Schoonover, K. E., **Queern S. L.**, Lapi, S. E., Roberts, R. C. (2020) Impaired copper transport in schizophrenia results in a copper-deficient brain state: A new side to the dysbindin story. **World J Biol Psychiatry**; 21(1); 13-28

Schoonover, K. E., McMeekin, L. J., Farmer, C. B., Varghese, N. E., **Queern, S. L.**, Lapi, S. E., Cowell, R. M., Roberts, R. C. (2020) Interactions between knockout of schizophrenia risk factor Dysbindin-1 and copper metabolism in mice. **Brain Research Bulletin**; 164;339-349

## Other Publications:

**Queern, S. L.** (2022) A 10-Year Nickel-63 Production and Inventory Projection. **ORNL Technical Manuscript**; ORNL/TM-2022/2667

**Queern, S. L.** (2022) Potential Locations for Carbon-14 Production. **ORNL Technical Manuscript**; ORNL/TM-2022/2569

Allen, M., Hunley, R. D., **Queern, S. L.**, (2022) Solvent Extraction of Adjacent Lanthanides. **SULI Student Report**

Sadergaski, L. R., Andrews, H. B., Wilson, K., **Queern, S. L.**, Hunley, R. D., (2022) Feasibility Study of Spectrophotometry to Support a Promethium Production Program at ORNL. **ORNL Technical Manuscript**; ORNL/TM-2022/2505

**Queern, S. L.**, Green, H. M., Conner, J. D., Foster, C. J., Russell, N. G., (2021) 2020  $^{63}\text{Ni}$  Campaign: Target Fabrication. **ORNL Technical Manuscript**; ORNL/TM-2021/2027

Du, M., Wyant, L., Walker, T., Bruffey, S., Gonzalez, M. T., **Queern, S. L.**, Griswold, J. R. (2021) Renovations of ORNL  $^{188}\text{W}$  Process. **ORNL Technical Manuscript**; ORNL/TM-2021/1997

Braatz, A. D., Walker, T. B., Griswold, J. R., **Queern, S. L.**, Kimberlin, A., Giuliano, D. R. (2020) Development of a flow sheet and centrifugal contactor for the purification of Pm from Nd targets. **ORNL Technical Manuscript**; ORNL/TM-2020/1467

Hunley, R. D., **Queern, S. L.**, Mayes, R. T., Hogle, S. L., Lewis, B. E. (2020) Feasibility of production and processing of hundreds of kilograms of Pm-147 at ORNL for beta voltaic battery applications. **ORNL Sensitivity Review**

**Queern, S. L.**, Harvey, L. K., Benny, P. D., Souders, A., Du, M., (2020) Drug Master File for Ac-225 (Th-229 decay product). **Food and Drug Administration Regulatory Document**

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## Oral Presentations:

Nickel-63 production at Oak Ridge National Laboratory

Stacy L. Queern

**ACS Spring 2022**, San Diego, CA, March 2022

Production of  $^{89}\text{Zr}$  and development of nHAp molecular imaging agents

S. L. Queern, A. V. F. Massicano, S. E. Lapi

**CAARI 2018**, Grapevine, TX, August 2018

Radiochemistry Research as a Graduate Student at WUSTL and UAB

S. L. Queern, S. E. Lapi

**NCSS-BNL 2018**, Shirley, NY, July 2018

Inorganic ion-exchangers for radiochemical separations of Y/Zr and Ti/Sc

S. L. Queern, C. L. Manderbach, C. S. Cutler, D. G. Medvedev, S. E. Lapi, J. M. Fitzsimmons

**255<sup>th</sup> ACS National Meeting**, New Orleans, LA, Oral Presentation, March 2018

Graduate studies and the facilities at WUSTL and UAB

S. L. Queern, S. E. Lapi

**NCSS-BNL 2017**, Shirley, NY, July 2017

Optimal conditions for the production of Zr-89 using ACSI coin target

S. L. Queern, T. A. Aweda, R. El Sayed, H. Doane, J. Rider, B. Brooks, J. A. Sader, A. Zyuzin,

S. E. Lapi

**WTTC16 Conference**, Santa Fe, NM, August 2016

Preliminary studies of  $^{89}\text{Zr}$ -Nano-Hydroxyapatite as a platform for targeted PET Agents

