



University of California

*President's and Chancellor's
Postdoctoral Fellowship Programs*

ABSTRACTS

2022 Academic Retreat

Saturday, April 23, 2022

UCLA Lake Arrowhead Conference Center

Group I

Iris Room

MODERATORS

Miroslava Chavez-García, Chicana/Latinx history, Immigration, Race & Juvenile Justice
Robert Romero, Latinx Religious History; Asian Immigration to Latin America

AUDIENCE

Sahin Acikgoz[^], Queer and Trans studies in Islam, Global South, Queer and Trans of Color
Nohora Arrieta^{*}, African Diaspora in Latin America; Visual Arts, Poetry; Contemporary artists
Rosie Bermudez, Chicana activism, women of color feminisms, multiracial coalition
Yonatan Binyam^{*}, Premodern Race, Religion and Identity
Jody Blanco, Latin America/ trans-Pacific
Susan Carlson, English
Veronica Castillo-Muñoz, Borderlands, Migration, Gender, Ethnicity
Nadège Clitandre, African Diaspora, Caribbean Literature, Haiti, Globalization, Migration
Jalondra Davis Brown[^], Black feminism, Africana/Black Cultural Studies, speculative culture
Jemma DeCristo, Black Studies, Sounds Studies and Visual Theory, Trans Studies
Penny Edwards, Cambodia, Burma/Myanmar, China, Cultural history, language, literature
Adrian Flores[^], Race and the Psychological Humanities
Yatta Kiazolu[^], 20th century U.S., african diaspora studies, women and gender
Jennifer Mogannam^{*}, decolonization, revolution, violence, feminisms, materialism
Dana Murillo, Women, Indigenous Peoples, Spanish America, Identity
Philana Payton, Black Film History, Black Performance Theory, Women and Gender Studies
Jaime Pérez González^{*}, Language Documentation and Descriptive Linguistics, Language
Zachary Price, Drama, Performance Studies, Black Studies, Film and Media
Rodrigo Ranero Echeverria^{*}, Language reclamation, syntax, phonology, Mayan languages
Elizabeth Hanna Rubio^{*}, immigration, activism, abolition, coalition
Amrah Salomon, transnational and hemispheric Indigenous Studies, the U.S.-Mexico border
Jackson Smith^{*}, Race, Policing, Urban History
Eric Stanley, trans/queer studies, critical theory, prison studies
Cathy Thomas, Black diasporic literature, Caribbean, comics, minoritarian performance & play
Althea Wasow^{*}, film & media, black studies, comparative ethnic studies, abolition, avant-garde
Daryle Williams, History
Jasmin Young, African American Studies, History, women and gender studies

*1st year President's or Chancellor Postdoctoral Fellow

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GROUP I
IRIS Room

- 9:00 – 9:40 **Cheryl Yin**
(Cambodia, Khmer language, anthropology, linguistics, honorifics, hierarchy, power)
Avoidance of Khmer's Non-honorific Register in Cambodia
- 9:45 – 10:25 **Cindy Nguyen**
(Southeast Asian history, libraries, print culture)
"Misreading: Social Life of Libraries and Colonial Control in Vietnam, 1865-1958"
- 10:30 – 11:10 **Magda Garcia**
(Affect Theory, Chicana/Latina Feminisms, Literary & Cultural Studies)
Claiming La Bruja: Rage, the Speculative, and Contemporary Border Tejanx Feminist Affects
- 11:15 – 11:55 **Iris Blake**
(critical ethnic studies; sound and performance studies; decolonial feminisms)
Undisciplining the Voice: Deaf Rage, Haptic Vocality, and Sonic Visuality in Christine Sun Kim's Sound Art
- 12:00 – 1:00 **LUNCH**
- 1:00 – 1:40 **Jorge Delgadillo**
(African Diaspora, Atlantic World, Mexico)
The Myth of Afro-Mexicans' Disappearance: Calidad, Honor and Citizenship in Guadalajara
- 1:45 – 2:25 **Solange Ashby**
(Nubian women in Antiquity)
Priestess, Queen, Goddess: The Divine Feminine in Nile Valley Societies
- 2:30 – 2:45 **BREAK**
- 2:50 – 3:30 **Christopher Berardino**
(English Literature, Creative Writing, American Studies)
"Dog Bait"
- 3:30 – 4:00 Wrap-up and Networking
- 4:00 FREE TIME!

Cheryl Yin
Chancellor's Postdoctoral Fellow
South & Southeast Asian Studies, UC Berkeley

Avoidance of Khmer's Non-honorific Register in Cambodia

There is a style of speech in Khmer (Cambodian) that, on the one hand, is the language of intimacy, but on the other hand is seen as unpleasant sounding, disrespectful, uneducated, and angry. In this talk, I disentangle the various stereotypes and attitudes Cambodians have about this speech register, which I refer to as the “non-honorific register,” to investigate why urban, middle-class Cambodians today are more likely to avoid it. First, I present data to show how the non-honorific register is associated with three social personae: the uneducated farmer, the cruel superior, and the Khmer Rouge torturer. Second, I show how these three figures are linked to an un-modern past and to people whose behavior, language, and lifestyle should not exist in modern society. Finally, I am attempting to build an argument to account for why the urban, middle-class dislike the non-honorific register today. Let's use “buddy” as an English analogy for the non-honorific register. For farmers, “buddy” is an everyday term that they would use with a wide range of people and they expect others to use “buddy” in return. Urbanites feel like farmers are being rude and intimate; they want more respectful, distancing language. For superiors, calling someone “buddy” indicates power and authority. Unlike the farmer's use of “buddy,” superiors can call a subordinate “buddy,” but the subordinate cannot call the superior “buddy.” Urbanites feel that “buddy” here is condescending and they want more linguistic respect from their superiors. I coin the phrase “expanded moral circle of honorification” to show how ideas about moral responsibilities have been expanded among the urban and middle-class through language. While the non-honorific register usage was common in the past, today more and more Cambodians are asking people to refrain from using the non-honorific register. To have an expanded moral circle of honorification means using different honorific speech levels.

Cindy Nguyen
Chancellor's Postdoctoral Fellow
Literature and History, UC San Diego

"Misreading: Social Life of Libraries and Colonial Control in Vietnam, 1865-1958"

This talk examines the cultural and political history of the library, its builders and users, and the politics of print control and public reading in colonial to postcolonial Vietnam. I argue that the distinctive library infrastructure, reading matter, and urban centrality gave rise to a distinct 'public reading culture.' Public reading culture was characterized by broad self-directed reading and research, cosmopolitan consciousness, and a social use of urban space and critique of state institutions. This talk is part of my book manuscript "Misreading: Social Life of Libraries and Colonial Control in Vietnam, 1865-1958." The book investigates the mechanics, discourse, and everyday practice of the library to fulfill its role as an official governmental institution, resource of public education, and cultural space for the practice of collective responsibility, urban civility, and public reading.

Magda García
President's Postdoctoral Fellow
Ethnic Studies, UC San Diego

Claiming La Bruja: Rage, the Speculative, and Contemporary Border Tejanx Feminist Affects

Located in the Rio Grande Valley of South Texas, cultural worker and zinester Noemi Martinez has expansively contributed to discussions of queerness, sexuality, and illness over the course of two decades. Through her personal and collective zines, Martinez has developed her own understandings of what it means, feels, and looks like to live as a self-identified queer Chicana/Tejana crip single-mother. This paper focuses on Martinez's *The South Texas Experience Zine Project* (2005) and *South Texas Experience: Love Letters* (2015), which present a sensual and affective encounter and confrontation with the geopolitical location that is South Texas and its colonial markings. In this way, the zines illustrate an encounter of the queer crip brown body with a space/place marked by waves of colonization and conservatism, yielding often disorienting results. Within the context of queer/crip of color genealogies, Martinez's cultural production overlaps with Gloria Anzaldúa's 2004 *passing*—presenting a continuation and expansion of work focusing on illness, the queer of color body, and the Texas-Mexico border first established by Anzaldúa's 1987 *Borderlands/La Frontera: The New Mestiza*. Yet, Martinez's deployment of the term “crip” signals toward a post-Anzaldúan engagement with disability enmeshed within a punk, emo, and goth ethos that parallels discussions of depression and other undesirable affects by scholars such as Ann Cvetkovich, José Esteban Muñoz, and Lauren Berlant.

Keywords: Zines, South Texas, U.S.-Mexico Borderlands

Iris Blake
President's Postdoctoral Fellow
Musicology, UCLA

Undisciplining the Voice: Deaf Rage, Haptic Vocality, and Sonic Visuality in Christine Sun Kim's Sound Art

In the late nineteenth century, North American schools for the deaf imposed a colonial definition of voice by teaching oral speech skills instead of sign language. Represented by its supporters as a way to “modernize” deaf education, oralism – a pedagogical movement led by hearing people that prioritizes the exclusive use of oral speech and lip reading in deaf education – rested on the belief that oral speech was a fundamental component of human being and averred its “incontestable superiority... in restoring [deaf people] to society” (Milan Conference of 1880). As such, oralism relied on and circulated medicalized and pathologized understandings of deafness that set the stage for Deaf people’s targeting by eugenics projects. The effects of this history persist to the present, as oralism has experienced a resurgence paralleling the rise of neoliberalism and the promotion of cochlear implants as a “cure” for deafness.

In relation to this history and oralism’s neoliberal return, I analyze the contemporary work of Christine Sun Kim, a multidisciplinary Deaf sound artist. Kim’s works constitute a revolt against oralist assumptions by creatively demonstrating multiple modalities of voicing, often reversing oralism’s pedagogical assumptions by teaching hearing people how to hear and participate in non-acoustic practices of voicing. While oralism requires Deaf students’ corporeal (self-)mastery – deviations from which are subject to epistemological and corporal discipline and punishment – Kim’s work liberates voicing from this carceral, colonial model by pursuing undisciplined pedagogies of voicing that interrogate the social production of voices. I argue that Kim’s work testifies to the body’s refusal to be bound, disciplined, and categorized, as she creatively reimagines the body’s capacity to enact voicing as multisensorial, intersubjective, and undisciplined modes of being.

