Graduate & Professional Student Association
Executive Board – Declaration of Candidacy
May 2018 – May 2019

Name: Stephanie Molina Department/School: Health Physics & Diagnostic Sciences

Select one: (●) **President** ( ) **Vice President** ( ) **Treasurer** ( ) **Secretary**

Please list any relevant experience/qualifications for the position:
(GPSA experience, student government, extracurricular activities, or other interests)

My involvement with service to the university began when I became the Student Technology Advisory Board representative from the School of Allied Health Sciences. This position introduced me to some of the issues and policies that have an impact on both students and staff here at the University. Additionally, over the past academic year, I have had the pleasure of serving as the Graduate and Professional Student Association (GPSA) 2017-2018 Treasurer. Although it was my first elected leadership position, I was able to institute and manage (with the assistance of my committee) a whole new funding opportunity for students; we were able to outline what the student body prioritized in terms of funding/budgeting as we wrote the policies. Moreover, through my role as GPSA Treasurer, I have had the opportunity to gain valuable insight into how institutional goals and policies are created by siting on the Top Tier Interdisciplinary Graduate Programs committee within the Graduate College. Consequently, these experiences have made me more aware that there are issues that not only pertain to, but impact, graduate students. As such, it is imperative that we continue to have a seat and voice during such conversations. While I do not know the entire graduate student body, my employment position within the graduate commons has further allowed me to make connections with various students from which I can gain insights for future appointments as I continue to represent graduate students.

Please explain why you are interested in serving in this position:

Having been part of the university community for just about ten years has inspired me to take on a more active role within the university. Furthermore, having the opportunity to work closely with our GPSA Business Managers has also grown my interest in being involved with the activities of the GPSA. By incorporating GPSA and Grad College goals and enhancing connections with the student body, I hope that we can accomplish much more than operating as independent entities.

Through my roles within the GPSA thus far, I have had the opportunity to gain a familiarity with some of the issues and policies that impact graduate students here at the University. As such, I am interested in serving and advocating for the graduate students of UNLV in a greater capacity. As the University moves towards Top Tier status, the policies being created and implemented will greatly impact graduate students given that most of our time is spent on scholarship and research, the backbone of a Top Tier institution. If elected to this position, it will be my goal to strategically connect the thoughts of the graduate and professional student body with the decisions being made. In the short term, I am interested in making sure that the GPSA and graduate college continue to expand professional development opportunities, certification programs, and sponsorship support for academic research activities in order to enhance our educational experiences while at the University. By increasing communication and connections with the student body, I am confident that I can make a contribution to the GPSA's mission to "assist graduate and professional students with support for their academic endeavors" and am looking forward to continuing our mission of providing "financial support and fellowship" to the graduate and professional students of UNLV.

I am greatly looking forward to learning from the different units on campus and working to advocate for students as UNLV moves towards Top Tier status.

Please attach letter of support from your faculty member / advisor to the application.

STEPHANIE MOLINA

University of Nevada, Las Vegas
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EDUCATION

University of Nevada, Las Vegas *Anticipated Graduation*: Spring 2020
Doctoral Student in Health Physics, Interdisciplinary Health Sciences
Graduate College Certifications: Research (*anticipated: Spring 2018*), Mentorship (*anticipated: Spring 2018*)

University of Nevada, Las Vegas Fall 2014 – Spring 2015
Graduate Studies (non-degree)

University of Nevada, Las Vegas Spring 2014
B.S. in Health Physics, Biochemistry, and Biological Sciences (Cell & Molecular)
Minor in Psychology
Certification: University Libraries Student Assistant Professional Development Program

RESEARCH EXPERIENCE

UNLV Department of Health Physics and Diagnostic Sciences

Top Tier Doctoral Graduate Research Assistant Fall 2017 – Present
Project Title: Use of Drug Carrying Macrophages as Delivery Vehicles for Treatment of Brain Tumors

Doctoral Research Fall 2015 – Present
Project Title: Macrophage-Mediated Drug Delivery for the Treatment of Malignant Gliomas
Committee Chair: Steen J. Madsen, Ph.D.
- Determination of tumor cell survival resultant of treatment with chemotherapeutic agents, PDT, and PCI.
- Determination of macrophage cell survival upon incubation with various chemotherapeutic agents.
- Investigation of the drug loading and leakage capabilities of macrophage cells.

