

Curriculum Vitae

Anne Brunet, PhD

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Education

1992 BS, Biology, *summa cum laude*, Ecole Normale Supérieure (France)
1992–1997 PhD, Biology, University of Nice (France)
1998–2003 Post-doctoral training, Harvard Medical School

Professional Experience

09/1992–12/1997 Graduate student, Jacques Pouysségur's laboratory, University of Nice (France)
01/1998–12/2003 Post-doctoral fellow, Michael Greenberg's laboratory, Harvard Medical School
02/2004–02/2011 Assistant Professor of Genetics, Stanford University
02/2011–12/2014 Associate Professor of Genetics, Stanford University
12/2014–present Professor of Genetics, Stanford University
01/2011–01/2023 co-Director of the Glenn Center for the Biology of Aging at Stanford
2023–present Director of the Glenn Center for the Biology of Aging at Stanford
2015-present Michele and Timothy Barakett Professor of Genetics, Stanford University

Honors and Awards

1992 *Summa cum laude*, Ecole Normale Supérieure
1993–1997 Pre-doctoral fellowship, Ecole Normale Supérieure
1993 EMBO Short-Term Fellowship
1997 EMBO Long-Term Post-Doctoral Fellowship
1998–2000 Human Frontier Science Program Post-Doctoral Fellowship
2000 Medical Foundation Post-Doctoral Fellowship
2000–2002 Goldenson-Berenberg Post-Doctoral Fellowship, Harvard Medical School
2003 Radcliffe Institute for Advanced Studies Fellowship
2003 Lacaze-Policart Lacassagne Prize (French Academy of Science)
2005 Pfizer/AFAR Innovation in Aging Research Award
2005 Klingenstein Award in the Neurosciences
2005 Ellison Medical Foundation New Scholar Award (awarded)
2005 Damon Runyon Scholar Award (awarded)
2006 Sloan Research Fellowship
2006 Brain Tumor Foundation Award
2007 Glenn Award for Research in Biological Mechanisms of Aging
2007 McCormick Award for Women in Science
2008 California Institute of Regenerative Medicine New Faculty Award
2009 NARSAD Young Investigator Award
2009 Ellison Medical Foundation Senior Scholar Award

2010	Mentoring Award from the Stanford University Post-doctoral Association
2012	Vincent Cristofalo Rising Star Award in Aging Research
2012	NIH Director Pioneer Award
2014	Bennett J. Cohen Award for Research in Aging
2015	Michele and Timothy Barakett Endowed Professorship
2018	NIH Director Transformative Research Award
2022	Chan Zuckerberg Biohub Investigator
2022	FNIH Lurie Prize in Biomedical Sciences
2023	NOMIS Distinguished Scientist and Scholar Award
2025	Elected member, the American Academy of Arts and Sciences
2025	NIH Director Pioneer Award

Keynote and Named Lectures

2013	Koshland Lecture, UC Berkeley
2014	Bennett J. Cohen Lecture – University of Michigan
2015	World Economic Forum, Davos, Switzerland
2017	Keynote Lecture - Strategic Conference of Zebrafish Investigators, Pacific Grove
2017	Keynote Lecture - EMBO Conference - Advances in Stem Cells and Regenerative Medicine, Heidelberg, Germany
2017	Sager Lecture - Marine Biological Laboratory Friday Evening Lecture, Woods Hole
2018	Keynote Lecture - University of Wisconsin-Madison – Aging, Metabolism, Stress, Pathogenesis and Small RNAs in <i>C. elegans</i>
2018	Keynote Lecture - Society for the Study of Reproductions – Pathways to Discovery: Signals for Reproduction, Development and Longevity, New Orleans
2018	Keynote Lecture – Biology of Time – Exciting Biologies, Phoenix
2021	Keynote Lecture – Harvard Stem Cell Institute, Cambridge, MA
2021	Named Lecture – NIH Florence Mahoney Lecture on Aging, Bethesda, MD
2021	Keynote Lecture – EMBO EMBL Symposium – Metabolism Meets Epigenetics, Heidelberg, Germany
2022	Keynote Lecture – UCSF Developmental and Stem Cell Biology Retreat, Santa Cruz, CA
2023	Keynote Lecture – Keystone Symposia Joint Meetings - Mitochondrial Dysfunction: From Ultra-Rare Diseases to Aging; and Molecular Basis of Healthy Aging, Breckenridge, CO
2023	Keynote Lecture - Gordon Research Conference – Evolving Concepts of Organismal Aging, Barcelona, Spain
2023	Keynote Lecture – Kern Lipid Conference – Lipids in Aging, Lifespan and Aging-associated Diseases, Vail, CO
2023	Keynote Lecture – Yale University – Yale Center for Research on Aging Symposium, New Haven, CT
2024	Named Lecture – Harvard Joslin Diabetes Center – Ray and Robert Kroc Lectureship on Diabetes, Boston, MA
2024	Keynote Lecture – (Virtual) University of Washington Nathan Shock Center of Excellence in Basic Biology of Aging, Seattle, WA

