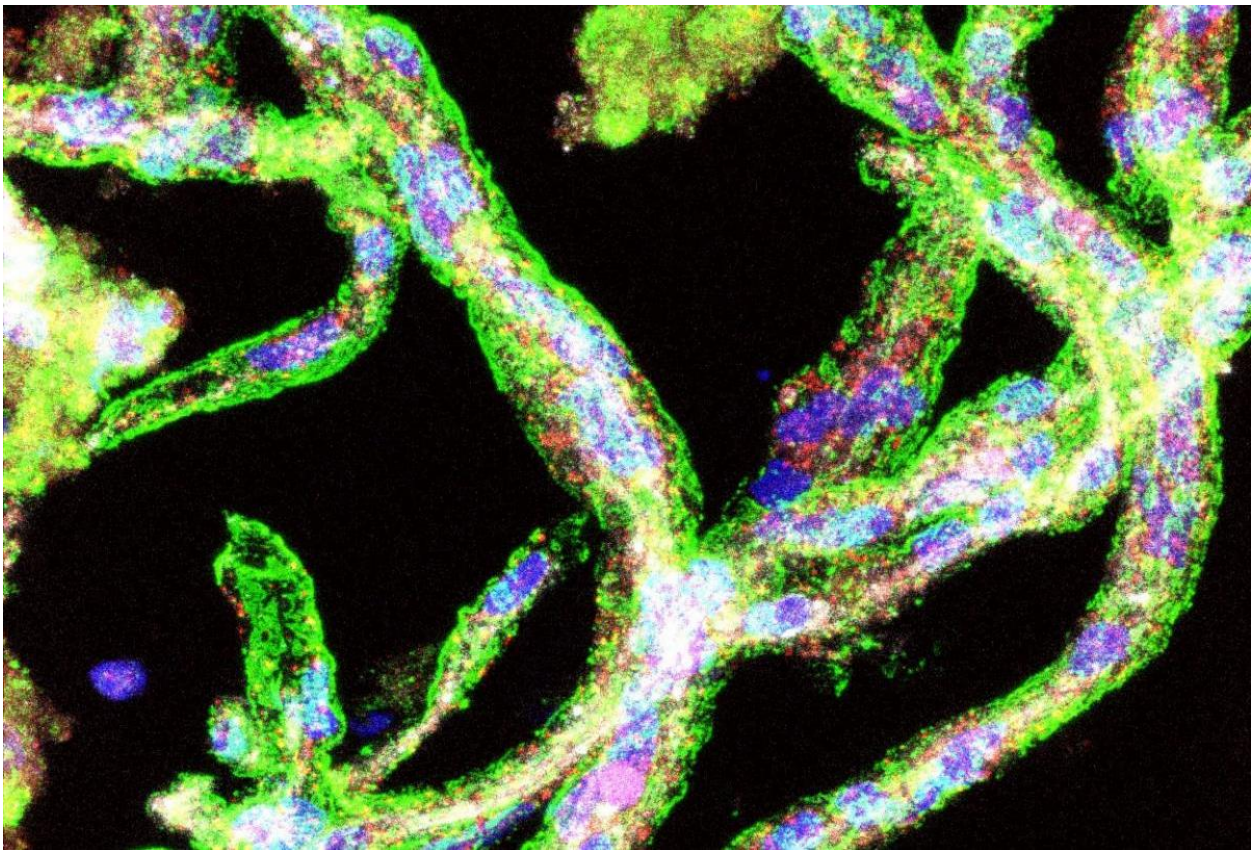
YEAR 2020 REPORT

UC Davis – Diversity, Equity and Inclusion

CAMPOS

Center for the Advancement of Multicultural Perspectives on Science



Confocal microscopy of rhesus macaque brain microvessels showing VEGFR2 in white, IL-20RB in red, AQP4 in green and nuclei in blue – Lillian Cruz-Orengo, Assistant Professor - Anatomy, Physiology & Cell Biology

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I. CAMPOS OVERVIEW

OFFICE OF ACADEMIC DIVERSITY & CAMPOS

CAMPOS is part of the Office of Academic Diversity, within the Office of Diversity, Equity and Inclusion.

Leadership Team

Lorena Oropeza
Associate Vice Chancellor for Academic Diversity
Professor of History
lboropeza@ucdavis.edu

Mariel Vazquez
CAMPOS Faculty Director
Professor of Mathematics and of Microbiology & Molecular Genetics
mrlvazquez@ucdavis.edu

Key members of the Office of Academic Diversity

Thomas O'Donnell
Analyst – Diversity, Equity and Inclusion
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Rosa Deniz
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Mariana Galindo-Vega
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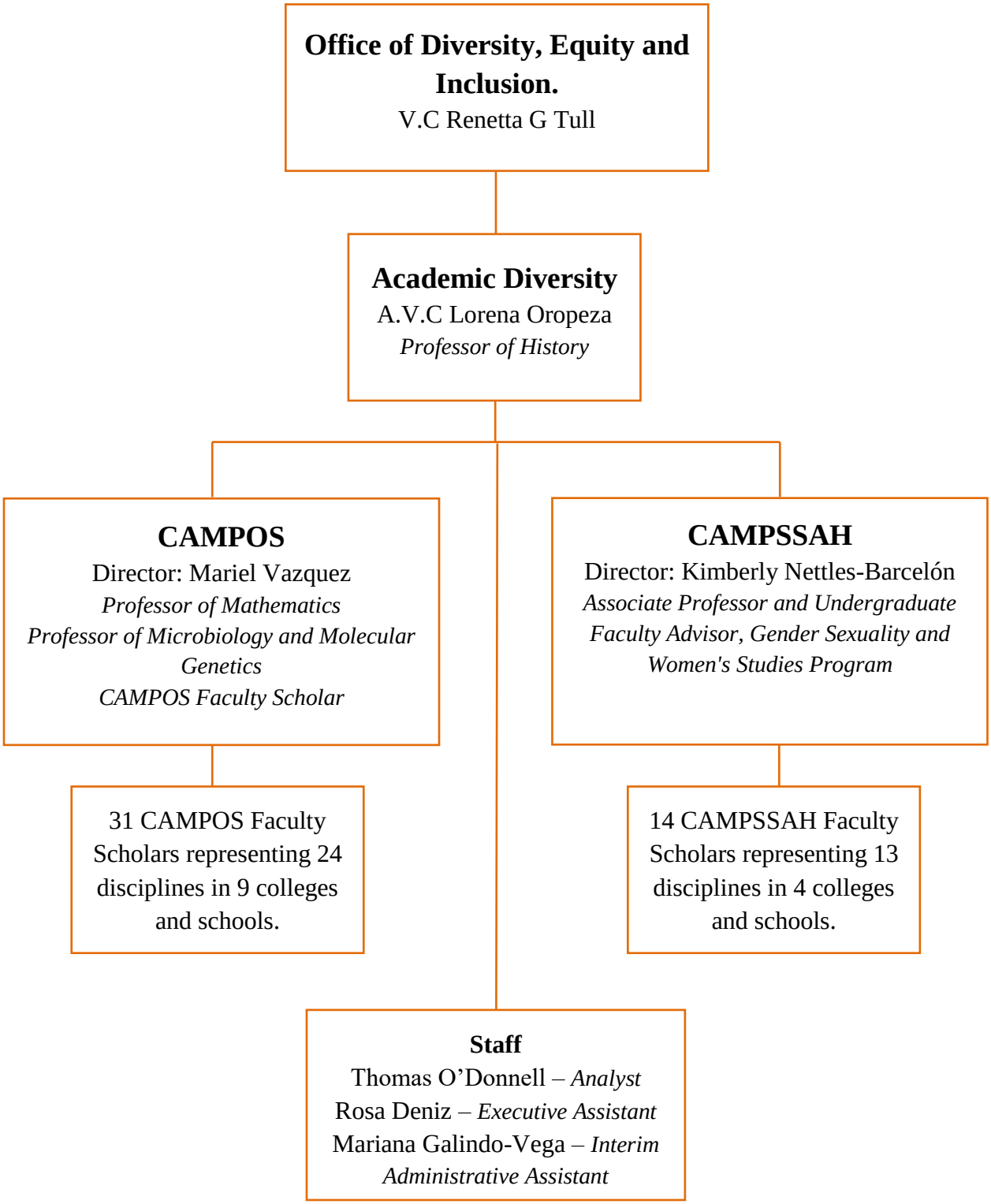
Office of Academic Diversity
Organization Tree



CAMPOS FACULTY DIRECTOR: MARIEL VAZQUEZ

Mariel Vazquez obtained a B.Sc. in Mathematics from the National University of Mexico (UNAM) and her Ph.D. in Mathematics from Florida State University. Vazquez's doctoral studies were supported by fellowships from DGAPA UNAM and the Program for Mathematics and Molecular Biology/Burroughs Wellcome Fund. Between 2000 and 2005, Vazquez held appointments as a Postdoctoral Fellow/Visiting Assistant Professor at UC Berkeley, where she received an Exxon Mobil Project NExT Fellowship. After spending nine years in the faculty at San Francisco State University, Vazquez joined the UC Davis faculty as Professor of Mathematics and of Microbiology & Molecular Genetics. She was also selected as one of six 2014 CAMPOS Faculty Scholars.

Vazquez's research focuses on the applications of topological and discrete methods to the study of DNA, with an emphasis on the topological changes affected by enzymes such as topoisomerases and site-specific recombinases, as well as on the study of chromosome packing in viruses and in cells, and of chromosomal rearrangements in radiation cytogenetics and cancer. More recently her group has moved part of its focus to study the evolution and dynamics of coronaviruses.

As a Faculty Director, Vazquez' vision for CAMPOS is centered in the success and retention of its faculty. She believes that in order to achieve true diversity in STEM one must level the playing field and focus the efforts on supporting research excellence. Her goal is to strengthen the community of CAMPOS Faculty Scholars, who bring gender and multicultural perspectives to STEM sciences, and give them the tools to succeed in the academic environment. Under her leadership, CAMPOS continues to provide opportunities to its faculty scholars. CAMPOS Faculty have access to formal mentorship via the LAUNCH Committees, they are also given opportunities to mentor others (trainees and other faculty) and to develop their leadership skills. The CAMPOS Office organizes regular programming that supports networking, sharing of common experiences, discussion of issues of common concern, and fosters interdisciplinary collaboration. Vazquez aims to ensure that CAMPOS continues to create a broader community of scholars by creating new team science opportunities through partnerships with CAMPOS affiliates and other STEM Faculty on campus.

Since Fall 2019, under the leadership of Mariel Vazquez – the second Faculty Director – CAMPOS has welcomed eight new Faculty Scholars.

MISSION STATEMENT

> *Support the discovery of knowledge by promoting women in science, starting with Latina STEM scholars and expanding to all underrepresented groups in STEM through building an inclusive environment that is diversity-driven, mentorship-grounded, and career-success focused.*

HISTORY

In 2012 UC Davis was awarded an ADVANCE Institutional Transformation grant from the National Science Foundation (NSF). CAMPOS was launched in 2013 as a key initiative of UC Davis ADVANCE, and blossomed under the helm of its founding director Mary Lou de Leon Siantz, Professor Emerita at the Betty Irene Moore School of Nursing.

CAMPOS initially prioritized the hiring of UC Davis faculty whose exceptional contributions to STEM research, teaching and service, addressed issues affecting Latinas in STEM. Over time the vision grew to include all underrepresented voices with the aim to change the face of STEM science. To achieve ADVANCE's goals, UC Davis matched NSF funds with an investment of over $3 million in incentive monies to support the hiring and development of faculty who individually and collectively transform STEM education at UC Davis and contribute research and service to help solve society's vexing problems. UC Davis institutionalized CAMPOS in 2017. CAMPOS is currently part of the Office of Academic Diversity (AD) within the Office of Diversity, Equity and Inclusion (DEI), and is overseen by Lorena Oropeza, interim Vice Chancellor for Academic Diversity and professor of History.

