Monica Rae Jung Lares
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EDUCATION

Postdoctoral Fellow, Molecular and Cell Biology, City of Hope, Duarte, California **2010 – 2013**
Protein expression and crystallization; Binding assays; Cell specific delivery of therapeutic siRNA, Dr. John Rossi (PI)

Ph. D., Chemistry and Biochemistry, University of California, Santa Cruz, California **2009**
Dissertation: *Towards the structure and function of a novel RNA gene*, Dr. William G. Scott (PI), Dr. Gene Switkes, Dr. Theodore R. Holman, Dr. David Haussler

B. S., Chemistry, Santa Clara University, Santa Clara, California **2003**

TEACHING

TEACHING EXPERIENCE

- **Thinking Like A Scientist CHEM 120B, Chemistry**, SSU, Rohnert Park, CA; (2 units) **2018, 2019**
- **Quantitative General Chemistry CHEM 125B, Chemistry**, SSU, Rohnert Park, CA; (5units) **2018, 2019**
- **Metabolic Biochemistry CHEM 446, Chemistry,** SSU, Rohnert Park, CA; (3 units) **2014 – 2019**
- **Biochemical Methods CHEM 441, Chemistry,** SSU, Rohnert Park, CA; (3 units) **2014 – 2019**
- **Undergraduate Research (Supervision) CHEM 494, Chemistry,** SSU, Rohnert Park, CA; (1-2 units) **2014 – 2019**
- **Chemistry Practicum (Supervision) CHEM 397, Chemistry,** SSU, Rohnert Park, CA; (1-2 units) **2014 – 2019**
- **Internship Supervision CHEM 499**, **Chemistry,** SSU, Signature Wine Labs, Santa Rosa, CA; Eurofins, Petaluma, CA **2014, 2018**
- **Thinking Like A Scientist CHEM 120A, Chemistry**, SSU, Rohnert Park, CA; (2 units) **2014, 15, 17, 18**
- **Quantitative General Chemistry CHEM 125A, Chemistry**, SSU, Rohnert Park, CA; (5units) **2014, 15, 17 18**
- **Selected Topics in Chemistry: "Application of Crystallography in Chemistry and Biochemistry," CHEM 496, Chemistry**, SSU, Rohnert Park, CA; (4 units) **Fall 2015, 2018**
- **General Chemistry CHEM 115A Lecture & Lab, Chemistry,** SSU, Rohnert Park, CA; (5 units) **Summer 2018**
- **Introduction to Research Methods in Chemistry CHEM 315, Chemistry**, SSU, Rohnert Park, CA; (1 units) **2016 – 2017**
- **Elements of General, Organic, and Biochemistry CHEM 105, Chemistry,** **2013 – 2017**
- Sonoma State University, Rohnert Park, CA Lecture and Lab; (5 units)
- **General Chemistry CHEM 115A Lab, Chemistry,** SSU, Rohnert Park, CA; **Summer 2017**
- **Research Methods in Chemistry CHEM 316, Chemistry**, SSU, Rohnert Park, CA; (2 units) **Spring 2017**
- **Chemistry Seminar Series CHEM 492, Chemistry,** Sonoma State University, **2013 – 2015**
- Rohnert Park, CA; (1unit)
- **Senior Integrated Lab CHEM 401, Chemistry**, SSU, Rohnert Park, CA; (3units) **Spring 2015**
- **Structural Biochemistry CHEM 445, Chemistry,** SSU, Rohnert Park, CA; (3 units) **Fall 2014**
- **Undergraduate Research CHEM 494, Chemistry,** Sonoma State University, **2013 – 2014**

Rohnert Park, CA Lab; (1-2 units)

- **Research Seminar CHEM 497, Chemistry,** SSU, Rohnert Park, CA; (1 unit) **Spring 2014**
- **Introduction to General, Organic, and Biological Chemistry, CHEM 32B,** San Jose City College, San Jose, CA; Planned lectures and labs for a class of 30 students in general, organic and biological chemistry. **Fall 2009**
- **General Chemistry CHEM 1L & 1M, Chemistry,** University of California, Santa Cruz, CA. Provided lab assistance for an intro general chemistry lab for groups of 15 students **Summer 2005**
- **General Chemistry and Organic Chemistry** **2004 – 2005**
  Provided one on one training, mentoring, and tutoring
- **Organic Chemistry CHEM 108M, Chemistry,** University of California, Santa Cruz, CA. Provided lab assistance for an intro organic chemistry lab for groups of 15 students. **Spring 2004**
- **Organic Chemistry CHEM 108L, Chemistry,** University of California, Santa Cruz, CA. Provided lab assistance for an intro organic chemistry lab for groups of 15 students. **Winter 2004**
- **Organic Chemistry CHEM 108A, Chemistry,** University of California, Santa Cruz, CA. Provided guidance for a group of 30 students weekly **Fall 2003**