2024	Keynote Lecture – FASEB Science Research Conference – Transcription, Chromatin, Epigenetics in Aging, Melbourne, FL
2024	Keynote Lecture – Chan Zuckerberg Biohub SF Inter-lab Confab, San Francisco, CA
2025	Keynote Lecture – Keystone Symposia – Aging: New Frontiers in Rejuvenation and Gerotherapeutics, Breckenridge, CO
2025	Keynote Lecture – Fox Chase Cancer Center – Cancer Epigenetics Institute Symposium, Philadelphia, PA
2025	Keynote Lecture – Gordon Research Conference – Stress Proteins in Growth, Development and Disease, Newry, ME

Advisory Panels and Boards

2007-present	American Federation for Aging Research (AFAR) Reviewing Committee
2011-2013	Ellison Medical Foundation Reviewing Committee
2010-2012	NIH Program Project Ad Hoc Reviewer
2012-2015	NIH Study Section (CMAD) - Permanent Member
2015-2016	NIH Study Section (CMAD) - Chair
2011-2016	Member of <i>Faculty of 1000</i>
2020-2021	External Advisory Board, T32 UC Berkeley
2011-2022	Editorial Board, <i>Longevity & Healthspan</i>
2012-2022	Editorial Board, <i>Aging Cell</i>
2015-2023	Editorial Board, <i>Cell Reports</i>
2009-present	Editorial Board, <i>Aging</i>
2017-present	Editorial Board, <i>Genes & Development</i>
2020-2023	Editorial Board, <i>Cell Stem Cell</i>
2020-present	External Advisory Board, Nathan Shock Center, University of Washington
2020-present	External Advisory Board (<u>Chair</u>), Salk's AHA/Allen Center for Aging and Alzheimer's Disease
2022-present	Scientific Advisory Board, Calico Life Sciences
2023-present	Scientific Advisory Board, IHU HealthAge
2023-present	Scientific Advisory Board, MBL Biology of Aging Course
2024	NIH Study Section Special Emphasis Panel
2025	NIH DP2 Review Panel

National and International Meeting Organization

2013-2023	Bay Area Aging Meeting at Stanford
2013	NIH Geroscience Summit – Epigenetics and aging session
2014	Cold Spring Harbor Laboratory Meeting – PTEN Pathway and Targets
2015	Les Treilles Foundation – Aging and metabolism
2015	International Society for Stem Cell Research committee
2016	Keystone Symposium – Epigenetics and Metabolic Regulation of Aging
2016	Cell Symposium – Metabolism and Aging
2016	Cold Spring Harbor Laboratory Meeting – PI3K/mTOR/PTEN Network
2018	Keystone Symposium – Cancer Epigenetics: New Mechanisms, New Therapies
2018	FASEB – Transcription, Chromatin, and Epigenetics
2018	Cell Symposia – Aging and Metabolism
2018	Cold Spring Harbor Laboratory Meeting – Nutrient Signaling
2022	FASEB – Transcription, Chromatin and Epigenetics in Aging Meeting
2026	Keystone Symposia – Immune Function and Organ Health

2026 Ascona Meeting – Neurogenesis from development to adulthood in health and disease

Invited Lectures

2004

2004 Upstate Cell Signaling Symposium. Dundee, Scotland
2004 Cell Press Symposium, Aging and Human Disease Meeting. Italy
2004 Stowers Institute for Medical Research. Kansas City, MO