Jorge E. Delgadillo Núñez
Chancellor's Postdoctoral Fellow
History, UC Irvine

The Myth of Afro-Mexicans' Disappearance: Calidad, Honor, and Citizenship in Guadalajara

Despite recent efforts from scholars, activists, and associations to rethink Afro-Mexican identities and recover their histories, it is still common to hear among non-specialists, statements such as “there are no blacks in Mexico,” or even “there were no blacks in Mexico.” Under this light it is worth asking: how did we get to this situation? How did people who during the colonial period used Spanish-language social classifications such as negro, mulato, morisco, or lobo stopped using such designations? How and why did people substitute these adscriptions for a homogenous label of “citizens” at the end of the colonial period? And what was the relationship between this process and the elision of Afro-Mexicans from the historical imaginary of the nation over time? Using the case of Afro-Mexicans from Guadalajara between the seventeenth and nineteenth centuries, this study tries to answer these questions. It demonstrates that Afro-Mexicans strategically appropriated Spanish terminology about human difference, used it in creative ways to carve a social space for themselves, and ultimately dismissed it before independence in the midst of emerging political opportunities.

Solange Ashby
President's Postdoctoral Fellow
Near Eastern Languages and Cultures, UCLA

Priestess, Queen, Goddess: The Divine Feminine in Nile Valley Societies

The prominence of powerful goddesses, the reverence awarded to the queen mothers of Kush, and a series of sole-ruling queens (one of whom led her army in battle against the invading Romans), highlight the unusually high status of women in these ancient African societies along the Nile and serve as a fitting focus for the study of female power in the ancient world.

This lecture will present the queens, priestesses, and goddesses who were exceptionally prominent in ancient Nubia. Focusing on three specific women, I will explore how ancient Africans of the Nile Valley understood female power and presence to be an essential enlivening element in maintaining Maat, the balance of male and female energies, in order to cultivate “divine right order” in the world and in the cosmos.

The women form a trinity of female power: a priestess, a queen, and a goddess. The priestess is Amenirdis I, first Kushite princess to hold the priestly role of God’s Wife of Amun. The queen is Amanishakheto, sole ruler of the kingdom of Meroe and likely opponent of the Roman Emperor Augustus. Hathor, the goddess of music, dance, and divine drunkenness (among other things) is closely associated with Nubian women throughout the period under consideration.

Christopher Berardino
Chancellor's Postdoctoral Fellow
English, UC Riverside

"Dog Bait"

On February 19, 1942, President Roosevelt issued Executive Order 9066. Issued hastily in direct reaction to the attack on Pearl Harbor, 9066 authorized the relocation of 120,000 people of Japanese descent into shoddy "internment camps." Many of these incarcerated families lost everything and were forced to spend almost three years tucked away, out of sight, in America's badlands.

My family was such a family.

My short story, "Dog Bait," is extrapolated from an experiment the United States Army conducted in secret during the early days of World War II. On a remote island off the Mississippi coast, the American military tested whether attack dogs had the ability to differentiate between Japanese and Caucasian soldiers through smell. The story is, in large part, drawn from archival material found in the University of Hawaii Nisei Project. Of primary significance is a lengthy transcript by one Ray Nosaka, a member of the predominantly Japanese American 100th Battalion out of Hawaii. This, in combination with various newspaper articles, government documents related to dog training, and a Gulf Coast fishing brochure, helped develop the narrative. Never have I tried so hard to write lockstep with the facts, only to find my story sodden with the frightfully bizarre.

My presentation will consist of a brief talk detailing this piece's function as creative recovery and will highlight some of the historical material that informs the story. I will also give a reading of an excerpt. I hope you will attend.

Group II
SKYVIEW Room, Main Lodge

MODERATOR

John Carlos Garza, Genetics/Ecology/Evolution/Conservation/Marine Biology

AUDIENCE

Chris Clark, Birds, flight, biomechanics, animal behavior

Katherine Ennis[^], Microbes, plants, interactions

Kathleen Treseder, Fungal biogeochemistry, climate change

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[^]2nd year President's or Chancellor Postdoctoral Fellow

GROUP II

SKYVIEW Room, Main Lodge

- 9:00 – 9:40 **Edwin Solares**
(Population genomics, population genetics, comparative genomics, artificial intelligence)
Insights into the domestication of avocado and potential genetic contributors to heterodichogamy
- 9:45 – 10:25 **Eric Caldera**
(Coevolution & Microbial Symbiosis)
Evolutionary Ecology of microbial symbioses
- 10:30 – 11:00 **BREAK**
- 11:00 – 11:40 **Connie Rojas**
(Microbiome, host-microbe interactions, microbial ecology)
Microbiome variation and function in wild and domestic mammals
- 12:00 – 1:00 **LUNCH**
- 1:00 – 1:40 **Asia Murphy**
(Ecology, wildlife conservation, species interactions)
*Mesopredator Release in the New Age: How Does Urbanization and Apex Predators Affect Interactions between Coyotes (*Canis latrans*) and Smaller Mesopredators?*
- 1:45 – 2:25 **Nadje Najjar**
(Behavioral genetics, behavioral ecology, sexual selection, migration, birds)
*Genetics of courtship behavior in *Selasphorus* hummingbirds*
- 2:30 – 2:45 **BREAK**
- 2:50 – 3:30 **Aidee Guzman**
(Agroecology)
Building agricultural landscapes that work for the environment and people
- 3:35 – 4:00 Wrap-up and Networking
- 4:00 FREE TIME!

Edwin Solares
President's Postdoctoral Fellow
Evolution and Ecology, UC Davis

Insights into the domestication of avocado and potential genetic contributors to heterodichogamy

Many economically important crops lack suitable genomic tools and annotations, including avocado (*Persea americana*). We created a reference genome from the Gwen varietal, which is closely related to the agronomically dominant Hass varietal. We produced a 1,032Mb genome assembly with an N50 of 3.37Mb, and a BUSCO score of 91%. We scaffolded the assembly using a genetic map, which led to 12 pseudo-chromosomes representing 78% of the expected genome size containing 49,450 genes. To investigate the domestication history of avocado, we also compiled a database of 34 resequenced genomes that represented major cultivars and the three botanical races of *P. americana*. Also, in order to elucidate the heterodichogamous nature of avocados, we took into consideration an even distribution of both flowering types in our selection of accessions. Our analyses were consistent with a separate domestication event for each race, and we estimated early genetic separation, with the Mexican race diverging from the Lowland (formerly known as 'West Indian') and Guatemalan races >1 million years ago during the Calabrian stage of the Pleistocene epoch, and a time of significant climate change (from a wet climate to an ice age). We identified putative targets of selective sweeps within domestication; within the Guatemalan race, putative candidate genes were enriched for fruit development and ripening, while the Lowland and Mexican races shared more putative domestication genes than expected at random. We also investigated divergence between races and especially between heterodichogamous flower types. The latter identified genes enriched for functions in pollination, flower development, circadian rhythm and photoperiodism. Genes in regions of divergence were also enriched for GO functions in pollination and flower development.

Eric Caldera
President's Postdoctoral Fellow
Ecology & Evolutionary Biology, UCLA

Evolutionary Ecology of microbial symbioses

The geographic mosaic theory of coevolution (GMC) posits that coevolutionary dynamics go beyond local coevolution and are comprised of the following three components: geographic selection mosaics, coevolutionary hot spots, and trait remixing. It is unclear whether the GMC applies to bacteria, as horizontal gene transfer and cosmopolitan dispersal may violate theoretical assumptions. I test key GMC predictions in an antibiotic-producing bacterial symbiont (genus *Pseudonocardia*) that protects the crops of neotropical fungus-farming ants (*Apterostigma dentigerum*) from a specialized pathogen (genus *Escovopsis*). *Pseudonocardia* antibiotic inhibition of common *Escovopsis* pathogens was elevated in *A. dentigerum* colonies from Panama compared to those from Costa Rica. Furthermore, a Panama Canal Zone population of *Pseudonocardia* on Barro Colorado Island (BCI) was locally adapted, whereas two neighboring populations were not, consistent with a GMC-predicted selection mosaic and a hot spot of adaptation surrounded by areas of maladaptation. Maladaptation was shaped by incongruent *Pseudonocardia*-*Escovopsis* population genetic structure, whereas local adaptation was facilitated by geographic isolation on BCI after the flooding of the Panama Canal. Genomic assessments of antibiotic potential of 29 *Pseudonocardia* strains identified diverse and unique biosynthetic gene clusters in BCI strains despite low genetic diversity in the core genome. The strength of antibiotic inhibition was not correlated with the presence/absence of individual biosynthetic gene clusters or with parasite location. Rather, biosynthetic gene clusters have undergone selective sweeps, suggesting that the trait remixing dynamics conferring the long-term maintenance of antibiotic potency rely on evolutionary genetic changes within already-present biosynthetic gene clusters and not simply on the horizontal acquisition of novel genetic elements or pathways.

