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## PERSONAL INFORMATION

Name: Constanza J. Cortes Rodriguez, Ph.D.  
Citizenship: Chilean (US Permanent Resident)  
Foreign Languages: Fully fluent in Spanish

## RANK/TITLE

Assistant Professor  
Leonard Davis School of Gerontology, University of Southern California  
Business Address: 3715 McClintock Avenue, Los Angeles, CA 90089  
Phone: not disclosed  
Email: [constanza.cortes@usc.edu](mailto:constanza.cortes@usc.edu)

## HOSPITAL AND OTHER (NON ACADEMIC) APPOINTMENTS

None

## PROFESSIONAL CONSULTANTSHIPS

Stride Bio

## EDUCATION

<i>Institution</i>	<i>Degree</i>	<i>Year</i>
Pontifical Catholic University of Chile	B.Sc. Biology	2005
University of Chicago	Ph.D	2010

## POSTDOCTORAL TRAINING

2010 – 2016          University of California San Diego

## ACADEMIC APPOINTMENTS

2023 – present	Assistant Professor	Leonard Davis School of Gerontology, University of Southern California
2020 – 2022	Associate Scientist	Comprehensive Neuroscience Center, University of Alabama at Birmingham
2020 – 2022	Associate Scientist	Neurodegeneration and Experimental Therapeutics (CNET), Neurology, University of Alabama at Birmingham
2020 – 2022	Associate Scientist	Evelyn F. McKnight Brain Institute, Neurology, University of Alabama at Birmingham
2019 – 2022	Assistant Professor	Department of Department of Cell, Developmental and Integrative Biology, University of Alabama at Birmingham

2019 – 2022	Assistant Professor (Joint)	Neurobiology, University of Alabama at Birmingham
2019 – 2022	Assistant Professor (Joint)	Molecular and Cellular Pathology, University of Alabama at Birmingham
2019 – 2022	Faculty	UAB Graduate School
2017 – 2019	Research Assistant Professor (non-tenure track)	Department of Neurology, Duke University
2016 – 2017	Assistant Project Scientist	Department of Pediatrics, University of California San Diego

## **AWARDS/HONORS:**

### **Teaching/Mentoring Awards**

2022	Chan Zuckerberg Initiative (CZI) Science Diversity Leadership Award, Honorable Mention
2021 - 2022	UAB DEI Ambassador
2021	UAB Beckman Scholar Mentor (UAB Application)
2021	UAB Mental Health Champion, Finalist
2007	Best Teacher's Assistant, Biological Sciences Division, University of Chicago

### **Research Awards**

2021	NIH Training in Neurotherapeutics Discovery and Development for Academic Scientists
2019	AFAR/Glen Foundation New Investigator in Alzheimer's Disease
2019	27 <sup>th</sup> Annual Summer Training Course in Experimental Aging Research (Oklahoma City)
2017	Society for Neuroscience Annual Meeting Hot Topic, (Washington D.C.)
2017	National Institutes of Aging (NIA) Butler-Williams Scholar (Bethesda, MA)
2016	Best Young Investigator, Alternative Muscle Club 2016 Meeting (La Jolla, CA)
2016	Breakout Topic, Society for Muscle 2016 Meeting: 'Molecular Mechanisms Modulating Skeletal Muscle Development and Homeostasis in Health and Disease'
2016	Best Poster, Gordon Research Conference 'Autophagy in Stress and Disease', (CA)

- 2014 Best Poster, Alternative Muscle Club 2014 Meeting, SCRM/UCSD, (La Jolla, CA)
- 2013 Best Poster, Gordon Research Conference CAG Triplet Repeat Disorders (NH)
- 2011 Best Doctoral Dissertation in Cell Physiology, Harry Ginsburg Memorial Prize in Physiology, University of Chicago Division of Biological Sciences.

**Conference Travel Awards**

- 2019 American Federation for Aging Research, 32nd Annual Paul F. Glenn Conference on Aging Research Travel Award (Santa Barbara, CA)
- 2018 Junior Faculty Travel Award, American Aging Association Annual Meeting (PA)
- 2018 Keystone Symposia Early Career Investigator Travel Award, Keystone Advances in Neurodegenerative Disease Research and Therapy (Keystone, CO)
- 2018 American Federation for Aging Research, 31st Annual Paul F. Glenn Conference on Aging Research Travel Award (Santa Barbara, CA)
- 2016 National Institute on Aging Travel Scholarship, Keystone Meeting ‘Epigenetic and Metabolic Regulation of Aging and Aging-Related Diseases’, (New Mexico, USA)

**Career Development Awards**

- 2019 Early Career Women Faculty Leadership Development Seminar (Association of American Medical Colleges, AAMC)
- 2018 Academic Development, Advocacy, Networking, Coaching and Education for Underrepresented Populations – ADVANCE-UP (Duke School of Medicine)
- 2018 Leadership Development for Researchers – LEADER (Duke School of Medicine)

**PROFESSIONAL SOCIETIES**

Society for Neuroscience  
 Gerontological Society of America  
 American Aging Association

