

## Biological Sciences

- **Carolyn Marie Phillips:** The Phillips lab is seeking a highly motivated and creative individual to join us in investigating the mechanisms of RNA silencing in the nematode, *Caenorhabditis elegans*. Our primary goal is to understand the role of endogenous siRNAs in the regulation of gene expression and maintenance of genome integrity. We use genetics, cell biology, next-generation sequencing, and biochemical techniques to decipher these questions. Ongoing research includes identification and characterization of novel regulators of the RNA silencing pathway, molecular and biochemical characterization of key proteins such as the Argonaute proteins, and high-resolution microscopy to probe the subcellular localization and biophysical properties of RNA silencing complexes. Incoming postdoctoral fellows will be encouraged to develop their own research projects within the general interests of the lab that ultimately could form the foundation of an independent research position. The Phillips lab is currently funded by NIH, the March of Dimes, and the Pew Charitable Trust. **Required qualifications/experience** The candidate must have a Ph.D. in Biology or related field. Evidence of previous scientific scholarship, specifically the publication of original research articles in high-quality, peer-reviewed journals, is essential. Previous experience with library construction for next-generation sequencing and data analysis is also highly desired. The candidate must be responsible, have strong communication and interpersonal skills and be able to run an independent project. He/she must also be comfortable working in a highly collaborative and open research environment and be willing to assist in the training of undergraduate and graduate students. More information about the lab can be found at <http://dornsife.usc.edu/labs/phillips>.

## Chemistry

- **Oleg Prezhdo (Physical and Theoretical Chemistry)** <http://chem.usc.edu/faculty/Prezhdo.html>

## Craniofacial Molecular Biology

- **Amy Merrill-Brugger (Herman Ostrow School of Dentistry, Center for Craniofacial Molecular Biology | Keck School Of Medicine, Biochemistry and Molecular Biology):** My research bridges the clinical and basic sciences to study disease mechanisms of congenital skeletal disorders. We use human genetics as a starting point of discovery to identify the key regulators of skeletal disease. To build on this foundation, we develop disease models using patient-specific cells, mouse genetics, and avian experimental embryology. Using this approach, we have reveal new and unexpected insights into the processes of normal skeletal development. Our work has identified novel mechanisms that regulate skeletal progenitor cell fate, bone patterning, joint formation, and musculoskeletal integration. The long-term goal of our research is to advance

innovative molecular-based therapies for the treatment of rare and common bone diseases alike. We are looking for highly motivated postdoctoral candidates who recently obtained a Ph.D. and have a strong interest in developmental biology. Preference will be given to those that have model organism experience and at least one first-author publication from their graduate work. <http://keck.usc.edu/broadcenter/faculty/Amy-Merrill-Brugger>

## Engineering

- **Nora Ayanian (Computer Science)** <https://www.cs.usc.edu/people/faculty/tenured-tenure-track-faculty/ayanian-nora>
- **Andrea Belz (Technology Innovation and Entrepreneurship):** I am interested in having candidates working on the economics and policy associated with engineering entrepreneurship. We are developing new analytical models to understand the role of public and private investment in engineering innovation. This work is in association with the National Science Foundation Innovation Corps (“I-Corps”) Program and other activities funded by NASA, the Air Force, and the Department of Defense. <http://viterbiinnovation.usc.edu/> and <https://viterbi.usc.edu/directory/faculty/Belz/Andrea>
- **Andrea Hodge (Chemical Engineering and Materials Science):** Hodge Materials Nanotechnology Group <http://ame-www.usc.edu/bio/hodge/> Required: Ph.D. in Mechanical Engineering, Materials Science or Metallurgy | Expertise: Nanomechanics, microscopy, optics, corrosion (any of the four will be ok). The Hodge group is looking for an enthusiastic and motivated researcher with expertise on metals synthesis and testing. A strong experimental background is required. The Hodge group has a variety of projects which include processing-properties relationships. A strong microscopy background is desired and should include SEM ,FIB, EBSD and TEM. Strong writing and presentations skills are preferable.
- **Michael Khoo (Biomedical Engineering)**
- **Krishna Nayak (Signal and Image Processing)** <https://gapp.usc.edu/about/faculty/krishna-s-nayak> We seek a new post-doctoral research associate whose work will be focused on **quantitative MRI methods for myocardial tissue characterization**. Areas of interest include ASL, BOLD, first-pass perfusion imaging, and model-based imaging. This position will involve design, implementation,

