

CSH Newsletter

Winter/Spring 2016

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A Note From New Associate Dean for Research and Faculty Development: Dr. Susan D. McMahon



Professor of Psychology and the new Associate Dean for Research and Faculty Development for the College of Science and Health at DePaul University

A note from Susan

I am honored and excited to serve as Associate Dean for Research and Faculty Development for the College of Science and Health. I am in my 20th year as a faculty member at DePaul, and I have a long history of integrating my research expertise with service and leadership roles. Some of these major roles include Department Chair of Psychology (4 ½ years), Community Psychology Program Director (6 years), and University Institutional Review Board Chair (6 years). I have very much enjoyed each position and am proud of the positive changes that resulted during my tenure for both students and faculty, in terms of policies, funding, educational initiatives, streamlined processes, and community-building.

I would like to tell you a little bit about my own research, teaching, and history at DePaul. My background is in clinical and community psychology, and I am a graduate of DePaul's doctoral program (1996). I completed 2 years as a Visiting Assistant Professor and then started in the tenure track in 1998; I became an Associate Professor in 2003 and a Full Professor in 2008. I have maintained an active research agenda and publication record (52 peer-reviewed publications, 1 book, 12 invited book chapters), with a focus on underserved, at-risk youth, challenged school systems, intervention and evaluation, violence prevention, and

violence directed against teachers. My teaching has also focused largely on research, as I have specialized in seminars that provide instruction and support related to masters theses, doctoral dissertations, and professional development. I have also taught core courses in community psychology, program evaluation, and Explore Chicago, typically incorporating service learning.

I embrace my role in promoting faculty development in the college and look forward to working with new and experienced faculty from across the college. I have experience with providing guidance and support to promote research, balancing roles in research, teaching, and service, and mentoring faculty through the promotion process. As Department Chair, I provided mentorship for 6 staff, 35 full-time faculty, and 6 program directors in a department that served 800-1100 undergraduate majors and over 130 graduate students annually. I have mentored 15 Assistant Professors toward or through the process of tenure and promotion, as well as 2 Associate Professors through promotion to Full Professor. I find it rewarding to mentor faculty in research, professional development, and promotion and tenure.

I am invested in promoting and enhancing student and faculty research, publications, and grants at DePaul and fostering CSH faculty collaborations within the college and across the university. I welcome faculty to contact me with their ideas, questions, and concerns regarding research and faculty development at smcmahon@depaul.edu. We have so much talent, and I hope we can build upon our strengths to achieve even more in the research arena in the College of Science at Health at DePaul.

Upcoming Student and Faculty Research Deadlines

March 28 - Undergraduate Summer Research Program ([USRP](#))

- The Undergraduate Summer Research Program (USRP), affords undergraduate students at DePaul the opportunity to become actively involved in conducting scientific research with a DePaul faculty mentor during the summer months. Students are awarded a \$1500 stipend for the summer in which they work with their DePaul faculty mentor

April 18 - Undergraduate Research Assistant Program ([URAP](#)) for Summer and Autumn faculty and student applications due

- The Undergraduate Research Assistant Program (URAP) affords undergraduate students at DePaul the opportunity to become actively involved conducting scientific research with a DePaul faculty mentor. Students are awarded \$10 per hour for 75 hours for a total of \$750 per quarter.

April 25 - CSH Faculty Excellence in Research Award Nominations [due](#)

- The DePaul University College of Science and Health Excellence in Research Award recognizes CSH faculty who have made significant scientific contributions in their area of research. This award is conferred annually to one CSH faculty member to recognize a career of meaningful, sustained contribution

April 25 - 2016 Undergraduate Community Service Award Nominations [Due](#)

- Nominate a CSH undergraduate senior who has dedicated his/her time to community service to make a difference. Please contact

cshadvising@depaul.edu with any nomination or award-related questions.



**Outstanding Community Service Award
Call for Nominations**

The College of Science and Health is calling for faculty, staff and students to nominate CSH undergraduate seniors for the Outstanding Community Service Award.

Nominations are due via Qualtrics by 5pm on Monday, April 25th. Please email cshadvising@depaul.edu for nomination link and/or any award-related questions.