Most academic diversity initiatives focus on student intervention. CAMPOS is unique in that it centers its efforts on STEM faculty. CAMPOS provides opportunities to support the scholarship of CAMPOS faculty through networking, collaboration, mentorship and the development of leadership skills. Throughout the year, the center offers programming for faculty to disseminate their research, share experiences, and discuss issues of common concern. CAMPOS creates a broader community of scholars by inviting other UC Davis STEM faculty to become CAMPOS affiliates and/or participate in many of the CAMPOS-sponsored activities. CAMPOS faculty develop team science strategies, create new collaborations, participate in teaching and training opportunities, and partner with the surrounding communities. Through their work at UC Davis, CAMPOS Faculty train and inspire the next generation of STEM scientists.

OVERVIEW – YEAR 2020

Thirty-one exceptional ladder-rank faculty across 24 STEM departments comprise the CAMPOS Faculty Scholar community. In 2020 five new CAMPOS Faculty Scholars joined UC Davis.

- Jairo Fúquene-Patiño (Assistant Professor of Statistics joined UC Davis in 2020);
- Theanne Griffith (Assistant Professor of Physiology and Membrane Biology joined UC Davis in 2020);
- Tiffani Johnson (Assistant Professor of Emergency Medicine joined UC Davis in 2020);
- Jasquelin Peña (Associate Professor of Civil and Environmental Engineering joined UC Davis in 2020; CAMPOS Cohort of 2019);
- Fernanda Valdovinos (Assistant Professor of Environmental Science and Policy joined UC Davis in 2020; CAMPOS Cohort of 2019).

Despite all its challenges, 2020 was a very successful year for CAMPOS faculty. Collectively, they received 10 Awards and recognitions, published over 50 scientific papers, and had 48 ongoing grants where the CAMPOS faculty is listed as lead-PI. In the year 2020 CAMPOS Faculty were awarded 14 grants (as PI or co-PI). Beyond their research accomplishments, CAMPOS faculty continue thriving for excellence in teaching and mentoring and were active in their outreach and science communication efforts. *See Section III. Accomplishments – Year 2020.*

In 2020 we launched the CAMPOS Research Colloquia, a weekly series of research seminars with the goal to showcase the research done by CAMPOS faculty. There were nine CAMPOS Research Colloquia between January and March. The series was interrupted due to the pandemic. Instead, during Fall 2020, we hosted bi-weekly virtual networking events for CAMPOS faculty. *See Section IV. Programming.*

In late spring 2020, the CAMPOS Selection Committee evaluated nominations and made three recommendations for the 2021 cohort of CAMPOS Faculty Scholars. Three new faculty were welcomed into our community: Jairo Fúquene-Patiño (Statistics), Theanne Griffith (Physiology and Membrane Biology), Tiffani Johnson (Emergency Medicine). CAMPOS hosts an induction ceremony each year to welcome and recognize its newest faculty scholars, and to disseminate their accomplishments. The 2020 ceremony had to be postponed due to the lockdown caused by the COVID-19 pandemic. We anticipate an induction event for the 2020 and 2021 cohorts during the next Academic Year.

In June 2020, the ADVANCE Selection Committee evaluated nominations and announced the two 2020 ADVANCE Scholar Awardees: Professor Jesús A. De Loera (Mathematics) and Professor Chen-Nee Chuah (Electrical and Computer Engineering). The ADVANCE Scholars Symposium, originally scheduled for Fall 2020, will take place during the Academic Year 2021-2022.

In September 2020, CAMPOS and its sister program CAMPSSAH hosted a 3 day New Faculty Orientation. *See Section IV. Programming.* In collaboration with the Office of Academic Affairs, we expanded the CAMPOS Affiliate Program and assisted with forming LAUNCH Committees for our faculty. *See Section VIII. Appendix.*

2020 CAMPOS SCHOLAR

Jairo Fúquene-Patiño

Assistant Professor, Statistics

Fúquene-Patiño holds a B.S. in Statistics (Universidad Nacional de Colombia), Masters in Science degrees in Statistics from the University of Puerto Rico and in Applied Mathematics and Statistics from UC Santa Cruz, where he was Chancellor's Fellow (2011). In 2018 Fúquene-Patiño obtained a Ph.D. from University of Warwick followed by a Postdoc in the Department of Statistical Science at Duke University.

His research focuses on developing methods and computational approaches for a variety of data-driven problems with an emphasis on Bayesian model selection, Weakly Informative Priors and Bayesian modeling with extreme values. His work has applications to economic time series, Functional magnetic resonance imaging (fMRI), clinical trials, environmental data, and survey sampling data.

Fúquene-Patiño developed a deep understanding of how barriers affect minority students on an instructional level during his time as a full-time lecturer at the University of Puerto Rico, in his daily contact with students from underrepresented backgrounds as well as students from the LGBTQ community. According to the department of statistics chair, Alexander Aue, "Being the first faculty member from a Latin background in the Department of Statistics, Jairo will be instrumental in removing barriers preventing full participation of underrepresented minorities in higher education for our majors and graduate students." As a statistical consultant with global public health organizations, Fúquene-Patiño delivered vital and new statistical methodologies for public health institutions in developing countries -- data which he analyzed and used effectively to improve the health of Colombians. This work has led to a new line of research in Fúquene-Patiño's portfolio, namely, this is directly tied to public policies aimed at improving health outcomes for the disadvantaged.

2020 CAMPOS SCHOLAR

Theanne N. Griffith

Assistant Professor, Physiology and Membrane Biology

Griffith has a B.A. in Neuroscience and in Spanish from Smith College, and obtained her Ph.D. in 2015 from Northwestern University. She received her postdoctoral training in the lab of Dr. Ellen A. Lumpkin (Department of Physiology and Cellular Biophysics, Columbia University; 2015-19). Griffith was most recently an instructor in the Department of Pharmacology, Physiology and Neuroscience of Rutgers University.

Griffith is a neuroscientist interested in the molecular mechanisms underlying thermal sensations in both health and disease. Her current work combines electrophysiology, transgenic mouse models, and behavioral studies to investigate how cold sensation is encoded in peripheral sensory neurons. She is also interested in the mechanisms underlying neurological complications in sickle cell anemia, in which cold-induced pain crises are a prominent pathological feature. Griffith was a Diversity Fellow for the Neuroscience Scholars Program under the Society for Neuroscience (2011-2014), and currently serves as a Class Advisor for this program. Additionally, she was a Leadership Fellow for the Northwestern University Center for Leadership (2013-2014).

Griffith is also a children's book author. She has published three books of in a science adventure chapter book series entitled "The Magnificent Makers." Luis F. Santana, chair of Physiology and Membrane Biology at the UC Davis School of Medicine notes, "she is the first faculty candidate I have met in my long career that performs as a scientist, advocate, teacher, and communicator at the highest level." As such, Griffith's passions include science outreach in underserved communities. She notes "I firmly believe the 'leaky pipeline', as it pertains to racial and ethnic minorities in academic science, begins much earlier than graduate school...As an African American woman scientist, it is extremely important that I am seen by such children." She writes that her goal is "creating a strong peer network can prevent feelings of isolation that are common for scientists from minority groups." In her mentorship, Griffith's main goal is to instill agency in the members of her lab. She enjoys teaching students at all levels, from introductory courses to topical classes to teaching medical students the basic principles of physiology.

2020 CAMPOS SCHOLAR

Tiffani Johnson

Assistant Professor, Emergency Medicine

Tiffani Johnson's research portfolio reflects her commitment to improving the quality of care for underserved children. Her interdisciplinary research program is focused on race and racism and its impact on child health. She is currently exploring root causes of inequities in the healthcare and early childhood education settings, including research on racism and bias and its impact on the health and well-being of children. Her research has been funded by AHRQ, the RWJ Harold Amos Medical Faculty Development Program, and the NIH. She is partnering with Pediatric Emergency Care Applied Research Network (PECARN) to investigate disparities within the multisite PECARN Electronic Health Record Data Registry. Her leadership in PECARN includes serving as Chair of the Disparities Working Group, Disparities Consultant to the PRIME Node, and Co-Chair for the Protocol Review and Development subcommittee. Her research expertise has led to roles as Co-Chair of the Race in Medicine Special Interest Group of the Academic Pediatric Association, and extensive leadership in the American Academy of Pediatrics (AAP) serving on the Taskforce on Addressing Bias and Discrimination (2017-2019), the Committee on the Psychosocial Aspects of Child and Family Health (2019-present), and the National Advisory Board for Addressing Social Health and Early Childhood Wellness (2019-present).

Johnson's personal background played an influential role in shaping her career trajectory. Her experiences as a student in under-resourced urban public schools served as an early lesson in social inequities and fostered her interest in public policy. As a student at Rutgers-Robert Wood Johnson Medical School, she was exposed to the interface of medicine and policy and participated in a fellowship with the New Jersey Department of Health in the Office of Minority and Multicultural Health. She pursued a career in Pediatric Emergency Medicine (PEM) to combine clinical mastery with health services research that creates a platform to help children have equal access to opportunities that allow them to attain the highest quality of health. She completed her PEM fellowship at the University of Pittsburg, where she also received her Master of Science degree in Clinical Research.

2019 CAMPOS FACULTY WHO ARRIVED IN 2020

Jasquelin Peña

Associate Professor, Civil and Environmental Engineering

Peña's research lies at the intersection of natural, managed and engineered ecosystems and aims to advance sustainable solutions to environmental quality problems. She is teaching two existing courses in the department and developing a new graduate course on applying water chemistry to solve environmental pollution problems. Her research has significant relevance to contaminant cycling, the biogeochemical pathways by which metals and metalloids are transformed and moved through various states by geological and biological processes. In addition to improving water quality in ecosystems degraded by human activities and by climate change events, she also seeks to improve the livelihood of disadvantaged communities that are often disproportionately impacted by environmental pollution.

Fernanda S. Valdovinos

Assistant Professor, Environmental Science and Policy

Valdovinos studies the structure and dynamics of biological communities using ecological networks, mathematical models, and empirical data. In addition to developing predictive understanding of natural ecosystems, she also asks more applied questions on how ecosystems respond to anthropogenic impacts including species invasions, local extinctions, climate change, and overfishing. Prior to UC Davis, Valdovinos was a faculty member (2018-2020) in the University of Michigan at the Department of Ecology & Evolutionary Biology and the Center for the Study of Complex Systems. More information about the Valdovinos Lab at https://www.fsvaldovinos.com/

II. CAMPOS FACULTY

COLLEGE OF BIOLOGICAL SCIENCES

Jacqueline Barlow
Assistant Professor
Microbiology and Molecular Genetics

Rebecca M. Calisi-Rodríguez
Associate Professor
Neurobiology, Physiology and Behavior

Natalia Caporale
LPSOE
Neurobiology, Physiology and Behavior

Samuel Díaz-Muñoz
Assistant Professor
Microbiology and Molecular Genetics

Wilsaan M. Joiner
Associate Professor
Neurobiology, Physiology and Behavior; Neurology (*joint appointment*)

James A. Letts
Assistant Professor
Molecular and Cellular Biology

Mariel Vazquez
Professor
Microbiology and Molecular Genetics and Mathematics (*joint appointment*)

COLLEGE OF LETTERS AND SCIENCES

Marie Cuevas Heffern
Assistant Professor
Chemistry

Fernanda Ferreira
Professor
Psychology

Jairo Fúquene-Patiño
Assistant Professor
Statistics

Jeanette Ruiz
Assistant Teaching Professor
Communications

Jesús M. Velázquez
Assistant Professor
Chemistry

Mariel Vazquez
Professor
Mathematics and Microbiology and Molecular Genetics and (*joint appointment*)

COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES

Maciel Hernández
Assistant Professor
Human Ecology

Rebecca Hernández
Assistant Professor
Land, Air and Water Resources

Juliana Maria Nóbrega de Moura Bell
Assistant Professor
Food Science and Technology

Fernanda Valdovinos
Assistant Professor
Environmental Science and Policy

COLLEGE OF ENGINEERING

Verónica L. Morales
Assistant Professor
Civil and Environmental Engineering

Maureen Njoki Kinyua
Assistant Professor
Civil and Environmental Engineering

Jasquelin Peña
Associate Professor
Civil & Environmental Engineering

Cindy Rubio González
Associate Professor
Computer Science

SCHOOL OF EDUCATION

Alexis Patterson
Assistant Professor
Science Education

SCHOOLS OF MEDICINE AND PUBLIC HEALTH

Theanne N Griffith
Assistant Professor
Physiology and Membrane Biology

Tiffani Johnson
Assistant Professor
Emergency Medicine

Wilsaan Joiner
Associate Professor
Neurology; Neurobiology, Physiology & Behavior.

