



XAVIER
UNIVERSITY

WILBER ESCORCIA, Ph.D.

ORCID: 0000-0002-2141-0581

PROFESSIONAL EXPERIENCE

Assistant Professor of Biology

2020 – Present

Xavier University (XU), Cincinnati, OH

Biology Department

Courses: BIOL108, BIOL109, BIOL280, BIOL 160, BIOL 161, BIO 231, BIOL 299, BIOL 435, BIOL 498, BIOL 499

- Teach comparative animal lifestyles in Namibia for non-majors (BIOL108/109) and majors (BIOL280) where students carry out comparative, qualitative analyses of environmental factors that contribute to accelerated aging in wild life
- Teach general biology (BIOL 160) for biology majors with emphasis on the process of science and biology principles common to all domains of life
- Teach general biology laboratory (BIOL 161) with focus on analysis, characterization, and evaluation of processes and mechanisms of life
- Teach genetics laboratory (BIOL 231) to provide students with experience in modern molecular genetics and methods of manipulating and studying nucleic acids
- Teach professional communication in the sciences (BIOL 299) to provide life sciences majors with an introduction to professional modes of discourse in the sciences
- Teach molecular genetics of aging (BIOL 435) to introduce students to the concepts of molecular and genetic regulation of aging, longevity, health span and age-related diseases
- Teach methods of biological research (BIOL 498/499) with an emphasis on experimental design, controls, gathering, interpreting, and reporting of data from living organisms
- Use *Caenorhabditis elegans* and fission yeast to research the genetic and molecular links between lipid homeostasis and genome integrity during biological aging
- Mentor and supervise the research work and training as well as the professional development of multiple junior and senior undergraduate students

Instructional Assistant Professor of Gerontology

2020

University of Southern California (USC), Los Angeles, CA

Leonard Davis School of Gerontology

Courses: GERO 440, GERO 200, GERO 315

Teaching Coordinators: Sean P. Curran, Ph.D. and John Walsh, Ph.D.

- Taught biodemography of aging (GERO 440) with focus on current research in the field of healthy aging, the biology of age-related disease, and longevity in demographically distinct populations
- Co-taught principles of gerontology (GERO 200) with emphasis on the biological, psychological, and social processes affecting adult development through lifespan
- Co-taught journey into the brain (GERO 315) with focus on the scientific and clinical investigations employed to gain insight into the workings of the brain during development and aging

Postdoctoral Research Associate

2017 – 2020

University of Southern California (USC), Los Angeles, CA

Leonard Davis School of Gerontology

Research Advisor: Sean P. Curran, Ph.D.

- Using mammalian cell culture and *Caenorhabditis elegans* as well as biochemistry, molecular biology, and cell biology techniques, examined how lipid homeostasis is affected by genomic instability during biological aging



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- Mentored and supervised the research work of a fourth-year Ph.D. student and a senior undergraduate student

Biology Lecturer

2019

University of California Los Angeles (UCLA), Los Angeles, CA

Extension-Health Sciences

Courses: MCD XL 100, LS XL 7A

Teaching Coordinator: Sheila King, M.S.

- Taught principles of cell biology (MCD XL 100) with emphasis on the molecular processes that influence the physiology and development of organisms
- Taught introduction to molecular and cell biology (LS XL 7A) with focus on the biological mechanisms that regulate gene expression, protein transport, cell signaling, and cell metabolism

Biology Lecturer

2017

California State University, Los Angeles (CSULA), Los Angeles, CA

Department of Biological Sciences

Course: BIOL 1010

Teaching Coordinator: Edith Porter, M.D.

- Taught introduction to biology (BIOL 1010) for non-majors with emphasis on the process of science and principles common to all domains of life
- Supervised a graduate assistant and a teaching assistant that instructed the course's lab section

Doctoral Researcher

2010 – 2016

University of Southern California (USC), Los Angeles, CA

Program in Molecular & Computational Biology

Academic & Research Advisor: Susan L. Forsburg, Ph.D.

- Using the yeast *Schizosaccharomyces pombe* as well as genetics, molecular biology, and cell biology techniques, investigated how replication stress contributes to genome instability during meiotic chromosome segregation
- Mentored and supervised the research work and training of a senior undergraduate student

Teaching Assistant

2014 – 2015

University of Southern California (USC), Los Angeles, CA

Department of Biological Sciences

Course: CORE 195L

Teaching Supervisor: Albert Herrera, Ph.D.