Connie A. Rojas
Chancellor's Postdoctoral Fellow
Genome Center & Department of Evolution and Ecology, UC Davis

Microbiome variation and function in wild and domestic mammals

Animals are colonized by trillions of microbes that as a collective can influence their digestion, behavior, and immunity. While research on the microbiome has exploded over the past decade, large gaps in our knowledge remain, particularly in the ways wild and domestic animal hosts may be shaping their microbiome and vice-versa. For my research, I use amplicon and metagenomic sequencing along with culture-dependent methods to characterize the anal sac microbiome and its metabolites in domestic cats (*Felis catus*). Cats use secretions from their anal sacs to mark territories, attract mates, and signal their age, sex, and reproductive state. These secretions and their volatiles may be produced by bacteria living within the anal sacs of the animal. My research aims to assay variation in the taxonomic composition and volatile profiles of the anal sac microbiome, and sequence the genomes of cultured microbes to highlight potential gene pathways involved in the production of the volatiles. Collectively, research findings will contribute to our understanding of the healthy anal sac microbiome in cats and the contributions of microbes to their host's chemical communication. A second project investigates the core bacterial members and metabolic functions of the gut microbiome in wild spotted hyenas (*Crocuta crocuta*), a large apex predator and socially complex carnivore. I elucidate the taxonomic composition of the gut microbiome and metabolic pathways that persist over host lifespan and across familial generations. My findings will provide a novel perspective on the variability and stability of the gut microbiome in a wild African carnivore, and elucidate the potential importance of the gut microbiome to the hyena's diet and immunity.

Asia Murphy
President's Postdoctoral Fellow
Environmental Studies, UC Santa Cruz

*Mesopredator Release in the New Age: How Does Urbanization and Apex Predators Affect Interactions between Coyotes (*Canis latrans*) and Smaller Mesopredators?*

Interactions between species, particularly those between predators, are important ecosystem-structuring processes. A phenomenon called 'mesopredator release' occurs when an apex predator (e.g., pumas *Puma concolor* or gray wolves *Canis lupus*) is lost from an ecological community, freeing a behaviorally subordinate predator species (e.g., coyotes *C. latrans*) from their influence, perpetuating a cascade of effects that influence other species lower down the trophic pyramid. As apex predators have been lost from ecological communities across North America due to changes in habitat and persecution, coyotes have, theoretically, become the new apex predator, capable of influencing smaller carnivores and prey species. Past studies have investigated how mesopredator release and loss of habitat through urbanization influences ecological communities, but few have investigated the synergistic effects of both processes on communities, particularly across North America. Using noninvasive detection data gathered from camera trap surveys at over 150 sites ranging from Mexico to Alaska and two-species occupancy models, I examined how both ecosystem-altering processes influenced spatial interactions between coyotes and four potentially dominant apex predators—wolves, pumas, grizzly bears (*Ursus arctos*), and black bears (*U. americanus*)—and six subordinate carnivore species—bobcat (*Lynx rufus*), striped skunk (*Mephitis mephitis*), opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), red fox (*Vulpes vulpes*), and gray fox (*Urocyon cinereoargenteus*). Results suggested that carnivores avoided each other largely through fine-scale spatial avoidance, i.e., using the same locations, but during different days. Urbanization influenced spatial interactions between carnivores, with spatial avoidance weakening with increased urbanization. As urbanization increases and the ability to spatially avoid other species lessens, carnivores might increase their avoidance by changing when they're active or specializing their diet to avoid conflict.

Nadie Najar
Chancellor's Postdoctoral Fellow
Evolution, Ecology, and Organismal Biology, UC Riverside

Genetics of courtship behavior in Selasphorus hummingbirds

Many, if not most, animal behaviors are innate, with no requisite learning period to acquire the behavior. These behaviors can range from very simple, like moving towards or away from light, to very complicated, like the intricate courtship displays of many birds. “Innate” behaviors must be at least partially encoded in the genome, yet we know almost nothing about how genomic differences translate to behavioral outcomes. Many north temperate hummingbirds perform intricate, but stereotyped, courtship displays. Additionally, hummingbirds, like many bird species, commonly hybridize, producing intermediate or transgressive phenotypes in offspring. Two sister species of Selasphorus hummingbird, the Allen’s and Rufous hummingbird, hybridize extensively where their ranges meet in southern Oregon. These species are highly similar, but they are distinguished by the different colors of their backs, the shapes of their tail, and the elements and sequences of their courtship displays.

We report here the preliminary results of the first-ever genome wide association study of a free-living animal’s courtship display. We recorded and characterized the sequence of elements of courtship displays in 390 hummingbirds across the Rufous-Allen’s hybrid zone. We used geometric morphometrics to describe the shape of the tail. Finally, we classified the extent of green on the back (more green being more Allen’s like, less green being more Rufous-like). We will use a Bayesian linear mixed-model controlled for population structure to associate specific regions of the genome with phenotypic outcomes. Preliminary results from analysis of the tail shape suggests one large contiguous region spanning several genes on the Z chromosome (a sex chromosome), and little else, is responsible for a Rufous vs Allen’s-like tail. We anticipate we will find several unlinked regions each controlling phenotypic expression of back color, display elements, and display sequence in a manner similar to tail shape. These data will reveal the extent that complex changes in genotypes are required for complex changes in phenotypes.

Aidee Guzman
Chancellor's Postdoctoral Fellow
Ecology and Evolutionary Biology, UC Irvine

Building agricultural landscapes that work for the environment and people

In this talk, Guzman will present her research on how on-farm diversification in an intensively managed landscape can bolster below- to above-ground biodiversity and their interactions on agroecosystems. For this work, Guzman partnered with small-scale farmers implementing diversified farming practices (e.g. increasing crop diversity) but are often invisibilized in the monoculture landscape of California's San Joaquin Valley. Guzman will share research on how crop diversification can support soil health (i.e. via beneficial microbes), pollinator communities (i.e. wild bees), and their interactions. She will also discuss how sociopolitical barriers may attenuate the adaptive capacity of small-scale farmers of color to ecological stressors.

Group III

Tavern, Main Lodge

MODERATORS

Margarita Curras-Collazo, neuroscience
Roberto Tinoco, Immunology, Cancer Immunology

AUDIENCE

Rosemary Akhurst, Growth factors, vascular biology, and cancer: Basic Science
Eric Deeds, Systems Biology
Vladimir Diaz-Ochoa[^], host-pathogen interactions, innate immunity, bacterial pathogens
Kalpna Gupta, Pain, sickle cell disease, cancer biology
Arnold Gutierrez[^], substance abuse; psychopharmacology
Jacqueline Kimmey, infectious disease, bacterial pathogenesis, immunology, microbiology
Amanda Lewis, The vaginal microbiome and adverse health outcomes for women
Iain Martyn[^], Developmental Biology, Stem Cell Biology, Biophysics
Portia Mira[^], Antibiotic Resistance, Microbial Evolution, Drug-Interactions
Dequina Nicholas, Immunology, Endocrinology, Metabolism

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GROUP III
TAVERN, Main Lodge

- 9:00 – 9:40 **Grisel Cruz Becerra**
(Chromatin dynamics and gene expression regulation)
Nucleosome-Binding Proteins in Tardigrades and Humans
- 9:45 – 10:25 **Daniah Beleford**
(Vascular Biology, Human Genetics, Genetic Modifiers)
A novel mouse model to decipher the role of the genetic modifier PTPN14 in vascular malformations in Hereditary Hemorrhagic Telangiectasia
- 10:30 – 11:00 **BREAK**
- 11:00– 11:40 **Leonila Lagunes**
(Computational biology, cell signaling)
Understanding bacterial proteasome assembly
- 12:00 – 1:00 **LUNCH**
- 1:00 – 1:40 **Sissy Wamaita**
(Understanding the molecular events and signalling pathways involved in lineage specification in early development, and those which regulate cell reprogramming, stem cell pluripotency and self-renewal in vitro.)
Building a nonhuman primate model for fetal ovarian development
- 1:45 – 2:25 **Nadia Herrera**
(Mycobacteria, membrane proteins, structural biology, infectious diseases)
The type VII secretion system, ESX-1, coordinates response to nitrogen in environmental mycobacteria
- 2:30 – 2:45 **BREAK**
- 2:50 – 3:30 **Mia Maltz**
(Environmental Microbiology, Biomedical Science, Environmental Justice)
From the playa to the air: Exposure and our lungs
- 3:35 – 4:00 Wrap-up and Networking
- 4:00 **FREE TIME!**

Grisel Cruz Becerra
Chancellor's Postdoctoral Fellow
Biology, UC San Diego

Nucleosome-Binding Proteins in Tardigrades and Humans

The damage suppressor (Dsup) protein is a tardigrade-specific factor that protects DNA from damage by reactive oxygen species in human cells. We discovered that Dsup functions by interacting with chromatin via a distinctive motif that has sequence homology with the nucleosome-binding domain of the vertebrate-specific high-mobility group N (HMGN) proteins. Remarkably, this study revealed a novel mechanism by which DNA integrity is preserved upon oxidative stress, which is associated with the etiology of diseases such as cancer. Inspired by these findings, I am currently investigating the biological and molecular functions of the human HMGN proteins, which have been a mystery over the past 50+ years. My research goal is to elucidate the role of nucleosome-binding factors in genome integrity and the dynamics of chromatin, which are both essential for development and frequently altered in disease.