The award recipient will be recognized at the annual CSH Honors Celebration on Saturday May 21st.

April 25 - 2016 Excellence in Undergraduate Research Award Nominations [Due](#)

- The College of Science and Health announces its Excellence in Undergraduate Research Award which seeks to acknowledge excellence in undergraduate student research. This award has been established to honor DePaul undergraduates who conduct exceptional research, articulate their research to others, and enhance the DePaul mission in integrating research into students' academic learning experience. Please contact cshadvising@depaul.edu with any nomination or other award-related questions.



**Excellence in Undergraduate Research Award
Call for Nominations**



The College of Science and Health is calling for faculty, staff and students to nominate CSH undergraduate seniors for the Excellence in Undergraduate Research Award.

Nominations are due via Qualtrics by Monday, April 25th at 5pm. Please email cshadvising@depaul.edu for nomination link and/or any award-related questions.

The award recipient will be recognized at the annual CSH Honors Celebration on Saturday May 21st.

Upcoming Department and CSH Events

March 30 – Physics Colloquium, 3:30-4:30pm, Byrne Hall #208 (Physics)

April 1 (tentative) - DePaul Chemistry Club's screening of "The Poisoner's Handbook".

April 8 - Research Lunch and Learn, Lincoln Park Zoo, 1-2pm (Career Center)

April 14 - University of Chicago Field Trip, Research Seminar & Biological Sciences Graduate Programs Q&A, McGowan South Atrium at 2:30pm (Biological Sciences)

April 20 – Physics Colloquium, 3:30-4:30pm, Byrne Hall #208 (Physics)

April 22 - Earth Day Research Seminar, Dr. Cory Suski, University of Illinois-Urbana, 1-2pm (Biological Sciences)

April 29 – CSH Research Field Trip, Time TBA

May 20 - Annual Chemistry Research & Awards Symposium, 3-5 pm.

May 21 - CSH Honors Celebration, Lincoln Park Student Center, Room 120

May 23 - Psych Night (Psychology), 5-7pm, Lincoln Park Student Center Room 120 A/B

May 27 - CSH Senior Symposium (CSH), 1-2pm, McGowan South, 105

TBD - Annual Chemistry vs. Biology Softball Game

Workshop for Associate Professors

April 8th, 2016




DEPAUL UNIVERSITY
 College of Liberal Arts and Social Sciences
 &
 College of Science and Health

WORKSHOP FOR ASSOCIATE PROFESSORS
 Friday, April 8th, 2016
 12:00 p.m.-1:30 p.m.
 McGowan South, Room 404

Are you planning to go up for promotion to Full Professor?

Do you want to hear other's experiences?

Do you have questions about the process?

Attend the Associate Professor's Workshop sponsored by the
 LAS and CSH Dean's Offices.

SPEAKERS

Kathryn Ibata-Arens	Christine Reyna	Bernhard Beck-Winchatz
Political Science	Psychology	STEM

If you have any questions, please contact
 Shailja Sharma at SSHARMA@depaul.edu
 or Susan McMahon at SMCMAHON@depaul.edu



Tech Development in the CSH: Hybrid and Online Courses

DePaul Online Teaching Series (DOTS) trains faculty in online learning through hands-on experience. Faculty are introduced to online-learning best practices, innovative use of technology, quality standards for course development across all

delivery formats, and the development of exemplary course sites for online and blended instruction. The program also provides opportunities for faculty to develop a network of online-ready instructors. More information can be found at <https://offices.depaul.edu/fits/Pages/default.aspx>.

The CSH has many faculty members facilitating online and hybrid courses. Over the past year, 18 CSH faculty members have completed DOTS training.

December 2015

Trina Davis, Psychology

Summer 2015

Joseph Ferrari, Psychology

Anne Saw, Psychology

Cecilia Martinez-Torteya, Psychology

Elyse Warren, Psychology

Molly Brown, Psychology

Elizabeth Moxley, Nursing

Spring 2015

Andrew Carroll, Mathematical Sciences

Juan Hu, Mathematical Sciences

Jennifer Meyer, Chemistry

December 2014

Quinetta Shelby, Chemistry

Wendy Wolbach, Chemistry

Jennifer Meyer, Chemistry

Cathrine Southern, Chemistry

Justin Maresh, Chemistry

William Chin, Mathematical Sciences

Margaret Workman, Environmental Science

Michele Thorton, Nursing

The Summer 2016 DOTS Registration deadline is **March 18**.