Research Assistant Summer 2012 – Summer 2015
Basic cancer research utilizing laser-based medical biophysics applications to synergistically induce apoptosis and enhance treatments.
PI: Steen J. Madsen, Ph.D.
- Maintenance of cell cultures for use in experimental work.
- Implemented and improved procedures for varying PDT, PCI and PPTT cancer treatment projects.
- Additional duties: general laboratory maintenance, preparation of sterile culture and treatment solutions, training new researchers.
- Lab skills: aseptic/sterile technique, culturing, light microscopy, laser utilization and data collection/interpretation.
- Nevada INBRE (NIH) Undergraduate Research Opportunity Program (Summer 2012 and Summer 2013)

UNLV Nuclear Materials and Science Group

Senior Research Assistant Fall 2014 – Summer 2016
Performed experiments and analyzed data for two concurrent projects on the: (1) Development and properties of novel waste forms to immobilize Technetium-99 and (2) Characterization of metallic Uranium fuel plates from the Reduced Enrichment of Research and Test Reactors (RERTR) program.
PI: Thomas Hartmann, Ph.D.
- Assisted in the management and planning of the group's research activities within the radiochemistry laboratories.
- Preparation, corrosion protocol implementation, and analysis of ceramic samples containing unsealed radioactive sources (Tc-99).
- Cutting, grinding and polishing, atmosphere-controlled glove box sintering, and analysis of RERTR foils (HEU; Uranium-235,238).
- Technical skills used in sample analysis: optical microscopy imaging, SEM, XRD, LSC and ICP-MS.
- Additional duties: data collection/analysis, train and oversee students, laboratory maintenance, and sample preparations.

UNLV School of Life Sciences

Research Assistant Fall 2014
Bioinformatic examination of protein expression data in various cancers compared to the normal genome.
PI: Mira Han, Ph.D.
- Analysis of processed genome data by comparing normal to cancer protein expression.
- Data manipulation and interpretation using the R statistical language along with MS Excel.

TEACHING EXPERIENCE

UNLV Department of Health Physics and Diagnostic Sciences

Radiation Science (HPS 102, RAD 102), Volunteer Teaching Assistant Spring 2017
- Enhance student understanding of the general principles of radiation science through supplemental instruction including radiation interactions, decay, dosimetry, and radiation biology topics.
- Improve comprehension of radiation science through instruction of the application of mathematical, biological, chemical, and physical concepts.

PUBLICATIONS & PROCEEDINGS PAPERS

1. Shin D, Christie C, Ju D, Nair RK, **Molina S**, Berg K, Kradieva TB, Madsen SJ, Hirschberg H. Photochemical Internalization Enhanced Macrophage Delivered Chemotherapy. *Photodiag. Photodyn. Ther*. 2017;21:156-162. DOI:10.1016/j.pdpdt.2017.12.002.
2. Christie C, **Molina S**, Gonzales J, Berg K, Nair RK, Huynh K, Madsen SJ, Hirschberg H. Synergistic chemotherapy by combined moderate hyperthermia and photochemical internalization. *Biomed. Opt. Express*. 2016;7(4):1240-1250. DOI:10.1117/12.2005407.
3. Madsen SJ, Schlazer C, Andersen A, **Molina S**, Hirschberg H. Effects of combined photochemical internalization and hyperthermia are sensitively dependent on radiant exposure. Proc. SPIE 8565, Photonic Therapeutics and Diagnostics IX, 85655F (March 8, 2013). DOI:10.1364/BOE.7.001240.