(joint appointment)

Rose Kagawa
Assistant Professor
Emergency Medicine, Violence Prevention Research Program

Anna La Torre
Associate Professor
Cell Biology and Human Anatomy

Verónica Martínez-Cerdeño
Professor
Pathology and Laboratory Medicine

Madeline Nieves-Cintrón
Assistant Professor
Pharmacology

Miriam A Nuño
Associate Professor
Biostatistics and Surgery Residence

SCHOOL OF NURSING

Fawn Cothran
Assistant Professor
Family Caregiving Institute

SCHOOL OF VETERINARY MEDICINE

Lillian Cruz-Orengo
Assistant Professor
Anatomy, Physiology and Cell Biology

Crystal D. Rogers
Assistant Professor
Anatomy, Physiology & Cell Biology

RECRUITMENT

In January 2020, Provost Phill Kass informed AVC Aldana and CAMPOS Director Vazquez that there would be up to three funding allocations for the 2020 Cohort of CAMPOS Faculty Scholars.

In January 28, CAMPOS director gave a presentation to the Provost Leadership Council (See Appendix for Presentation Materials) where she introduced the center that CAMPOS Faculty Scholars and their achievements as well as relevant programming for the year. In that meeting, she announced the number of faculty allocations for the 2020 Cohort and described the call for nominations and the nomination deadline.

The CAMPOS Selection Committee (see next page for composition) met on February 25th to discuss the committee composition, its charge and the evaluation timeline. The next section has details for the current committee.

In separate communications, our office reached out to the department chairs, and chairs of hiring committees for all STEM related ladder-rank searches. The nomination deadline was pushed to June 1st as an accommodation due to the lockdown caused by COVID-19.

We received 4 nominations. All materials were forwarded to the CAMPOS Selection Committee. After reviewing the nominations, the committee members commented on them and ranked them electronically. The committee convened on June 15th from 2:00-3:30pm. During this meeting, each candidate was discussed in detail and the committee made its recommendations.

CAMPOS Director and Professor Raquel Aldana, former AVC of Academic Diversity, met with Vice Provost Phil Kass on June 17th to announce the recommendations of the committee and present each candidate. The 2020 Cohort of CAMPOS Faculty Scholars was announced to the campus community on July 31st.

New CAMPOS Faculty participated in a New Faculty Orientation in September 2020, see section Programming – New Faculty Orientation for details.

GOVERNANCE COMMITTEES

CORE SELECTION COMMITTEE

Every year, CAMPOS oversees two important review processes: the selection of the yearly cohort of CAMPOS Faculty Scholars and the selection of two ADVANCE Scholar Awardees. In 2019, the CAMPOS Director proposed a structure for these reviewing bodies. The CAMPOS and ADVANCE Selection Committees are independent charges as described in the next two sections. The committee membership overlaps in what we refer to as the Core Selection Committee.

CAMPOS SELECTION COMMITTEE (CSC)

Members of the CAMPOS Selection Committee evaluate nominations for CAMPOS scholars once a year. The work of the committee typically occurs in the 2-4 weeks after the nomination period closes. The nomination period closes on May 30th, 2021. The CSC consists of all members of a "Core" selection committee and two CAMPOS Faculty Scholars (see roster in the next page). In addition, the Associate Vice Chancellor for Academic Diversity (AVC-AD) serves as a non-voting *ex-officio* member. After reviewing nominations, the CSC issues recommendations to the Vice Provost for Academic Affairs, who makes the final selection.

The committee will meet at least twice per year, once in the winter quarter and once in the spring quarter to plan, prepare and review applications. Committee members are also asked to recommend faculty to be invited as CAMPOS Affiliates and to serve on LAUNCH committees (overseen by Academic Affairs).

Committee members are encouraged to attend the CAMPOS Research Colloquia and other events organized by the Center, and to serve as informal mentors for CAMPOS Faculty. The presence of all committee members is requested at the CAMPOS Induction Ceremony. Due to the lockdown imposed by the COVID-19 pandemic, we anticipate the induction ceremony for the 2020 and 2021 cohorts of CAMPOS Faculty to take place in Fall 2021 or Winter 2022.

CSC Composition: The CAMPOS Selection Committee will include at least one tenured CAMPOS Faculty Scholar, one member from the Academic Federation (at the Associate or Full level), and one member from a non-STEM department. In 2021, these roles are filled by Dr. Verónica Martínez-Cerdeño (CAMPOS Faculty), Dr. Denneal Jamison-McClung (Academic Federation), and Dr. Lorena Oropeza (History Department), respectively. All other members of the CSC are tenured professors in a STEM department. The chair of the CSC committee is the CAMPOS Faculty Director.

ADVANCE AWARD COMMITTEE (ASC)

UC Davis ADVANCE originated with an Institutional Transformation grant awarded by the National Science Foundation's ADVANCE Program in 2012. The NSF ADVANCE program aimed to increase the participation and advancement of women in academic science and engineering careers. At the completion of the NSF Grant, several components of the ADVANCE Program were adopted and are currently overseen by the Offices of Academic Affairs and DEI (Academic Diversity). The ADVANCE Scholar Award is overseen by the CAMPOS Director.

The ADVANCE Scholar Award program is available for mid-career and senior Academic Senate or Academic Federation faculty who advance diverse perspectives and gender equity in STEM through outstanding scholarship and mentorship. The intent of the ADVANCE Scholar Award is to encourage research, leadership, and to foster outreach to underserved communities and mentorship of students from under-represented groups. With this award, CAMPOS aims to highlight and celebrate the diverse contributions that STEM faculty at UC Davis have made to their fields.

Members of the ADVANCE Award Selection Committee evaluate nominations for the ADVANCE Award. The work of the committee typically occurs in the 2-4 weeks after the nomination period closes. The nomination period closes on June 1st, 2021. The committee consists of all members of the Core selection committee, with at least one member from the Academic Federation, and the previous year's Awardees.

The presence of all committee members is requested at the ADVANCE Symposium and Award ceremony. Due to the lockdown imposed by the COVID-19 pandemic, we anticipate that the event for the 2020 and 2021 ADVANCE Awardees will take place in Fall 2021 or Winter 2022.

The committee will meet at least twice per year, once in the winter quarter and once in spring. Committee members are asked to recommend excellent candidates for the ADVANCE Award and solicit nominations.

ASC Composition: The ADVANCE Award Selection Committee consists of the core selection committee and the ADVANCE awardees from the previous round (See roster in the next page). In 2021, these roles are filled by Dr. Chen-Nee Chuah (2020 ADVANCE Awardee), Jesús A. De Loera (2020 ADVANCE Awardee). The ASC will include at least one member from the Academic Federation (at the Associate or Full level), in 2021, this role is filled by Dr. Denneal Jamison-McClung (Academic Federation). All members of the ASC are tenured professors. The Chair of the committee is the CAMPOS Faculty Director.

SELECTION COMMITTEES

Member of the Core Selection Committee	Email	End of term
Nina Amenta Professor and Chair Computer Science	abamenta@ucdavis.edu	Sept 2021
Linda Bisson Professor and Geneticist Viticulture and Enology	lfbisson@ucdavis.edu	Sept 2021
Mary Lou de Leon Siantz Professor Emerita School of Nursing	deleonsiantz@ucdavis.edu	Sept 2021
Denneal Jamison-McClung Director, UC Davis Biotechnology Program (Academic Federation member)	dsjamison@ucdavis.edu	Sept 2021
Kyaw Tha Paw U Professor Land, Air and Water Resources	ktpawu@ucdavis.edu	Sept 2021
Kent Pinkerton Professor Pediatrics Anatomy, Physiology and Cell Biology	kepinkerton@ucdavis.edu	Sept 2021
Mariel Vazquez CAMPOS Faculty Director; Faculty Scholar Professor of Mathematics Professor of Microbiology & Molecular Genetics	mariel@math.ucdavis.edu	

The CAMPOS Selection Committee (CSC) consist of the Core Selection Committee and these two additional members

Lorena Oropeza Associate Vice Chancellor for Academic Diversity Professor of History *ex-officio*; Non-STEM member (2020)	lboropeza@ucdavis.edu	
Verónica Martínez-Cerdeño Professor Pathology and Laboratory Medicine CAMPOS Faculty Scholar	vmartinezcerdeno@ucdavis.edu	Sept 2022

The ADVANCE Selection Committee (ASC) consist of the Core Selection Committee and these two additional members

Jesus A. De Loera Professor Mathematics 2020 ADVANCE Scholar Awardee	deloera@ucdavis.edu	Sept 2021
Chen-Nee Chuah Professor Electrical and Computer Engineering 2020 ADVANCE Scholar Awardee	chuah@ucdavis.edu	Sept 2021

III. ACCOMPLISHMENTS – YEAR 2020

PROMOTIONS

Anna La Torre
Promoted to Associate Professor of Cell Biology and Human Anatomy
School of Medicine

Verónica Martínez-Cerdeño
Promoted to Full Professor of Pathology and Laboratory Medicine
School of Medicine

Cindy Rubio González
Promoted to Associate Professor of Computer Science
College of Engineering

Wilsaan Joiner
Promoted to Associate Professor of Neurology; Neurobiology, Physiology & Behavior
School of Medicine | College of Biological Sciences

GRANTS

NEW GRANTS AWARDED IN 2020

FEDERAL GRANTS

- 2020-2021: NSF-RCN-UBE Incubator (#2018592), "REAL (R in Education and Assessment of Learning)," Co-PI, **Natalia Caporale**, $74,866
- 2020: NIH National Institutes of Health (Award No. 1R01HD100516) "Multi-Utterance Language Production," PI: **Fernanda Ferreira** $318,462 (Total Costs on Year 1)
- 2020: Physical, Social, and Economic Environments and Firearm Fatalities Among Youth. Principal Investigator: **Dr. Rose Kagawa**. First Year Award**:** $124,066
- 2020: Firearm Access, Opioid Use, and Firearm Suicide Mortality. Co-PI: **Rose Kagawa**. First Year Award**:** $321,067
- 2020-2025: NIH National Institute of General Medical Sciences (Award No. 1R35GM137929-01) , "Understanding the Mechanisms of Respiratory Supercomplexes and mitochondrial Complex I," PI **James A. Letts**, $392,500.00 (total direct costs on year 1 of the grant).
- 2020-2021: National Institute of Dental and Craniofacial Research (NIDCR), NIH Loan Repayment Program recipient - **Crystal Rogers.**
- 05/01/2020-04/30/2021: NSF RAPID, "Using Data Science and Biophysical Models to Address the COVID-19 Pandemic," PI Javier Arsuaga/Co-PI: **Mariel Vazquez** and V. Rodriguez. $199,998
- 2020: National Science Foundation CAREER Award (Award No. 2044403). "CAREER: Blueprint for Unlocking New Energy Conversion Functionality in Chalcogenide Frameworks through Precisely Designed Composition, Electronic Structure and Surface Coordination," PI **Jesús M. Velázquez**. Awarded Amount to Date: $204, 047

INTERNAL GRANTS

- 2020 – 2023: Betty Irene Moore Nurse Fellowship Program for Nurse Leaders and Innovators, "Stress and Resilience in African American Dementia Family Caregivers: A Longitudinal Study," **PI: Fawn A. Cothran**. $450,000.
- 2020 - 2021: Family Caregiving Institute Pilot Award, "Feasibility of Personalized/Tailored Video Recruitment: African American Dementia Family Caregivers," **PI: Fawn A. Cothran,** $10,200.
- 2020 – 2021: Family Caregiving Institute Pilot Award, "Frailty and Physiological Stress in Aging Heart Failure Care Dyads at the Intersection of Race and Gender," PI: Julie Bidwell; **Co-PI: Fawn A. Cothran**, $14,000.