CURRICULUM AND COURSE DEVELOPMENT

- Metabolic Chemistry (CHEM 446)- incorporated Socrative quizzes to assess students' preparedness for class and to have less grading. I incorporated a writing assignment, where students were asked the same question the first day of class, twice during the semester, and once more as a final writing assignment. Students were then given back all their responses and asked to reflect on their learning process.
- Selected Topics in Chemistry, "Applications of Crystallography in Chemistry and Biochemistry." (CHEM 496)- During my first time teaching the elective course in the Chemistry department I was very excited to spend time reexamining topics I studied in graduate school. Students were able to use the department ipads to access online tools such as mFold to predict secondary structure of RNA molecules. Students were also introduced to useful tools such as the Protein Data Bank (PDB), which is a great resource to find primary literature on a protein of interest. When I had the opportunity to teach the elective course again during Fall 2018, I incorporated a text book. The students and I read the whole book throughout the semester. For a portion of each class meeting, the class was divided into small groups and assigned a section of the reading. They prepared a large post-it poster depicting their section. Then new groups were formed with a member representing each section of the reading. In their new groups they went around to each other's posters and explained their section of the reading to the rest of the group. I found this to be a great way to engage the whole class and have them critically think about their reading.
- Thinking Like a Scientist (CHEM 120A)- Coordinated the students to attend a Low Ropes Course. Students worked through challenging activities to develop teamwork, problem solving, communication, trust in an effort to foster a community of developing scientist that could support each other throughout their education. I also integrated the Arts into this course. As a class, we visited the University's art gallery. Students were asked to pick an art piece and describe it to their partner in enough detail that their partner could sketch a picture of the art piece. This revealed students' weaknesses and strengths in their ability to articulate their observations.
- Quantitative General Chemistry (CHEM 125A)- Developed tangible activities to aid student's comprehension of course material. My colleague and I developed a sorting activity that focused on classifying and naming ionic and molecular compounds and acids. In order to create more cohesiveness between all the topics in this course, we began the semester with a discussion about ocean acidification due to increase CO_2 levels in the atmosphere. All the topics covered in this course are important to understand the chemistry of ocean acidification. I also applied for and received a grant to bring virtual reality lessons into this course.

ACADEMIC ADVISING

- Met with students to discuss and develop a four-year plan. I currently have 45 assigned advisees in addition to the many students I advise that are not assigned to me.

FELLOWSHIPS AND AWARDS

- Lab Innovations with Technology Award, $16,640 to purchase virtual reality software for General Chemistry course, pay for student assistants, and pay for faculty time **2019**
- Professional Development Award, SSU **2014 – 2019**
- UC Santa Cruz, Graduate Division, Graduate Research Mentorship Program Fellow **2008 – 2009**
- Initiative for Maximizing Student Diversity (IMSD) Fellow **2007 – 2008**
- Center for Biomolecular Science and Engineering Fellow **2005 – 2007**
- Cota-Robles Fellow **2003 – 2005**

PROFESSIONAL SOCIETIES

- American Society of Biochemistry and Molecular Biology, member **2014 –**
- American Chemical Society, member **2002 -**
- Society for Advancement of Chicano and Native Americans in Science, Life member **2001 -**
- American Association for the Advancement of Science, member **2007 – 2013**
- Alliance for Graduate Education and the Professoriate (AGEP), member **2006 – 2009**

SCHOLARSHIP

RESEARCH PROJECTS

Binding of BAFF Receptor Protein and its RNA aptamer, Sonoma State University, **Principal Investigator 2013-**

