Graduate & Professional Student Association
Executive Board – Declaration of Candidacy
May 2015 – May 2016

Name: SIRBHAR SHAHMA Department/School: LIFE 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)
1) School of Life Sciences Representative, GPSA (2013-2015)
   - Sponsorship, Publications, and Research Forum Committees
2) School of Environmental and Public Affairs Representative, GPSA (2009-2010)
   - Publications and Research Forum Committees
3) International Graduate Student's Representative, EEO/AA Committee (2010)
4) President, Indian Students Association (2008-09)
5) Educational Outreach: REBEL STEM Academy

Please explain why you are interested in serving in this position:
I have represented the School of Life Sciences at GPSA for the last two years. During this time, I have observed that GPSA is an integral part of the UNLV community, and has helped graduate and professional students by providing platforms for grant writing, research presentations, and community outreach. Working with colleagues from different colleges has made me more aware of the ongoing research at UNLV, which I am passionate about. It has helped me grow as an individual, and appreciate the opportunities made available to graduate students by GPSA. As a student and employee, I believe I will be able to contribute to our top tier efforts. If elected, I will ensure that GPSA remains a good advocate of the students within the Graduate College.
Date: 4/3/15  
RE: LOR for Surbhi Sharma

Dear Review Committee,

Surbhi Sharma has requested that I write a recommendation on her behalf for her candidacy to be president of the GPSA. I am very pleased she is being considered. Surbhi entered my lab as a new Ph.D. candidate in the School of Life Sciences graduate program in 2011. She has passed her comprehensive qualifying exam, shows great dedication to her project, and has matured into a graduate student that I am very proud.

Surbhi did her undergraduate work at the University of Delhi and passed with honors. At UNLV, she previously received a Masters in the Environmental Sciences program. As she was completing her Masters she approached me about entering my lab for her Ph.D. dissertation. In the Biological Sciences Ph.D. program she has stepped it up since her M.S. work and has a solid ~3.75 GPA.

HER DISSERTATION PROJECT:
For her Dissertation project, Surbhi has continued our longstanding work on minimotifs. My laboratory developed the Minimotif Miner web application (minimotifminer.org). This program/database helps identify new functions in protein or how mutations cause disease by identifying short contiguous peptide sequences in proteins that have a known biological function in at least one other protein. She has focused on the motifs at the very end of proteins called the C-termini. Approximately 13% of all human proteins have a minimotif on the C-terminus. She wrote her first paper that is currently under review on a web system/database containing all known information about the C-termini on human proteins (http://cterminome.bio-toolkit.com/cTerm). As part of this project, Surbhi worked with a software engineer in my laboratory performing a systematic search for potential novel minimotifs on the C-termini of human proteins.

Surbhi proposes to expand her studies to identify new minimotifs in the C-terminome. This goal is partially supported by our current NIH R15 award. Through an analysis of select C-terminal minimotifs identified by predications and validation in an affinity tandem MS/MS screen she identified an interaction between munc18 and one of the synaptoagmin isoforms. This is of high interest because munc18 binds to syntaxins in the plasma membrane and inhibits vesicle fusion and synaptotamin is the vesicular calcium sensor protein through to trigger vesicle fusion during exocytosis of neuroendocrine hormones. This interaction appears to be a previously unrecognized interaction involved in exocytosis. A recent Nobel Prize was awarded in this area of research. Surbhi is making good progress validating and exploring the role of this interaction during secretion. She has demonstrated that mutation of this mimimotif mislocalizes syntaptotagmin to the Golgi, which suggests that the mutated form should inhibit stimulated secretion. She is now investigating this hypothesis, which will complete the second first authored paper of her thesis.

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martin.schiller@unlv.edu
She is very pleasant and works with the senior members of my lab well. Surbhi has mastered our AKTA purifier for protein purification, learned how to perform binding assays, Co-IPs, epifluorescence and confocal microscopy, Western Blotting, molecular biology, cell culture, and biosynthetic labeling. In short order, she has become proficient with these techniques, making excellent progress on her project, and becoming the senior go-to graduate student in my lab.

QUALIFICATIONS FOR GPSA PRESIDENT:
Surbhi has many qualities that make her the ideal candidate for the GPSA president. She is a real go-getter. She has been involved in many of the activities expected of an excellent graduate student. She has received several grants awards from the GPSA and SigmaXi Society. She has been on a State GA and involved in teaching, but has also had some time on an RA. She participates regularly in outreach and GPSA events and has a genuine interest in student education. For example, this past year she her was a finalist in the inaugural Graduate College Rebel Slam. She has also involved in training three undergraduates and is making good progress.