Daniah T. Beleford
President's Postdoctoral Fellow
Helen Diller Family Comprehensive Cancer Center, UC San Francisco

Daniah T. Beleford, Ons Mamai, Sugandha Basu, Reyno Del Rosario, Tom Arnold,
Rosemary J. Akhurst

A novel mouse model to decipher the role of the genetic modifier PTPN14 in vascular malformations in Hereditary Hemorrhagic Telangiectasia

Hereditary Hemorrhagic Telangiectasia (HHT) is a rare genetic condition that is characterized by multiple vascular malformations in different organs. HHT patients have cutaneous and GI telangiectases, and some have arteriovenous malformations (AVMs) in lung, brain, and liver. Therein, vessels develop direct connections between arteries and veins without intervening capillaries. HHT requires germline heterozygous loss of function mutations in *ENG* or *ACVRL1* (aka *ALK1*), which encode endothelial receptors for TGFβs and BMPs. We have shown that human polymorphic variants of *PTPN14* (protein tyrosine phosphatase, nonreceptor, 14) associate with pulmonary AVM formation in HHT, but the molecular mechanisms regulating this association remain unclear. The current study seeks to decipher the role of *PTPN14* in BMP9-Smad/Hippo-TAZ signaling, angiogenesis, and vascular malformations in HHT, in part through the characterization of a novel mouse model in which the *Ptpn14* gene is knocked out in endothelial cells. We hypothesize that *PTPN14* interacts with the BMP9-Smad/Hippo-TAZ signaling pathways to stabilize blood vessels such that *PTPN14* loss or reduced expression will potentiate the formation of AVMs. Preliminary data suggest that endothelial cell-specific *Ptpn14* loss causes vascular developmental delay and altered vessel size and caliber at the angiogenic front in developing newborn mouse retinas. Further efforts to characterize this novel mouse model are ongoing. By utilizing a conditional knock out animal model to investigate how *PTPN14* modifies AVM formation, this study will advance our understanding of the human biology of vascular dysgenesis, promote new insights into diagnostic and therapeutic strategies, and ultimately optimize clinical research to improve healthcare for vascular conditions.

Sissy Wamaitha
President's Postdoctoral Fellow
Molecular Cell and Developmental Biology, UCLA

Building a nonhuman primate model for fetal ovarian development

Although assisted reproductive technologies such as in vitro fertilization provide alternative options for those with reduced fertility, they rely on the ability to produce one's own functional gametes (eggs and sperm). This is not always feasible, such as for those with conditions like primary ovarian insufficiency or following chemotherapy, where the germline cell lineage that produces gametes is compromised. In these cases, one theoretical approach could involve in vitro gametogenesis (IVG) - differentiation of patient-derived induced pluripotent stem cells (iPSCs) into gamete-like cells.

Regenerating cell types from iPSCs requires emulating the principles of developmental biology to achieve successful lineage specification. For ovarian development, crucial developmental steps occur during the prenatal window, which is almost inaccessible for study in humans. To address this, we study the rhesus macaque as a nonhuman primate cognate, using a time-mated breeding schedule to acquire fetal samples in the first, second and third trimesters of prenatal life.

We analyze gene expression at the single cell level to map the transition from primordial germ cells (the first germline cells to be specified in the embryo) to oocytes within the developing fetal ovary. In tandem, we interrogate the identity of non-germline somatic cell types in the ovarian niche, such as granulosa and stromal cells, to investigate how these may support germline development. We aim to generate a reference standard against which to evaluate in vitro differentiated germline and somatic cell types, as well identifying prospective regulatory networks and signaling pathways to underpin future IVG technologies.

Nadia Herrera
President's Postdoctoral Fellow
Department of Biochemistry & Biophysics / Department of Microbiology & Immunology,
UC San Francisco

The type VII secretion system, ESX-1, coordinates response to nitrogen in environmental mycobacteria

Bacteria are classically thought of as unicellular organisms, however, bacteria continuously communicate with each other through signaling and contact within a growth environment. The ESX-1 secretion complex is essential for *M. tuberculosis* pathogenesis, yet it is largely conserved among both pathogenic and environmental mycobacteria alike. A mechanistic role of ESX-1 in bacterial cell remains elusive but conservation suggests a shared biological function beyond virulence. We found that we can trigger secretion of ESX-1 substrates in *Mycobacterium smegmatis* using excess nitrogen to the medium. Activation of ESX-1 secretion under nitrogen conditions is not dependent on increased transcription or translation of the ESX-1 complex or its substrates. However, we found an increase in the transcription of genes required for error-prone DNA repair that correlates with ESX-1 secretion. To further understand the dynamics of ESX-1 in the cell we used live-cell spinning disc confocal time lapse microscopy to explore the cellular localization of the complex. In low nitrogen conditions, ESX-1 formed large complexes across mycobacterial cell membranes in a contact dependent manner. These findings are corroborated by cryo ET studies at cell-cell junctions displaying a continuous density spanning the length of two cells. Upon addition of nitrogen to the environment, ESX-1 complexes diffused and the system dispersed throughout the plasma membrane. Based on our findings, we propose a new model of ESX-1 function in which ESX-1 localization and secretion are responsive to nitrogen levels and form an integral node in the mycobacterial response to neighboring cells and environmental adaptation.

Mia Maltz
President's Postdoctoral Fellow
Biomedical Sciences, UC Riverside

From the playa to the air: Exposure and our lungs

Air pollution poses a significant threat to the health of humans, as well as other animals and plants in natural systems. The drying lakebed (i.e., playa) of California's largest hyper-saline lake emits polluted dust laden with chemicals, microorganisms, and particulate matter (PM) throughout the Salton Sea Basin. Indeed, water diversion and policy decisions have resulted in the ongoing shrinkage of the Salton Sea, resulting in playa expansion and health impacts for affected frontline communities. Once inhaled, playa dust and Salton Sea spray may differentially affect lung immune function and respiratory health. Inhaled fungal pathogens, such as *Alternaria* sp., found in household and outdoor dust, may contribute to human respiratory diseases, such as asthma. Most in-vivo health studies on both PM and gas phase pollutants, have used medical intranasal treatment or small chambers, limiting animal activity. We studied the immune responses and lung microbiome impacts of dust, Sea spray, and *Alternaria*-associated chemicals using a large, whole-body, multiple animal exposure chamber that simultaneously controls particle size distribution, particulate matter mass concentration, and gas concentration, with uniform dispersion and exposure stability. As compared to mouse lungs exposed to ambient air, lungs from mice exposed to *Alternaria* filtrate or Salton Sea spray differentially expressed suites of immune genes. Moreover, bronchioalveolar lavage fluid from mice exposed to *Alternaria* were characterized by greater cell numbers and eosinophils, induced by allergic inflammatory triggers. Lung bacterial microbiomes in *Alternaria* exposed mice exhibited lower species richness, as compared to the control group. The implications of the observed interactions between airborne fungal-derived chemicals, regional growth conditions within the lung, and model lung bacterial microbiomes are unclear. However, understanding the interactions among playa dust, Sea spray, and human health would have implications for curtailing mounting rates of asthmatic inflammation found in affected communities dwelling near California's Salton Sea.

Group IV

ALUMNI Room

MODERATOR

Aurora Pribram-Jones, Theoretical chemistry, chemical physics, condensed matter physics
Igor Pak, Discrete Mathematics

AUDIENCE

Marcella Gomez, systems biology
Peter Haine*, Homotopy theory, algebraic geometry, algebraic K-theory, & related subjects
Kiran Kedlaya, number theory, algebraic geometry
Jesse Peltier[^], Porous materials for hydrogen storage
James Upton*, Number theory, arithmetic geometry
Thaiesha Wright*, Bioconjugation
Jenny Yang, Inorganic chemistry, sustainability, electrochemistry

*1st year President's or Chancellor Postdoctoral Fellow

[^]2nd year President's or Chancellor Postdoctoral Fellow

GROUP IV
ALUMNI Room

- 9:00 – 9:40 **Nadia Léonard**
(Electrocatalysis, Inorganic and Bioinorganic Chemistry)
Electrostatic Effects at Transition Metal Complexes: Tools for Controlling Reactivity
- 9:45 – 10:25 **Javier Fajardo, Jr.**
(Chemistry)
One-Photon Visible and Two-Photon Near-Infrared Photoredox Catalysis Mediated by Tungsten(0) Arylisocyanides
- 10:30 – 11:00 **BREAK**
- 11:00– 11:40 **David Brown**
(High temperature material properties)
Frontiers in thermal engineering: Low dimensions and extreme conditions
- 12:00 – 1:00 **LUNCH**
- 1:00 – 1:40 **Javier Gonzalez-Rocha**
(Dynamics and Control, Aerial Robotic Systems, Atmospheric Transport)
Toward on-demand measurements of greenhouse gas emissions using aerial robotic systems
- 1:45 – 2:25 **Anthony Sanchez**
(Dynamical Systems and Geometry)
Margulis Functions and Linearization
- 2:30 – 2:45 **BREAK**
- 2:50 – 3:30 **Gopolang Mohlabeng**
(Theoretical Particle Physics)
New directions for Dark Matter Discovery
- 3:30 – 4:00 Wrap-up and Networking
- 4:00 FREE TIME!

Nadia Leonard
President's Postdoctoral Fellow
Chemistry, UC Irvine

Electrostatic Effects at Transition Metal Complexes: Tools for Controlling Reactivity

Reactive transition metals play an important role in mediating or catalyzing a variety of chemical transformations. In enzymes, electrostatics play a crucial role to align the dipoles and net charges of reactants, products, and transition states, leading to enhanced reactivity and greater catalytic efficiency. In contrast, at homogeneous catalysts, electrostatic interactions are rarely given deliberate consideration in synthetic design to rationally control reactivity. However, by synthesizing transition metal complexes with tunable electrostatic interactions, these model complexes can be used to control redox properties, proton affinity, and electronic structure at the transition metal. During my postdoc, I have demonstrated that incorporating a cation of charge 1+, 2+, or 3+ near a transition metal center can install a persistent electrostatic field and applied this strategy to controlling hydrogen atom transfer, spin-state configuration, and electron transfer reactions. The implications for these studies establish correlations between electrostatic effects and kinetic/thermodynamic parameters, advancing our understanding of the importance of electrostatics on controlling reactivity. Thus, by demonstrating the effect of electrostatics on transition metal reactivity, we can better understand how enzymes achieve catalytic efficiency.