- 2020-2021: Family Caregiving Institute Pilot Award, "A Contextual Approach to Assessing Caregiver Trajectory and Outcomes," PI: Oanh Meyer; **Co-PI: Fawn A.Cothran**, $25,000.

- 04/08/2020: CeDAR Innovative Data Science Seed Funding Program, "Application Using Data Science to Address the COVID-19 Pandemic." Amount awarded: $40,000 + match from CBS. PI Arsuaga/Co-PI: **Mariel Vazquez** and Rodriguez.

- 2020-2021: Environmental Health Sciences Core Center (EHSC) Pilot Grant, $15,000. Includes additional funding of $15,000 from the School of Veterinary Medicine, Department of Anatomy, Physiology & Cell Biology . PI: **Crystal Rogers.**

OTHER ACTIVE GRANTS WHERE A CAMPOS FACULTY IS THE LEAD PI

- National Institute of General Medical Sciences (Award No. 5R01GM134537). "R-Loop-Induced DNA Damage during Immunoglobulin class switch recombination," PI **Jacqueline Barlow.** Grant period 08/05/2019-07/31/2024
    - FY 2019 Total Cost by IC $311,720.
    - FY 2020 Total Cost by IC $311,720.
- National Institute Of General Medical Sciences (Award No. 5R35GM133684). "Metalloendocrinology: Mapping Bioinorganic Chemistry In The Extracellular Space," PI: **Marie Cuevas Heffern**
    - FY 2019 Total Cost by IC $327, 851
    - FY 2020 Total Cost by IC $356, 704
- The Hartwell Foundation (Award No. A19-2652). "Metal Micronutrient Status as a Biomarker and Treatment Target for Obesity and Metabolic Disease," PI: **Marie Cuevas Heffern**. 4/1/2019 - 3/31/2022.
- National Science Foundation (Award No. 1846381). "CAREER: Single Parenting in a Bi-Parental System: Discovering Changes in Brain, Behavior, and Reproductive Success," PI: **Rebecca Calisi**. 6/1/2019 - 5/31/2024
    - Awarded Amount to Date: $823,498.00
- UC San Diego (Award No. 5387.01). " A Pipeline to the Public: Launching a new model of science communication training, practice, and public outreach in partnership," PI: **Rebecca Calisi**. 1/1/2020 - 12/31/2020. $30,000
- National Science Foundation (Award No. 1937778). "Impact of Ethnic Studies Courses on the sense of belonging, professional identity, self-efficacy and retention of underrepresented students in STEM." PI: **Natalia Caporale**. 12/1/2019-11/30/2021
    - Awarded Amount to date: $ 349,923
- NIH National Institute of Allergy and Infectious Diseases (Award No. R00AI119401). "Dissecting the drivers of avian influenza virus reassortment in the wild bird reservoir," PI: **Samuel Díaz-Muñoz**. 7/1/2018 - 6/30/2021.

- California Dairy Research Foundation (Award No. P20003UCDFFSR). "Economic opportunities and risks associated with implementing automatic milking technologies in large dairies in CA," PI: **Fernanda Ferreira**. 1/1/2020 - 2/31/2021. $71,399
- California Department of Food and Agriculture (Award No. 19-0722-000-SG). "Development of an economic tool to optimize mastitis management programs in California," PI: **Fernanda Ferreira**. 9/1/2019 - 6/30/2022. $54,804
- California Energy Commission (Award No. EPC15060) "Optimizing solar facility configuration effects on habitat, managed plants, and essential species interactions," PI: **Rebecca Hernández**. 6/1/2016 - 9/30/2019.
- DoI Bureau of Land Management (Award No. L19AC00279) "Informing multi-scale conservation of pollinators and other useful invertebrates at solar energy facilities in the Desert Renewable Energy Conservation Plan area," PI: **Rebecca Hernández**. 10/1/2019-8/31/2020. $149,982
- University of Central Florida (Award No. DE-EE0008746) "Quantifying and Valuing Fundamental Characteristics and Benefits of Floating Photovoltaic Systems," PI: **Rebecca Hernández**. 3/1/2020 - 8/31/2021. $144,941
- National Science Foundation (Award No. 1950933). "REU Site: UC Davis Chemistry Research Experience for Undergraduates in Energy and Catalysis," PI: **Jesús M. Velázquez**. 4/1/2020 - 3/31/2023.
    - Awarded Amount to Date $364,000.
- Research Corporation for Science Advancement (Award No. 26780). "Achieving energy conversion functionality through compositional modification: The role of metal promotion in chalcogenide frameworks," PI: **Jesús M. Velázquez**. $100,000
- National Science Foundation (Award No. 1716987) "The dynamic genome: Studying the interplay between local strand-passage and reconnection," PI: Mariel Vazquez. 8/1/2017 - 7/31/2020.
    - Awarded Amount to Date: $290,000.
- California Department of Food and Agriculture (Award No. 17-0275-015-SC) "Improving Functional and Biological Properties of Almond Proteins with Protease- and Glycosidase-Processing." PI: **Juliana Maria Nóbrega de Moura Bell**. 11/1/2017 - 7/31/2020
- USDA Agricultural Research Service (ARS) (Award No. 58-3060-9-046). "Tailoring Processing Strategies to Produce the New Generation of Chickpea Proteins and Prebiotic Oligosaccharides." **Juliana Maria Nóbrega de Moura Bell.** 9/1/2019 - 2/28/2021. $90,000.
- National Science Foundation (NSF) (Award No. 1847689). "CAREER: Fundamental Controls of Transport Attributes from Porous Media Microstructure," PI: **Verónica L. Morales**. 2/15/2019 - 1/31/2024. $ 90,448.
    - Total Awarded Amount to Date: $286,388.00
- California Department of Resources Recycling and Recovery (Award No. DRR18040) "Effect of operating parameters on compostable plastics," PI: **Maureen Njoki Kinyua.** 7/30/2018 - 9/30/2020. $64,988
- DoE/Miscellaneous Offices and Programs (Award No. DE-SC0020286). "Towards Scalable Precision Tuning of Numerical Software," PI: **Cindy Rubio González**. 9/1/2019 - 8/31/2020. $165,377.

- Lawrence Livermore National Security LLC (Award No. B638422). "ATF:Fine-Grained Analysis of Compiler Floating-Point Anomalies," PI: **Cindy Rubio González**. 11/6/2019 - 9/30/2020. $80,000.
- National Science Foundation (Award No. 2016735). "REU: CI-New: BugSwarm: Enhancing an Infrastructure and Dataset to Support the Software Engineering Research Community," PI: **Cindy Rubio González**. 9/1/2016 - 9/30/2020.
- National Science Foundation (Award No. 1750983). "CAREER: Understanding and Combating Numerical Bugs for Reliable and Efficient Software Systems," PI: **Cindy Rubio González**. 7/1/2018 - 6/30/2023. $105,946. Awarded Amount to Date: $435,944.
- Oak Ridge National Laboratory (Award No. 4000178120). "Improving the reliability and performance of numerical software," PI: **Cindy Rubio González**. 2/27/2020 - 3/31/2021. $36,607
- George Mason University (Award No. R01EY029715) "Data-Drive Biomechanical Simulation of Eye Movement and Strabismus," PI: **Wilsaan Joiner**. 6/1/2019 - 5/31/2020. $29,772
- George Mason University (Award No. BCS-1849067) "The role of the Motor system in the Perception of Time," PI: **Wilsaan Joiner**. 2/15/2019 - 1/31/2021. $51,093
- NIH National Institute of Mental Health (Award No. R01MH113701). "Defining the Neural Circuitry of Agency Deficits in Psychotic Disorders," PI: **Wilsaan Joiner**. 9/1/2019 - 8/31/2020. $ $496,821.
    - Total project funding to date is $1,487,875.
- DoJ National Institute of Justice (Award No. 2017-IJ-CX-0021). "Preventing Firearm Violence: An Evaluation of Urban Blight Removal in High Risk Communities," PI: **Rose Kagawa.** 1/1/2018 - 12/31/2020.
- RAND Corporation (Award No. A20-3877-1). "Comprehensive Background Check Policies and Firearm Violence: Identifying Effective Design, Implementation, and Enforcement Strategies," PI: **Rose Kagawa.** 3/1/2020 -6/30/2022. $ 612,673
- Schwab Charitable Fund (Award No. A20-1536). "Comprehensive Background Check Policies and Firearm Violence: Identifying Effective Design, Implementation, and Enforcement Strategies," PI: **Rose Kagawa.** 7/1/2019 - 6/30/2022. $ 612,673
- NIH National Eye Institute (Award No. R01EY026942) "Embryonic stem cell approach to retinal ganglion cell replacement: An in vivo study" PI: **Anna La Torre.** 6/1/2020 - 5/31/2021. $392,500.
    - Total project funding to date $1,962,500.
- NIH National Institute of Mental Health (Award No. R01MH094681). "Chandellier interneurons and the excitation/inhibition balance in the human prefrontal cortex in autism," PI: **Verónica Martínez-Cerdeño.** 7/1/2010 – 6/30/2020. $381,489.
    - Total project funding to date $3,710,736.
- NIH National Institute of Neurological Disorders & Stroke (award No. R01NS107131). "Fragile X-associated tremor/ataxia syndrome (FXTAS) pathology and anatomy: imaging and clinical correlates," PI: **Verónica Martínez-Cerdeño**. 6/1/2020 - 5/31/2021. $464,864.
    - Total project funding to date $1,434,465.