Alumni Updates

Angela Cornejo, Environmental Science & Studies, BA 2015, is working with NeighborSpace a non-profit land trust as a paid intern working with community gardens.

Arianna Foster, Environmental Science & Studies, BA, 2012, will receive her master's degree in Energy Policy & Climate from Johns Hopkins in June.

Allison Williams, Environmental Science & Studies, BA 2015, is working for the BLM in southern California doing GIS work in the Mohave Desert for their Land Inventory Corps.

Student News WQ16

Student/Faculty Collaborative Research Accepted for Publication

Congratulations to MENP graduate **Katherine Jones** and professor **Joseph Tariman**, Nursing, whose collaborative lit review was recently accepted for publication by the Clinical Journal of Oncology Nursing. Be on the look-out for their article, "Effective Transitional Therapy for Adolescent and Young Adult Cancer Patients."

Student and Faculty Member Team Up to Volunteer

MENP student **Cassie Cisneros** and professor **Liz Florez**, Nursing, volunteered at the Celebra Mujere event hosted by Hoy on Saturday, October 17th at the Midwest Conference Center. The event celebrates women and is a place for Latinas to enjoy a day of fun, engaging, and empowering activities. Cassandra assisted the American Heart Association in demonstrating and training attendees on bystander CPR while Dr. Florez assisted the Illinois Hispanic Nurses Association in conducting blood pressure screenings and providing health education.

CSH In the News

The Early Opportunity Program, a new offering through the Alliance between DePaul University and Rosalind Franklin University of Medicine and Science, received a feature in [Newsline](#).

Suzanne Bell, Psychology, spoke with WBEZ about work NASA “[Putting Together a Team to Travel to Mars](#).” Dr. Bell was also quoted in the Chicago Tribune on software and worker productivity in “[Slack, Jira, Asana: The new language of worker productivity](#).”

Joseph Ferrari, Psychology, was featured in an article in Entrepreneur on “[Why Your Procrastination Excuses Don't Cut It](#).”

Elizabeth Florez, Nursing, was recognized as a [Top 40 under 40 Emerging Nurse Leader](#).

Leonard Jason, Psychology, was quoted in a Forbes article, “[The Best Treatment For Drug Addicts Is Community](#).” Dr. Jason was also featured in an article on Chronic fatigue syndrome (CFS) in [Mosaic Science](#). Dr. Jason’s long-term work with CFS was featured in DePaul Distinctions in an article called “[Radical Research](#).”

Jalene LaMontagne, Biological Sciences, was featured by Chicago’s ABC Channel 12 WJFW in “[Counting cones: Researcher seeks understanding of white spruce mast events in the Northwoods](#).”

Mona Shattell, Psychology, wrote a piece for the Huffington Post on “[How to Infuse Social Media into a Conference of Tech-Naive Attendees](#).”

Kenshu Shimada, Biological Sciences, was quoted in a National

Geographic article, "[False Megamouth" Shark Pioneered the Plankton-Feeding Lifestyle.](#)"

**Welcome to
Simone Montague, New CSH Administrative
Assistant**

Simone is the new Administrative Assistant in the Dean's Office in CSH. She graduated from DePaul in June 2013 and rejoined the community in this position in February 2016. Having been an undergraduate in Women's and Gender Studies, she looks forward to the joys and challenges of working in this environment.



Farewell to Mona Shattell



Mona Shattell, PhD, RN, FAAN, has accepted the position of Professor and Chairperson of the Department of Community, Systems, and Mental Health Nursing, College of Nursing at Rush University. We congratulate Mona on her new position and wish her the best of luck!

CSH Farewell to Abigail Ingram

Abigail Ingram has accepted a new position at DePaul. She is now the Assistant Director of the Coleman Entrepreneurship Center. We congratulate Abigail on her new position and are glad she is still engaged with DePaul!