Javier Fajardo Jr.
Chancellor's Postdoctoral Fellow
Chemistry and Biochemistry, UCLA

One-Photon Visible and Two-Photon Near-Infrared Photoredox Catalysis Mediated by Tungsten(0) Arylisocyanides

Homoleptic tungsten(0) arylisocyanides [W(CNAr)₆] possess photophysical and photochemical properties that rival those of archetypal ruthenium(II), osmium(II), and iridium(III) polypyridine complexes. Previous studies established that extending the π -system of 2,6-diisopropylphenylisocyanide (CNDipp) by coupling aryl substituents *para* to the isocyanide functionality results in W(CNDippAr)₆ oligoarylisocyanide complexes with greatly enhanced metal- to-ligand charge transfer (MLCT) excited-state properties. Extending electronic modifications to delineate additional design principles for this class of photosensitizers, a third generation of W(CNAr)₆ compounds with naphthalene-based fused-ring (CN-1-(2-^{*i*}Pr)-Naph) and CNDipp- based alkynyl-bridged (CNDipp^{CC}Ar) arylisocyanide ligands was prepared. W(CN-1-(2-^{*i*}Pr)-Naph)₆ exhibits the longest excited-state lifetime of all W(CNAr)₆ complexes explored thus far, and systematic variation of the secondary aromatic system in W(CNDipp^{CC}Ar)₆ complexes provides access to an extended range of absorption/luminescence profiles and highly reducing excited states, while maintaining the high molar absorptivity MLCT absorption bands, high photoluminescence quantum yields, and long excited-state lifetimes of previous W(CNAr)₆ compounds. Notably, W(CNAr)₆ photoreductants catalyze base-promoted homolytic aromatic substitution (BHAS) of 1-(2-iodobenzyl)-pyrrole with moderate to high efficiencies that correlate with W(CNAr)₆ excited-state reduction potentials upon one-photon 445 nm excitation. Stern–Volmer quenching experiments indicate that catalysis is triggered by substrate reductive dehalogenation. Taking advantage of the large two-photon absorption (TPA) cross sections of W(CNAr)₆ complexes, photocatalysis can be driven with femtosecond-pulsed 810 nm near- infrared excitation. For both one- and two-photon excitation, photocatalysis is terminated by the formation of seven-coordinate W^{II}-diiodo [W^{II}2(CNAr)₅] complexes. Thus, tungsten(0) arylisocyanides are a promising addition to the growing family of Earth-abundant photoredox catalysts with the potential to displace precious metal-based photosensitizers.

David B. Brown
Chancellor's Postdoctoral Fellow
Mechanical & Aerospace Engineering Department, UCLA

Frontiers in thermal engineering: Low dimensions and extreme conditions

Increased power density caused by the miniaturization of modern microelectronic devices has led to thermal management challenges which degrade performance and reliability. At small length scales, the thermal properties of electronic materials can differ greatly from their bulk counterparts. The associated rise of surface area to volume ratio heightens the importance of interfaces, a bottleneck to heat removal quantified by the thermal boundary conductance (TBC). New materials such as two-dimensional (2D) graphene and transition metal dichalcogenides (TMDs) are being investigated for applications in next-generation devices, and the interfaces will play a critical role in the overall performance of these materials. A fundamental understanding and precise characterization of the thermal transport properties at the interfaces of these materials is essential to ensure energy-efficient operation and long lifetime in future electronic devices. Time-domain thermoreflectance, a pump-probe optical technique, was used to explore the TBC at the interface of metals and graphene, 2D hexagonal boron nitride and graphene, as well as its spatial variation at the interface of the 2D semiconducting TMD molybdenum diselenide and metals. The results highlight important considerations crucial to the design and performance of next-generation devices featuring 2D materials.

Hypersonic vehicles, which travel at Mach 5 or higher, are an active area of research around the globe. The extreme temperatures that these vehicles are subjected to are one of the main factors limiting their further development. As a result, the aerodynamic design requirements must be balanced with thermal management concerns for sustained flight at hypersonic speeds, with specific attention given to the leading edge because of the significant heat fluxes that occur in this region. Thermionic cooling for hypersonics has been proposed and modeled but not yet characterized experimentally in detail. When combined with evaporative transpiration cooling, the vehicles are predicted to survive higher sustained heat fluxes while experiencing reduced temperatures. An analytical, multi-mode cooling model is developed which estimates the surface temperature around the stagnation point, the location of maximum heat flux near the leading-edge. Experimentally, the presence of heat spreading by reflected thermionic electrons is readily evaluated by indirect measurements of apparent thermal diffusivity, *e.g.*, the ability of a planar solid to spread heat radially, via a modified Ångström's method that has been validated using various materials. Through combined multiphysics modeling and experiments, new design criteria can be established for hypersonic leading edges.

Javier González-Rocha
Chancellor's Postdoctoral Fellow
Mechanical Engineering and Environmental Sciences, UC Riverside

Dr. Akula Venkatram[§] (Mentor)
Dr. Francesca Hopkins[†] (Co-Mentor)

[§]Department of Mechanical Engineering, UC Riverside

[†]Department of Environmental Sciences, UC Riverside

Toward on-demand measurements of greenhouse gas emissions using aerial robotic systems

New near real-time measurement methods are needed to detect, localize, and quantify emission sources of methane in rural and urban environments. Methane, a potent greenhouse gas produced by natural and anthropogenic processes, is an important target for mitigating climate change. Effectively reducing methane emissions produced by anthropogenic activity (e.g., oil and gas extraction, waste management, dairy farm operations, etc.) requires reliable attribution of methane emissions to sources. However, most conventional sensors, even those mounted on tall towers, do not reach beyond tens of meters above ground level when the daytime boundary layer is on the order of hundreds of meters and are often difficult and time-consuming to deploy. This talk presents the development and deployment of an aerial robotic systems for localizing, identifying, and quantifying methane emissions dairy farms located in the San Joaquin Valley of California. Results from field experiments demonstrate that aerial robotic systems observations of wind velocity and air composition combined with small-scale dispersion modelling techniques can give way to new low-cost methods for localizing, detecting, and methane emissions at facility scale, an imperative for effectively mitigating climate change.

Anthony Sanchez
Chancellor's Postdoctoral Fellow
Department of Mathematics, UC San Diego

Margulis Functions and Linearization

Abstract: Quantifying how much time trajectories of a dynamical system avoid certain subsets of the ambient space has proved to be a key step in several problems in homogenous dynamics. Two fruitful approaches to this have been the construction of *Margulis functions* developed by Eskin, Margulis, and Mozes and the *linearization* techniques of Dani and Margulis.

In this talk, the application of these ideas is used to show that points altered by a horospherical element and then pushed by the geodesic flow for a long time are unlikely to track small intermediate orbits. This is joint work with Juno Seong.

Gopolang Mohlabeng
Chancellor's Postdoctoral Fellow
Physics and Astronomy, UC Irvine

New directions for Dark Matter Discovery

Our universe is composed of roughly 5% of visible matter (atoms, etc), 29% of a type of invisible matter we call dark matter and 68% of an even less entity we simply refer to as dark energy.

There is overwhelming astrophysical and cosmological evidence for the existence of dark matter. Yet we still have no idea what it is made of. Dark matter is the reason that large scale structure like galaxies and ultimately life as we know it has formed. Hence, to understand the dynamics of our universe, it is important to understand what dark matter is made of.

For decades, we have been extensively searching for a theoretically motivated class of particles called Weakly Interacting Massive Particles (WIMPs). However, lack of a convincing signal has compelled us to consider a broader program based on new theoretical directions and search strategies. In this talk, I will present my work on new scenarios and search strategies to detect dark matter beyond the WIMP paradigm. I will particularly focus on new striking signals for dark matter that is lighter than the proton in mass, which are accessible to current and near future experiments.

Group V

LIBRARY Room, Main Lodge

MODERATORS

Stephen Kane, Planetary habitability, Venus, exoplanets, orbital dynamics

Jen MacKinnon, Oceanography

AUDIENCE

Tadesse Alemu[^], Geosciences

Sora Kim, stable isotope analysis, ecology, physiology, paleoceanography

Allison Moreno[^], Marine Biogeochemistry

Sarah White[^], climate, Earth Science

*1st year President's or Chancellor Postdoctoral Fellow

[^]2nd year President's or Chancellor Postdoctoral Fellow

GROUP V
LIBRARY, Main Lodge

- 9:00 – 9:40 **Noemie Globus**
(astrobiology)
The Chiral Puzzle of Life
- 9:45 – 10:25 **Tara Fetherolf**
(astronomy, exoplanets, galaxy evolution)
Stellar Variability: Star-Planet Connections
- 10:30 – 11:00 **BREAK**
- 11:00– 11:40 **Jory Lerback**
(groundwater; water resources; isotope chemistry; ecology; Indigenous management)
Snail chemistry can reveal how groundwater responds to climate changes
- 12:00 – 1:00 **LUNCH**
- 1:00 – 1:40 **Alejandra Sanchez-Rios**
(Physical Oceanography, ocean mixing)
Subduction, stirring and mixing: Insights from spice distribution across different ocean fronts.
- 1:45 – 2:25 **Janin Guzman Morales**
(Regional mesoscale climate, climate change, human migration and impacts)
Regional Precipitation on the Dry Corridor of Southern Mexico and Central America: Community-informed Science
- 2:30 – 2:45 **BREAK**
- 2:50 – 3:30 **Hannah Palmer**
(climate, paleoclimate, wildfire, oceanography)
Examining climate and environmental change in the California Current System and Western North America in the past and present
- 3:30 – 4:00 Wrap-up and Networking
- 4:00 FREE TIME!