**COUNCILS AND COMMITTEES**

**University of Southern California Professional Service**

- 2023 Co-Chair, LDS School of Gerontology Diversity, Equity and Inclusion (DEI) Committee

**National Professional Service**

- 2017 Reviewer, Crohn’s and Colitis Foundation

- 2018 *Ad hoc* reviewer, NIH Cellular and Molecular Biology of Neurodegeneration (CMND) Study Section
- 2020 – present Advisor, American Federation for Aging Research National Scientific Advisory Council (NSAC)
- 2021 Reviewer, Society for Neuroscience, Neuroscience Scholars Program (NSP) Selection Committee
- 2021, 2022 Reviewer, Florida Department of Health Ed and Ethel Moore Alzheimer's Disease Research Program
- 2022 Reviewer, COBRE Review and Downselect, Center for Biomedical Research Excellence in Cellular and Molecular Neuro-resilience, University of Nevada, Reno
- 2022 Reviewer, National Institute on Aging Special Emphasis Panel/Scientific Review Group ZAG1 ZIJ-P (A1)
- 2022 Reviewer, University of Pittsburgh Claude D. Pepper Center Pilot Grant Applications
- 2022 – present American Aging Association (AGE) Board of Directors, Member
- 2022 – present Nathan Shock Centers Communications Committee, Member
- 2022 Reviewer, NIA Special Emphasis Panel/Scientific Review Group ZRG1 AN-B (02) S
- 2023 Reviewer, National Science Foundation Graduate Research Fellowship Program (Neurosciences 2)
- 2023 Reviewer, National Institute on Aging Special Emphasis Panel (P01 projects) ZAG1 ZIJ-I (M3)
- 2023 Reviewer, Alzheimer's Association Research Fellowships (AARF and AARF-D) (June 2023) and Fellowship Review Committee
- 2023 Reviewer, National Institute on Aging Special Emphasis Panel ZRG1 ASG-B (90)
- 2023 – 2027 Standing Member, NIA Aging Systems and Geriatrics Study Section (ASG), Brain Disorders and Clinical Neuroscience Integrated Review Group (BDCN)

### **International Professional Service**

- 2018, 2020 Grant Reviewer, Spinal Muscular Atrophy (SMA) Europe
- 2019 – 2022 Grant Reviewer, Fondazione Telethon

2023 – present Grant Reviewer, Alzheimer's Association Research Fellowships

2024 Grant Reviewer, Swiss National Science Foundation

## **UNIVERSITY ACTIVITIES**

### *University of Southern California*

2023 – Member, Excellence in GEMSTEM Mentoring Group (GMG), NIH R25 Gerontology Enriching MSTEM program

2023 – Preceptor, NIH R38 USC (Stimulating Access to Research in Residency) Starr program , National Heart, Lung, and Blood Institutes

2023 Reviewer, USC Keck School of Medicine MD/PhD Applicants

2023 Reviewer, USC Neuroscience Graduate PhD Program Applicants

2024 Member, USC Geroscience (Biology of Aging) PhD Program Committee

2024 Mentor, NIA R25 Neurocognitive Aging and Analytics Research Education (NAARE)

### *University of Alabama at Birmingham*

2020 UAB Postdoctoral Research Day Judge

2020 UAB CNET Retreat Poster Judge

2020 GRD709 Mock Study Section – Grant Reviewer and Panelist

2020 GBS Research Symposium Oral Presentation Judge CMDB/CANB Session

2020 UAB Neuroscience Roadmap Scholar Poster Judge

2020 – Co-Leader, UAB Center for Exercise Medicine Pre-Clinical Exercise Modeling

2020 – 2021 UAB CDIB Committee on Diversity and Inclusion in Biomedical Research

2020 – 2021 UAB CDIB Developmental Biology 2020 Faculty Search Committee

2020 – 2021 UAB CCTS Scientific Support Team

2020 – 2022 UAB T32 Interdisciplinary Training in Pathobiology and Rehabilitation Medicine, Mentor

2021 UAB Roadmap Scholars Assistant Professor School

2021 UAB Faculty Search Committee Department of Psychiatry and Behavioral Neurobiology

2021 UAB Neuroscience Roadmap Scholars Internal Advisory Board

2021 – 2022 UAB Neuroscience Roadmap Scholars, Associate Director for Academic Development

2021 – 2022 UAB T32 Training Program in Neurodegeneration, Mentor

2021 – 2022 UAB T32 Training Program in Cell, Molecular and Developmental Biology, Mentor

2021 – 2022 UAB T32 Training Program in Cell, Molecular and Developmental Biology, Associate Director of Career Development

2022 UAB Comprehensive Neuroscience Center GRants in Preparation (GRIP) reviewer

### *Duke University*

2018 – 2019 Committee on Diversity and Inclusion, Duke Department of Neurology

2018 – 2019 Duke University David M. Rubenstein Spotlight

## EDITORIAL BOARD MEMBERSHIPS

2018 – Journal of Neuroscience Research

*Manuscript reviewer for:* Acta Neuropathologica, Scientific Reports, Journal of Visual Experimentation, Journal of Neuroscience Research, CNS Drugs, Autophagy, Journal of Gerontology: Biological Sciences, Frontiers in Aging, Frontiers in Neuroscience, Alzheimer's & Dementia: Translational Research & Clinical Interventions, Journal of Cellular Biochemistry, Journal of Applied Physiology, Frontiers in Molecular Neuroscience, Communications Biology, Geroscience, Heliyon, Hippocampus, Trends in Neuroscience