- Taught laboratory of body works: human physiology in health and disease (CORE195L) that focused on examining the physiological function and structural anatomy of mammalian organ systems
- Provided practical instruction to students that supplemented theoretical concepts covered in lecture

Teaching Assistant

2014

University of Southern California (USC), Los Angeles, CA

Department of Biological Sciences

Course: BISC 321

Teaching Supervisor: Robert Baker, Ph.D.



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- Led post-lecture discussions of science, technology, and society (BISC321) that focused on strategies to complete the weekly writing assignments of the course
- Provided guidance and mentorship to students regarding difficult scientific concepts covered in lectures

Teaching Assistant

2013

University of Southern California (USC), Los Angeles, CA

Department of Biological Sciences

Course: BISC 322L

Teaching Supervisors: Oscar Aparicio, Ph.D., Irene Chiolo Ph.D., & Robert Baker, Ph.D.

- Taught molecular biology laboratory (BISC 322L) which focused on the application of techniques such as PCR, RT-PCR, Northern and Western blotting techniques to research questions
- Provided practical instruction to students that supplemented theoretical concepts covered in lecture

Undergraduate & Graduate Researcher

2004 – 2010

California State University, Northridge (CSUN), Los Angeles, CA

Department of Biology

Academic & Research Advisor: Michael L. Summers, Ph.D.

- Using microbiology, genetics, and molecular biology techniques examined the physiological adaptations of the photosynthetic bacterium *Nostoc punctiforme* to nutritional stress
- Mentored and supervised the research work and training of a senior undergraduate student

PEER-REVIEWED PUBLICATIONS

“Photo Phenosizer, a rapid machine learning-based method to measure cell dimensions in fission yeast”

MicroPublication Biology (impact factor: 0.80) PMID: 35996688

Martin Vo, Lance Kuo-Esser, Mauricio Dominguez, Hayley Barta, Meghan Graber, Alex Rausenberger, Ryan Miller*, Nathan Sommer*, and **Wilber Escorcía***

2022

“Papaya and pineapple juices facilitate rehydration of mummified dermal tissue for fingerprint capture”

Journal of Forensic Sciences (impact factor: 1.832) PMID: 34613621

Fidel Fernandez, Neehar Thumaty, Cailin R. Climer, and **Wilber Escorcía**

2022

“Comprehensive Genetic Analysis of DGAT2 Mutations and Gene Expression Patterns in Human Cancers”

Biology (Basel) (impact factor: 5.01) PMID: 34439946

Meghan Graber, Hayley Barta, Ryan Wood, Amrit Pappula, Martin Vo, Ruben C. Petreaca*, and **Wilber Escorcía***

2021

“Maf1 regulates intracellular lipid homeostasis in response to DNA damage response activation”

Molecular Biology of the Cell (impact factor: 4.138) PMID: 33788576

Amy Hammerquist, **Wilber Escorcía***, and Sean P. Curran*

2021

“A visual atlas of meiotic protein dynamics in living fission yeast”

Open Biology (impact factor: 6.41) PMID: 33622106

Wilber Escorcía*, Vishnu Tripathi*, Ji-Ping Yuan, and Susan L. Forsburg

2021

“Examination of mitotic and meiotic nuclear dynamics in fission yeast by live-cell imaging”

Journal of Visualized Experiments (impact factor 1.355) PMID: 31282894



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Wilber Escorcía, Kuo-Fang Shen, Ji-Ping Yuan, and Susan L. Forsburg. **2019**

“Quantification of lipid abundance and evaluation of lipid distribution in *Caenorhabditis Elegans* by Nile Red and Oil Red O staining”

Journal of Visualized Experiments (impact factor 1.355) PMID: 29553519

Wilber Escorcía, Dana L. Ruter, James Nhan, and Sean P. Curran **2018**

“Destabilization of the replication fork protection complex disrupts meiotic chromosome segregation”

Molecular Biology of the Cell (impact factor 4.138) PMID: 28855376

Wilber Escorcía and Susan L. Forsburg **2017**

BOOK CHAPTERS

“Tetrad dissection in fission yeast”

Methods in Molecular Biology PMID: 29423857

Wilber Escorcía and Susan L. Forsburg **2018**

“Random spore analysis in fission yeast”

Methods in Molecular Biology PMID: 29423858

Wilber Escorcía and Susan L. Forsburg **2018**

RESEARCH MANUSCRIPTS IN PREPARATION

“Mutations in human cancers that affect components of the ribosome quality control pathway”