2005

2005 Kavli Institute for Theoretical Physics Symposium, Networks in Growth, Death, and Aging. Santa Barbara, CA
2005 University of Texas South Western. Dallas, TX

2006

2006 Cold Spring Harbor Meeting, PTEN pathways. Cold Spring Harbor, NY
2006 ASBMB meeting. San Francisco, CA
2006 CNIO Cancer Conference, PTEN and the AKT route. Madrid, Spain
2006 Gordon Conference, Phosphorylation and G-protein mediated signaling networks. Biddeford, Me
2006 20th IUBMB International Congress of Biochemistry and Molecular Biology and 11th FAOBMB Congress. Kyoto, Japan
2006 Steiner Foundation Meeting. Brunnen, Switzerland
2006 Cold Spring Harbor Laboratory. Cold Spring Harbor, NY
2006 University of California Irvine. Irvine, CA
2006 University of California, San Diego. San Diego, CA

2007

2007 Keystone Symposium, Cell Signaling and Proteomics. Steamboat Spring, CA
2007 American Association for Cancer Research Annual Meeting. Los Angeles, CA
2007 Xth International Symposium on Insulin Receptors and Insulin Action. Stockholm, Sweden
2007 The New York Academy of Science, The PI3K-PTEN-AKT-TOR Signaling Pathway in Cancer, Metabolism, and Aging. New-York, NY
2007 FASEB Summer Research Conference, Obesity, Energy Balance and Disease. Indian Wells, CA
2007 The 4th Key Symposium, The Biology of Ageing. Stockholm, Sweden
2007 Buck Institute Symposium, Nutrient Signaling and Aging. Novato, CA

2008

2008 Keystone Symposium, Metabolic Pathways of Longevity. Copper Mountain, CO
2008 American Diabetes Association. San Francisco, CA
2008 International Symposium on Olfaction and Taste. San Francisco, CA
2008 California Institute of Regenerative Medicine Annual Meeting. San Francisco, CA
2008 Cold Spring Harbor Meeting on the Genetics of Aging. Cold Spring Harbor, NY
2008 Harvard/California meeting on Stem Cell Biology. Los Angeles, CA

2008 San Antonio Nathan Shock Aging Center Conference on Aging. Bandera, TX
2008 University of Utah. Salt Lake City, UT
2008 Buck Institute for Age Research. Novato, CA
2008 Massachusetts General Hospital, Harvard Medical School. Boston, 2009
Gordon Research Conference, Biology of Aging. Ventura, CA

2009

2009 Gordon Research Conference, Signal Transduction within the Nucleus. Ventura, CA
2009 Keystone Symposium, PI3-kinase signaling in disease. Olympic Valley, CA
2009 Banbury Meeting, Molecular Biology of Sirtuins. The Banbury Center, NY
2009 Brown University '09 Colloquium. Brown University, RI
2009 American Aging Association, 38th Annual Meeting. Scottsdale, AZ
2009 CNIO Cancer Conference, The Energy of Cancer. Madrid, Spain
2009 Buck Institute Symposium, Systems Biology of Aging. Novato, CA
2008 Rockefeller Institute. New-York City, NY
2009 Gladstone Institute. San Francisco, CA
2009 Harvard Medical School, Department of Pathology. Boston, MA
2009 Duke University. Durham, NC
2009 University of Cologne, Germany

2010

2010 Cellular Stress and Aging Symposium. University of North Carolina, NC
2010 Keystone Symposium, New Insights into Healthspan and Diseases of Aging. Tahoe City, CA
2010 Cold Spring Harbor Meeting, PTEN Pathways and Targets. Cold Spring Harbor, NY
2010 Signaling and Cellular Regulation Symposium, University of Boulder, CO
2010 Paul Glenn Symposium, Biology of Aging, Santa Barbara, CA
2010 Keynote Speaker, Signaling Quebec 2010, Canada
2010 Ellison Medical Foundation Annual Meeting, Woods Hole, MA
2010 Gordon Conference on Aging, Les Diablerets, Switzerland
2010 AMPK: Central Regulatory System in Metabolism & Growth, FASEB Conference, Kyoto, Japan
2010 Cancer Metabolism, Barcelona Biomed Conference, Spain
2010 Symposium Nijmegen, The Netherlands
2010 Glenn Symposium, Salk Institute
2010 University of Strasbourg, France
2010 University of Utrecht, The Netherlands
2010 National Cancer Institute. Amsterdam, The Netherlands
2010 UC Irvine, CA
2010 Burnham Institute, CA
2010 Curie Institute, Paris, France
2010 University of Pennsylvania, Philadelphia, PA