Noémie Globus
Chancellor's Postdoctoral Fellow
Astronomy and Astrophysics, UC Santa Cruz

The Chiral Puzzle of Life

While biologists have not yet reached a consensus on the definition of life, homochirality - the specific handedness of biomolecules - is a phenomenon only produced by life. The unraveling of its origin requires interdisciplinary research, by exploring each of fundamental physics, modern chemistry, astrophysics, and biology. In this talk, we will consider the origin of biological homochirality in the context of astrophysics and particle physics. The weak force, one of the fundamental forces operating in nature, is parity-violating. On Earth, at ground level, most of our cosmic radiation dose comes from polarized muons formed in a decay involving the weak force. I will discuss the levels of polarized radiation due to cosmic muons at several different environments that are prime targets in the search for the origin of life. I will show how this polarization could have induced a biological preference for one type of chirality over the other. An experimental program designed to explore these general ideas will be outlined.

Tara Fetherolf
Chancellor's Postdoctoral Fellow
Earth and Planetary Sciences, UC Riverside

Stellar Variability: Star-Planet Connections

Characterizing exoplanets first requires precise measurements of their host star's properties. In addition to revealing possible companions, the shape and periodic nature of a star's light curve can uncover important information about its intrinsic properties. Stellar magnetic activity, which drives variations in its light curve, is inherently linked to a star's spectral type and stage of evolution. In particular, a star's rotation can be measured from its surface activity, which can be used to infer stellar ages. Furthermore, stellar activity can cause false planetary signals in radial velocity measurements or hide transit events of small exoplanets. The TESS spacecraft obtained high-precision space-based time-series photometry of nearly the entire sky during its primary mission, allowing for a large-scale study of stellar variability that is not sensitive to the diurnal limitation of ground-based surveys. I have developed a stellar variability catalog that includes ~40,000 stars that exhibit significant photometric variability on timescales of 0.01-13 days, which could be attributed to rotational modulations, stellar pulsations, or binarity. I will present the characteristics of the stars in the stellar variability catalog and discuss how it will serve as a valuable resource to the stellar astrophysics and exoplanet communities. The variability catalog will aid in 1) studying the characteristics of periodic variable stars; 2) understanding interactions between host star variability and planetary atmospheres; and 3) identifying exoplanets that are actually false positives caused by stellar variability. Overall, this work also encompasses understanding "worlds and Suns in context," which has been identified as a high-priority area of research by the Astronomy 2020 Decadal Survey.

Jory Lerback
President's Postdoctoral Fellow
Earth, Planetary, and Space Sciences, UCLA

Snail chemistry can reveal how groundwater responds to climate changes

Groundwater is important for wetland ecosystems and societies in dry areas where people rely on groundwater when surface water resources are scarce and have variable quality. My work studies how water connects life and land. Much of this work uses tools from environmental chemistry, geology, ecology, and geography to examine groundwater and spring ecosystem sustainability, in support of Indigenous water sovereignty and other environmental justice issues.

In this presentation I show how using strontium and carbon isotopes in groundwater systems can show where water moves, and how long it takes to move through an aquifer to where it is used by multiple stakeholders. I first show that understanding the regional variation of strontium isotopes in water can help identify springwater sources. I then show that radiocarbon preserved in gastropod shells can be used as a proxy for groundwater transit times in the sedimentary record, and discuss the process of applying this in cores at aridland springs. I include examples of working with tribal partners, American Indian Studies scholars, colleagues in STEM, and social scientists at two spring sites to respectfully co-design projects.

This type of work can lead to new descriptions of groundwater changes, and provide a way to calibrate numerical models that attempt to forecast groundwater availability under different pumping and climate change scenarios. It also can help directly influence water access and water-use decisions across California and elsewhere.

Alejandra Sanchez-Rios
Chancellor's Postdoctoral Fellow
Scripps Institute of Oceanography, UC San Diego

Subduction, stirring and mixing: Insights from spice distribution across different ocean fronts.

The ocean is spicy! Some places more than others. Spiciness tells us how water with the same density varies in temperature and salinity (T-S). The global variability of spice and its vertical distribution in the ocean highlights processes that interleave, stir and eventually mix water from different sources. The unique spatial and temporal structure of upper ocean spice patterns is set by the large-scale dynamics and the balance between different frontal processes, such as subduction, turbulent mixing, and atmospheric forcing that create, distribute and destroy spice. Not all of these interactions between the larger-scale dynamic process and mixing mechanisms are well characterized, and the answer may vary between different oceanic regions and across time. Spice distribution also impacts the space and time scales of sound speed profiles, which determines sound speed channels, scattering, and loss characteristics of acoustic signals. Using a decade of upper ocean high-resolution data from multiple ocean basins: the Bay of Bengal, the Nordic Sea, the South China Sea, and the Beaufort Sea, we compare and contrast spice distribution in fronts with different temperature and salinity ranges and analyze the frontal processes identified in each region. We aim to combine recent findings with available large datasets to establish global patterns of spice variance, production, and destruction. Knowledge of both the prevalence of ocean fronts and the driving dynamics for frontal subduction in different regions of the world oceans opens the door towards the creation of improved regional forecast models for upper ocean spice which is critical for better predictability of heat and salt transport and understanding upper ocean sound propagation.

Janin Guzman Morales
President's Postdoctoral Fellow
Geography, UC Santa Barbara

*Regional Precipitation on the Dry Corridor of Southern Mexico and Central America:
Community-informed Science*

The Central American Dry Corridor (CADC) is located on the Pacific coast side extending over southern Mexico, Guatemala, El Salvador, Honduras, Nicaragua, and northeast Costa Rica. Variability in precipitation intensity (discharge), frequency, and seasonality exert significant influence on the CADC rural communities where ~62% of the population depends on agricultural production for self-subsistence. To elucidate CADC's precipitation variability and changes during the historical period, particularly those most relevant to local communities' agricultural practices, I am using climate science methods and social science methods. I applied two statistical techniques to 40 years (1981-2020) of daily gridded rainfall estimates from the CHIRPS (Climate Hazards group Infrared Precipitation with Stations) data set: 1) Principal Component Analysis (PCA) 2) Kernel Density Function (KDF). These independent analyses show outstanding coherent results of two distinctive subregions, Pacific and Atlantic, whose maxima rainfall dates differ considerably. Parallely, I conducted an exploratory ethnographic fieldwork during Nov 15 – Nov 30, 2021 in two agricultural-rural communities of the Dry Corridor on eastern El Salvador. I interviewed a total of 12 volunteering participants within an age range of 36 – 108 years to learn about a) the sowing-harvesting seasonal cycle, b) dependence on weather conditions for a successful harvest, c) affectations due to interannual and long-term rainfall variability, d) traditional ways of weather forecasting. The aim is to integrate this ethnographic information (e.g., sub-seasonal rainfall periods that have become non-reliable in recent decades, maximum number of dry days before crop damage or grow decrease) into the design of rainfall indices.

Hannah M. Palmer
Chancellor's Postdoctoral Fellow
Life and Environmental Sciences, UC Merced

Examining climate and environmental change in the California Current System and Western North America in the past and present

Investigation of climate records from the recent past provides critical insights into contextualizing modern climate change and understanding biogeochemical and ecosystem responses to environmental change. Further, integrating analysis across marine and terrestrial systems allows for more comprehensive understanding of how environmental perturbations move across systems. Here, I present outcomes of research from ridge to reef including an investigation of marine oxygenation off the coast of California through the Holocene, a synthesis of climate and oceanographic change in the California Current System and Western North America through the Holocene, and an assessment of the geochemical impacts of wildfire in the Sierra Nevada. Investigation of marine sediment archives reveals an expansion of the oxygen minimum zone off the coast of San Diego, CA (at 528 m water depth) beginning 400 years before present that is synchronous with regional records of deoxygenation, while the seafloor environment below 1000 m was consistently within a range of intermediate hypoxia, from 0.5-1.5 ml L⁻¹ O₂, and had reduced variability relative to shallower basins throughout the Holocene. To contextualize these marine changes within a linked marine-terrestrial system, I conducted a systematic review of the Holocene climate and oceanography of Western North America and the Northeast Pacific. Findings reveal distinct climate intervals through time, varied relationships between sea surface temperature and hydroclimate across latitude, and impacts of climate-induced change (drought, fire) on human communities during the last 11,700 years, including in the interval of anthropogenic climate change. Finally, to understand how events of environmental perturbation (wildfire) impact the geochemistry of landscapes, with cascading impacts to marine systems and implications for paleoenvironmental reconstruction, I investigate the impact of wildfire severity on pyrogenic carbon and elemental/chemical composition of landscapes. By integrating analysis across systems, we can better identify how climate change and human impacts in the past and present shape elemental cycling, ecosystems, and ultimately human communities.