My lab is concerned with identifying key interactions between the B-cell-activating factor receptor (BAFF-R) protein and a RNA aptamer that specifically binds BAFF-R. BAFF-R is expressed on B-cells and overexpressed in non-Hodgkin's lymphoma. When BAFF-R's ligand, B-cell-activating factor (BAFF), binds, proliferation and cell survival increase allowing the cancer to spread faster. Aptamers are capable of binding their targets with high specificity and affinity and have recently been investigated for their therapeutic advantages over antibody-based approaches. An RNA aptamer antagonist has been identified that efficiently binds BAFF-R, thus preventing binding of its ligand. The RNA aptamer has also been used to deliver therapeutic reagents that kill the cell. We aim to identify the nucleotides responsible for the specific binding of the aptamer to the receptor. We also want to investigate whether this is a specific interaction (through the nitrogenous base) or non-specific interaction (through the ribose ring of phosphate backbone). We use data from electromobility shift assays to calculate dissociation constants in order to evaluate the binding of the original aptamer, control aptamer (random sequence), and mutations of the original aptamer. Understanding the specific interactions between BAFF-R and its aptamer would allow us to increase specificity, reducing off-target effects, and move this therapeutic approach towards clinical trials.

Analysis of Alpha Acids in Fresh Hops, Sonoma State University, **Investigator 2016 – 2018**

In collaboration with Dr. Perri, Dr. Sharrett, and undergraduate students, methodology for analysis of alpha acids in fresh hops was developed. Several extraction methods were tested in order to determine the most effective way to separate the alpha and beta acids from fresh hops. Optimization of HPLC analysis were carried out in order to obtain the best resolution between peaks of the various humulone and lupulone compounds. Students were meticulous in keeping track of several factors including HPLC conditions, local climate and soil content of where the hops were grown. They were then able to develop a Standard Operating Procedure for this methodology along with recording sheets to keep data collection and analysis consistent.

SSU Supervised Research Students: Celia Halsted, Cassidy Coleman, Cesar Galvan, Katy Valero, Alejandra Maldonado, Carissa Ladwig-Cox, Alexey Ruzin, Tanner Kimberly, Ryan Schindler, Howie Tomson, Chris Inman, Robert Boyd, Alexandra Bernard, Angela Egbuchulam, Matthew Vore, Michael Byerline, Jasmine Morales, Erick Juarez, Thanh Blade, Stephanie Roa, Tara Avrit, Victoria Garzoli, Chase Clark, Delmira Agnew, Sarah Myhre, Ester Hernandez Martinez, Mariah Mesner,

Breanna Lee

Cell Specific Delivery of Therapeutic siRNA Using Aptamers, City of Hope, Dr. Rossi, **2010 – 2013**
RNA Aptamers have been identified to deliver siRNA specifically to HIV infected cell or cancerous cells. Better understanding of their three-dimensional structure would aid in developing high quality therapeutic reagents. Molecular biology techniques utilized: synthesized and purified plasmid DNA, synthesized and purified RNA (47, 118, and 240 bases), synthesized and purified protein, *in-vitro* T7 transcription, cloning/bacteria transformation, agarose and acrylamide gel electrophoresis, site-directed mutagenesis, PCR, large-scale (> 1L) plasmid preparations, and screened macromolecules for crystallization conditions. I was responsible for project development and management.

A Novel RNA Gene: Human Accelerated Region 1 (HAR1), UC Santa Cruz, Dr. Scott, **2004 – 2009**
Developed an X-ray crystallography project stemming from the work done in Dr. Haussler's lab to work towards determining the function of a novel RNA gene in collaboration with three UC labs. Molecular biology techniques utilized are the same as above. Macromolecular structure determined by screening macromolecules for crystallization conditions, handling and manipulating macromolecular crystals, data processing (MOSFLM, PHENIX, PHASER, COOT and CCP4 supported programs), collection of diffraction data at Stanford Synchrotron Radiation Laboratory (SSRL), Advanced Light Source (ALS) at Lawrence Berkeley Lab, and with in-house machine; Chemical probing of RNA structure; RNA sequencing with reverse transcriptase**.** Development and managed project and I was the laboratory safety representative.

Hammerhead Ribozyme Kinetic Study, UC Santa Cruz, Dr. Scott, **2008**
Studied the effect of a base mutation on the rate of hammerhead (ribozyme) cleavage at various pHs.

Nitrophorins, Santa Clara Univ., Dr. Shachter, **2001 – 2003**
Synthesized, purified, and characterized nitrophorins for possible utilization as nitric oxide delivery.

PEER-REVIEWED PUBLICATIONS

1. Lares, M.; "Synthesis, Purification and Crystallization of a Putative Critical Bulge of HAR1 RNA." *Formally accepted for publication in PLoS One,* **November 2019**.