2011

2011 Genome, Cancer & Ageing Symposium, 3rd Monaco Age Oncology
2011 The forefront of therapeutic approaches to Neurodegeneration: Age modifiers, proteostasis, and stem cells, The Bahamas

2011 Gordon Conference, Oxidative Stress & Disease, Ventura, CA
2011 Gordon Conference, Signal Transduction within the nucleus, Ventura, CA
2011 Keynote Speaker at the Retreat for MD Anderson, TX
2011 French American Biotechnology Symposium, Approaches of Aging, San Francisco, CA
2011 3rd Else Kröner-Fresenius Symposium on Molecular Mechanisms of Stem Cell Aging, Germany
2011 The 24th Sigrid Juselius Symposium on post-translational modification networks as survival determinant, Espoo, Finland
2011 The Paul F. Glenn Symposium on Aging, Boston, MA
2011 FASEB Summer Research Conference, Epigenetics, Chromatin & Transcription, Snowmass, CO
2011 Gordon Conference, Epigenetics, Easton, MA
2011 Stem Cells in Development and Disease, Berlin, Germany
2011 Rostock Symposium on System Biology and Bioinformatics in Ageing Research, Rostock, Germany
2011 Symposium on Genetics of Aging and Life History, Pohang, Korea
2011 EMBO Molecular Medicine Conference on Molecular Insights for innovative therapies, Heidelberg, Germany
2011 Gladstone, UCSF, San Francisco, CA
2011 Stowers Institute for Medical Research, Kansas City, MO
2011 Washington University, St-Louis, MO
2011 University of Washington, Seattle, WA
2011 Harvard Medical School, Childrens Hospital, Boston, MA
2011 University of California, Berkeley, CA
2011 University of California, San Francisco, CA
2011 University of Southern California, Los Angeles, CA
2011 University of San Antonio, San Antonio, TX

2012

2012 Keystone Symposium, Stem Cells, Squaw Valley, CA
2012 Keystone Symposium, Organ Regeneration, Breckenridge, CO
2012 Spector Prize lecture Symposium, Columbia University, NY
2012 Cell Press LabLinks meeting on Neural Stem Cells, San Francisco, CA
2012 ASBMB meeting, San Diego, CA
2012 AGE meeting, Fort Worth, TX
2012 Meeting Fondation Les Treilles, France
2012 Wilsede Meeting, Wildsede, Germany
2012 Cold Spring Harbor Meeting on the Genetic and Molecular mechanisms of aging, Cold Spring Harbor, NY
2012 9th Nestlé International Nutrition Symposium, Lausanne, Switzerland
2012 Keystone Symposia Aging and Disease of Aging, Tokyo, Japan
2012 Stem Cells and Metabolism Abcam, La Jolla, CA
2012 Weill Cornell Medical School, New-York, NY
2012 Sloan Kettering, New-York, NY
2012 Gurdon Institute, Cambridge, UK
2012 Babraham Institute, Cambridge, UK
2012 Joslin Diabetes Center, Boston, MA