and testing of novel imaging methods on clinical scanners, and evaluation in volunteers and patients. Responsibilities will also include mentoring 2-4 PhD students, running a weekly project meeting, managing data collection involving human subjects, and collaborating with Cardiologists and Radiologists at the USC Keck School of Medicine and Children's Hospital Los Angeles. This research is supported by the National Institutes of Health, L.K. Whittier Foundation, and Wright Foundation. <https://mrel.usc.edu/>

- **Krishna Nayak (Signal and Image Processing)** We seek a new post-doctoral research associate whose work will be focused on **real-time MRI of human speech** and upper airway function (e.g., breathing, swallowing). The position involves the design of pulse sequences, image reconstruction methods and novel experiment paradigms, implementation and testing on clinical scanners, and evaluation in adults, children, and patients. Responsibilities will include mentoring 2-4 PhD students, running a weekly project meeting, managing weekly data collection involving human subjects, and collaborating with Electrical Engineers, Linguists, Speech Scientists, and Otolaryngologists. This research is supported by the National Institutes of Health and National Science Foundation. <http://sail.usc.edu/span/index.html> | <https://mrel.usc.edu/> | <http://sail.usc.edu/>
- **Steven Nutt (Chemical Engineering and Materials Science):** Research focuses on processing and manufacture of composites, with emphasis on in situ process diagnostics to understand fundamental physics and mechanisms of defect formation. The research scope encompasses sustainable manufacture of composites, including process efficiency, defect control, process modeling, and recycling/reuse. Postdoc candidates should have a PhD in ME, ChemE, or Materials Science, and have research experience with composite or polymer processing, process modeling, polymer characterization, and/or rheology. <https://gapp.usc.edu/about/faculty/steven-nutt>
- **Timothy Pinkston (Electrical Engineering)** <https://gapp.usc.edu/about/faculty/timothy-pinkston>
- **Francisco Valero-Cuevas (Biomedical Engineering and Biokinesiology and Physical Therapy)**

## Gerontology

- **Berenice A. Benayoun:** The Benayoun laboratory (<http://www.thebenayounlab.com/>) at the USC Leonard Davis School of Gerontology focuses on the study of how aging influences chromatin and gene regulation, and in return, how modulation of the epigenome and transcriptome can influence the aging process. To study this question, we use a unique combination of high-throughput 'omics' approaches, machine-learning, and experimental validation in vertebrate

aging models (e.g. mouse, African turquoise killifish, etc.) and adult stem cells (e.g. neural stem cells). The goal of the lab is to discover novel target genes and pathways playing a fundamental role in healthy and pathological aging, while leveraging the power of big data to directing experimental interventions. The laboratory is seeking a postdoctoral research scholar, a highly skilled and motivated scientist to make leading contributions to cutting edge research in aging biology. Successful candidates should have strong training and publication records, and must be able to learn and work independently, yet collaborate effectively with co-workers within the lab and the school. The ideal candidate will have training in experimental or computational biology and should be interested in becoming comfortable/involved with concepts in both research approaches in the long run. On the experimental end, previous expertise in experimental genomics (e.g. ChIP-seq, RNA-seq, ATAC-seq), single cell approaches and stem cell biology would be highly desirable. On the more computational end, knowledge of genomic analysis techniques (e.g. next-generation sequencing data processing, variant calling, etc.), biostatistics, and machine learning would be welcome. Programming skills in a statistical language (e.g. R) and/or a scripting language (e.g. Perl/Python), and a working knowledge of a unix environment would be a plus. **Essential qualifications:** excellent writing skills geared toward writing scientific papers; passion for the scientific process; strong communication skills; ability to work well with a diverse research team; ability to work efficiently and independently; self-motivation and strong interest in aging research **Ideal qualifications:** experimental genomics (e.g. ChIP-seq, RNA-seq, ATAC-seq); single cell approaches (e.g. 10x genomics, CyTOF); stem cell biology experience; genomic data analysis techniques; basic programming skills (e.g. R, Perl/Python); working knowledge of UNIX/Linux environment