2. Schindler, R.; Sharrett, Z.; Perri, M.J.; Lares, M. "Quantification of α-Acids in Fresh Hops by Reverse Phase High-Performance Liquid Chromatography." *ACS Omega*. **2019**, *4*(2): 3565-3570. DOI: 10.1021/acsomega.9b00016

3. Lares, M.; Rossi, J.J.; Ouellet, D.L. "RNAi and small interfering RNAs in human disease therapeutic applications." *Trends in Biotechnology.* **2010**, 28(100): *570-579.*

4. Young-In, C.; Martick, M.; Lares, M.; Kim, R.; Scott, W.G.; Kim, S.H. "Capturing Hammerhead Ribozyme Structures in Action by Modulating General Base Catalysis." *Public Library of Science: Biology* [Online] **2008,** 6(9): e234.

INVITED LECTURES

- **San Francisco State University, Department of Chemistry Seminar Series** **2017**
  "Exploring RNA:Protein Interactions between BAFF-receptor protein and its RNA aptamer."
- **Sacramento State University, Department of Chemistry Seminar Series** **2016**
  "Exploring RNA:Protein Interactions between BAFF-receptor protein and its RNA aptamer."
- **Santa Clara University, Department of Chemistry Seminar Series** **2015**
  "Targeted Cancer Therapy for Non-Hodgkin's Lymphoma: Characterization of BAFF-R and its RNA Aptamer."
- **Sonoma State, Department of Biology Colloquium** **2014**
  "Human Accelerated Region 1: A Novel Gene"

PRESENTATIONS

- **SSU's Chemistry Department's Group Meeting,** oral presentation, "BAFF-R protein:RNA aptamer EMSA data compared to negative control RNA aptamer" **2019**
- **SSU Faculty and Graduate Student Scholarship Symposium,** Poster presentation, "Towards the Determination of Interactions Between BAFF-Receptor Protein and Its RNA Aptamer" **2018**
- **ASBMB Annual National Conference, Boston, MA** Poster presentation, "Targeted Cancer Therapy for Non-Hodgkins Lymphoma: Characterization of BAFF-R and its RNA Aptamer" **2015**
- **City of Hope Structure Club** Oral presentation, "*Prostate-Specific Membrane Antigen"* **2013**
- **City of Hope Structure Club** Oral presentation, "*Structural Insights into the Function of TAR RNA Binding Protein"* **2012**
- **City of Hope RNA Journal Club** Oral presentation, "*Structure of Arabidopsis HYL1 and Its Molecular Implication for miRNA Processing."* **2010**
- **San Jose City College** Oral presentation, "*Insights into the function of a novel RNA gene: HAR1*" **2009**
- **ACS Annual National Conference** Poster presentation, *"Towards the structure and function of a novel RNA gene"* **2008**
- **ACS Annual National Conference** Poster presentation, *"Towards the structure and function of a novel RNA gene"* **2006**
- **SACNAS Annual National Conference** Oral presentation, *"Determining the structure and function of the rerty transcript"* **2005**
- **UC Santa Cruz Chemistry Department Seminar** Oral presentation, *"Catching Cu-nitrosyl enzymatic intermediates in nitrite reductase"* **2005**
- **SACNAS Annual National Conference** Poster presentation, *"Synthesis, Purification, and Characterization of Nitrophorins"* **2002**

GRANTS AND AWARDS

- Koret Scholars Award; $10,000/year to employ student researchers, buy lab supplies, and funding for faculty member working with four undergraduate students, "Optimizing Electromobility Shift Assays between the BAFF-receptor and its RNA Aptamer" **2017 – 2019**
- Dean's Summer Research Award, "Gel Shift Assays (EMSAs) of BAFF-R Protein and RNA Aptamer" **2018**
- Mini-Grant, SSU; $4,407 to employ student assistants, send students to conferences and purchase lab supplies. **2016**
- SOURCE Award, SSU **2015**
- Faculty Mentor- SSU student stipends in the amount of $550 to support undergraduate research. **2014 – 2015**
- Green Music Center Board of Advisors Committee Grant, "*The Chemistry of Wines and Winemaking.*" Invited, hosted and introduced Dr. Phil Crews as the keynote speaker. **2014**