She is also at a timely stage of her graduate school training having completed her course work, passed her comprehensive exam, and will be here for another ~2 years. Furthermore, she is in the lab all the time and a constant presence on campus, this will be available for the needs of this position.

Thank you for considering her for GPSA president. At this point in her graduate career she is an excellent candidate for this position and she has my full support.

Sincerely,

Martin R. Schiller,
Executive Director, Nevada Institute of Personalized Medicine
Professor, School of Life Sciences

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SURBHI SHARMA

EDUCATION
2011-present Ph.D. Cell and Molecular Biology (in progress)
    School of Life Sciences, University of Nevada, Las Vegas, Nevada
    Dissertation Title: The human C-terminome
        (Advisor: Dr. Martin R. Schiller)

2010 M.S. Environmental Sciences, University of Nevada, Las Vegas, Nevada

2002 B.S. Botany (Honors), University of Delhi, India

GRANTS
2015
    • SIGMA Xi Spring Grants-in-Aid of Research

2014
    • GPSA Fall Research Grant
    • GPSA Spring Research Grant

2013
    • SIGMA Xi Fall Grants-in-Aid of Research
    • GPSA Summer Research Grant

2012
    • GPSA Summer Research Grant

PUBLICATIONS (* denotes first co-author)

UNLV PRESENTATIONS
C-terminome web-application: a tool to mine the C-termini of the human proteome.
GPSA Research Forum (2015)

Mining the C-termini of the human proteome for its functions.
Graduate Students and Scholars Reception (03/21/2015) (2015) [Invited]

The human C-terminome.
School of Life Sciences Colloquium series (03/04/2015)

Establishing the C-terminome: the PxP> motif as a case study.
GPSA Research Forum (2014)

The C-terminome.
School of Life Sciences Colloquium series (04/23/2014)
Structure of minimotif important for predicting protein-protein interactions.  
GPSA Research Forum (2013) [Honorable Mention: Outstanding Presentation]

Testing a theoretical framework for making minimotif predictions.  
School of Life Sciences Colloquium series (02/20/2013)

Sustainable development Indices: Can one Framework work?  
GPSA Research Forum (2011) (Poster)

CONFERENCES PRESENTATIONS AND ABSTRACTS

Sharma S (2010) Understanding the dimensions of sustainable development AAG Conference Washington DC [GPSA Travel Grant]


AWARDS
2014, UNLV  
• Finalist, 1st Rebel Grad Slam 3MT presentations, Understanding the molecular functions of proteins

2013, UNLV  
• Honorary Mention Outstanding presentation award, GPSA Research Forum

2011, UNLV  
• Certificate of Appreciation, GPSA Research Forum

2008, UNLV  
• Certificate of Appreciation (L.A. Zero Waste project)

2004, India  
• Diploma in Environmental Law, World Wide Fund for Nature (C.E.L.)

TEACHING EXPERIENCE
2011-2014, School of Life Sciences, UNLV  
Teaching Assistant (BIOL196 Lab: Principles of Modern Biology) (Fall & Spring semesters)

2010-2011, Academic Success Center, UNLV  
RESEARCH EXPERIENCE
2011-2014
Research Assistant, Schiller Laboratory, School of Life Sciences, UNLV

2007-2008
   [Principal Investigator: Dr. Krystyna Stave]

EDUCATIONAL OUTREACH
2015, UNLV
   • Schiller Laboratory Representative, REBEL STEM Academy (High School students & teachers-04/18/2015)
   • Schiller Laboratory Representative, American Society for Microbiology Educational Outreach, (Elementary School students) (03/26/2015)

2014, UNLV
   • Schiller Laboratory Representative, REBEL STEM Academy (High School students & teachers-04/26/2014)

2013, UNLV
   • REBEL STEM Academy (High School students & teachers-11/15/2013)

SERVICE
2013-15, School of Life Sciences Representative, Graduate and Professional Student Association, UNLV
   ▪ Sponsorship Committee (2014-2015)
   ▪ Research Forum Committee (2013-2015)
   ▪ Publications Committee (2013-2014)

2009-2010, UNLV
   • International Graduate Students' Representative, EEO/AA Committee (2010)
   • Environmental Studies (Department) Representative, Graduate and Professional Student Association (05/2009-05/2010)
      ▪ Publications Committee
      ▪ Research Forum Committee

2008-2009, UNLV
   • President, Indian Students Association (12/2008-12/2009)

2007-2008, UNLV
   • Cultural Secretary, Indian Students Association (11/2007-11/2008)