## MAJOR RESEARCH INTERESTS

Peripheral contributions to brain aging and age-associated neurodegenerative diseases, focusing on the neuroprotective role of exercise signaling

## TEACHING EXPERIENCE

<b>Years Taught</b>	<b>Position/Course Title</b>	<b>Contact Hours</b>
2007	Graduate Teaching Assistant, General Cell Biology, University of Chicago Biological Sciences	10 weeks, 2 hrs/week <i>Class Size:</i> 24 students
2008 – 2010	Research mentor, Laboratory of Dr. James A. Mastrianni, University of Chicago Designed projects for and mentored two junior graduate students.	
2010 – 2017	Research mentor, Laboratory of Dr. Albert La Spada, UC San Diego. Designed projects for and mentored junior researchers, including high school, undergraduate, graduate students and junior postdocs.	
2020	Lecturer, UAB GBS700 – Molecular Neurodegeneration (Fall) 'Tau Biology and Human Tauopathies'	1 lecture, 2 hrs <i>Class Size:</i> 9 students
2021 , 2022	Lecturer, UAB GBS748/752 – Intro to Pathobiology (Spring) 'Pathobiology of Aging'	1 lecture, 2 hrs <i>Class Size:</i> 7 students
2021 , 2022	Lecturer, UAB MSTP793 – Basic Research Forum (Summer) 'Molecular Hallmarks of Aging'	1 lecture, 2 hrs <i>Class Size:</i> 7-9 students
2021 , 2022	Course Director, UAB GBS 746J – UCEM Exercise Medicine Journal Club	10 weeks, 1.5 hrs/week <i>Class Size:</i> 9-13 students
2021 , 2022	Lecturer, UAB UASOM MSK-Skin module - Skeletal Muscle Physiology	1 lecture, 2 hrs <i>Class Size:</i> 27-22 students
2021	Course Director, UAB NBL723 Experimental Design Workshop	6 weeks, 1 hrs/week <i>Class Size:</i> 3 students
2022	Course Director, UAB NBL789 Critical Thinking Workshop	8 weeks, 1 hrs/week <i>Class Size:</i> 3 students

2022	Founding Course Director, UAB GBS 746-VTC SpTp: 'Biology of Aging'	10 weeks, 3 hrs/week <i>Class Size:</i> 9 students
2023	Lecturer, GERO 600 Geroscience: Molecular and Cellular Biology of Aging, 'Exercise and Aging'	1 lecture, 2 hrs <i>Class Size:</i> 7 students
2023	Lecturer, INTD 500, 'Ethics and Accountability in Biomedical Research'	3 lectures, 1 hr/week <i>Class Size:</i> 8 students
2024	Founding Course Director, GER412L: Exercise and Aging: Principles and Mechanisms	15 weeks, 3 hrs/week <i>Class Size:</i> 10 students

**Trainees:**

(\*denotes URM/HE identity) Only current trainee awards are displayed

Undergraduates

- 2012 – 2014 Linda Ly, Undergraduate Student, University of California San Diego
- 2013 – 2015 \* Amy Le, Undergraduate Student, University of California San Diego
- 2014 – 2015 Iris Chang, Undergraduate Student, University of California San Diego
- 2014 – 2016 Jonathan Han, Undergraduate Student, University of California San Diego
- 2014 – 2015 Phrashant Bhat, Post-bac Student, University of California Berkeley
- 2015 Matthew Bernard, Summer Student, University of Washington
- 2016 – 2017 \* Heather Tucker, Undergraduate Student, University of California San Diego
- 2017 – 2019 Ketty Bai, Undergraduate Student, Duke University
- 2018 – 2019 \* Victoria Coaxum, Undergraduate Student, Duke University
- 2018 – 2019 Ashley Kim, Undergraduate Student, Duke University
- 2019 \* Julia Ziaee, Undergraduate Student, Duke University
- 2020 \* Binisha Patel, Undergraduate Student, Duke University
- 2020 – 2021 \* Keyshla Negron, PREP Scholar, UAB
- 2020 – 2022 \* Arica (Macy) Banks, Undergraduate Student, UAB
- 2021 \* Lindsey DeHaro, SPIN Summer Program, UAB
- 2021 – 2022 Megan McGraw, Undergraduate Student, UAB (Sci Tech Honors)
- 2021 – 2022 Anna Wilson, Undergraduate Student, UAB
- 2023 – Amy Huang, Human Biology Undergraduate Student, USC
- USC Fall 2023 Provost's Research Fellowship (PURF) awardee
  - Poster presenter, 1st Annual Geroscience Los Angeles Meeting (GLAM)
- 2023 – \* Kailin Liu, Quantitative Biology Undergraduate Student, USC
- Poster presenter, 1st Annual Geroscience Los Angeles Meeting (GLAM)
  - USC Winter 2024 Provost's Research Fellowship (PURF) awardee
- 2023 – Eleanor Liu, Biochemistry Undergraduate Student, USC
- Flashtalk speaker, 1st Annual Geroscience Los Angeles Meeting (GLAM)
  - USC Winter 2024 Provost's Research Fellowship (PURF) awardee
- 2024 – \*Janeel Calzaretta, Cognitive Neuroscience Undergraduate Student, USC