GRANTS APPLIED

- CSUPERB's New Investigator Grant, *"Characterizing the BAFF-R RNA Aptamer and its Targeted Cell Surface Protein."* **2019**
- American Cancer Society's Research Scholar Grant, "*CHARACTERIZATION OF THE INTERACTIONS BETWEEN A RNA APTAMER AND ITS TARGET."* **2017**
- CSUPERB's New Investigator Grant, *"Cell Surface Receptor (BAFF-R) and the Molecule (RNA Aptamer) that Specifically Binds it in Non-Hodgkins Lymphoma."* **2016**

- CSUPERB's New Investigator Grant, *"Identification of key protein-RNA interactions to optimize targeted cancer therapies."* **2015**

CONFERENCES ATTENDED

- 31st Annual CSU Biotechnology Symposium, Garden Grove, CA **2019**
  Participated in workshops (CANCER, New Faculty Workshop, Wow me!), met other CSU faculty, attended poster sessions and was able to see and discuss research
- ASBMB (Experimental Biology) National Conference, San Diego, CA **2018**
- Society for the Advancement of Chicanos and Native Americans in Science, Salt Lake City, Utah; served as a Mentor Judge **2017**
- MESA Student Leadership Conference, Los Angeles, CA **2017**
  Served as a chaperone for four SSU students at this annual conference
- Bunnett Symposium, Santa Cruz, CA **2017**
  The chemistry and biology of natural products, enduring leads for basic cell biology studies and drug development
- American Chemical Society (ACS) National Conference, San Francisco, CA **2017**
- Society for the Advancement of Chicanos and Native Americans in Science, Long Beach, CA; served as a Mentor Judge **2016**
- American Chemical Society Undergraduate Research Symposium, Moraga, CA **2016**
- American Chemical Society (ACS) National Conference, San Diego, CA **2016**
- 28th Annual CSU Biotechnology Symposium, Anaheim, CA **2016**
  (see below)
- MESA Student Leadership Conference, Santa Clara, CA **2015**
  Served as a chaperone for four SSU students at this annual conference.
- ASBMB (Experimental Biology) National Conference, Boston, MA **2015**
  Learned about cutting edge research from leaders in my field, attended many workshops (improve for scientists, funding opportunities), networked with colleagues in the field, presented poster
- 27th Annual CSU Biotechnology Symposium, Santa Clara, CA **2015**
  (see below)
- 26th Annual CSU Biotechnology Symposium, Santa Clara, CA **2014**
  Participated in workshops (grant writing, flipping the classroom, math in science), met other CSU faculty, attended poster sessions and was able to see and discuss research at other CSUs

STUDENT PRESENTATIONS

- 2019 CSU Student Research Competition, CSU Fullerton, CA **2019**
  Thanh Blade, Stephanie Roa, Mary Akinmurele, oral presentation, "Determination of the Binding Affinity between RNA Aptamer and B-cell Activating Factor Receptor"
- 2019 ASBMB National Conference (Experimental Biology), Orlando, FL **2019**
  Thanh Blade, Stephanie Roa, and Tara Avrit, poster presentation, "Determination of the Binding Affinity of RNA Aptamer to B-cell Activating Factor Receptor Protein from Non-Hodgkin Lymphoma"
- 2019 American Chemical Society Northern California Undergraduate Symposium, Santa Clara, CA, oral presentation, "Elucidating the Binding Mechanism between BAFF-R and Its RNA Aptamer" **2019**
- 2019 SST's Science Symposium, Rohnert Park, CA **2019**
  Thanh Blade, Stephanie Roa, Tara Avrit, Victoria Garzoli, Chase Clark, Delmira Agnew, Sarah Myhre, Ester Hernandez Martinez, Mariah Mesner, poster presentations,
  "Purification and Isolation of a Mutated RNA Aptamer and its binding affinity to BAFF-R"
  "Determining the Efficiency of Transcription Reaction for Control RNA Aptamer"
  "Determination of the binding affinity of RNA aptamer to B-cell activating factor receptor"

"Testing the Efficiency of the Durascribe T7 Transcription Kit"