2013

2013 Council Meeting, NIA, Washington, DC

2013 Epigenetic Symposium, University of Pennsylvania, Philadelphia, PA
 2013 Miami 2013 Winter Symposium, Miami, FL
 2013 Keystone Symposia Stem Cell Regulation in Homeostasis and Disease, Banff, Canada
 2013 Keystone Symposia Epigenetic Marks and Cancer, Santa Fe, NM
 2013 NCI Symposium Epigenetics in Development, Bethesda, MD
 2013 First Cologne Aging Conference, Cologne, Germany
 2013 V Else Kröner-Fresenius Symposium Adult Stem Cell in Aging, Wartburg, Germany
 2013 25th Pezcoller Symposium, Metabolism and Tumorigenesis, Trento, Italy
 2013 Gordon Conference Developmental Biology, Lucca, Italy
 2013 Ellison Medical Foundation Symposium, Woods Hole, MA
 2013 Gordon Conference on Aging, Lucca, Italy
 2013 14th Annual Skirball Symposium, Metabolism – from molecules to behavior, New-York, NY
 2013 JB Little Symposium – Harvard School of Public Health, Boston, MA
 2013 Advances in Geroscience: Impact on healthspan and chronic diseases, NIH, Bethesda, MD
 2013 Abcam meeting – Chromatin Structure and function, Grand Cayman Island
 2013 Cold Spring Harbor Laboratories, Cold Spring Harbor, NY
 2013 Columbia University, NY
 2013 MIT, Boston, MA
 2013 Brandeis, Boston, MA
 2013 Pasteur Institute, Paris, France
 2013 Koshland Lecture, UC Berkeley, CA
 2013 Albert Einstein College of Medicine, NY

2014
 2014 Keystone Meeting – Tumor metabolism, Whistler, Canada
 2014 Cold Spring Harbor Meeting PTEN, Cold Spring Harbor, NY
 2014 Keystone Meeting – Epigenetic Programming and Inheritance, MA
 2014 Yale University, New Haven, CT
 2014 Cornell University, Ithaca, NY
 2014 Gordon Conference Meeting – Phosphorylation and G-protein mediated signaling network, Biddeford, ME
 2014 Beatson International Cancer Conference, Scotland
 2014 EMBL meeting metabolism, Heidelberg, Germany
 2014 University of Michigan, Ann Arbor, MI
 2014 University of California at San Diego, San Diego, CA
 2014 University of Utah, Salt Lake City, UT

2015
 2015 Aging Symposium, Burnham Institute, San Diego, CA
 2015 World Economic Forum, Davos, Switzerland
 2015 Fusion Conference – Intervention in Aging, Cancun, Mexico
 2015 Gordon Conference – Stem Cells and Cancer, Ventura, CA
 2015 Les Treilles Symposium – Physiology, Les Treilles, France
 2015 EMBO Workshop on Developmental Circuits in Aging, Heraklion, Crete
 2015 Cold Spring Harbor Meeting, 21st Century Genetics – Genes at Work, NY

2015 Les Treilles Symposium – The Role of Metabolism in Ageing and Ageing Related Disease, Les Treilles, France
2015 Gordon Conference - Developmental Biology, South Hadley, MA
2015 FASEB–Transcription, Chromatin, and Epigenetics, West Palm Beach, FL
2015 Gordon Conference - Biology of Aging, Newry, ME
2015 Cold Spring Harbor Meeting - Mitochondria and Cancer, NY
2015 Cold Spring Harbor Asia - Molecular Basis of Aging and Disease, China
2015 Janelia Conference – Behavioral Epigenetics, Ashburn, VA
2015 Stanford Neuroscience Institute Symposium, Stanford, CA
2015 ABCAM – Epigenetics, Obesity and Metabolism, Cambridge, UK
2015 Jacques Monod Conference – Comparative Biology of Aging, France
2015 UCSF, San Francisco, CA
2015 University of Colorado, Aurora, CO
2015 ABCAM – Chromatin: Structure and Function 2015, Grand Cayman Island

2016

2016 Stem Cell Symposium - Seattle, WA
2016 Keystone Symposium – Noncoding RNAs in Health and Disease, NM
2016 Keystone Symposium – Chromatin regulation in cancer, Whistler, Canada
2016 Development Symposium – Chicago, IL
2016 Baylor College of Medicine, Houston, TX
2016 Rockefeller University, New-York, NY
2016 Princeton University, Newark, NJ
2016 UT Southwestern, Dallas, TX
2016 Stowers Institute for Medical Research, Kansas City, MO
2016 Keystone Symposium – Epigenetic and Metabolic Regulation of Aging and Aging-related Diseases, Santa Fe, NM
2016 Department of Cell Biology, Harvard Medical School, Boston, MA
2016 ISSCR Stem Cell meeting, San Francisco, CA
2016 Cell Symposium – Transcriptional Regulation in Development and Disease, Chicago, IL
2016 University of Wisconsin-Madison – Aging, Metabolism, Stress, Pathogenesis and Small RNAs in *C. elegans*, Madison, WI
2016 SDB-ISD International Conference, Boston, MA
2016 EMBL Conference – Transcription and Chromatin, Heidelberg, Germany
2016 Cold Spring Harbor Laboratory – Mechanisms of Aging, NY
2016 Cold Spring Harbor Laboratory – Germ Cells, NY
2016 ITMAT International Symposium, Philadelphia, PA
2016 University of Dundee - Cell Signaling Lecture, Scotland, UK
2016 GSA Pre-Conference Session - A Phylogenetic View of Interventions in Aging, New Orleans, LA
2016 Miami Epigenetics and Cancer Symposium, Miami Beach, FL
2016 NIH Common Fund High-Risk, High-Reward Research Symposium, Bethesda, MD