- 2024 – \* Mia Hakian, Human Biology Undergraduate Student, USC  
 2024 – \* Tiara Joseph, Quantitative Biology Undergraduate Student, USC

Masters Graduate Students

2020 – 2022 \* Dalton Patterson, MS/MBS Student, Multidisciplinary Biomedical Science Masters, UAB

PhD Graduate Students

2020 – Ian Matthews, PhD Student, Biology of Aging Program, UAB-USC  
 2020 – 2022 Kristen Coutinho, PhD Student, Genetics, Genomics and Bioinformatics, UAB

Postdoctoral Fellows

2020 – Allison Birnbaum, PhD, Postdoctoral Fellow, UAB/USC

**DISSERTATION/THESIS COMMITTEE MEMBER**

At USC

A. Coakley PhD Student, USC Biology of Aging Graduate Program  
 W. Nguyen PhD Student, USC PIBBS-DSR program  
 D. Luu PhD Student, USC Neuroscience Graduate Program  
 M. Averbukh PhD Student, USC Biology of Aging Graduate Program

At UAB

H. Kim MD/PhD Student, UAB Neuroscience Graduate Theme  
 T. Soelter PhD Student, UAB Genetics, Genomics and Bioinformatics Graduate Theme  
 J. Whitlock PhD Student, UAB Genetics, Genomics and Bioinformatics Graduate Theme  
 K. Brown MS Student, UAB Multidisciplinary Biomedical Science Masters  
 A. Swaroop PhD Student, UAB Cell, Molecular and Developmental Biology Graduate Theme  
 K. English PhD Student, UAB Cell, Molecular and Developmental Biology Graduate Theme  
 A. Weber PhD Student, UAB Neurosciences Graduate Theme  
 O. Akinduro MD/PhD Student, UAB Biology Graduate Program  
 M. Barkley PhD Student, UAB Cell, Molecular and Developmental Biology Graduate Theme  
 A. Samani PhD Student, UAB Cancer Biology Theme

**MAJOR LECTURES AND INVITED PROFESSORSHIPS**

**Invited Departmental/Center Seminars**

- 2020 UAB Integrated Center for Aging Research ‘Enhanced Skeletal Muscle Proteostasis as a Determinant of CNS Aging and Alzheimer’s Disease’
- 2020 UAB Center for Neuroexperimental Therapeutics Annual Retreat ‘Enhanced Skeletal Muscle Proteostasis as a Determinant of CNS Aging and Alzheimer’s Disease’ 2021 ‘Geroprotection on the Treadmill: Exercise and the Aging Brain’ UAB Center for Exercise Medicine Fall Retreat
- 2022 UAB Nathan Shock Center Seminar Series ‘Geroprotection on the Treadmill: Exercise, CNS Aging and Alzheimer’s Disease’
- 2023, USC Alzheimer’s Disease Research Center Research and Education Component (ADRC REC), ‘Neuroprotection on the Treadmill: Exercise, Brain Aging and Alzheimer’s Disease’



### **Invited Oral Presentations at Other Universities/Institutions**

- 2016. The Jackson Laboratory ‘Skeletal Muscle Control of Systemic Metabolism and Disease’
- 2017. Genentech, Department of Neuroscience, Enhanced Skeletal Muscle Proteostasis as a Determinant of CNS Function’
- 2019. University of West Virginia, Department of Neuroscience Seminar Series ‘Enhanced Skeletal Muscle Proteostasis as a Determinant of CNS Function’
- 2019. UT Health Sciences Center at Houston, McGovern Medical School, Department of Neurobiology and Anatomy ‘Enhanced Skeletal Muscle Proteostasis as a Determinant of CNS Function, Aging and Disease’
- 2019. State University of New York (SUNY) Stony Brook, Department of Neurobiology and Behavior, ‘Enhanced Skeletal Muscle Proteostasis as a Novel Regulator of CNS Aging and Disease’,
- 2020 Albany Medical College, Department of Neuroscience and Experimental Therapeutics (DNET) (*cancelled due to covid 19*) ‘Enhanced Skeletal Muscle Proteostasis as a Novel Regulator of CNS Aging and Disease’
- 2021. Yale University, Division of Molecular Psychiatry Biological Science Training Program ‘Exercise-associated Pathways as Novel Neuroprotectants Against CNS Aging and Alzheimer’s Disease’
- 2021. Babraham Institute (UK) Seminar Series ‘Exercise-associated Neuroprotective Pathways in CNS Aging and Alzheimer’s Disease’
- 2021. Oakwood University, Chemistry Seminar Series ‘Exercise-associated Pathways as Novel Neuroprotectants Against CNS Aging and Alzheimer’s Disease’
- 2021. Case Western University School of Medicine, Department of Genetics ‘Exercise-associated Pathways as Novel Neuroprotectants Against CNS Aging and Alzheimer’s Disease’
- 2021. University of Missouri, Dept of Nutrition and Exercise Physiology ‘Geroprotection on the Treadmill: Exercise, CNS Aging and Alzheimer’s Disease’
- 2021. Massachusetts General Hospital (MGH) Multicultural Alzheimer’s Prevention Program (MAPP) Grand Rounds ‘Exercise-associated Pathways as Novel Neuroprotectants Against CNS Aging and Alzheimer’s Disease’
- 2022. Hudson Alpha Institute for Biotechnology ‘Geroprotection on the Treadmill: Exercise, CNS Aging and Alzheimer’s Disease’
- 2022. University of Pittsburgh Pepper Center of Excellence in Mobility, Balance and Aging Research Seminar Series ‘Geroprotection on the Treadmill: Exercise, CNS Aging and Alzheimer’s Disease’
- 2022. Oskar Fischer Lecture Discussant to celebrate Dr. Bess Frost, The Mulva Clinic for the Neurosciences and Dell Medical School Department of Neurology of The University of Texas at Austin.
- 2022 University of Southern California School of Gerontology, ‘The Muscle to Brain Axis: Exercise, Aging and AD’
- 2023 University of Kansas Medical Center, Cell Biology and Physiology Department, ‘Forgot to Exercise? The Muscle-to-Brain-Axis in Aging and Alzheimer’s Disease’