- 2018 ASBMB National Conference (Experimental Biology), San Diego, CA **2018**
  Matthew Vore, Angela Egbuchulam, and Jasmine Morales, poster presentation, "Cleaving Glutathione S-Transferase from a B-cell Receptor Protein to Improve Interactions as seen in EMSAS"
- 2018 SST's Science Symposium, Rohnert Park, CA **2018**
  Matthew Vore, Howie Tomson, Erick Juarez, and Amir Arshi, poster presentation, "DMS footprinting of the BAFF-R RNA Aptamer"
  "Purification of Fusion Protein BAFF-R-GST and Subsequent Binding to RNA aptamer"
- 2017 SACNAS National Conference, Salt Lake City, UT **2017**
  Tanner Kimberly, poster presentation, "Synthesis and Characterization of the Tumor Necrosis Factor Receptor BAFF-R."
- 2017 SST's Science Symposium, Rohnert Park, CA **2017**
  Chris Inman and Robert Boyd, poster presentations, "Dimethyl Sulfate Footprinting of A B-cell Activating Receptor Ribonucleic Acid Aptamer" and "A Binding Assay of an Oligonucleotide Aptamer to BAFF-R, an Over-Expressed Protein in Non-Hodgkin's Lymphoma"
- 2017 American Chemical Society National Conference, San Francisco, CA **2017**
  Ryan Schindler and Anthony Chui, poster presentation, "Correlating mico climate to Alpha and beta acid concentrations in hops"
- 29th Annual CSU Biotechnology Symposium, Santa Clara, CA **2017**
  Tanner Kimberly, poster presentation, "Synthesis and Characterization of the Tumor Necrosis Factor Receptor BAFF-R in Non-Hodgkin's Lymphoma,"
- 2016 SST's Science Symposium, Rohnert Park, CA **2016**
  Carissa Ladwig, poster presentation, "DMS Footprinting of the BAFF-R RNA Aptamer."
- 2016 American Chemical Society National Conference, San Diego, CA **2016**
  Carissa Ladwig, poster presentation, "Synthesis and Purification of BAFF-R RNA Aptamer."
  Chantelle Leveille, Tania Deleva, Alex Staidle, poster presentation, "SSU Chemistry Club Outreach to the Youth of Sonoma County."
- 28th Annual CSU Biotechnology Symposium, Anaheim, CA **2016**
  Carissa Ladwig, poster presentation, "Synthesis and Purification of BAFF-R RNA Aptamer."
- SSU's Chemistry Department's Seminar Series **2015-2016**
  Carissa Ladwig, Celia Halsted and Cesar Galvan
- 2015 SST's Science Symposium, Rohnert Park, CA **2015**
  Celia Halsted and Cesar Galvan, poster presentation, "Towards the characterization of BAFF-R and its aptamer."
- 2014 SACNAS National Conference, Los Angeles, CA **2014**
  Celia Halsted, travel scholarship recipient, poster presentation, "Synthesis and purification of BAFF-R to understand specific interactions with its RNA aptamer."

PROFESSIONAL TRAINING

- **Get Your Manuscript Out!-** A colleague and I meet weekly to discuss: what are our goals for the following week, what did we accomplish from last week, what are some barriers and how can we set ourselves up to overcome them, and what are we proud of in regards to our scholarship writing. We support each other to set small tangible goals to help us focus on scholarship writing; **2017 - 2019**
- **Mental Health Awareness with CAPS (Counseling and Psychological Services)- Suicide Prevention**; Learned about the "I CAN HELP" method to respond compassionately to a person in distress; worked on directly asking, "Are you thinking about suicide?"; methods increase hope and lessen suffering; became more familiar with key campus resources; **2019**
- **Fulbright Scholars Program Workshop**; met with Athena Fulay, Outreach and Recruitment Manager from the Institute of International Education, on campus regarding Fulbright opportunities for administrators, faculty members, and professionals; **2019**
- **LoboConnect Faculty Workshop**; attended two workshops regarding the new advising tool to connect students, faculty, advisors and campus resources; **2019**