PRESENTATIONS

1. **Molina S**, Hirschberg H, Madsen SJ. Use of Drug Carrying Macrophages as Delivery Vehicles for Treatment of Brain Tumors. Poster session presented at: Graduate and Professional Research Forum; April 08, 2017; University of Nevada, Las Vegas.
2. Madsen SJ, Gonzalez J, **Molina S**, Nair RK, Hirschberg H. Macrophages as drug delivery vehicles for photochemical internalization (Conference Presentation). SPIE BiOS 2017: Proceedings of SPIE Vol. 10050, Clinical and Translational Neurophotonics; Session 3: Operative and Post Op. Therapy II, Paper 10050-13; January 28, 2017. DOI:10.1117/12.2253238.
3. **Molina S**, Christie C, Gonzales J, Berg K, Nair RK, Huynh K, Madsen SJ, Hirschberg H. Synergistic chemotherapy by combined moderate hyperthermia and photochemical internalization. Poster presented at: UNLV Research Week, Research @ UNLV Presentation & Tech Expo; October 07, 2016; University of Nevada, Las Vegas.
4. **Molina S**, Christie C, Gonzales J, Berg K, Nair RK, Huynh K, Madsen SJ, Hirschberg H. Synergistic chemotherapy by combined moderate hyperthermia and photochemical internalization. Poster presented at: Division of Health Sciences. 9th Interdisciplinary Research & Scholarship Day; April 01, 2016; University of Nevada, Las Vegas.
5. **Molina S**, Madsen SJ, Hirschberg H. Use of Drug Carrying Macrophages as Delivery Vehicles for Treatment of Brain Tumors. Poster session presented at: Graduate and Professional Research Forum; March 12, 2016; University of Nevada, Las Vegas.
6. **Molina S**, Meyers J, Shih EC, Madsen SJ. Efficacy of Combined Photodynamic and Photothermal Therapies. Poster presented at: Division of Health Sciences. 7th Interdisciplinary Research & Scholarship Day; April 21, 2014; University of Nevada, Las Vegas.
7. **Molina S**, Meyers J, Shih EC, Madsen SJ. Efficacy of Combined Photodynamic and Photothermal Therapies. Poster presented at: Nevada INBRE. Undergraduate Research Opportunity Program 2013; August 01, 2013; University of Nevada, Las Vegas.
8. **Molina S**, Schlazer C, Andersen A, Madsen SJ. Enhanced Delivery of Bleomycin through Photochemical Internalization and Hyperthermia. Poster presented at: Nevada INBRE. Undergraduate Research Opportunity Program 2012; August 07, 2012; University of Nevada, Las Vegas.

TECHNICAL REPORTS

1. Hartmann T, **Molina S**, Koury DJ, Keiser DD. Selective Oxidation of α-Uranium During Aging of RERTR Fuel Foils [2013-2015]. Prepared for the U.S. Department of Energy Office of NA Under DOE Idaho Operations Office. Contract DE-AC07-05ID14517. February 2018.
2. Hartmann T, **Molina S**, et al. Out-of-pile testing and characterization to support RERTR fuel development. Monthly Progress Reports INL Subcontract #00138726; UNLV, Harry Reid Center for Environmental Studies; November 2014 – June 2016. [Note: 19 reports in total]
3. Hartmann T, **Molina S**, et al. Thermodynamic and Microstructural Mechanisms in the Corrosion of Advanced Ceramic Technetium-bearing Waste Forms and Thermophysical Properties. NU-12-NV-UNLV-0202-06 FY16 Quarterly Reports (1-2) for NEUP Project 12-3445; UNLV, Harry Reid Center for Environmental Studies.
4. Hartmann T, **Molina S**, et al. Thermodynamic and Microstructural Mechanisms in the Corrosion of Advanced Ceramic Technetium-bearing Waste Forms and Thermophysical Properties. NU-12-NV-UNLV-0202-06 FY15 Quarterly Reports (2-4) for NEUP Project 12-3445; UNLV, Harry Reid Center for Environmental Studies.

FUNDED GRANTS

UNLV Graduate and Professional Student Association (GPSA) Research Grant

Proposal: Macrophage-Mediated Drug Delivery for the Treatment of Malignant Gliomas: Feasibility Study & Analysis. ($1,250)	Spring 2018
Proposal: Use of Drug Carrying Macrophages as Delivery Vehicles for Photochemical Internalization of Brain Tumors. ($700)	Summer 2017
Proposal: Use of Drug Carrying Macrophages as Delivery Vehicles for Photochemical Internalization of Brain Tumors. ($650)	Summer 2016
Proposal: Use of Drug Carrying Macrophages as Delivery Vehicles for Photochemical Internalization of Brain Tumors. ($550)	Spring 2016

Nevada INBRE (NIH) Undergraduate Research Opportunity Program ($1,000) — Summer 2013
Research Proposal: Efficacy of combining two laser-dependent cancer treatments on cancer spheroid growth (preliminary data).