### **Invited Professional/Career Development Talks**

- 2020. UAB Neuroscience Roadmap Scholars ‘My Journey in Neuroscience so far’
- 2021. California State University San Marcos, Undergraduate Research Training Initiative for Student Enhancement Seminar Speaker ‘My Journey in Neuroscience so far’
- 2021. Oakwood University Chemistry Seminar Series ‘My Journey so far’
- 2022, 2023. University of Texas at Austin Women in Neuroscience ‘My Journey in Neuroscience so far’

## Invited Oral Presentations at National/International Meetings

- 2013. Society for Neuroscience Annual Meeting (San Diego, CA) 'Muscle-specific excision of polyglutamine expanded androgen receptor rescues survival and neuromuscular deficits in a mouse model of X-linked spinal & bulbar muscular atrophy'
- 2015. Gordon Research Conference 'Lysosomal Storage Diseases' (Galveston, TX) 'Polyglutamine-expanded androgen receptor interferes with TFEB to elicit autophagy defects in SBMA'
- 2015. Keystone Symposia: Autophagy (Breckenridge, CO) 'TFEB expression in skeletal muscle enhances autophagy and induces insulin signaling'
- 2016. Gordon Research Conference 'Autophagy in Stress, Development and Disease' (CA) 'Skeletal Muscle Control of Systemic Metabolism: A Role for Transcription Factor E-B (TFEB) Signaling',
- 2016 Keystone Symposia: 'Epigenetic and Metabolic Regulation of Aging and Aging-Related Diseases' (Santa Fe, NM) 'Skeletal Muscle Control of Systemic Metabolism: A Role for Transcription Factor E-B (TFEB) Signaling'
- 2016 Society for Muscle Meeting: 'Molecular Mechanisms Modulating Skeletal Muscle Development and Homeostasis in Health and Disease', (Asilomar, CA) 'Skeletal Muscle Control of Systemic Metabolism: A Role for Transcription Factor E-B (TFEB) Signaling'
- 2017 Keystone Symposia: Diabetes (Keystone, CO) 'Skeletal Muscle Control of Systemic Metabolism: A Role for Transcription Factor E-B (TFEB) Signaling'
- 2017 Society for Neuroscience Annual Meeting, (D.C.) 'Enhanced skeletal muscle proteostasis as a determinant of CNS protein quality control and neural function in the aging brain'
- 2018 American Aging Association Annual Meeting (Philadelphia, PA) 'Enhanced Skeletal Muscle Proteostasis as a Determinant of CNS Aging'
- 2018. Society for Neuroscience Annual Meeting (San Diego, CA) 'Enhanced Skeletal Muscle Proteostasis as a Determinant of CNS Function and Aging'
- 2020. Keystone Symposia: New Insights into the Biology of Exercise (Keystone, CO) 'Enhanced Skeletal Muscle Proteostasis as a Determinant of CNS Aging and Alzheimer's Disease'
- 2020. 15th International Symposium on Neurobiology and Neuroendocrinology of Aging (Bregenz, Austria) 'Enhanced Skeletal Muscle Proteostasis as a Determinant of CNS Aging and Alzheimer's Disease' (*postponed due to covid 19*)
- 2020. Aging Science Talks (Online Symposium. Attendees: >800) 'Enhanced Skeletal Muscle Proteostasis as a Determinant of CNS Aging and Alzheimer's Disease'
- 2020. Alzheimer's Afternoons (Online Symposium. Attendees >350) 'Enhanced Skeletal Muscle Proteostasis as a Determinant of CNS Aging and Alzheimer's Disease'
- 2021. American College of Sports Medicine World Congress on Exercise in Regenerative Medicine (San Francisco, CA) 'Age-Associated Skeletal Muscle Proteostasis Dysfunction in CNS Aging and Alzheimer's Disease'
- 2021 Gerontological Society of America Annual Meeting (San Antonio, TX) 'Exercise-associated Pathways as Novel Neuroprotectants Against CNS Aging and Alzheimer's Disease'
- 2022 Albert Research Institute for White Matter and Cognition (West Palm Beach, FL) 'The Muscle-to-Brain Axis: Exercise, CNS Aging and Alzheimer's Disease'
- 2022. 50th American Aging Association Meeting (San Antonio, TX) 'The Muscle-to-Brain Axis: Exercise, CNS Aging and Alzheimer's Disease'
- 2022. Alzheimer's Association International Conference (San Diego, CA) 'Exercise-Associated Signaling Reduces Tau Accumulation And Neuroinflammation in the P301S MAPT Transgenic Mice'