DAAN Team Player of the Year

Darren Davis, Associate Director of Operations and Scheduling, CSH Office of Advising and Student Services, recipient of a

DePaul Academic Advising Network (DAAN) Award.



DePaul Academic Advising Network



**Society of Vincent dePaul Professors Honored
Several CSH Faculty**

Five faculty members in the Society of Vincent dePaul Professors come from the College of Science and Health.



from left to right

Joe Ferrari, Jim Montgomery, Mona Shattell, Dorothy Kozlowski, Jeff Bergen



DePaul Discoveries Downloads 2015 - Present

Congratulations to our outstanding undergraduate researchers and faculty mentors! DePaul Discoveries Volume IV has yielded 1072 downloads from May 28, 2015 to March 14, 2016.

Top 10 Most Downloaded Articles

1) A Preliminary Study of Soundscape Analysis as a Measurement of Ecosystem Health (195 downloads)

- Veronica M. Jachowski, Lisa Kenny, Michelle Hauer, Andrew Kühn, and Spencer Barrett
 - Department of Environmental Science and Studies

2) Homelessness as a Determinant of Health Disparities Between Young Gay and Bisexual Males in Chicago (79 downloads)

- Jaclyn M. Shea and Douglas Bruce
 - Health Sciences

3) The Effects of Environmental Factors on Bromeliad Invertebrate Biodiversity (76 downloads)

- Maya E. Navarro
 - Environmental Science and Studies

4) Effects of Temperature on the Crystal Structure of Lithium-Lanthanum Zirconate (69 downloads)

- Mir Iqbal
-

- Physics

5) Chronic Inflammation as a Result of Hepatitis C Virus Infection: A Review of the Literature (64 downloads)

- Samantha L. Lane
 - Biology

6) Predictors of Money Spent on Drugs in Substance Users (57 downloads)

- Simona Ciobotaru
 - Psychology

7) Do Oaks With a Provenance Related to Warmer Climates Emit More Isoprene? (53 downloads)

- Elizabeth Carter
 - Chemistry

8) The Effect of Hydrogen Peroxide on *Leishmania amazonensis* Promastigotes (50 downloads)

- Debra Eluobaju
 - Biology

9) Detection of Baryonic Acoustic Oscillations in the Matter Power Spectrum (46 downloads)

- Spencer Everett, Ian Johnson, Jon Murphy, and Mary Tarpley
 - Physics

10) A High-Altitude Balloon Platform for Determining Regional Uptake of Carbon Dioxide over Agricultural Landscapes (46 downloads)

- Angela M. Bouche
 - Environmental Sciences and Studies
-

External Grants Funded Autumn 2015 Awards

The Coalition for Homelessness Intervention and Prevention of Greater Indianapolis has awarded \$11,538 to **Molly Brown**, Psychology, for a project entitled *Two-year outcomes of the Homelessness Prevention and Rapid Re-Housing Program in Indianapolis, Indiana*. This project will involve an evaluation of the Homelessness Prevention and Rapid Re-Housing Program (HPRP), which was implemented in Indianapolis between 2009 and 2012. Central evaluation questions include how many program participants re-entered the homeless system, which sociodemographic indicators predicted program participants' return to homelessness, and how Indianapolis' HPRP program outcomes compared to the national average. Findings from this evaluation will inform future homelessness prevention and rapid re-housing efforts in Indianapolis.

The Chicago Board of Education has awarded \$9,675 to **Orson Morrison**, Family & Community Services, for *Consulting Services for Avondale-Logandale Elementary*. DePaul University's Family and Community Services will serve as a consultant to provide social, emotional and behavioral interventions to students at Avondale-Logandale Elementary School.

The Chicago Board of Education has awarded \$4,500 to **Orson Morrison**, Family & Community Services, College of Science & Health, for *Consultation Services for Manierre Elementary School*. DePaul University's Family and Community Services will serve as a consultant to provide social, emotional, and behavioral interventions to students at Manierre Elementary School.