Nevada INBRE (NIH) Undergraduate Research Opportunity Program ($1,000) — Summer 2012
Research Proposal: Enhancement of a chemotherapeutic agent by PCI and hyperthermia treatment.

LEADERSHIP INVOLVEMENT

Graduate and Professional Student Association (GPSA) — Fall 2016 – Present

Treasurer, 2017-2018

- Chair: Graduate Student Organization Funding Committee, Awards Committee
- Instituted, managed, and implemented the operating procedures for the student funding committee.
- Prepare and present the GPSA budget report for the monthly Council Meetings.

Member-at-large, 2016-2017

- Member: Student Technology Advisory Board, School of Allied Health Sciences Representative

Ètendue: UNLV Student Optics Chapter (SPIE and OSA Student Chapters), *Member and Treasurer* — Fall 2017 – Present

UNLV Latino Premedical Student Association, *Member* — Fall 2016 – Present

American Legion Auxiliary, *Nevada Girls State, Counselor (volunteer)* — Summer (~155 hours), 2008–2016
- Oversaw and mentored high school level students while supervising and leading fellow counselors.
- Assisted with and facilitated trainings and workshops presented during the program.

UNLV Health Physics Society, *Member and Treasurer* — Spring 2009 – Spring 2012
- Assisted with monthly meetings.
- Planned outreach activities for CCSD students as a way to inform about ionizing radiation.

National Education for Women's Leadership Nevada, Women's Research Institute of Nevada — Summer 2011

SERVICE ACTIVITIES

University of Nevada, Las Vegas

Top Tier Interdisciplinary Graduate Programs Committee, *Graduate Student Representative* — September 2017 – Present

Student Technology Advisory Board, *School of Allied Health Sciences Representative* — September 2016 – Present

Nevada State Undergraduate Research Journal (NSURJ), *Graduate Student Referee* — January 2017 – Present
- Review and critique undergraduate student submissions by providing suggestions prior to publishing manuscripts.
- Reviewer for the following fields: medical & optical biophysics, health/medical physics, biochemistry & molecular biology, radiation materials science, radiochemistry.

UNLV Department of Health Physics and Diagnostic Sciences, *Volunteer Teaching Assistant* — Spring 2017

AWARDS

GPSA Leadership Scholarship — Summer 2017 – Spring 2018

UNLV Graduate College STEM Fellowship — Fall 2015 – Summer 2017

Nevada INBRE (NIH) Undergraduate Research Opportunity Program Scholarship — Summer 2013

Nevada INBRE (NIH) Undergraduate Research Opportunity Program Scholarship — Summer 2012

Nevada State Gear-Up Scholarship w/ UNLV Access Grant Match — Summer 2008 – Spring 2012

Bob Davis Scholarship — Fall 2010 – Spring 2011

PROFESSIONAL SOCIETY AFFILIATIONS

Sigma Xi, The Scientific Honor Society, *Associate Member* — June 2017 – Present

American Association for the Advancement of Science (AAAS), *Student Member* — January 2018 – Present

American Society for Laser Medicine & Surgery (ASLMS), *Student Member* — April 2017 – Present

OSA (The Optical Society), *Student Member* — August 2017 – Present

SPIE, the international society for optics and photonics, *Student Member* — August 2017 – Present

Health Physics Society (HPS), *Student Member* — April 2017 – March 2018

UNLV | HEALTH PHYSICS & DIAGNOSTIC SCIENCES

March 21, 2018

I'm pleased to write this letter of support for Ms. Stephanie Molina who is running for President of the 2018-2019 GPSA Executive Board. Ms. Molina is a full-time student in the Interdisciplinary Health Sciences PhD Program and I can certainly verify her good academic standing in the program. I've known Ms. Molina for approximately six years and, as such, I can vouch for her high moral character. I believe that Ms. Molina would be an excellent President of the GPSA Executive Board. Ms. Molina is a dedicated student who has demonstrated excellent leadership potential during her tenure in my lab. Please do not hesitate to contact me if you require additional information.

Sincerely,



Steen Madsen, Ph.D.
Professor and Chair
Health Physics and Diagnostic Sciences

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