To be submitted to *Cancers (Basel)* (impact factor: 6.639)

Martin Vo, Kennedy Kuchinski, Julia Driggers, Sam Burek, Rene A. Bouley,

Ruben C. Petreaca*, and **Wilber Escorcía*** **2023**

“Survey of recurrent cancer mutations in clinically relevant liver enzyme genes”

To be submitted to *Biology (Basel)* (Impact factor: 5.168)

Kennedy Kuchinski, Tommy Scandura, Ramon Chen, Heidi Arth, and **Wilber Escorcía** **2023**

“SREBP1 mutational disruptions in human cancers and insights from functional alteration to Sre1 in fission yeast”

To be submitted to *G3* (impact factor: 3.154)

Kennedy Kuchinski#, Hayley Barta#, Mauricio Dominguez, Maryam Khzir, Julia Driggers,

Sam Burek, Rene A. Bouley, Ruben C. Petreaca*, and **Wilber Escorcía*** **2022**

MEETING ABSTRACTS

“Analysis of DGAT2 mutations reveals potential links between cancer and lipid droplet deregulation”

Meghan Graber, Hayley Barta, and **Wilber Escorcía**

2021

Poster presented by lab members at *The Gerontological Society of America 2021 Annual Scientific Meeting*, Phoenix, AZ

“Do intracellular lipid levels in mammalian cells change in response to DNA damage?”

Wilber Escorcía and Sean P. Curran

2017

Poster presented at the *2017 Inaugural Lifespan Health Summit* at the University of



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Southern California, Los Angeles, CA

“Destabilization of the replication fork protection complex is associated with meiotic defects”
Wilber Escorcía and Susan L. Forsburg **2016**
Poster presented at the *Meiosis Gordon Research Conference*, New London, NH

“Destabilization of the replication fork protection complex is associated with meiotic defects”
Wilber Escorcía and Susan L. Forsburg **2015**
Poster presented at the *Cold Spring Harbor Laboratory Eukaryotic DNA replication & Genome Maintenance Conference*, Cold Spring Harbor, NY

“Is response to alkylation damage linked to meiotic recombination?”
Wilber Escorcía and Susan L. Forsburg **2013**
Poster presented at the *FASEB Genetic Recombination & Genome Rearrangements Conference*, Steamboat Springs, CO

“The role of four response regulators in Nostoc punctiforme’s akinete differentiation”
Wilber Escorcía and Michael L. Summers **2010**
Poster presented at the *22nd CSU Biotechnology Symposium*, San Jose, CA

“The role of four response regulators in cyanobacterial akinete differentiation”
Wilber Escorcía and Michael L. Summers **2009**
Talk presented at the *11th Annual Sigma Xi Research Society-California State University, Northridge Chapter Research Symposium* (1st place), Northridge, CA

“Are genes in the OmpR family involved in cyanobacterial akinete differentiation?”
Wilber Escorcía and Michael L. Summers **2008**
Poster presented at the *20th CSU Biotechnology Symposium*, Oakland, CA

INVITED CONFERENCE TALKS

“Lipid regulation by Dga1, Cut6, and Sre1 contribute to the genotoxic stress response in fission yeast”
Mauricio Dominguez, Meghan Graber, Hayley Barta, Alex Rausenberger, Maryam Khzir, Sam Burek,
and **Wilber Escorcía** **2022**
Talk presented by Wilber Escorcía at the *The Gerontological Society of America 2022 Annual Scientific Meeting*, Indianapolis, IN

“Contribution of the replication fork protection complex to genome integrity in fission yeast meiosis”
Wilber Escorcía and Susan L. Forsburg **2016**
Talk presented at the *2016 Southern California Genome Stability Symposium* at the Scripps Research Institute, La Jolla, CA

“Destabilization of the replication fork protection complex is associated with meiotic defects”
Wilber Escorcía and Susan L. Forsburg **2016**
Talk presented at the *Meiosis Gordon Research Seminar*, New London, NH

WORKSHOPS

“You chose to study science – Now what?”
Wilber Escorcía, Matt B. Taylor, and Jordan Eboreime

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The Science Hacker Seminar given to the Genetics Club & AMSA Club at California State University, Northridge, Northridge, CA **2015**

“You chose to study science – Now what?”