- **Unintentional Gender Bias: Breaking the Habit**; This workshop was designed specifically to address gender bias concerns in the STEM classroom; The disciplines in Science, Technology, Engineering and Technology are what social psychologists refer to as "masculine domains;" learned more about this topic to further support our students; this workshop provided a vocabulary for gender bias and sexism; learned some of social psychology's cutting-edge theories on sexism and gender bias: Backlash (Rudman & Fairchild, 2005), The Stereotype Content Model (Glick, Fiske, et al, 2002), Ambivalent Sexism (Glick & Fiske, 2001), and Paternalism in Masculine Domains (Vescio et al, 2005). Applied these theories to case study examples designed for STEM and practiced ways to respond to and reduce these processes; **2018**
- **Learning About Organizational Change**; In this fast-paced workshop, models, insights, and relevant experiences were introduced and discussed to enrich our understanding of change in order to help participants understand how individuals experience personal transition, learn how to move through transitions, minimizing the negative impact of change and enhance personal power during change; **2018**
- **Google Apps for Education Training**; Two day boot camp with an Ed Tech Google Certified facilitator covering Google Drive, Docs, Slides, YouTube, Chrome, Sheets, Forms, Sites, add-ons, and extensions; **2017**
- **OER Faculty Center Summer Institute**; The Affordable Learning committee (made-up of the Faculty Center, Library faculty, and DSS) put together an engaging day of programming that highlighted what's the best of what's out there in the OER space. They also highlighted a case-study of faculty implementation, some overview from the Chancellors Office about OERs system-wide, student perspectives on textbook affordability, and presented ideas on how to take what we might find and implement them in our own classes; **2017**
- **Association of College and University Educators Course in Effective Teaching Practices;** I both facilitated and participated in this yearlong faculty learning program. Ten modules were covered on topics from designing an effective course and class, establishing a productive learning environment, using active learning techniques, promoting high order thinking, assessing to inform instruction and promote learning. Each module required participants to reflect on our observations and how the presented techniques worked in our own classroom; **2017**
- **1:1 Proposal Mentoring with Grant Writer, Richard Ziegfeld**; I met with a professional grant writer, sponsored by the Chancellor's Office, to work on my application for external funding; **2017**
- **GE Advising Training**; led by Janet Swing of the Advising Office to provide faculty a thorough overview of General Education and best practices in GE advising for Sonoma State students, including transfer students; **2015**
- **Redesigning the College Lecture;** an NSF-funded program SSU has been conducting in conjunction with Berkeley. The program is inspired by evidence demonstrating that even in large lectures, students show positive changes in their understanding of material when they are given an opportunity to reflect, talk, argue and defend their ideas with peers. I have joined a faculty-learning program in which a community of scholars and educators share collective experiences and expertise to learn more about engaging students with interactive and reflective curriculum. The program, commonly referred to as the WIDER Grant program, is about to enter its 3rd year. The faculty-learning program is a 2-semester commitment where I engage in discussions about how students learn, engage with other faculty in interactive and reflective activities, and ultimately incorporate these ideas to redesign a course; **2015-2016**
- **Designing Scientific Teaching Tools for BMB Education;** workshop sponsored by the American Society for Biochemistry and Molecular Biology to bring together educators and discuss and develop assessment techniques and tools in biochemistry and molecular biology foundational concepts; **2014**
- **Teaching is not Learning**; workshop to train college-level science instructors about actively engaging students, emphasis on understanding that students don't learn until they have interacted with material, and teacher's success should not be based on how many topics are covered, but rather what students can do once the course has ended; **2012**
- **CLC Bio's Genomics Tools**; hands-on workshop covered topics needed to effectively use the CLC bio Main Workbench for sequence analysis tools; **2012**
- **General Employee Radiological Training (GERT);** educated in radiological terminology, hazards and risks, controls and identification systems, and employee responsibilities; **2008**
- **Rigaku Americas Corporation's Macromolecular Crystallography Training;** trained in radiation

safety, basic maintenance of R-Axis IV and R-Axis IV++, basic maintenance and alignment of confocal blue optics and cryo-cooling maintenance procedures, with introduction to data processing using d*Trek and Crystal Clear; **2007**

SERVICE

DEPARTMENT COMMITTEES, INVOLVEMENT AND SERVICE

- GE reform, worked with two other chemistry faculty to put together a packet Requesting "met in major" status for UD chemistry course (CHEM 401) **2019**
- Participated in pedagogy meetings to develop a senior seminar rubric to be used as an assessment tool of current curriculum **2019**
- Attended session to learn about academic student employees to report to department **2019**
- Sea Wolf Day preparation and participation **2014 – 2019**
- Chemistry Department Group Meeting: attend, participate, and present **2013 – 2019**
- Hosted seminar speakers for chemistry department's seminar series **2014 – 2019**
- National Chemistry Day with SSU Chem Club **2014 – 2019**
- Search Committee for Tenure-Track Hire **2015, 2019**
- Freshman Summer Orientation Advisor **2014, 15, 16, 19**
- Participate in department retreat **2013 – 2016, 19**
- Solicitated donations for and helped plan Beer Seminar **2017**
- Mapped Depart Learning Outcomes to our Assessment tools **2016 -**
- Exit exam on Moodle **2015**
- Curriculum change in BS Biochemistry degree **2015**
- Visiting Professor Search Committee **2014**
- Seminar Presentation: Questions for Newly Admitted Students (Graduate School) **2014**