- 2022, American College of Sports Medicine Integrated Physiology of Exercise (Baltimore, MD) ‘The Muscle-to-Brain Axis: Geroprotection on the Treadmill’
- 2023, International Association of Biomedical Sciences (IABS): New Concepts for the Treatment of Neurodegenerative Diseases (Irvine, CA) ‘Geroprotection on the Treadmill: Exercise, Brain Aging and Alzheimer’s Disease’
- 2024, Keystone Conference Exercise Biology: Signaling, Mechanisms and Benefits (Santa Fe, NM) ‘Neuroprotection on the Treadmill: New Insights into The Muscle-to-Brain Axis’
- 2024, ‘Neurodegeneration & Neurotherapeutics Collaboratory Symposium’, (Irvine, CA) ‘Neuroprotection on the Treadmill: Exercise, Brain Aging and Alzheimer’s Disease’

## GRANT SUPPORT (CURRENT and PAST)

### Active.

**Double Trouble: Lipidomic Remodeling of the Female CNS in Response to Exercise**  
**Anita and William Jeung Estate Pilot Grant** **2024**  
**Role:** PI

**Exercise-Associated Signaling Against CNS Aging and Alzheimer’s Disease** **2023 – 2028**  
 1R01AG077536  
**Role:** PI

**USC-Buck Institute Nathan Shock Center Pilot Award** **2022 - 2023**  
 Geroprotective Effects of Exercise-Associated Factors on Skeletal Muscle Aging  
**Role:** PI

### *Trainee Grants*

**Alzheimer’s Association Research Fellowship (AARF)** **2021 - 2024**  
 To: Dr. Allison Birbaum

**T32 Biology of Aging, Postdoctoral Track** **2023 - 2024**  
 To: Dr. Allison Birbaum

**T32 Biology of Aging, Graduate Student Track** **2023 - 2024**  
 To: Ian Matthews

### Completed.

**Brown Foundation UAB Finalist** **2022**  
**Role:** PI

**NIA RF1AG057264 and NIA 3RF1AG057264 - 03W1 Diversity Supplement** **2017 – 2022**  
**Role:** PI  
 ‘Enhanced skeletal muscle proteostasis as a determinant of CNS protein quality control and neural function in the aging brain’  
**Role:** PI

<b>2021 UAB UCEM/NSC/ADRC Joint Pilot award</b> Role: PI	<b>2021 - 2022</b>
<b>USC-Buck Institute Nathan Shock Center Pilot Award</b> Digital Profiling of Exercise-Associated Plasticity in the Aging Hippocampus Role: PI	<b>2021 - 2022</b>
<b>American Parkinson's Disease Association Research Grant</b> Exercise-mimicking Neuroprotective Pathways in Age-Associated Parkinson's Disease Role: PI	<b>2021 – 2022</b>
<b>UAB 2020 AMC21 1R01 funding</b> Investigating Age-Associated Skeletal Muscle Proteostasis Dysfunction in Alzheimer's Disease Role: PI	<b>2020 – 2022</b>
<b>NHGRI Alzheimer's Disease Supplement 3R00HG009678-04S1</b> 'Integrating multidimensional genomic data to discover clinically-relevant predictive models-Alzheimer's Supplement Role: I (PI: B. Lasseigne)	<b>2021 – 2022</b>
<b>R03 AG063215</b> Enhanced Skeletal Muscle Proteostasis as a Modulator of Alzheimer's Disease Role: PI	<b>2019-2021</b>
<b>UAB Nanostring Neuroscience Award</b> Enhanced Skeletal Muscle Proteostasis Delays Alzheimer's Disease Pathogenesis. Role: PI	<b>2020</b>
<b>UAB Integrated Center for Aging Research 2020 Pilot</b> 'Enhanced Skeletal Muscle Proteostasis as a Novel Exercise Mimetic Maintaining Stem Cell Resilience in the Aging CNS' Role: PI	<b>2020 – 2021</b>
<b>Einstein Nathan Shock Center Pilot Project Award (delayed due to covid19)</b> This pilot project allowed heterochronic parabiosis experiments to determine any neuroprotective role of muscle-secreted factors against brain aging. Role: PI	<b>2019 – 2020</b>
<b>Nathan Shock Center San Antonio Pilot Project Award</b> 'Skeletal muscle TFEB signaling: a novel role in systemic aging and metabolism' Role: PI	<b>2018 – 2019</b>
<b>University of Washington's Nathan Shock Center of Excellence in the Basic Biology of Aging Pilot Study &amp; Junior Faculty Support</b> This pilot project supported data collection using the Proteomics and Metabolomics cores at UW, identifying biomarker changes after enhancing skeletal muscle proteostasis in aging mice. Role: PI	<b>2017 – 2018</b>

## Kennedy's Disease Association Research Award

2015 – 2016

The goal of this project is to characterize the Androgen Receptor (AR)-Transcription Factor E-B(TFEB) interactome, as to identify the regulators of mutant AR inhibition on TFEB activity.