S. L. Queern, T. A. Aweda, J. L. Burkemper, A. R. Ketring, S. E. Lapi

**SNMMI Conference**, San Diego, CA, June 2016

## Poster Presentations:

Separating Unruly Neighbors, Pm and Nd

S. L. Queern, R. D. Hunley

**Pacifichem 2021**, Honolulu, HI, December 2021

Scaled up research and development for the production of promethium-147

S. L. Queern, R. D. Hunley, R. A. Boll

**DOE Isotope Program Review**, Oak Ridge, TN, November 2019

$^{89}\text{Zr}$ -nanohydroxyapatite-phospha-TOC as a new PET imaging agent

S. L. Queern, N. A. Clanton, A. V. F. Massicano, J. L. Burkemper, S. E. Lapi

**UAB Inaugural Symposium**, Birmingham, AL, October 2017

$^{89}\text{Zr}$ -nanohydroxyapatite-phospha-TOC as a new PET imaging agent

S. L. Queern, N. A. Clanton, A. V. F. Massicano, J. L. Burkemper, S. E. Lapi

**ISRS Conference**, Dresden, Germany, May 2018

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Fast neutron irradiation of terbium and gadolinium to produce europium-156

S. L. Queern, J. W. Engle, F. M. Nortier, E.R. Birnbaum, S. E. Lapi

**NSSC-LANL Summer School**, Los Alamos, NM, August 2015

Exploration of  $^{89}\text{Zr}$ -Nano-Hydroxyapatite as a PET tracer

S. L. Queern, T. A. Aweda, S. E. Lapi

**ISRS Conference**, Columbia, MO, May 2015

## Funding Applications:

### **Research, Development, and Training in Isotope Production (DOE-IP, DE-FOA-0003063)**

Utilizing Continuously Variable Metal Organic Frameworks for Lanthanide Separations

July 2023

### **Research, Development, and Training in Isotope Production (DOE-IP, DE-FOA-0003063)**

Radium Recovery from Oil and Gas Production TENORM Scale

July 2023

### **Research, Development, and Training in Isotope Production (DOE-IP, DE-FOA-0003063)**

Selective Separation of Trivalent Actinides from Lanthanides using two steps column technique with silica based BTP compounds

July 2023

### **Self-Driven Experiments for Science/Interconnected Science Ecosystem (INTERSECT)**

Intersect Radiochemical Innovating Separations

July 2023, **Funded**

### **FY23 Isotope R&D and Production - Reaching a New Energy Sciences Workforce (DOE-IP-RENEW)**

Minority Serving Institutions for Manufacturing Sustainable Isotopes and Mainstreaming Scientific Inclusion (MSI3)

March 2023, **Funded**

### **FY23 Isotope R&D and Production - Reaching a New Energy Sciences Workforce (DOE-IP-RENEW)**

Providing South Carolina State University undergraduates with isotope production experience at Oak Ridge National Laboratory

March 2023

### **FY23 Isotope R&D and Production - Reaching a New Energy Sciences Workforce (DOE-IP-RENEW)**

Educational Research Center for Cermet Pellet Fabrication

March 2023

### **FY23 Core R&D**

Investigating the feasibility of electrochemical lanthanide separations from existing waste streams

September 2022

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## **LDRD FY22 Self-driven Experiments for Science**

Autonomously controlled cell for electrochemical synthesis and separations (ACCESS),  
July 2021

## **SNMMI Predoctoral Molecular Imaging Scholar Program**

Development of Radiolabeled Targeted Agents based on Nanohydroxyapatite for Imaging  
and Therapy  
February 2017

## **DOE Office of Science Graduate Student Research (SCSR) Program**

Evaluation of Ge/Ga-68, Ac/Bi-213, Ra/Ac-225 and Ti/Sc-44 generators and radiolabeling  
characteristics  
November 2016

**Invention Submissions:** **Separation of Lanthanides (Nd, Pm, Sm) using DGA and polar modifiers for liquid liquid  
extraction in multistage contact systems**

Oak Ridge National Laboratory, 2021

**Nickel separation from lanthanides and actinides using N,N,N',N'-tetra-n-  
octyldiglycolamide (DGA) resin**

Oak Ridge National Laboratory, 2022

**Oxide Frits to Optimizing Carbon Conversion for Carbon Gas Trapping**

Oak Ridge National Laboratory, 2023