AWARDS AND RECOGNITIONS

- Graduate Program Advising and Mentoring Award from UC Davis Graduate Studies -- **Cuevas Heffern.**
- Fellow for the Gerontological Society of America – **Cothran, F.**
- Dignity Health Dean's Leadership Award for Excellence in Research – **Cothran, F.**
- Burroughs Welcome Fund Postdoctoral Enrichment Program Award – **Griffith, T.**
- American Geophysical Union Early Career Award – **Morales, V.L.**
- The Better Scientific Software (BSSw) Fellow – **Rubio, C.**
- $1.4M from NSF to enhance BugSwarm, the first large-scale data set of reproducible software bugs and their fixes – **Rubio, C.**
- Fellow of the American Mathematical Society – **Vazquez, M.**
- National Science Foundation CAREER Award – **Velázquez, J.**
- Royal Society of Chemistry, Journal of Materials Chemistry C, Emerging investigator -- **Velázquez, J.**
- Scialog Fellow, RCSA Negative Emission Science -- **Velázquez, J.**
- Cottrell Scholar Award, Research Corporation for Science Advancement – **Velázquez, J**

PUBLICATIONS

COLLEGE OF BIOLOGICAL SCIENCES

Jacqueline Barlow

- Waisertreiger, I., Popovich, K., Block, M., Anderson, K.R., **Barlow, J.H.** (2020) Visualizing locus-specific sister chromatid exchange reveals differential patterns of replication stress-induced fragile site breakage. *Oncogene* 39(6):1260–1272

Natalia Caporale

- Moore, M. E., Vega, D. M., Wiens, K. M., & **Caporale, N**. (2020). Connecting Theory to Practice: Using Self-Determination Theory To Better Understand Inclusion in STEM. *Journal of Microbiology & Biology Education* 21(1), 21.1.32. https://doi.org/10.1128/jmbe.v21i1.1955.
- Campbell-Montalvo, R. A.*, **Caporale, N.*,** McDowell, G. S., Idlebird, C., Wiens, K. M., Jackson, K. M., Marcette, J. D., & Moore, M. E. (2020). Insights from the Inclusive Environments and Metrics in Biology Education and Research Network: Our Experience Organizing Inclusive Biology Education Research Events. *Journal of Microbiology & Biology Education* 21(1), 21.1.34. (*co-first authors)

Samuel Díaz-Muñoz

- McCuen MM, Pitesky ME, Buler JJ, Acosta S, Wilcox AH, Bond RF, and **Díaz-Muñoz, S.** (2021). A comparison of amplification methods to detect Avian Influenza viruses in California wetlands targeted via remote sensing of waterfowl. *Transboundary Emerging Diseases.* 68(1):98-109. DOI: 10.1111/tbed.13612 Epub 2020 Jun 27.

Wilsaan M. Joiner* **Joint appointment with School of Medicine*

- Lesh, T., Wang, H.R., Brower, R., Carter, C.S., **Joiner W.M.** (2020). Transsaccadic Perception in Individuals With Schizophrenia and Bipolar Disorder With Psychotic Features. *Biological Psychiatry* 87(9): S348.
- Brower, R., Wang H.R., Zhou, W., Fitzgerald, J., Bansal, S., Lesh, T., Carter, C., **Joiner W.M.** (2020). Diminished Ability to Generalize Visuomotor Rotation Adaptation in Psychotic Disorders. *Biological Psychiatry* 87(9): S273
- De Kock, R., Zhou, W., **Joiner W.M.**, Wiener, M. (2020). Slowing the Body slows down Time (Perception). *bioRxiv* https://doi.org/10.1101/2020.10.26.355396

James A. Letts

- Maldonado, M., Padavannil, A., Zhou, L., Guo, F., **Letts, J.A.** (2020). Atomic structure of a mitochondrial complex I intermediate from vascular plants. *Elife* (9): e56664.

Mariel Vazquez * *Joint appointment, please refer to College of Letters and Sciences.*

COLLEGE OF LETTERS AND SCIENCES

Marie Cuevas Heffern

- Harder, N.H.O., Hieronimus, B., Stanhope, K.L., Shibata, N.M., Lee, V., Nunez, M.V., Keim, N.L., Bremer, A., Havel, P.J., **Heffern, M.C.**, Medici, V. (2020). Effects of dietary glucose and fructose on copper, iron, and zinc metabolism parameters in humans. *Nutrients* 12(9): 2581.
- Fadeyi, O.O., **Heffern, M.C.**, Sanders Johnson, S., Townsend, S.D. (2020). What Comes Next? Simple Practices to Improve Diversity in Science. *ACS Central Science* 6(8): 1231-1240.
- O'Sullivan, J.J., Harder, N.H.O., **Heffern, M.C.** (2020). Detecting liver disease via an endogenous pigment. *Nature Biomedical Engineering* 4(8): 761-762.
- Stevenson, M.J., Janisse, S.E., Tao, L., Neil, R.L., Pham, Q.D., Britt, R.D., **Heffern, M.C.** (2020). Elucidation of a Copper Binding Site in Proinsulin C-peptide and Its Implications for Metal-Modulated Activity. *Inorganic Chemistry* 59(13): 9339-9349.

Fernanda Ferreira

- Blott, L., Rodd, J.M., **Ferreira, F.,** & Warren, J.E. (2021). Recovery from misinterpretations during online sentence processing. *Journal of Experimental Psychology: Learning, Memory, and Cognition* https://doi.org/10.1037/xlm0000936 Advance Online Publication 2020.
- Lowder, M.W., Maxfield, N.D., & **Ferreira, F.** (2020). Processing of self repairs in stuttered and non-stuttered speech. *Language, Cognition, and Neuroscience* 35(1): 93-105. https://doi.org/10.1080/23273798.2019.1628284
- Beier, E.J., Janata, P., Hulbert, J.C., & **Ferreira, F.** (2020). Do you chill when I chill? A cross-cultural study of strong emotional responses to music. *Psychology of Aesthetics, Creativity, and the Arts*. https://doi.org/10.1037/aca0000310
- Rehrig, G., Peacock, C.E., Hayes, T.R., Henderson, J.M., & **Ferreira, F**. (2020). Where the action could be: Speakers look at graspable objects and meaningful scene regions when describing potential actions. *Journal of Experimental Psychology: Learning, Memory, and Cognition* https://doi.org/10.1037/xlm0000837
- **Ferreira, F**. (2020). In defense of the passive voice. *American Psychologist*. 76(1), 145-153. https://doi.org/10.1037/amp0000620
- Yujing, H., & **Ferreira, F**. (2020). The application of signal detection theory to acceptability judgements. *Frontiers in Psychology* 11. https://doi.org/10.3389/fpsyg.2020.00073
- Rehrig, G., Hayes, T.R., Henderson, J.M., **Ferreira, F**. (2020). When scenes speak louder than words: Verbal encoding does not mediate the relationship between scene meaning and visual attention. *Memory & Cognition* 48: 1181-1195.
- Karimi, H., Diaz, M., **Ferreira, F**. (2020). Misspoken words affect the perception and retrieval of intended words. *Language, Cognition and Neuroscience*. 1-17.
- Rehrig, G., Cullimore, R.A., Henderson, J.M., **Ferreira, F**. (2020). When more is more: Redundant modifiers can facilitate visual search. *Cognitive Research: Principles and Implications* 6(1):1-20.

Jairo Fúquene-Patiño

- Castañeda, J., Fuquene, J., Tellez, C. (2020). An alternative for the estimation of the average income using small area methods." *Bulletin of Statistics and Operations Research*, 24(1), 6.

Jeanette Ruiz

- **Ruiz, J.B.** (2020) Edward Janak and Ludovic A. Sourdot (Eds.), Educating Through Popular Culture: You're Not Cool Just Because You Teach with Comics. *International Journal of Communication* (14):3.
- Featherstone, J.D., Barnett, G.A., **Ruiz, J.B.**, Zhuang, Y., Millam, B.J. (2020) Exploring childhood anti-vaccine and pro-vaccine communities on Twitter – A perspective from influential users. *Online Social Networks and Media* (20):100105, https://doi.org/10.1016/j.osnem.2020.100105.
- Featherstone, J.D., **Ruiz, J.B.**, Barnett, G.A., Millam, B.J. (2020) Exploring childhood vaccination themes and public opinions on Twitter: A semantic network analysis. *Telematics and Informatics*, (54): 101474
- **Ruiz, J.B.** (2020) Social Network Factors for HPV Vaccine Adoption in Young Adults. *Social Science Research Network*

Jesús M. Velázquez

- Lilova, K.*; Perryman, J.*; Singstock, N.*; Subramani, M.; Lam, A.; Yoo, R.; Ortiz-Rodríguez, J.; Musgrave, C.; Navrotsky, A.; **Velázquez, J. M**. (2020). A Synergistic Approach to Unraveling the Thermodynamic Stability of Binary and Ternary Chevrel-Phase Sulfides. *Chemistry of Materials*. DOI:10.1021/acs.chemmater.0c02648
- Ortiz-Rodríguez, J.*; Singstock, N.*; Perryman, J.; Hyler, F.; Jones, S.; Holder, A.; Musgrave, C.; **Velázquez, J. M**. (2020) Stabilizing Hydrogen Adsorption Through Theory-Guided Substitution in Chevrel-Phase Mo6X8 (X=S, Se, Te) Electrocatalysts. *ACS Applied Materials and Interfaces*. DOI:10.1021/acsami.0c07207
- Hussain, F.; Zamora, J.; Ferrer, I. F.; Kinyua, M.; **Velázquez, J. M**. (2020) Adsorption of Crude Oil from Crude Oil-Water Emulsion by Mesoporous Hafnium Oxide Ceramics. *Environmental Science: Water Research & Technology*. 2020, DOI: 10.1039/D0EW00451K
- Perryman, J. T.; Kulkarni, A. R.; **Velázquez, J.M**. (2020) Direct Solid-State Nucleation and Charge-Transport Dynamics of Alkali Metal-Intercalated M2Mo6S6 (M = K, Rb, Cs) Nanorods. *Journal of Materials Chemistry* (*Featured on the Inside Back Cover of Emerging Investigators Special Issue*) C DOI: 10.1039/D0TC01674H.
- Zaheer, W., Andrews, J. L., Parija, A., Hyler, F. P., Jaye, C., Weiland, C., Yu, Y., Shapiro, D. A., Fischer, D. A., Guo, J., **Velazquez, J. M**., Banerjee S. (2020) Reversible Room-Temperature Fluoride-Ion Insertion in a Tunnel-Structured Transition Metal Oxide Host. *ACS Energy Letters* DOI: 10.1021/acsenergylett.0c01328
- Perryman, J. T., Ortiz-Rodríguez, J.C., Jude, J.W., Hyler, F.P., Davis, R.C., Mehta, A., Kulkarni, A. R., Patridge, C. J., **Velázquez, J. M**. (2020) Metal-promoted Mo6S8 clusters: a platform for probing ensemble effects on the electrochemical conversion of CO2 and CO to methanol. *Materials Horizons* 7 (1): 193-202.

Mariel Vazquez **Joint appointment with CBS*

- Moore, A. H., **Vazquez, M**. (2020). Recent advances on the non-coherent band surgery model for site-specific recombination. *Contemporary Mathematics* 746: 101-125.

- Cruz, B., Zhu, Z., and Calderer, C., Arsuaga, J., **Vazquez**, **M.** (2020). Quantitative Study of the Chiral Organization of the Phage Genome Induced by the Packaging Motor. *Biophysical Journal* 118 (9): 2103-2116.
- Moore, A.H., and **Vazquez, M**. (2020). A note on band surgery and the signature of a knot. *Bulletin of the London Mathematical Society* 52(6):1191-1208.
- Moore, A.H. and **Vazquez, M**. Recent advances on the non-coherent band surgery model for site-specific recombination. In Topology and geometry of biopolymers, volume 746, *Contemporary Mathematics*, pp. 101–125. *American Mathematical Society*, Providence, RI, (2020). arXiv:1810.08751 [math.GT].
- Jonoska, Natasa; Obatake, Nida; Poznanovic, Svetlana; Price, Candice; Riehl, Manda; **Vazquez, Mariel** (2020). Modeling RNA:DNA Hybrids with Formal Grammars. In Using Mathematics to Understand Biological Complexity: From Cells to Populations, Association for Women in Mathematics Series, Vol 22. *Springer Nature*.
- Walker, S., Arsuaga, J., Calderer, M-C, Hiltner, L. and **Vazquez, M.** (2020) Liquid crystal model of viral DNA encapsulation. *Physical Review* E 101, 022703.

COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES

Maciel Hernández

- Hernández, M. M., Eisenberg, N., Valiente, C., Spinrad, T. L., Johns, S. K., Berger, R. H., Diaz, A., Silva, K. M., Thompson, M. S., Gal-Szabo, D. E., & Southworth, J. (2020). Effortful control and extensive observations of negative emotion as joint predictors of teacher–student conflict in childhood. *Early Education and Development*.

Rebecca Hernández

- Palmer, B., **Hernandez, R.R.,** Lipson, D. (2020) The fate of biological soil crusts after fire: a meta-analysis. *Global Ecology and Conservation*.
- Armstrong, A., Page, T., Thackeray, S.J., **Hernandez, R.R.,** Jones, I.D. (2020). Integrating environmental understanding into freshwater floatovoltaic deployment using an effects hierarchy and decision trees. *Environmental Research Letters*
- Hoffacker, M.K., **Hernandez, R.R.** (2020) Local Energy: Spatial proximity of energy providers to their power resources. *Frontiers in Sustainability* (1): 7.
- **Hernandez, R.R.**, Tanner, K.E., Haji, S., Parker, I.M., Pavlik, B.M., Moore-O'Leary, K.A. (2020) Simulated Photovoltaic Solar Panels Alter the Seed Bank Survival of Two Desert Annual Plant Species. *Plants* 9(9): 1125.
- Yang, Y., Hobbie, S.E., **Hernandez, R.R.**, Fargione, J., Grodsky, S.M., Tilman, D., Zhu, Y-G., Luo, Y., Smith, T.M., Jungers, J.M., Yang, M., Chen, W-Q. (2020) Restoring Abandoned Farmland to Mitigate Climate Change on a Full Earth. *One Earth* 3(2): 176-186.
- Grodsky, S.M., **Hernandez, R.R.** (2020) Reduced ecosystem services of desert plants from ground-mounted solar energy development. *Nature Sustainability:* 1-8.
- Saul-Gerschenz, L.S., Grodsky, S.M.*, and **Hernandez, R.R**. (2020) Ecology of the western queen butterfly Danaus gilippus thersippus (Lepidoptera: Nymphalidae) in the Mojave and Sonoran Deserts. *Insects (Special Issue: Butterfly Ecology and Conservation)* 11(5): 315

- Armstrong, A., **Hernandez, R.R**., Blackburn, G.A., Davies, G., Hunt, M., Whyatt, J.D., Guoqing, L. (2020). Local microclimatic impacts of utility scale photovoltaic solar parks. *EGU General Assembly Conference Abstracts*: 8452.
- Grodsky, S.M.*, Saul-Gerschenz, L.S., Moore-O'Leary, K., and **Hernandez, R.R**. (2020) Her Majesty's desert throne: The ecology of queen butterfly oviposition on Mojave milkweed host plants. *Insects (Special Issue: Butterfly Ecology and Conservation)* 11(4): 257.
- Tanner, K.E.*, Moore-O'Leary, K.A., Parker, I.M., Pavlik, B.M., and **Hernandez, R.R.** (2020) Simulated solar panels create altered microhabitats in desert landforms. *Ecosphere* 11(4): e03089.
- **Hernandez, R.R.**, Jordaan, S.M., Kaldunski, B., Kumar, N. (2020) Aligning climate change and Sustainable Development Goals with an innovation systems roadmap for renewable power. *Frontiers in Sustainability* (1):11
- Cagle, A.E., Armstrong, A., Exley, G., Grodsky, S.M., Macknick, J., Sherwin, J., **Hernandez, R.R.** (2020) The Land Sparing, Water Surface Use Efficiency, and Water Surface Transformation of Floating Photovoltaic Solar Energy Installations. *Sustainability* 12(19): 8154.

Juliana Maria Nóbrega de Moura Bell

- De Souza, T.S.P., Dias, Oliveira, J.P.S., **de Moura Bell, J.M.L.N.**, Koblitz, M.G.B. (2020). Biological properties of almond proteins produced by aqueous and enzyme-assisted aqueous extraction processes from almond cake. *Scientific Reports* 10 (1): 1-12.
- De Souza, T.S.P., Dias, F.F.G., Koblitz, M.G.B., **de Moura Bell, J.M.L.N.** (2020). Effects of enzymatic extraction of oil and protein from almond cake on the physicochemical and functional properties of protein extracts. *Food and Bioproducts Processing*.
- Chan, L.G., Dias, F.F.G., Saarni, A., Cohen, J., Block, D., Taha, A.Y., **de Moura Bell, J.M.L.N.** (2020) Scaling up the Bioconversion of Cheese Whey Permeate into Fungal Oil by Mucor circinelloides. *Journal of the American Oil Chemists' Society* 97(7): 703-716.
- Thum, C., Ozturk, G., McNabb, W.C., Roy, N.C., **de Moura Bell, J.M.L.N.** (2020) *Journal of Food Processing and Preservation* 44(3): E14348.
- Ozturk, G., Shah, I.M., Mills, D.A., German, J.B., **de Moura Bell, J.M.L.N**. (2020). The antimicrobial activity of bovine milk xanthine oxidase. *International Dairy Journal* 102, 104581.
- Dias, F.F.G., Augusto-Obara, T.R., Hennebelle, M., Chantieng, S., Ozturk, G., […] **JMLN de Moura Bell** (2020). Effects of industrial heat treatments on bovine milk oxylipins and conventional markers of lipid oxidation. *Prostaglandins, Leukotrienes and Essential Fatty Acids* 152, 102040.

Fernanda Valdovinos

- Glaum, P., Cocco, V., **Valdovinos, F.S.** (2020) Integrating economic dynamics into ecological networks: The case of fishery sustainability. *Science advances* 6(45), eaaz4891.
- Hale, K.R.S., **Valdovinos, F.S.**, Martinez, N.D. (2020). Mutualism increases diversity, stability, and function of multiplex networks that integrate pollinators into food webs. *Nature communications* 11(1): 1-14
- Hale, K.R.S., Maes, D.P., **Valdovinos, F.S.**(2020) Ecological theory of mutualism: Models generalizing across different mechanisms. *bioRxiv*
- Ávila-Thieme, M.I., Corcoran, D., Castillo, S.P., **Valdovinos, F.S.**, SA Navarrete, [...]. (2020) NetworkExtinction: an R package to explore the propagation of extinctions through complex ecological networks. *bioRxiv*.

- Glaum, P., Wood, T.J., Morris, J.R., **Valdovinos, F.S.** (2020). Phenology and flowering overlap drive specialization in pollinator networks. *bioRxiv*
- **Valdovinos, F.S.**, Marsland III, R. (2020). Niche theory for mutualism: A graphical approach to plant-pollinator network dynamics
- Hale, K.R.S., **Valdovinos, F.S.**, Martinez, N.D. (2020). Pollinators in food webs: Mutualistic interactions increase diversity, stability, and function in multiplex networks. *bioRxiv*, 791707

COLLEGE OF ENGINEERING

Maureen Njoki Kinyua

- Zhang, Y., **Kinyua, M.N.** (2020) Identification and classification of the Tetrasphaera genus in enhanced biological phosphorus removal process: a review. *Reviews in Environmental Science and Bio/Technology:* 1-17
- Hussain, F.A., Zamora, J., Ferrer, I.M., **Kinyua, M.N.**, **Velázquez, J.M.** (2020) Adsorption of crude oil from crude oil–water emulsion by mesoporous hafnium oxide ceramics. *Environmental Science: Water Research & Technology* 6(8): 2035-2042.
- Klaus, S.A., Sadowski, M.S., **Kinyua, M.N.**, Miller, M.W., Regmi, P., Wett, B., De Clippeleir, H., Chandran, K., Bott, C.B. (2020) Effect of influent carbon fractionation and reactor configuration on mainstream nitrogen removal and NOB out-selection. *Environmental Science: Water Research & Technology* 6(3) 691-701.

Verónica L. Morales

- Patiño, J.E., Kuhl, T.L., **Morales, V.L.** (2020). Direct Measurements of the Forces Between Silver and Mica in Humic Substance. Rich Solutions. *Environmental Science Technology* 54(23): 5076-15085.
- Perez, A.J., Patiño, J.E., Soos, M., **Morales, V.L**. (2020). Morphology of Shear-Induced Colloidal Aggregates in Porous Media: Consequences for Transport, Deposition and Reentrainment. *Environmental Science Technology* 54(9), 5813-5821. (*Featured on ES&T front cover)

Jasquelin Peña

- Sorensen, J.V., Gueguen, B., Stewart, B.D., **Peña, J.,** Rouxel, O., Toner, B.M. (2020) Large nickel isotope fractionation caused by surface complexation reactions with hexagonal birnessite. *Chemical Geology* 537, 119481, 0009-2541.
- Maguffin, S.C., Abu-Ali, L., Tappero, R.V., **Pena, J.**, Rohila, J.S., McClung, A.M., Reid, M.C. (2020). Influence of manganese abundances on iron and arsenic solubility in rice paddy soils. *Geochimica et Cosmochimica Acta*. 276: 50-69.

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Cindy Rubio González

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SCHOOL OF EDUCATION

Alexis Patterson

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SCHOOL OF MEDICINE AND PUBLIC HEALTH

Tiffani Johnson

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Wilsaan Joiner **Joint appointment, please refer to College of Biological Sciences*

Rose Kagawa

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Anna La Torre

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Verónica Martínez-Cerdeño

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Madeline Nieves-Cintrón

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Miriam A Nuño

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SCHOOL OF NURSING

Fawn Cothran

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SCHOOL OF VETERINARY MEDICINE

Lillian Cruz-Orengo

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Cyrstal D. Rogers

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IV. PROGRAMMING

CAMPOS RESEARCH COLLOQUIA

In 2020 we transformed the informal "Cafecito" — or "coffee breaks" for faculty to network and discuss topics relevant to promoting, and sustaining a diverse community of STEM faculty — and created a weekly series of research seminars: the CAMPOS Research Colloquia. The goal of the Research Colloquia is to showcase the fantastic STEM research done by CAMPOS scholars. In doing so, we continue building a diverse UC Davis scientific community grounded on research excellence. The series kicked off on January 9th, 2020. The talks were held every Thursday, from 3:10-4:00pm, in the Life Sciences Building on the main campus, or at the UC Davis Medical Center. The Research Colloquia planned or Spring were cancelled due to the COVID-19 pandemic.

Date	Presenter	Topic
January 9	Verónica Martínez-Cerdeño	Cortical interlaminar astrocytes during development and evolution
January 23	Mariel Vazquez	Reconnections: A Link Between Mathematics, Physics and DNA
January 30	Rose Kagawa	Comprehensive Background Check Policies and Firearm Violence
February 6	Fernanda Ferreira	Translating thoughts into words: Linearization decisions during speaking
February 13	James Letts	Towards an Atomic Understanding of Mitochondrial Respiration
February 20	Wilsaan M Joiner	Using Novel Imaging Techniques to Study the Motor Control of Upper Limb Amputees
February 27	Juliana Maria Leite Nobrega de Moura Bell	Enzyme-assisted aqueous extraction: a sustainable approach to improve the functional and biological properties of plant-based proteins
March 5	Anna La Torre Vila	MicroRNAs in Retinal Development and Regeneration
March 12	Crystal D. Rogers	Evolution of transcription factors in the neural crest gene regulatory network

NEW FACULTY ORIENTATION

The 2020 CAMPOS and CAMPSSAH New Faculty Orientation took place on September 21st, 22nd, and 23rd, 2020. It was offered to 12 CAMPOS faculty who joined the center in 2018, 2019, and 2020, and to CAMPSSAH Faculty (2019 and 2020 cohorts).