The Chicago Quest Charter School has awarded \$10,000 to **Orson Morrison**, for the *Chicago Quest School-Based Mental Health Clinic*. DePaul University's Family and Community Services will provide a variety of psychological services to Chicago Quest referred students and families during the period 2015-2016 school year. DePaul Family and Community Services will provide trauma-informed mental

health services that cannot be provided within the context of existing school social work services.

The National Aeronautics & Space Administration has awarded \$6,837 to **Suzanne Bell**, Psychology, via a subaward from Northwestern University. The funding is for a project entitled *CREWS: Crew Recommender for Effective Work in Space*. Some of the key research aims of this project are to identify the effects of team composition on team functioning in long-distance space exploration (LDSE) along with the critical factors of team composition driving this effect; investigate particular patterns of this effect with different team compositions; and identify methods for composing teams for LDSE.

The Illinois Space Grant Consortium at the University of Illinois has awarded \$69,500 to **Bernard Beck-Winchatz**, STEM, for a project entitled “New NASA-Based STEM Courses.” The courses to be developed include a new STEM course for DePaul’s general education program based on the use of small multi-rotor model helicopters, and NASA-based courses for middle school teachers.

The Chicago Board of Education has awarded \$35,775 to **Orson Morrison**, Family & Community Services. With this funding, Family & Community Services will provide social, emotional, and behavioral interventions within four Chicago schools: McAuliffe Elementary, Lincoln Park High School, and two assigned schools within Network Four of the Chicago Public Schools.

The American Chemical Society has awarded \$55,000 to **Paul Vadola**, College of Science and Health, for a project entitled “New Methods for the Synthesis of Spirocycles via Lewis Acid Catalyzed Dearomative Arene Alkyne Coupling.” This research project, which will include students as researchers, will focus on the construction of C-C bonds, which lies at the heart of organic synthesis. Specifically, the project will investigate the spirocyclization of new alkynyl arenes substrate classes. It will also examine the catalytic spirocyclization mechanism through computational studies and isotope-labeling experiments, with an emphasis on elucidating the critical role of water in the reaction.

The Chicago Community Trust has awarded \$31,000 to **Carolyn Narasimhan**, Mathematics, for the "Illinois Elementary Math Specialist Project" via a subaward from the University of Chicago. The University of Chicago Center for Elementary Mathematics and Science Education, the UIC Learning Science Research Institute, and DePaul University will collaborate on a planning grant to develop a framework for an "Elementary Math Specialist" program. This program is intended to increase the mathematical knowledge and pedagogical skills of teachers in grades three to five, enabling them to serve as math teacher leaders. Two or three representatives from each of the three partner universities will form a planning team that will meet regularly throughout the 2015-2016 academic year.



DePaul & Rosalind Franklin Collaborative Grants

Professors Sarah Connolly, Dorothy Kozlowski, Jingjing Kipp, Talitha Rajah, John Dean, Lihua Jin, Kyle Grice, Liz Florez, Elizabeth Moxley, Joseph Tariman, Bernadette Sanchez, Martinez-Torteya, Jocelyn Carter, and Kathy Grant received collaborative grants with Rosalind Franklin colleagues. Please find abstracts and descriptions below.

Jocelyn Carter and **Kathy Grant**, Psychology, will focus on understanding how human and rodent adolescents' brains are impacted by exposure to stressors and whether adolescence is a particularly sensitive time frame for stress effects. We hypothesize that there are gender differences in these effects with females being more vulnerable to changes in the pre-frontal cortex after stress response and believe that this could explain gender differences in the diagnosis of depression during adolescence. We will test these hypotheses across human and rodent samples to fully understand the relationship between changes in the brain's anatomy and changes in

behavior associated with these areas of the brain.

Sarah Connolly, Health Sciences, will collaborate with John Buolamwini at RFUMS on a pilot grant study to identify and characterize novel small molecules that inhibit the entry of herpesvirus into cells. The first step of herpesvirus infection is the fusion of the viral membrane with a host cell membrane and this fusion is executed by a virally-encoded fusion protein on the virus surface. Dr. Connolly previously identified a small site on the fusion protein that is critical for fusion. Dr. Buolamwini, a medicinal chemist, is designing inhibitors that target this site and the Connolly lab is testing these inhibitors using virus-cell fusion assays. Successful identification of fusion inhibitors could lead to viable drug candidates and reagents that can stabilize a prefusion form of the fusion protein, a conformation that previously has been too unstable for structural analysis.