## Health Sciences

- **Lilyana Amezcua (Clinical Neurology)** <http://keck.usc.edu/faculty/lilyana-amezcua/>
- **Sarah Bottjer (Neurobiology)**
- **Julio A. Camarero (Pharmacology and Pharmaceutical Sciences):**  
Web: <http://www.researcherid.com/rid/A-9628-2015>  
Web: <http://pharmacyschool.usc.edu/research/>
- **Daryl L Davies (Clinical Pharmacy):** My lab is focused on drug discovery and development for alcoholism. We also work on other neurodegenerative and neurological diseases included

Parkinson, Alzheimer's and Schizophrenia. . We conduct studies from the molecular through human trials, but most emphasis is on preclinical in-vitro and in vivo studies. We use animal models of disease states, and use genetically modified animals such as knock out animals. Biochemistry is a large part of our studies, but so is electrophysiology. <http://keck.usc.edu/pibbs/faculty/Daryl-L-Davies/>

- **Michael Goran (Preventive Medicine)** The research is in the area of maternal-infant nutrition as it relates to development of obesity and diabetes risk in Hispanics. We have an NIH supported longitudinal study in newborn Hispanics looking at the links between maternal diet, breastmilk composition, early feeding practices and infant microbiome development. We are looking to expand this study to a cohort in Mexico. Skills would include human clinical/translational research experience, epidemiology, infant nutrition and gut microbiome. <http://www.goranlab.com/>
- **Chris Haiman (Preventive Medicine)** <http://uscnorriscancer.usc.edu/about/programleaders/haiman.html>
- **Qing Liu (Center for Regenerative Medicine and Stem Cell Research)** <http://stemcell.usc.edu/qing-liu/>
- **Brett T. Lund (Neurology)** <http://keck.usc.edu/faculty/brett-thomas-lund/>
- **Francesca Mariani (Cell & Neurobiology)** We are seeking highly motivated basic and clinical researchers with a track record of independent study. Our center offers a dynamic and innovative environment to support your research goals. Dr. Mariani's lab studies large-scale bone and cartilage repair in mammals. Post-doctoral projects would include topics surrounding skeletal stem cells, translational approaches to repair bone injuries, stem cell culture, and the immune response. The position will likely involve small animal surgery, DNA/RNA analysis, ATAC-seq, and/or stem cell culture to understand the cellular and molecular mechanisms of large-scale bone repair. More details can be found at <http://marianilab.usc.edu/>
- **Andrew McMahon (Stem Cell Biology and Regenerative Medicine):** Our research is directed towards regenerating and repairing human kidneys using stem cell based systems. The laboratory is funded through NIH and CIRM programs including international consortia: the (Re)Building A Kidney Project and the Genitourinary Developmental Molecular Anatomy Project. We are

looking for researchers with broad expertise and interest in molecular and cellular biology, bioinformatics, tissue culture and stem cell research. <http://mcmahonlab.usc.edu>