2017

2017 **Keynote Lecture** - Strategic Conference of Zebrafish Investigators, Pacific Grove, CA
2017 Scripps Florida Symposium – The Biology of Aging, Jupiter, FL

2017 Gordon Research Conference – Stem Cells & Cancer, Lucca, Italy

2017 Fusion Conference – Interventions in Aging, Cancun, Mexico

2017 Sloan Kettering Institute, New York, NY

2017 Yale University School of Medicine, New Haven, Connecticut

2017 Harvard University, T.H. Chan School of Public Health, Boston, MA

2017 Harvard University, Department of Molecular & Cellular Biology, Cambridge, MA

2017 ASBMB Annual Meeting, Chicago, IL

2017 **Keynote Lecture** - EMBO Conference - Advances in Stem Cells and Regenerative Medicine, Heidelberg, Germany

2017 UCSF – DSCB Symposium, San Francisco, CA

2017 Pasteur Institute – Developmental & Stem Cell Biology, Paris, France

2017 Cold Spring Harbor Laboratory – Genome Engineering: The CRISPR/Cas Revolution, Cold Spring Harbor, NY

2017 Marine Biological Laboratory Friday Evening Lecture, Woods Hole, MA

2017 FASEB – Reversible Acetylation on Health and Disease, Big Sky, MT

2017 QB3 Berkeley – Rewriting Genomes, Berkeley, CA

2017 EMBO Meeting – Gene regulatory mechanisms in neural fate decisions, San Juan de Alicante, Spain

2017 Foresight Institute – Atomic Precision for Healthspan and Longevity, Palo Alto, CA

2017 Scripps Research Institute – The TSRI Distinguished Cell and Molecular Biology Lecture Series, La Jolla, CA

2017 Molecular Biology of Ageing Meeting, Groningen, The Netherlands

2017 Chan Zuckerberg Biohub, San Francisco, CA

2017 Broad Institute – Cell Circuit and Epigenomics Seminar, Cambridge, MA

2017 Whitehead Institute Seminar Series, Cambridge, MA

2017 Stanford University – Inflammation, Aging and Chronic Disease Conference, Stanford, CA

2018

2018 Wellcome Genome Campus – Healthy Ageing: From Molecules to Organisms, Hinxton, Cambridge, UK

2018 Keystone Conference – Cancer Epigenetics: New Mechanisms, New Therapies, Breckenridge, CO

2018 Fusion Conference – Neuroepigenetics and Neuroepitranscriptomics, Cancun, Mexico

2018 Genentech, South San Francisco, CA

2018 University of Southern California – Regenerative Medicine and Stem Cell Research, Los Angeles, CA

2018 Buck Student Aging Symposium, Novato, CA

2018 University of Washington – Basic Biology of Aging Seminar, Seattle, WA

2018 Columbia University – Genetics and Development Departmental Seminar, New York, NY

2018 CNIO “La Caixa” Foundation Frontiers Meeting - Molecular, Cellular and Organismal Hallmarks of Aging, Madrid, Spain

2018 Max Planck Institute for Biology of Ageing, Nothobranchius Symposium, Cologne, Germany

- 2018 **Keynote Lecture** - University of Wisconsin-Madison – Aging, Metabolism, Stress, Pathogenesis and Small RNAs in *C. elegans*, Madison, WI
- 2018 RAND Summer Institute, Santa Monica, CA
- 2018 **Keynote Lecture** - Society for the Study of Reproductions – Pathways to Discovery: Signals for Reproduction, Development and Longevity, New Orleans, LA
- 2018 FASEB – Protein Phosphorylation Networks in Health and Disease, Snowmass, CO
- 2018 University of Basel – Stem Cell Dynamics Throughout Life: From Development to the Adult, Basel, Switzerland
- 2018 Max Planck Institute for Biology of Ageing – 10th Anniversary Symposium, Cologne, Germany