John Dean, Biology, and Jun-Yong Choe, RFUMS, and are conducting collaborative research on the glucose conjugation and vacuolar transport of salicylic acid (SA) in plants. SA is a plant hormone that has roles in the defense of plants against pathogens. To elucidate the role of SA in plant defense it is important to understand how SA is metabolized and stored in the plant cell. The two main objectives of the research are to determine the crystal structures of the enzymes that conjugate SA to glucose and to identify the specific membrane transporters that move the SA glucose conjugates into the plant cell vacuole. This work may, in the future, facilitate the metabolic design of plants with enhanced disease resistance.

Kyle Grice, Chemistry, is the DePaul University PI on a DePaul-RFUMS Pilot Grant entitled *Novel Metal-Based Drugs as Anti-Cancer and Anti-Viral Therapies*. Dr. Grice wrote the grant in collaboration with Drs. Gulam Waris and Shivaputra Patil at RFUMS. Through this grant, Dr. Grice will be synthesizing and characterizing metal-based drugs using organic scaffolds developed by Dr. Patil. The metal complexes will offer new structures and reactivities that are not accessible to purely organic compounds. These potential drugs will then be examined in biological systems by Dr. Waris to

determine their viability for the treatment of hepatitis C and liver cancer. The grant is an interdisciplinary project that spans inorganic chemistry, organic synthesis, medicinal chemistry, and molecular biology. Drs. Grice, Waris, and Patil are excited about this new area and hope to establish a vigorous, long-term collaboration based on the results that they obtain.

Lihua Jin, Chemistry: Tetracycline (TC), minocycline (MIN) and tigecycline (TIG) share a divalent metal ion binding site essential for mediating their antibiotic function. Isothermal titration calorimetry (ITC) and UV-Vis absorbance measurements combined with the Job's Method were used to study their interaction with Ca^{2+} . ^1H NMR was also used to probe the interaction of TIG with Ca^{2+} . Results from ITC showed that MIN and TIG bind Ca^{2+} more strongly than TC by 10–16 and 8–12 times, respectively, at pH 6.8, or by 23–56 and 20–42 times, respectively, at pH 7.5, in NEM and Tris buffers. The higher affinities can be attributed to the electron donating dimethylamino group at C7 of MIN and TIG which strengthened the Ca^{2+} -antibiotic bonds. Both ITC and the Job's Method showed that all three antibiotics formed higher order Ca^{2+} complexes at pH 6.8 in the form of 1Ca^{2+} -3TC, 1Ca^{2+} -3MIN and 2Ca^{2+} -3TIG. As pH was increased to 7.5, TC preferred a lower order complex (1Ca^{2+} -1TC) while MIN and TIG persisted in their respective higher order complex. The preference of MIN and TIG for higher order complexes is attributed to their stronger affinity for Ca^{2+} and more lipophilic nature. The different complexation mode in the 2Ca^{2+} -3TIG versus 1Ca^{2+} -3MIN complex is attributed to the N-t-butylglycylamido group, which is unique to TIG, participating in Ca^{2+} coordination along with the β -ketoenol moiety common to all three antibiotics. These results are consistent with TIG having substantially higher affinity for the bacterial ribosome, broader spectrum of antimicrobial activity and evasion of classic tetracycline-resistance mechanisms and with MIN being more effective than TC as an anti-inflammatory drug. These results do not correlate with their relative oral bioavailability. The current findings may aid in the rational design of novel tetracycline derivatives.

Elizabeth Moxley, Nursing, "Biomarkers of Wound Healing in Chronic

Diabetic Patients": Diabetes is an increasing health problem affecting 29.1 million adults in the US alone. Individuals who have diabetes are at a much higher risk for amputations from ulcers. This study will investigate biologic markers for preventing and treating the manifestations from chronic diabetic wounds and aims to test the feasibility of low-cost behavioral and technology strategies (behavioral, text-messaging, Fitbit, Fitbit online social network, GPS) for adults at risk for DFUs to determine which strategies could be used to increase physical activity and improve glycemic control (HbA1c). The results of the study will demonstrate which strategies were used, and how the use of the strategies was related to physical activity. After the study is completed, each participant will be interviewed to determine their perspective of the physical activity sessions and use of technology while they were in the study. This information will be used for future interventions for physical activity adherence.