Of those invited from CAMPSSAH, 10 are Assistant Professors, 2 are Associate Professors, and 1 is a Professor of Law. The invited CAMPOS scholars include 10 Assistant Professors and 2 Associate Professors. Normally, the orientation is a multi-day event with in-person sessions and training that connect our faculty to various on-campus resources. However, in the face of CoVID-19, we shifted this event to be held virtually.

New Faculty was able to attend the different online sessions offered by guest speakers and the opportunity to connect with Faculty Personnel Committees through breakout sessions. Following the New Faculty Orientation, the 2020 New Faculty Orientation Resource Book containing available presentation slides, transcripts, and other resources was prepared and made available for CAMPOS and CAMPSSAH Faculty

Schedule Day 1
Monday, September 21, 2020 from 1:30 pm to 5:00

Academic Affairs

1:30P	Phil Kass and Lorena Oropeza Kick-off and Welcome Remarks
1:40P	Academic Affairs, Phil Kass Presentation [50 minutes]
2:30P	Transition to Breakout Rooms
2:35P	Breakout Sessions breakout sessions to discuss the merit, promotion, and tenure process [40 minutes] *
3:15P	Academic Affairs Phil Kass and CAP Chair(s) Question and Answer [30 minutes]
3:45P	Break

Strategic Communications

4:00P	Sallie Poggi and Melissa Blouin Strategic Communications: Social media/digital media to amplify research; public engagement
5:00P	Closing Remarks

* Academic Affairs Breakout Session Rooms

College of Agricultural and Environmental Sciences
FPC member: Patricia Oteiza
CAMPOS member: Maciel Hernández

College of Engineering
FPC member: Alyssa Panitch
CAMPOS member: Jasquelin Peña

College of Letters and Science, Division of Humanities, Arts, and Cultural Sciences and Division of Social Sciences
FPC member: Julie Sze and Kim Shauman
CAMPSSAH members: Kathleen Cruz, Emily Vazquez Enriquez, Benjamin Weber, Kat Whiteley, Michael Singh

College of Letters and Science, Division of Mathematical and Physical Sciences
FPC member: Dawn Sumner
CAMPOS member: Jairo Fúquene Patiño

School of Medicine
FPC member: Martha O'Donnell
CAMPOS members: Theanne Griffith, Tiffani Johnson, Madeline Nieves-Cintrón, Rose Kagawa, Fawn Cothran

School of Veterinary Medicine
FPC member: Lisa Tell
CAMPOS member: Crystal Rogers

Professional Schools
FPC member: Cynthia Passmore
CAMPSSAH members: Darnel Degand, Mustafaa Faheemah, Stephen Garcia

Panel Member for Q&A: Chair CAP with the Academic Senate -- Lisa Tell.

Schedule Day 2
Tuesday, September 22, 2020

Office of Research

1:30 – 1:35 pm Welcome remarks – Professor Prasant Mohapatra, Vice Chancellor for Research (by video)

1:35 – 2:25 pm Introductions & Overview

- Introductions for CAMPOS/CAMPSSAH Scholars and Office of Research team (10 minutes)
- Overview of Office of Research structure and services – Dr. Paul Dodd, Associate Vice Chancellor - Interdisciplinary Research and Strategic Initiatives (15 minutes)
- Overview of Sponsored Programs services and resources – Kassie Obelleiro, Sponsored Programs Training Officer (5 minutes)
- Q&A and discussion (10 minutes)
- Hispanic Serving Institution (HSI) status as it relates to research – Dr. Sheryl Soucy-Lubell, Director, Interdisciplinary Research Support (IRS) (5 minutes)
- Q&A and discussion (5 minutes)

2:25 – 2:30 pm Short break and technology switch into breakout rooms

2:30 – 3:15 pm Parallel Breakout Sessions - Research development infrastructure and available resources, open discussion on proposal writing and research funding challenges

- STEM – Dr. Sheryl Soucy-Lubell (IRS) and Dr. Ana Lucia Cordova-Kreylos, Manager, Strategic Initiatives (SI)
- Medicine – Dr. Betty Guo, Associate Director, Grants Facilitation (School of Medicine)
- Humanities / Arts / Social Sciences – Dr. Sarah Messbauer, Grantsmanship Program Coordinator (IRS) and Professor Jaimey Fisher, Director, Davis Humanities Institute.

3:15 – 3:30 pm Short break and technology switch

3:30 – 4:00 pm Office of Foundation & Corporate Engagement

Global Affairs

4:00P Global Affairs

5:00P Closing Remarks

Schedule Day 3
Wednesday, September 23, 2020 from 1:30 pm to 5:15 pm

Diversity, Equity and Inclusion

1:30pm Welcome remarks – Lorena Oropeza

1:35pm Diversity, Equity and Inclusion Presentation

- 30 minutes - Renetta Tull, Vice Chancellor for Diversity, Equity and Inclusion–
- 10 minutes - Hendry Ton, Associate Vice Chancellor for Health Equity, Diversity and Inclusion
- 10 minutes - Rahim Reed, Associate Executive Vice Chancellor, Office of Campus Community Relations
- 10 Minutes- Lorena Oropeza, Interim Associate Vice Chancellor for Academic Diversity

2:45pm Break

Center for Educational Excellence

Day 3 - Wednesday, September 23 from 3:00pm to 5:15 pm

3:00pm Center for Educational Effectiveness
-Kem Saichaie, Associate Director for Learning and Teaching Support

4:00pm Student Disability Services
-Joshua Hori, Accessible Technology Analyst, Student Disability Center

5:00pm Closing Remarks

CAMPOS MEET AND GREET

The COVID-19 crisis forced us to cancel several of our programs, including the End of Year Event (June), the Welcome Event (September), the induction ceremony for 2020 CAMPOS Faculty (October), the 2020 ADVANCE Award Symposium (October), and the CAMPOS Research Colloquia (Spring and Fall) and Cafecito.

On October 23rd, Faculty Director Mariel Vazquez organized an online Welcome Meeting. Most CAMPOS Faculty Scholars joined the zoom call. Professor Vazquez gave a presentation with an overview of CAMPOS, a summary of accomplishments, and welcomed the three new faculty (2020 cohort). The formal part of the program was followed by informal conversation. The faculty expressed a desire to have regular meetings without a formal agenda. We therefore scheduled a zoom call every other week on Fridays, from 4:30pm to 6:00pm.

Bi-weekly **CAMPOS Get-togethers** took place on November 6, November 12, December 4 and December 18. These calls were characterized by informal and general topic conversations. We sent calendar invites to all CAMPOS faculty and created a google document to share topics of common interest to discuss during the events.

2020 Dates:

October 23, 2020

November 6, 2020

November 20, 2020

December 4, 2020

December 18, 2020

CAMPOS NEW FACULTY & SURVEY

In 2020 the CAMPOS Initiative welcomed five new CAMPOS Faculty Scholars to campus (three in the 2020 cohort and two from the 2019 cohort).

In preparation for submitting a grant to the UCOP Advancing Faculty Diversity call, as well as to the Sloan Foundation, the CAMPOS office designed and administered a satisfaction and climate survey to all CAMPOS faculty. Some questions were specifically designed to address the impact of the COVID-19 pandemic on our faculty. The results are being used as preliminary data on a grant to request additional research development support and dependent care support for our faculty. If the proposal is funded, these data will serve as baseline for a longitudinal research study to assess the faculty needs, their satisfaction and to evaluate the effectiveness of the proposed interventions.

V. OTHER ACTIVITIES

CAMPOS AFFILIATE EXPANSION

The CAMPOS Faculty Affiliates Program will engage a broad segment of the campus faculty population in support of the CAMPOS mission of increasing diversity in STEM faculty. The CAMPOS Committee has developed an application process and framework to engage faculty interested in promoting STEM diversity, either through teaching, research, mentoring or outreach. The program will welcome participation from all faculty, tenure track and non-tenure track, across all campus disciplines. The committee is launching the effort in December 2014 via an outreach campaign to faculty that have participated in CAMPOS and ADVANCE networking activities (CAMPOS Faculty Welcome, "Cafecitos," the Faculty Women Reception), the Internal Advisory Board STEM Deans, and through campus partners, such as the UC Davis Hispanic/Latino Faculty group **(**Appendix AF. CAMPOS Faculty Affiliates Program Application Instructions).

Also, the development of the CAMPOS Faculty Affiliates Program will serve as a cross-initiative platform for developing joint research, teaching and mentoring programs aimed at increasing diversity. At the mid-point of Year 3, we will hold a second "All Initiative" Faculty Retreat to discuss challenges encountered to date, points of synergy between Initiatives and to prepare for the NSF site visit.

LAUNCH COMMITTEES

Each CAMPOS Scholar is assigned a LAUNCH Mentoring Committee. The LAUNCH program started as part of UC Davis ADVANCE, and was institutionalized in 2017 and absorbed by the Office of Academic Affairs. The LAUNCH program is modeled on similar successful mentoring programs developed at Case Western Reserve and the University of Michigan, convening a committee of senior faculty to advise the new faculty member on a range of issues related to setting up a research program, managing teaching loads, securing campus resources and generally making a successful career transition to their departmental work environment. In addition to the structured mentoring that occurs via LAUNCH.

FRIENDS

Faculty Retention and Inclusive Excellence Networks – Designing Solutions.

A Project Funded through the University of California's Advancing Faculty Diversity Improved Climate and Retention Program and led by the UC Davis Office of Diversity, Equity and Inclusion, in collaboration with UC Davis Academic Affairs. A group of committed UC Davis faculty, including CAMPOS Affiliates, joined together in a Community of Practice in February 2020 to address the pressing problems presented to Associate Professors revealed in the COACHE Faculty Satisfaction Survey.

FRIENDS Planning Team:

Lorena Oropeza* – Associate Vice Chancellor for Academic Diversity

Laura Cerruti – Analyst, Office of Diversity, Equity and Inclusion

Claudia Escobar – Ph.D. Candidate

Philip Kass – Vice Provost, Academic Affaris

Adrienne Lawson – Director for Institutional Culture/Climate and Community Engagement at UC Davis Health

Mark A. Lopez – Chief of Staff, Office of Diversity, Equity and Inclusion

Kimberly Nettles Barcelón -- CAMPSSAH Faculty Director, Office of Academic Diversity - Diversity, Equity and Inclusion

Thomas O'Donnell -- Analyst, Office of Academic Diversity - Diversity, Equity and Inclusion

Cynthia Pickett -- Associate Vice Provost for Faculty Equity and Inclusion, Academic Affairs

Binnie Singh -- Associate Vice Provost, Academic Affairs

Hendry Ton -- Interim Associate Vice Chancellor for Diversity and Inclusion at UC Davis Health - Diversity, Equity and Inclusion

Renetta Garrison Tull -- Vice Chancellor of Diversity, Equity and Inclusion

Mariel Vazquez* -- CAMPOS Faculty Director, Office of Academic Diversity - Diversity, Equity and Inclusion

From Storywalkers Consulting Group: Mark Simon, Principal Consultant

* CAMPOS Affiliates

Teams

Team Berry:

Theme: Addressing issues related to classroom climate, including hate speech and racial harassment.

Lead: Raquel Aldana

Members: Marcela Cuellar, Natalia Deeb-Sossa, Annaliese Franz. Stephen Garcia, Jasmine Harris, Adam Jacob, Danny C. Martinez, Noha Radwan.

Team Grape:

Theme: Developing a critical consciousness among majority faculty to create and support healthy, productive academic climates.