Group VI

PINEVIEW Room, Main Lodge

MODERATOR

D. Inés Casillas, Race & Media, Communications, Language Politics, Ethnic Studies
Kelly Lytle Hernandez, history, immigration, criminal justice

AUDIENCE

Charles Briggs, medical anthropology, linguistic anthropology, linguistic and health inequities
Salvador Contreras[^], Medical Anthropology
Roderic Crooks, data, political theory, community organizing, datafication
James Doucet-Battle, Science, Technology, and Society (ST&S), race and medicine
Lorrie Frasure, Racial/ethnic political behavior, African American politics, women and politics
Gilbert Gee, health inequalities, race, racism
Ashwak Hauter[^], Medical anthropology
Gillian Hayes, Human Computer Interaction, Accessible Technology
Geoffrey Raymond, Social Psychology, Social interaction, Policing
Courtney Thomas Tobin, stress and coping, and mental health among Black Americans
Tiffany Willoughby-Herard, African Politics; Political Theory; Black Politics

*1st year President's or Chancellor Postdoctoral Fellow

[^]2nd year President's or Chancellor Postdoctoral Fellow

GROUP VI

Pineview Room, Main Lodge

- 9:00 – 9:40 **Karen Arcos**
(Psychology, learning, memory, working memory, neuroscience, cognition, Chicano/Latino Studies)
Learning, Memory, and Uncertainty Abstract
- 9:45 – 10:25 **Megh Marathe**
(science & technology studies; information studies; inclusion of disabled people and LGBTQIA+ people in society and technology; healthcare; civic technology)
Was That a Seizure? Diagnosis in Lived Experience and Medical Practice
- 10:30 – 11:00 **BREAK**
- 11:00– 11:40 **Deshonay Dozier**
(policing, urbanism, homelessness, abolition)
Rethinking the Homeless Crisis: Black Spatial Visions for Los Angeles
- 12:00 – 1:00 **LUNCH**
- 1:00 – 1:40 **Christina Aushana**
(policing, police training, ethnography, performance studies)
Staging Anti-Blackness, Rehearsing State Violence: The Racial Optics of Police Training Scenarios
- 1:45 – 2:25 **Kamala Russell**
(Ethics, Islam, Interaction, Sexuality, Language)
Boredom on the Other Side of Interaction in Dhofar, Oman
- 2:30 – 2:45 **BREAK**
- 2:50 – 3:30 **Anila Daulatzai**
(War, US Empire, Violence)
Polio in the Time of Terror
- 3:30 – 4:00 Wrap-up and Networking
- 4:00 FREE TIME!

Karen Arcos
President's Postdoctoral Fellow
Psychology, UC Santa Cruz

Learning, Memory, and Uncertainty Abstract

This talk covers two learning and memory studies. First, the talk examines visual deprivation's impact on memory abilities. Although those who are blind exhibit larger short-term memory capacity relative to the sighted, the extent to which this generalizes to nonverbal information and more complex memory tasks is unclear. In a test of verbal and nonverbal memory, sighted and congenitally blind adults completed a battery of auditory recognition memory tasks using difficulty-matched verbal and nonverbal information. While blind individuals exhibited a verbal memory advantage over sighted individuals, their advantage was eliminated for nonverbal memory.

Second, the talk examines uncertainty's role in memory. Learners may encounter inaccurate information which may or may not be true. However, uncertainty may encourage people to critically assess information's accuracy. Uncertainty may also have negative effects, such as leading people to mistrust to-be-learned information or to subsequently confuse the remembered information's accuracy. Participants learned individual statements about history. They were presented with only true statements or true and false statements while informed of each statement's accuracy. Participants in a third condition were presented with true and false statements, judged statements' accuracy, and then received feedback on which statements were true and false. On a cued recall test, all participants recalled true statements' key terms. Next, they read pairs of true and false statements and indicated which was true. Preliminary results suggest that being presented false information and receiving feedback on information's accuracy can, in some situations, enhance learning true information.

Megh Marathe
President's Postdoctoral Fellow
Informatics, UC Irvine

Was that a Seizure? Diagnosis in Lived Experience and Medical Practice

This talk examines how doctors and patients distinguish between normal and pathological events through the case of epilepsy. Epilepsy is a chronic illness and disability characterized by recurrent and unpredictable seizures. Seizures are transient events during which people lose control over parts of body-mind function.

I show that the diagnostic boundary between seizure and non-seizure events is fluid, dynamic, and porous in both lived experience and medical practice. Tracing how people obtain an epilepsy diagnosis, I show that people recognize odd events as seizures only in retrospect, through unusual sociobiological and environmental interactions, and with the help of family, friends, and medical practitioners. Turning to medical practice, I show that doctors similarly account for patient-specific, social, and environmental factors that go well beyond the readings of diagnostic technologies when diagnosing seizures in practice.

Further, I show that people with epilepsy and physicians take what I call an expedient approach to classifying seizures. Calling an event a seizure has ramifications well beyond treatment, also affecting people's financial stability, social participation, and life aspirations. Hence, people with epilepsy and physicians seek to postpone or avoid severe consequences, typically by dismissing events that would otherwise be called seizures through informal workarounds that modify the very definition of seizure. By engaging in expedient classification, doctors and patients bend rigid classification schemes to suit the complex realities of people's lives.

This work makes theoretical contributions to scholarship on classification and expertise in information science, science and technology studies, and disability studies.

Deshonay Dozier
Chancellor's Postdoctoral Fellow
Urban Planning, UCLA

Rethinking the Homeless Crisis: Black Spatial Visions for Los Angeles

By “thinking conjuncturally”, this presentation urges urban geographers to rethink the site of encampments as a space for cultural intervention in urban planning and development. Drawing on content analysis of archival records, this paper provides a case study of Black-led and supported encampment communities in the 1980s and 1990s in Los Angeles. These encampment communities emerged in a critical moment when Los Angeles became the homeless capital of the nation while the demographics of the homeless became predominantly Black. The article shows the emergence of encampment communities as both a result of rising homelessness and as a necessity for creating life-fulfilling alternatives. As such, these include sonic critiques, cooperative planning, forming a commons, and a poetic ethnography against the carceral organization of homelessness. The presentation uncovers how that at the site homelessness and crisis, geographers must take seriously the site of the encampment as an emerging cultural intervention.

Christina Ashurina Aushana
President's Postdoctoral Fellow
Sociology, UC Santa Barbara

Staging Anti-Blackness, Rehearsing State Violence: The Racial Optics of Police Training Scenarios

Two years after the seemingly unprecedented protests against police violence in 2020 and nearly 8 years since the extralegal murders of Black Americans Eric Garner, Michael Brown, and Tamir Rice, police reform efforts have done little to address the routine violence at the heart of policing's mandate to screen communities for choreographies of criminality. Scholars of abolition have long argued that the racial optics of state violence are foundational to policing, and thus insist on the relentless praxis of abolition – a presence and a rending – to evade policy measures that render alibis for existing structures of policing. Based on more than five years of fieldwork with officers in East County San Diego, my book project takes up these concerns – principally, to find a grammar otherwise by which to articulate the ordinary anti-Black violence of police-civilian encounters – by ethnographically examining the visual and performance *scripts* that shape police officers' and recruits' training and professional vision. While riding along with officers through heavily policed communities of South West Asian and North African refugees and while performing as a role-play actor in San Diego's regional police academy, I turn my interpretive attention toward the scripts officers and recruits mobilize to stage and rehearse police vision, including role-play scenarios in the police academy. Through methods in performance ethnography and visual culture, I follow these scripts – from academy to patrol field – to illustrate how police violence emerges as performative acts of citation. Based on my experiences in these scenario trainings, I broadly argue that racialized police violence is a central, tacit expectation of scenario training rather than merely an object of its address.

This talk turns toward two specific genres of police training scenarios to illustrate how racialized visual logics embedded within these theatrical simulations are constitutive of categories like “threat” and “escalation” as recruits and officers improvise tacitly violent scenes together: “Vehicle Stops” and “Deadly Use of Force.” I argue that a performative analysis of these scripts and their stagings reveals the iterative and historical practices of state violence that render the violence policing both *sees* and *seeks* to police. I foreground my failed attempts to “read against the grain” of some of these scenario scripts opposite recruits and officers in the academy, and suggest we mark a trajectory toward an abolitionist anthropology of policing in order to resist the reformism of such minor repairs. A performance-based and abolitionist methodological approach to these unfolding scenes not only offers a close ethnographic view of how a racialized police vision is both curated and enforced in staged encounters of asymmetrical threat, but can address how these improvisational performances work to sustain the asymmetrical conditions of anti-Blackness. This research figures critical language for theorizing the mobility and racial optics of these performances as they travel between the academy's “backstage” and the “front stage” of everyday policing.

Kamala Russell
Chancellor's Postdoctoral Fellow
Anthropology, UCLA

Boredom on the Other Side of Interaction in Dhofar, Oman

In this talk, I discuss an endemic boredom felt within the domestic terrain and domestic lives of young women in the Dhofar province of Oman. Drawing on my long-term field engagement with Muslim speakers of the endangered Śherēt language in the Dhofar highlands, I explore young women's tendency to stay up most of the night, and spend large swaths of daylight away from familial and interactional responsibilities, most likely sleeping or in sleep-like states. Over the last 50 years, Śherēt speakers have been subject to a campaign of social and economic development that has settled their formerly nomadic lifeways and brought them entirely into the ambit of sultanic power. These years of iterative infrastructural development -- roads, permanent dwelling, electricity, health, schooling, and urbanization -- have reshaped the very channels through which Śherēt interaction is mediated. It is within this reshaped terrain that the women's '*gadwal minj^mered*' (or lunatic schedule) arises and compounds.

I argue that this cycle of sleeplessness and lethargy exists in a complex relationship to social norms, ethical projects, and infrastructures of state control. Though women complain about the bored stupor that their schedule produces, they do not rearrange their sleeping hours and remain structurally unable to engage in productive activity outside the home. Instead, this lifestyle continues to work for them as a form of withdrawal that affords them quiet time and private space, unbothered and unwatched by other members of their household and guests. This talk argues for the importance of how interactional contact is understood, experienced, and avoided outside of events of interaction themselves, and in registers both semiotic and political.

Anila Daulatzai
Chancellor's Postdoctoral Fellow
Anthropology, UC Berkeley

Polio in the Time of Terror

This paper explores polio vaccinations, literally the drops, and the varied roles they play in the lives of the people who are most targeted by polio vaccination campaigns today - the inhabitants of the NW province of Pakistan, Khyber Pakhtunkhwa. Together with Afghanistan, which it borders, this province was labeled specifically in 2014 by the World Health Organization, as the 'polio epicenter of the world'. The very same region has also been identified, by various security experts as the 'epicenter' in the war known as the Global War on Terror. The paper presents the convergence of initiatives to eradicate polio with terror initiatives as part of the war referred to as the Global War on Terror. The paper explores materiality and assemblage theories to think with those who consume the polio drops, as related to the larger historical and contemporary processes of dispossession of the Pashtun people. Pashtun people have been actively targeted by the Pakistani state as citizen suspects, since Pakistan's creation in 1947 (taking cues from the British archive of racial classification) and by US Empire, since 1979. I focus on a long period of an insistent regime of hyper inoculation despite epidemiological concerns driven in part by the state practice of racially assigning a position of vaccine denial to a population. I use the concept of assemblage in order to articulate the complex entanglements that join relations and things (whether they be global geopolitical forces, biophysical relationships, technological knowledges and practices, ecologies, etc.). The paper is based on ongoing research conducted in Pakistan, and Geneva, Switzerland since 2014.