Bernadette Sanchez, Psychology, will be working on her project titled "An Investigation of the Academic and Career Development of Latina/o High School Students in a STEM Mentoring." The study is a continuation grant application in order to continue and complete data analysis and disseminate research findings. The aims of the current study are to investigate a) how science research program is related to the academic and career development of Latina/o adolescents, b) the nature and quality of the mentoring relationships within the science program, and the perceived race and gender barriers in science. Guided by Social Cognitive Career Theory, a qualitative case study is being conducted to fulfill study goals. There are 37 participants in the study (3 staff members, 11 graduate student mentors, 12 faculty mentors, and 11 students), who are part of a science research program at RFUMS. Participants completed qualitative one-on-one, in-depth interviews, which were audio-recorded and transcribed. Grounded theory is being used to analyze interview data. Findings will be used to adapt theoretical model of how participation in STEM research programs leads to the aspirations and pursuit of STEM education and careers. This study will provide pilot data that will be used to write a grant application to the National Science Foundation to better understand how to broaden the participation of

Latina/os in the STEM field.

Joseph D. Tariman, Nursing, in collaboration with Joseph Reynolds, RFUMS, will work on their project "Characterization of novel inflammatory and metabolic biomarkers for fatigue in elderly patients undergoing immunomodulatory- and proteasome inhibitor-based chemotherapy for myeloma." Cancer-related fatigue (CRF) is a common and sometimes irresolvable side effect exhibited by cancer patients as a result of chemotherapy treatment and/or the disease itself. Cancer-related fatigue represents a significant challenge to the quality of life for cancer patients, especially the elderly. Furthermore, the development of CRF often leads to dose delay and dose reduction following chemotherapy, which has major therapeutic outcome implications in the elderly. Recent work has suggested that the activation of pro-inflammatory signaling pathways coupled with changes in metabolic cascades may be at the root of cancer-related fatigue development. Thus, in this proposal we will further examine the presence and physiological relevance of inflammatory biomarkers in the serum of elderly myeloma patients exhibiting cancer-related fatigue while receiving bortezomib-based or lenalidomide-based chemotherapy, prospectively and longitudinally. To our knowledge, this will be the first study conducted that incorporates inflammatory and metabolic pathways with CRF parameters among elderly patients with myeloma. The presence of inflammatory cytokines, along with serotonin and DHEA levels, will be compared with changes in fatigue, sleep, depression, and physical activity over a 3 month period of time. We expect to find that elderly CRF myeloma patients exhibit a distinct pattern of inflammatory and metabolic mediators that positively correlate to worsening CRF symptomatic variables. Overall our goal is secure long-term funding to eventually develop a novel assay panel for rapid biomarker detection and identification of CRF. The accomplishment of this goal may lead to the development of novel treatment options for CRF patients and improve their overall quality of life.

External Funding Opportunities

Department of Health and Human Services

National Institutes of Health

Alzheimer's Disease Pilot Clinical Trials (R01)

Modification 1

<http://www.grants.gov/web/grants/view-opportunity.html?oppld=250914>

Department of Health and Human Services

National Institutes of Health

Phase III Clinical Trials for the Spectrum of Alzheimer's Disease and Age-related Cognitive Decline (R01)

Grant

Estimated total program funding: \$25,000,000

<http://www.grants.gov/web/grants/view-opportunity.html?oppld=279538>

Department of Health and Human Services

National Institutes of Health

Pilot Clinical Trials for the Spectrum of Alzheimers Disease and Age-related Cognitive Decline (R01)

Grant

Estimated total program funding: \$10,000,000

<http://www.grants.gov/web/grants/view-opportunity.html?oppld=27956>

Stay up to date on future CSH student and faculty events with

CSH SOCIAL MEDIA

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