SCHOOL COMMITTEES, INVOLVEMENT AND SERVICE

- Participated in MESA's "Meet the Professors" Night **2018**
- Mentor for students in the Summer High School Internship Program (SHIP) **2015 – 2019**
- Radiation Safety Committee **2014 –2019**
- Served on search committee for SST's MESA director and academic advisor **2017**

- SST's Professional Development Funds Committee **2015 – 2016**
- ShowMe Demonstration for SST's Spring 2016 School Meeting **2016**
- Profile featured in SSU's SST Fall Newsletter **2015**

UNIVERSITY COMMITTEES, INVOLVEMENT AND SERVICE

- Senate Diversity Subcommittee member **2019**
- Worked with director of faculty center to develop a faculty-led writing support program **2019**
- Search Committee for AVP of Student Wellness **2019**
- Help develop GE content criteria **2019**
- Professional Development Subcommittee Chair **2016 – 2019**
  - Facilitated passage of a resolution through FSAC and Senate to request the establishment of an Ombuds Office on campus **2019**
  - Met with AFS to develop a joint statement regarding teaching sensitive material **2019**
  - Reviewed and selected Employee Recognition Awards, Core Value Champions **2019**
  - Organized and hosted SSU Teaching Symposium **2018, 2019**
  - Developed Instructional Innovation Grant Program **2018**
  - President's Investiture Presentation **2017**
  - Presentation to Academic Senate on Faculty Needs Survey **2017**

- Advisor for Colleges against Cancer Club **2018 – 2019**
- Initiated and advised SSU SACNAS Seawolves Student Club **2018 – 2019**
- Participated in New Faculty Orientation **2016 – 2019**
- Participated in Faculty Retreat **2015 – 2019**
- Canvas Pilot Participant **2018**
- Association of College and University Educators FLP facilitator **2016 – 2017**
- Zinfandel Pilot Program **2017**
- Developed marketing materials for and represented SSU at National SACNAS Conference, Long Beach, CA **2016**
- Presenter at 2016 Teacher Technology Showcase (School of Education) **2016**
- Professional Development Subcommittee **2015 – 2016**
- Academic Freedom Subcommittee one semester proxy **2014 (Fall)**
- Member of the Faculty Writing Program, Sonoma State University **2014**

COMMUNITY INVOLVEMENT ACTIVITIES

- Four SR Junior College students shadowed me to learn about my profession **2019**
- Science demonstrations and experiments with University Elementary (UELF) students **2016 – 2019**
- PTA Secretary at University Elementary (collaboration with SSU's Dept. of Ed.) **2018 – 2019**
- Reviewer of abstracts for National SACNAS conference **2016 – 2017**
- Poster Judge and Mentor for National SACNAS conference **2016 – 2017**
- Member of Piner High School STEM Advisory Panel **2017**
- Latino Role Model Conference Presenter **2016 – 2017**
- Presenter at the Roseland Creek Career Fair **2014**
- LA County Science Fair Judge **2012**
- Latino Role Model Conference Presenter **2004 – 2011**
- Court Appointed Special Advocate for foster children in Santa Cruz County **2006 – 2009**
- Santa Cruz County Science Fair Judge **2003 – 2008**
- Presented to SURF and ACCESS students about graduate school **2008**
- Workshop Leader: "Mastering the Ph.D. process," focus on undergraduate population **2007**
- Presented to California State Univ. MB students about graduate school **2007**
- Mentor to UC Leads undergraduate **2007**
- Mathematics, Engineering, Science Achievement (MESA) judge **2006**
- Member of Women in Science and Engineering (WISE) **2006**
- Member of ChALE (Chican@s and Latin@s Educandose), mentor to incoming freshman **2004 – 2005**
- ChUCK (a retention organization at UC Santa Cruz) tutor **2004 – 2005**
- Secretary for SACNAS at UC-Santa Cruz **2004 – 2005**
  - organized lecture by Dr. Rochin, executive director of SACNAS
  - hosted a workshop on succeeding in graduate school at national conference
  - organized Graduate and Medical Student Forum
  - participated in the Native American Health Disparities Forum
- Panelist for UC Leads workshop **2004**