Role: PI

## Muscular Dystrophy Association (MDA) Postdoctoral Development Grant 273985 2013 – 2016

This project sought to determine the role of dysfunctional autophagy in SBMA disease pathogenesis, and explore possible transcription Factor E-B (TFEB) targeting therapies for motor neuron disease.

Role: PI

## BIBLIOGRAPHY

### PEER- REVIEWED MANUSCRIPTS

#### Manuscripts Already Published

1. **Cortes CJ**, Codelia VA, Manosalva I, de Lange J, De Los Reyes M, Moreno RD. Proacrosin/acrosin quantification as an indicator of acrosomal integrity in fresh and frozen dog spermatozoa. *Anim Reprod Sci*, 2006. 93(1-2): p. 165-75. PMID: 16169165
2. Codelia, V.A., **C.J. Cortes**, and R.D. Moreno, Inhibition of the vacuolar H(+)-pump with bafilomycin A1 does not induce acrosome reaction or activate proacrosin in mouse spermatozoa. *Biochem Biophys Res Commun*, 2005. 337(4): p. 1337-44. PMID: 16236270
3. Retamal, M.A., **C.J. Cortes**, M.V.L. Bennett, J.C. Saez, S-nitrosylation and permeation through connexin 43 hemichannels in astrocytes: induction by oxidant stress and reversal by reducing agents. *Proc Natl Acad Sci U S A*, 2006. 103(12): p. 4475-80. PMID: 16537412
4. Tunnell, E., Wollman R, Mallik S, **Cortes CJ**, Dearmond SJ, Mastrianni JA., A novel PRNP-P105S mutation associated with atypical prion disease and a rare PrPSc conformation. *Neurology*, 2008. 71(18): p. 1431-8. PMID: 18955686
5. **Cortes CJ**, Quin K, Cook J, Solanki A, Mastrianni JA., Rapamycin Delays Disease Onset and Prevents PrP Plaque Deposition in a Mouse Model of Gertsmann-Sträussler-Scheinker disease. *J Neurosci*. 2012 Sep 5;32(36):12396-405 PMID: 22956830 (**Featured Article**)
6. **Cortes CJ**, Quin K, Norstrom EM, Green WN, Bindokas VP, Mastrianni JA., Early Delivery of Misfolded PrP from ER to Lysosomes by Autophagy *Int J Cell Biol*. 2013;2013:560421 PMID: 24454378
7. **CJ Cortes**, SC Li, GT Ling, Hung G, T Tsunemi, Ly L<sup>#</sup>, S Tokunaga, E Lopez, BL Sopher, CF Bennet, GD Shelton, DW Cleveland & AR La Spada. Muscle expression of mutant Androgen Receptor accounts for systemic and motor neuron disease phenotypes in Spinal and Bulbar Muscular Atrophy. *Neuron* 82, 295–307, April 16, 2014 PMID: 24742458 (**Featured Article**) (<sup>#</sup>: trainee mentored)
8. Lieberman AP, Yu Z, Murray S, Peralta R, Low A, Guo S, Yu X, **Cortes CJ**, Bennett F, Monia BP, La Spada AR, Hung G. Peripheral Androgen Receptor Gene Suppression Rescues Disease in Mouse Models of Spinal and Bulbar Muscular Atrophy *Cell Reports* 7, 1–11, May 8, 2014 PMID: 24746732
9. **Cortes CJ**, La Spada AR. Motor neuron degeneration in spinal and Bulbar Muscular Atrophy is a skeletal muscle-driven process: Relevance to therapy development and implications for related motor neuron diseases. *Rare Dis*. 2014 Oct 30;2(1):e962402. PMID: 26942099
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Pre-prints:

none currently

**Science Reviews.**

1. **Cortes CJ** and La Spada AR, "The many faces of autophagy dysfunction in Huntington's disease: From mechanism to therapy" *Drug Discov Today*. 2014 Mar 13. pii: S1359-6446(14)00076-2. doi: 10.1016/j.drudis.2014.02.014. PMID: 24632005
2. **Cortes CJ** and La Spada AR, "Autophagy in polyglutamine disease: Imposing order on disorder or contributing to the chaos?" *Mol Cell Neurosci*. 2015 Mar 11. pii: S1044-7431(15)00039-1. doi: 10.1016/j.mcn.2015.03.010 PMID: 25771431
3. **Cortes CJ** and La Spada AR, "TFEB dysregulation as a driver of autophagy dysfunction in neurodegenerative disease: Molecular mechanisms, cellular processes, and emerging therapeutic opportunities" *Neurobiol Dis*. 2018 May 28. pii: S0969-9961(18)30150-5. doi: 10.1016/j.nbd.2018.05.012. PMID: 29852219
4. Wang SY, **Cortes CJ**. Interactions with PDZ proteins diversify voltage-gated calcium channel signaling *J Neurosci Res*. 2020 Jun 1. doi: 10.1002/jnr.24650. PMID: 32476168
5. Gupta R., Khan R., **Cortes CJ**, Forgot to Exercise? Skeletal Muscle-Associated Neuroprotective Pathways in Alzheimer's Disease *Front Neurol*. 2021 Jun 30;12:649452. doi: 10.3389/fneur.2021.649452. eCollection 2021. PMID: 34276532
6. Hernandez AR, Hoffman JM, Hernandez CM, **Cortes CJ**, Jumbo-Lucioni P, Baxter MG, Esser KA, Liu AC, McMahan LL, Bizon JL, Burke SN, Buford TW, Carter CS. Reuniting the Body "Neck Up and Neck Down" to Understand Cognitive Aging: The Nexus of Geroscience and Neuroscience. *J Gerontol A Biol Sci Med Sci*. 2022 Jan 7;77(1):e1-e9. doi: 10.1093/gerona/glab215. PMID: 34309630

7. **Cortes CJ**, De Miguel Z, Exercise Medicine: Sex Specific Differences in Immune and CNS Responses to Physical Activity, Brain Plasticity, vol. Pre-press, no. Pre-press, pp. 1-13, 2022 DOI: 10.3233/BPL-220139

### Editorials.

1. Systemic implications of Alzheimer's disease. **Cortes CJ**, Thyfault JP, Wilkins HM. Front Aging Neurosci. 2023 May 23;15:1219987. doi: 10.3389/fnagi.2023.1219987. eCollection 2023. PMID: 37287872
2. **Cortes CJ**. Women in neuroscience special issue: Pandemic edition. J Neurosci Res. 2021 Jan;99(1):5-6. doi: 10.1002/jnr.24726. Epub 2020 Sep 13. PMID: 32924227

### Book Chapters.

1. X-linked spinal and bulbar muscular atrophy: From clinical genetic features and molecular pathology to mechanisms underlying disease toxicity **Constanza J. Cortes** and Albert R. La Spada (Adv Exp Med Biol. 2018;1049:103-133. doi: 10.1007/978-3-319-71779-1\_5.) PMID: 29427100

### SYMPOSIA/CONFERENCE ORGANIZATION

**American Aging Association 2024 AGE 52nd Annual Meeting** **2023 - 2024**  
**Co-Organizer and Session Chair:** Neurodegeneration and Brain Aging

**77th Annual Gerontological Society of America (GSA) Meeting (2022)** **2022**  
**Co-Organizer and Session Chair**  
 Proteostasis Symposium

**National Enhancement of UnderRepresented Academic Leaders (NEURAL) Annual Meeting**  
**Co-organizer** **2021, 2022**  
 Roadmap Scholars Program, UAB

**South Eastern Neurodegenerative Disease Conference (SENDCon)**  
<https://www.alz.org/sendcon/overview.asp> (rescheduled due to COVID-19) **2021 (2022)**  
**Co-organizer, Professional Day Committee**

**Aging Science Talks Symposium, 'Exercise and Aging: Geroprotection on the Treadmill'**  
**Organizer and Session Chair** **2021**  
 Seminar series focusing on exercise interventions against aging, including senior speakers and rising stars. Selected and introduced speakers, run Q&A session (98 attendees).

**2020 New Investigator in Alzheimer's Disease Meeting** **2020**  
**Co-organizer**  
 In collaboration with AFAR and the Glenn Foundation, this meeting brings together all current and past awardees for the R03 NIA/AFAR funding initiative, promotes scientific collaborations, networking and career advancement for investigators new to the field of Alzheimer's Disease.

**Alternative Muscle Club 2017 Meeting** **2017**  
**Co-Organizer and Session Chair**

Creator of the Diversity in Muscle Research Jean Hansen Award, successfully obtained conference grant awards from the American Society for Cell Biology and the Company of Biologists, obtained extensive additional funding from private donors and foundations, selected speakers, directed junior trainees  
<http://amcsd.ucsd.edu/2017/index.html>

**UC San Diego Chalk Talk Series**

2017

**Co-organizer**

Seminar series with faculty presenters explaining successful approaches for academic chalk talks. Postdocs interested in academia practiced their chalk talks in front of an audience of their peers

**CONTINUING EDUCATION AND CERTIFICATIONS**

Pathways in Scientific Teaching Certification, UC San Diego Office of Research Affairs. 2017

*Instructor:* Dr. Diane Ebert-May, Michigan State University

Leadership and Teamwork Certificate Program (UC San Diego Extension) 2016– 2017

Ethics in Scientific Research Certificate (UC San Diego Research Ethics Department) 2012

San Diego Lab Management Symposium Certification (Torrey Pines Mesa Consortium) 2012