Wilber Escorcía, Matt B. Taylor, and Jordan Eboreime

The Science Hacker Seminar given to the STEM program at Los Angeles Mission College, Sylmar, CA **2015**

SERVICE TO THE PROFESSION

Reviewer

Wiley Online Library, Hoboken, NJ

Forensic Sciences and Microbiology Research

- Provided quality assessment, constructive feedback, and merit deliberations for research work submitted by peers for publication

2021-Present

Reviewer

Frontiers Media, Laussane, Switzerland

Genetics and Genetics of Aging Research

- Provided quality assessment, constructive feedback, and merit deliberations for research work submitted by peers for publication

2021-Present

Equity Advisor

Xavier University Biology Department, Cincinnati, OH

Tenure-Track Principal Faculty Hiring Committee

- Acted as an advocate for equitable and inclusive practices during discussions for The hiring of two principal faculty members

2021-2022

Chair of Judging Panel

California Science & Engineering Fair, Los Angeles, CA

Senior Biochemistry and Molecular Biology Division

- Acted as science fair judge, coordinated project evaluations, and facilitated judging panel deliberations

2021

Chair of Judging Panel

California Science & Engineering Fair, Los Angeles, CA

Junior Toxicology Division

- Acted as science fair judge, coordinated project evaluations, and facilitated judging panel deliberations

2015, 2017

Grand Awards Judge

INTEL International Science and Engineering Fair, Los Angeles, CA

Microbiology, Cellular and Molecular Biology Categories

- Interviewed student researchers, evaluated their work, and chose winning projects

2014, 2017

Judge

California Science & Engineering Fair, Los Angeles, CA

Senior Microbiology Division

- Interviewed student researchers, evaluated their work, and chose winning projects

2012, 2016



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Chair of Judging Panel

California Science & Engineering Fair, Los Angeles, CA
Senior Microbiology Division

2014

- Acted as science fair judge, coordinated project evaluations, and facilitated judging panel deliberations

EDUCATION

University of Southern California (USC), Los Angeles, CA
Program in Molecular & Computational Biology

Ph.D. in Molecular Biology

Thesis: "Destabilization of the replication fork protection complex is associated with meiotic defects in fission yeast"

2016

California State University, Northridge (CSUN), Los Angeles, CA
Department of Biology

M.S. in Biology

with Distinction

Thesis: "Characterization of four response regulator genes in *Nostoc punctiforme*"

2010

California State University, Northridge (CSUN), Los Angeles, CA
Department of Biology

B.A. in Biology

Magna cum laude

2006

HONORS & AWARDS

Ruth L. Kirschstein National Postdoctoral Research Service Award (institutional grant),
USC Leonard Davis School of Gerontology

2019

GSA Mentoring & Career Development Travel & Conference Grant,
The Gerontological Society of America

2018

FASEB Conference Travel Grant, *Federation of American Societies for Experimental Biology*

2013

USC-GSG Conference Travel Grant, *USC Dornsife College*

2013

Dana and David Dornsife College EDGE-SBE Conference Travel Grant,
USC Dornsife College

2013

Dana and David Dornsife College Doctoral Fellowship, *USC Dornsife College*

2010 – 2015

Graduate Thesis Support Grant, *CSUN*

2008 – 2010

Peter Bellinger Student Research Award, *CSUN Biology Department*

2008 – 2010

SSC/EOP Outstanding Graduating Senior Award, *CSUN*

2006

James Russell Simpson Merit Scholarship, *CSUN*

2005 – 2006

Ellen and Federico Jimenez Scholarship, *Mexican American Legal Defense Fund*

2003 – 2004

George and Mimi Michaelis Scholarship, *CSUN-Hollywood High School*

2002 – 2006

The Fulfillment Fund College Scholarship, *The Fulfillment Fund*

2002 – 2006

LANGUAGES

Spanish – Native speaker and Read/Write with high proficiency

English – Speak fluently and Read/Write with high proficiency



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COMPUTER SKILLS

Canvas – Proficient
Moodle – Proficient
Blackboard – Familiar
MS Office Suite – Proficient
ImageJ – Proficient
GraphPad Prism – Proficient
R – Familiar

INTERESTS

Reading non-fiction: mostly, behavioral economics, biographies, & history books
Writing poems in Spanish & observational essays in English
Drawing microbes & things I see under the microscope
Playing the ukulele
Listening and dancing to cumbia music
Playing with my dachshund dog Lucy to ground myself at home
Going for a walk with my wife and furry daughter