Lead: Faculty Director Mariel Vazquez*

Members: Sharon Aviran, Julie Bossuyt, Titus C. Brown, Stacey Combes*, Jochen Ditterich, Mark Fedyk, Jacob Hibel, Lisa Materson, Amy Motlagh, Leticia Saucedo, and Aijun Wang.

Team Lemon:

Theme: Challenges faced by women and minority faculty in advancing from Associate to Full Professor, including epistemological inclusion of efforts in diversity, equity, and inclusion in the University's intellectual work.

Lead: Kimberly Nettles Barcelón.

Members: Ester Carolina Apesoa-Varano, Margaret Kemp, Tae Youn Kim, Corrie Decker, Kevin Gee, Eleonora Grandi, Milmon Harrison, Becca Thomases*, Li Tian.

Team Lime:

Theme: "Invisible labor" service work performed by racially minoritized faculty, particularly Women of Color (WOC).

Lead: Cynthia Pickett

Members: Diane Beckles*, Luis Carvajal, Lijuan (Dawn) Cheng, Desiree Martin, Susette Min, Elizabeth Montaño, Claire Napawan, Jon Rossini, Cecilia Tsu, Archana Venkatesan.

* CAMPOS Affiliates

VI. PLANNED ACTIVITIES – YEAR 2021

PROGRAMMING

CAMPOS Research Colloquia – All Quarters

Date	Presenter
February 1st, 2021	Fernanda Valdovinos
February 25th, 2021	Jesús Velázquez
April 1st, 2021	Marie Cuevas Heffern
April 29th, 2021	Crystal Rogers
May 27th, 2021	Lillian Cruz-Orengo

New Faculty Orientation – Fall 2021

Induction Ceremony – Fall 2021

ADVANCE Award Symposium – Fall 2021 or Winter 2022

The ADVANCE Scholars Symposium, originally scheduled for Fall 2020, will take place during the Academic Year 2021-2022.

2020 Awardees

- Jesús A. De Loera
  Mathematics
- Chen-Nee Chuah
  Electrical and Computer Engineering

ADVANCE Award

The ADVANCE Scholars Award Program first call for nominees with a deadline for May 31/June 1st of 2021. The CSRC will then meet to go over the applications and recommend their 2021 ADVANCE Award candidates.

Grant Writing Retreats – To be announced.

VII. GRANT WRITING ACTIVITY

UCOP-AFD

Submitted In June 2020

ENHANCE: Improving climate and targeting retention of faculty in groups currently underrepresented in STEM by enhancing research productivity through individualized professional development and family support.

Contact information.
PI/Lead contact for campus pilot:
Mariel Vazquez
Professor of Mathematics and of Microbiology & Molecular Genetics
CAMPOS Faculty Director
mrlvazquez@ucdavis.edu
Ph#: (415) 205-7096

Assistant to copy: Sophie Barbu, Assistant Director, UC Davis
ADVANCE sjbarbu@ucdavis.edu, Ph#: (703) 474-8180

Sponsor.
Renetta Garrison Tull
Vice Chancellor for Diversity, Equity
and Inclusion rgtull@ucdavis.edu
Ph#: (530) 752-1290

Project Categories: 1. Intervention; 2. Data Leadership

Abstract (150 words)

Minoritized faculty often experience isolation in their academic units and fields. Our goal is to advance faculty diversity by facilitating and promoting excellence in research. We focus on the CAMPOS Faculty Scholars, most of whom are from groups underrepresented in STEM, given the lack of critical mass among this population. We study the relevance of two faculty interventions and propose a data leadership plan. The first intervention aims to increase the research output by hiring a Research Development Specialist to provide individualized professional grant editing assistance, trainings and writing retreats, as well as staff assistance to streamline the grant submission process. The second intervention offers mini-grants to help relieve caring responsibilities at critical times, promoting faculty well-being and allowing more time for research. We will design and administer professional surveys and extend them for use by other units. Rigorous evaluation and data analysis will result in a set of recommendations.

SLOAN FOUNDATION

Letter of Inquiry Submitted In June 2020

Sloan Foundation Letter of Inquiry
Non-Research Project

ENHANCE: Promoting advancement and retention of underrepresented STEMM Faculty by enhancing research productivity and centering family support.

Grant Seeker Title and Contact information:
Mariel Vazquez
Professor of Mathematics and of Microbiology & Molecular Genetics
CAMPOS Faculty Director
University of California Davis
Email: mrlvazquez@ucdavis.edu | Phone Number: (415) 205-7096

Other Key Members of the Project:
Lorena Oropeza
Interim Associate Vice Chancellor for Academic Diversity
Email: lboropeza@ucdavis.edu | Phone Number: (530) 752-1290

Thomas O'Donnell
Analyst, UC Davis Diversity, Equity and Inclusion
Email: twodonnell@ucdavis.edu | Phone Number: (510) 682-7189

Nature and purpose of the proposed project:
The goal of this project is to advance faculty diversity by offering two interventions designed to enhance research development support and center the family support needs of minoritized faculty who often experience isolation in their academic units and fields. Specifically, we would like to hire a research development specialist/analyst to support the grant application process and offer mini-grants to help faculty members balance their familial and research responsibilities at critical junctures.

Estimate of the total cost of the project: $335,000

Amount of this total the proposer seeks from the Sloan Foundation: $250,000

Duration of the Project: Two years (24 months)

Description of the proposed work to be supported:
Faculty from underrepresented groups often experience isolation, lack of adequate support, and feel enormous pressure to prove their research excellence. The goal of this project is to advance faculty diversity in STEMM (Science, Technology, Engineering, Mathematics, and Medicine) by facilitating and promoting excellence in research through two targeted interventions: 1) the hiring of a research specialist/analyst and 2) a mini-grant program. Both will help alleviate the experience of isolation and pressure and, in doing so, will contribute to building a stronger and more inclusive community of STEMM researchers.

This project targets a cohort of faculty in STEMM, with an emphasis on women and People of Color (POC) at the tenure track level. These faculty members are affiliated with the Center for the Advancement of Multicultural Perspectives in Science (CAMPOS) at the University of California (UC) Davis. The CAMPOS initiative was created as part of the National Science Foundation UC Davis ADVANCE

program (2012-19) and was institutionalized in 2017. The mission of CAMPOS is to support the discovery of knowledge by promoting women scholars and members of underrepresented groups in STEMM through building an inclusive environment. CAMPOS faculty are ladder rank faculty affiliated with departments across eight UC Davis colleges and schools. The majority self-identify as women and belong to groups currently underrepresented in their discipline. In order to achieve our goal, we propose two interventions as follows.

Intervention 1: Research Development
This intervention will be centered on providing enhanced and individualized professional research development support for the faculty to help streamline the grant writing process in order to increase output and success rates. The RD specialist will work closely with the PI and College Deans to identify and lower barriers that prevent faculty POC from developing and funding their research and scholarship. We will recruit a Research Development (RD) Specialist and a Project Analyst for this intervention.

Intervention 2: Family Support – Caring Responsibilities Support
The second intervention addresses the difficulty of maintaining a full professional life as a researcher while also balancing multiple familial responsibilities. To address this tremendous obstacle, we propose offering mini-grants to the faculty participants, with the objective of freeing time for research and relieving stress related to caring for others. This is especially important for faculty who are working from home during the COVID-19 pandemic. The funds will provide family support when participating in research collaborations, during periods of intense grant preparation or traveling to present their research at conferences.

Evaluation
In Spring 2020 we developed and administered a survey to measure job satisfaction among CAMPOS Faculty Scholars and to identify interventions needed for their career success. The survey instrument will be improved and administered to the faculty participants at three distinct time periods: a baseline prior to the interventions, midline at the end of Year 1, and final at the end of Year 2. Jointly with a Project Evaluator, we will analyze the data to measure the impact of the interventions and produce assessment reports.

We base our proposed interventions on a body of literature that documents and quantifies the problems faced by underrepresented groups in academia. We also use information collected from the 2012-13 and 2016-17 Collaborative on Academic Careers in Higher Education (COACHE) Faculty Job Satisfaction Surveys, and preliminary data from a survey designed for this proposed project and administered to CAMPOS Faculty Scholars in spring 2020.

There is a strong institutional desire to support faculty from groups underrepresented in STEMM, and recognition that the support needs to be specialized. If the proposed interventions are successful, they will be extended to other groups of underrepresented faculty across campus, going beyond STEMM disciplines.

VIII. APPENDIX

CAMPOS AFFILIATE LIST

CAMPOS Faculty Affiliates Roster

Last updated: October 28, 2020 by Thomas O'Donnell

*2020 Affiliate Additions. See below for information about pending invitations.

Agricultural and Environmental Sciences

Tim Beatty, Professor, Agricultural and Resource Economics [faculty]

***Diane M. Beckles**, Associate Professor, Plant Science [faculty][bio]

Kyaw Tha Paw U, Professor, Land Air and Water Resources [faculty]

***Samuel Sandoval Solis**, Associate Professor, Land, Air and Water Resources [faculty][bio_a][bio_b]

***Anne E. Todgham**, Associate Professor, Animal Science [faculty]

College of Biological Sciences

***F. Javier Arsuaga**, Professor, Molecular and Cellular Biology; Mathematics [faculty]

***Stacey Combes**, Professor, Neurobiology, Physiology and Behavior [faculty]

***J. David Furlow**, Professor, Neurobiology, Physiology and Behavior [faculty]

***Aldrin V. Gomes**, Professor, Neurobiology, Physiology and Behavior and Physiology; Membrane Biology [faculty]

***Gail L. Patricelli**, Professor, Evolution and Ecology [faculty]

***Karen Zito**, Professor, Neurobiology, Physiology and Behavior [faculty]

Letters and Science

***F. Javier Arsuaga**, Professor, Mathematics; Molecular and Cellular Biology [faculty]

***Jesús A. De Loera**, Professor, Mathematics [faculty][bio]

Yvette Flores, Professor, Chicana and Chicano Studies [faculty]

Cristina González, Professor Emerita, Spanish [faculty]

Susan Kauzlarich, Distinguished Professor, Chemistry [faculty]

Lorena Oropeza, Professor, History [faculty]

Jeffrey Sherman, Professor, Psychology [faculty]

***Dawn Y. Sumner**, Professor, Earth and Planetary Sciences [faculty][bio]

***Becca Thomases**, Professor, Mathematics [faculty]

College of Engineering

Nina Amenta, Professor, Computer Science

Karen McDonald, Professor, Chemical Engineering [faculty]

Miguel A. Jaller Martelo, Associate Professor, Civil and Environmental Engineering [faculty]

School of Medicine

*__Luis G. Carvajal-Carmona__, Professor, Biochemistry and Molecular Medicine [faculty]

*__Elva Diaz__, Professor, Pharmacology [bio]

*__Aldrin V. Gomes__, Professor, Neurobiology, Physiology and Behavior and Physiology and Membrane Biology

*__Jeffrey S. Hoch__, Professor, Public Health Sciences [faculty]

__Kent E. Pinkerton__, Professor, Pediatrics and Anatomy, Physiology and Cell Biology [faculty]

*__John Daniel Ragland__, Professor, Psychiatry and Behavioral Sciences

*__Luis Fernando Santana__, Physiology and Membrane Biology [faculty][bio]

*__Colleen Sweeney__, Professor, Molecular Medicine

School of Veterinary Medicine

__Kent E. Pinkerton__, Professor, Pediatrics and Anatomy, Physiology and Cell Biology [faculty]

*__Esteban Soto__, Professor, Medicine & Epidemiology [bio]

School of Nursing

__Mary Lou de Leon Siantz__, Professor Emeritus [faculty]

Centers

__Denneal Jamison-McClung__, Director, Biotechnology Program [faculty]