Group VII

LAKEVIEW Room, Main Lodge

MODERATORS

Susan Coutin, Immigration, law, ethnography

Rocio Rosales, Immigration, Econ Soc, Latino/a Sociology, Ethnography, Qual methods

AUDIENCE

Leisy Abrego, International migration; Law & society; Latinx Families; Central American Studies

Justin Dunnivant, Archaeology, History, Caribbean, African Diaspora, Marine Science

Ayana Flewellen, Archaeology

Mukul Kumar, Climate justice, energy and environment, political ecology, social movements

Jocelyn Meza, Suicide and self-harm among BIPOC youth

Michael Moses[^], racism in higher education and qualitative methodologies

AJ Rice[^], Urban Politics, Black Politics, Education Reform

Rachel St John, North American History

Sabrina Strings, Race, gender, sexuality, media, medicine

Salvador Zarate, Race, Gender, Labor, and the Ecology

*1st year President's or Chancellor Postdoctoral Fellow

[^]2nd year President's or Chancellor Postdoctoral Fellow

GROUP VII

LAKEVIEW Room, Main Lodge

- 9:00 – 9:40 **Kapua Chandler** (Indigenous and Native Hawaiian Higher Education)
Ho'ona'auao: Indigenous Models of Higher Education
- 9:45 – 10:25 **Fantasia Painter**
(Native American Studies; Borders and Borderlands; Ethnic Studies)
Safety and Security on Indigenous Land in the US-Mexico Borderlands: United States v. Warren
- 10:30 – 11:00 **BREAK**
- 11:00– 11:40 **Silvia Rodriguez Vega**
(Immigration/Arts/Childhoods)
Immigrant Children: Resilience and Coping with HeART
- 12:00 – 1:00 **LUNCH**
- 1:00 – 1:40 **Jessica Lopez-Espino**
(Law and society, inequality, race, language, child welfare)
Finding Excuses, Determining Risk: Latinx Parent Experiences in a California Child Welfare Court
- 1:45 – 2:25 **Ashwak Hauter**
(Medical anthropology)
Physics of Affinity: Physicians or Prophets?
- 2:30 – 2:45 **BREAK**
- 2:50 – 3:20 Wrap-up and Networking
- 3:30 – 4:00 **FREE TIME!**

Kapua L. Chandler
President's Postdoctoral Fellow
Education Studies, UC San Diego

Ho'ona'auao: Indigenous Models of Higher Education

Indigenous students are in “a state of emergency” comprising less than 1 percent of all students enrolled in college and the lowest graduation rates of all racial/ethnic groups in the U.S.

(Brayboy et al., 2012). Attempts to address these low participation and completion rates often ignore the fact that public education systems were created as mechanisms of colonization to erase Indigenous culture and people (Goodyear-Kaopua, 2013). Therefore, Indigenous institutions require a close examination as sites of systemic transformation that address the colonial injustices of higher education.

During this talk, I will present findings on how two well-known Indigenous models of higher education *indigenized* – the decolonization process of operating through Indigenous values, knowledges, and worldviews – their institutions to combat settler colonialism. These Indigenous models consisted of a tribal college from the United States and a wānanga, Māori tertiary institution, from New Zealand. Findings offer valuable lessons of caution for educators committed to the systemic transformation of higher education in both Indigenous and settler colonial institutions. I will highlight factors that are important to supporting Indigenous students beyond cultural inclusion and urges institutions to take responsibility in addressing the systemic settler colonial mechanisms of Indigenous erasure. Findings shared will also expand on existing literature of Indigenous institutions as expressions of self-determination, introducing the utility of values to build Indigenous institutional capacity.

Fantasia Painter
President's Postdoctoral Fellow
History, UC Davis

Safety and Security on Indigenous Land in the US-Mexico Borderlands: United States v. Warren

In the 1990's, the Pima County Medical Examiner received on average 15-20 human remains per year that they believed to be undocumented border crossers. In the year 2000, that number jumped to 74. From 2002 through the end of 2017, they received on average about 164 per year. Scholars have traced the increased mortality at the United States-Mexico border to the 1994 Border Patrol policy, "Prevention through Deterrence," through which the United States increased border enforcement personnel and measures in major cities along the United States-Mexico border in an attempt to force border crossers to more hostile landscapes. What often goes unnoticed or unsaid is Indigenous land is the necessary precondition of this policy. In this paper, I explore how the Sonoran Desert in southern Arizona (which includes Pima county) is a place variously made, imagined, negotiated, and experienced. Depending on the observer, it appears as a place of transit, a natural border, or a "land of open graves." To the O'odham (Indigenous peoples) it is a homeland. Drawing from archival and ethnographic research at and following *U.S. v. Scott Warren* (2019), a case in which a white humanitarian aid worker stood trial for harboring two undocumented border crossers, I discover how O'odham land has been rendered into a weapon of the state, and I argue that U.S policy and practice works to craft O'odham land into a no-man's land, one where nobody (including the O'odham) is allowed to belong. I conclude, through various border enforcement policies and practices (including Prevention Through Deterrence) O'odham land is being incorporated into a familiar mechanism where the settler-colonial nation-state seeks to obscure the violence inherent in its existence.

Silvia Rodriguez Vega
Chancellor's Postdoctoral Fellow
Chicana and Chicano Studies, UC Santa Barbara

Caged Childhoods
Immigrant Children: Resilience and Coping with HeART

Based on ten years of work with immigrant children in two different border states—Arizona and California— *Caged Childhoods* gives readers a glimpse into the lives of immigrant children and their families. Through an analysis of 300 children’s drawings, theater performances, and family interviews this work provides accounts of children’s challenges with deportation and family separation during two different political moments. Using traditional qualitative methods and artistic interventions, this book illuminates the impact of detention and deportation by highlighting how anti-immigrant policies and family-separation tactics were weaponized against immigrant families and children under *both* the Obama and Trump Administrations.

Overview: During my time in Arizona, I worked with children in South Phoenix at a local after-school community center and elementary school. Then in South Central Los Angeles, specifically in the City of Watts, I taught a 6th grade theater class for newly arrived students. Through theater, drawing, photography, storytelling and journaling, children in both states presented creative, out-of-the-box, and powerful solutions to the dilemmas that anti-immigrant rhetoric presents. Most of children’s solutions and ideas were humorous in nature. However, in all the humor and satire there was a constant theme of violence, dehumanization, and death that children in both states confronted in their everyday lives. In this book, I expose the way children’s lives intersect with the law because of their parent’s legal status. I find that through art, children demonstrate a righteous indignation that mirrors societal violence, dehumanization, and death as tools for navigating a racist anti-immigrant society. However, this book also illuminates that through a praxis of art and healing, children learn to respond to legal violence by developing personal agency, embodying new solutions in theater, and drawing new alternatives.

Jessica López-Espino
President's Postdoctoral Fellow
Criminology, Law and Society, UC Irvine

Finding Excuses, Determining Risk: Latinx Parent Experiences in a California Child Welfare Court

The perception that children face possible risks in the care of low-income and racialized parents is common in the United States and has historically justified state sanctioned removals of children from Black and Indigenous communities. In a California county where Spanish-dominant Latinx parents make up more than half of the open child welfare cases, their experiences navigating the requirements of child welfare courts to maintain or regain custody of their children reflect a continuation of a historical perception of risk in non-white and socioeconomically marginalized communities. Drawing on 18 months of fieldwork observing the cases and interactions of 40 parents with attorneys, judges, social workers, and other court staff, I analyze how these professional actors assign labels of deficiency to Latinx parents through dismissals of parents' narratives as "excuses" that position them as perpetual risks to their own children. This work examines the interactional and structural possibilities for parents to be heard and considered equitably in child welfare courts and the ways in which legal professionals' seemingly innocuous comments about parents' speech practices and "culture" reproduce racialized ideologies of Latinx deficiency in legal settings.

Ashwak Hauter
President's Postdoctoral Fellow
Psychology, UC Irvine

Physicians or Prophets?: Affinity and Alghayb in the Hospital

This paper examines the role of affinity, drawing on Goethe's *Elective Affinities*, in binding and unbinding patients and physicians. It recalls the recent phenomena of the murder of physicians in Jordan and Yemen, and rise in altercations in Saudi Arabi between physicians and patients and their family, examining the role of affinity in the treatment of patients and their potentiality to incorporate the physician alongside the medication. It begins by examining the auto-erotics of the patient-physician relationship and transference at play in hospitals and clinics which physicians find themselves subject to their patients' desires, physical assaults, supplications, and threat of divine damnation. Even though physicians lay claim to the prophetic traditions' figuration of the physician as an instrument of the divine, there is a desire for them to secure holistic well-being (*'afiya*). In turn, physicians claim to be prophets and reintroduce the Islamic theological concept of *alghayb*(unknown/unseen) in order to counter the demand of patients for them to deliver the biomedical fantasy of the cure and knowledge as always potentially knowable. This paper wrestles with the discourses that structure the clinical encounter within my fieldsites, which are both driven and halted by the presence of the unknown and unseen, undoing the binaries of care and neglect, cure and violence, and power and oppression.