- **Brian Nguyen (Clinical Obstetrics and Gynecology)** <http://keck.usc.edu/faculty/brian-t-nguyen/> Drs. Brian Nguyen and Melissa Natavio from the section of Family Planning at USC have partnered with experts in global women's health to form a group of physicians and public health scholars dedicated to addressing disparities in the provision of reproductive health to women in low-resource settings, both domestically and internationally. Based out of LA County Medical Center, an urban safety-net hospital, the group is experienced in addressing the reproductive healthcare needs of Hispanic women. The group has great interest in collaborating with a scholar from Mexico to help engage with the Latina population in Los Angeles—possibly partnering with California Latinas for Reproductive Justice—to uncover reproductive health insights not already uncovered by the team, as well as expanding research efforts to Mexico to investigate differences in care and cultural contexts between Los Angeles and Mexico. The group at USC has also partnered with Dr. Darney, who is an active investigator at the Instituto Nacional de Salud Pública in Mexico. Dr. Darney has grant-funding to examine access to abortion and has offered to provide remote guidance in collaboration with Dr. Nguyen to address barriers to access and provision at the level of the patient as well as the provider.
- **Neil Segil (Stem Cell Biology and Regenerative Medicine):** We study the problem of hearing loss from a developmental cell and molecular biology perspective, with the goal of identifying regenerative medicine approaches to hearing restoration. <http://segillab.usc.edu/>

### Public Policy

- **Gary Painter:** The Sol Price Center for Social Innovation (<https://socialinnovation.usc.edu/>) is accepting applications for a postdoctoral fellowship in social innovation. The fellowship allows scholars to contribute to the literature in social innovation and social policy, sharpen their analytical skills, and advance their research agendas in the field through formal and informal training and extensive collaboration with distinguished researchers. The postdoctoral scholar will help design a common data platform for powering social change in Southern California, evaluate innovative efforts, and develop grant proposals for external funding. The applicant should have strong empirical skills and training in program evaluation. We are looking for scholars from relevant disciplines such as economics, public policy, health policy, statistics, medicine, or other quantitative social science disciplines; experience working with large data sets (e.g., American Community Survey, Panel Study of Income Dynamics, American Housing

Survey); strong oral and written communications skills; the ability to work as part of a team and to meet deadlines. The Price Center develops ideas, practices, and leaders to enhance the quality of life for people in low-income, urban communities. The center focuses primarily on comprehensive community change, however, we consider social innovation in this context broadly, including efforts resulting in dramatic sectoral (e.g. public safety, health, and education) changes that represent footholds to further progress. <https://priceschool.usc.edu/gary-dean-painter/>

### Social Work

- **Hortensia Amaro (Social Work and Preventive Medicine)** <https://sowkweb.usc.edu/faculty/hortensia-amaro>
- **Concepcion Barrio (Social Work)** <https://sowkweb.usc.edu/faculty/concepcion-barrio>
- **Charles Kaplan (Social Work)** <https://sowkweb.usc.edu/faculty/charles-kaplan>
- **Steven R. Lopez (Psychology and Social Work):** The overall goal of our research team is to improve mental health services for underrepresented groups in the United States, particularly Latinos with serious mental illness. The main focus of our research at this time is to reduce the duration of untreated psychosis of Latinos residing in the Los Angeles area. Specifically we are funded by the National Institute of Mental Health to carry out a 3 year community campaign to educate community residents about psychosis. In a single group design with a pre-campaign assessment and a post-campaign assessment we are evaluating whether our campaign reduces individuals' treatment delay to mental health services since the onset of their psychosis. We also are funded by the National Institute of Minority Health and Health Disparities to examine similar topics in Puebla Mexico at a public psychiatric hospital. The focus of the postdoctoral fellow's activities will be here in Los Angeles. There may be a possibility to contribute to the project in Mexico as well, though that would be a secondary focus. We would be interested in a postdoctoral scholar whose research concerns serious mental illness with particular attention to early psychosis and family processes. A strong quantitative background would be a plus as well as an openness to qualitative methods. Individuals fluent in both English and Spanish would be helpful as the postdoctoral scholar would work with data in both languages. Persons interested in an academic career will be given priority over those who are primarily interested in a clinical

practice. <https://dornsife.usc.edu/cf/faculty-and-staff/faculty.cfm?pid=1016606>

**Other participating departments include:**

- **Earth Sciences**
- **History**
- **Neuroscience**
- **Occupational Therapy**
- **Pharmacy**
- **Physics**
- **Physical Therapy**
- **Psychology**
- **Sociology**
- **Spatial Sciences**

Please visit <https://academics.usc.edu/> for faculty listings.