- 2018 FASEB – Transcription, Chromatin, and Epigenetics, Florence, Italy
- 2018 Cell Symposia – Aging and Metabolism, Sitges, Spain
- 2018 **Keynote Lecture** – Biology of Time – Exciting Biologies, Phoenix, AZ
- 2018 Cold Spring Harbor Laboratory – Nutrient Signaling, Cold Spring Harbor, NY
- 2018 Sanford Burnham Prebys Medical Discovery Institute – Epigenetics of development, aging and disease, La Jolla, CA
- 2018 Sylvester Comprehensive Cancer Center – Miami Epigenetics and Cancer Symposium, Miami Beach, FL
- 2018 Gerontological Society of America Meeting, Boston, MA
- 2018 Northwestern University – SQE Epigenetics, Chromatin, and Human Disease, Chicago, IL
- 2018 Buck Institute – 30th Anniversary Symposium, Novato, CA
- 2018 American Society for Cell Biology – Beyond Homeostasis: Stem Cells Under Stress, San Diego, CA
- 2018 NASA Ames Research Center – XO Seminar, Mountain View, CA
- 2019**
- 2019 University of California, San Francisco – Basic Science Seminar, San Francisco, CA
- 2019 UCSF Gladstone Institutes – GICD/CVRI Seminar, San Francisco, CA
- 2019 Fusion Neurogenesis Conference, Nassau, Bahamas
- 2019 University of Washington, Seattle, WA
- 2019 Keystone Symposia – Epigenetics and Human Disease, Banff, Alberta, Canada
- 2019 McGill University – Molecular Seminar, Montréal, Canada
- 2019 Harvard Medical School – Department of Genetics Seminar, Boston, MA
- 2019 Brown University – Biology of Aging Seminar, Providence, Rhode Island
- 2019 University of Oregon – Institute of Molecular Biology Seminar, Eugene, OR
- 2019 Les Treilles Symposium – Nutrient Sensing and the Metabolic Control of Cell Growth, Les Treilles, France
- 2019 Eurogenesis Meeting 2019 - Bordeaux, France

- 2019 Marabou Symposium – Nutrition and Stem Cell Integrity in Ageing, Stockholm, Sweden
- 2019 Erasmus University Medical Center – Ageing, Health and Rejuvenation, Rotterdam, The Netherlands
- 2019 Gordon Research Conference – Molecular, Cellular and Physiological Determinants of Lifespan and Healthspan, Sunday River, Newry, Maine
- 2019 Morgridge Metabolism Symposium – Frontiers in Metabolism - Mechanism of Metabolic Disease, Madison, WI
- 2019 Foundation des Treilles – Stem Cells, Aging and Stress Response Mechanisms, Tourtour, France
- 2019 University of Michigan – Department of Molecular and Integrative Physiology, Ann Arbor, MI
- 2019 Yale School of Medicine – Genetics Department Seminar Series, New Haven, CT
- 2019 University of California, San Francisco – Hillblom Aging Symposium, San Francisco, CA
- 2019 Gerontological Society of America Scientific Meeting – Strength in Age: Harnessing the Power of Networks, Austin, TX
- 2019 Barcelona BioMed Conference – Immunotherapy beyond cancer. A cure for age-related diseases, Barcelona, Spain
- 2019 Harvard University – Department of Molecular and Cellular Biology, Cambridge, MA

2020

- 2020 Albert Einstein College of Medicine – Stem Cell Symposium – Gene Editing and RNA Biology in Stem Cells, Bronx, NY
- 2020 Keystone Symposia – Gene Regulation: From Mechanisms to Disease, joint meeting with Cancer Epigenetics: New Mechanisms and Therapeutic Opportunities, Keystone, CO
- 2020 Keystone Symposia – Intra- and Intercellular Mechanisms of Aging, Vancouver, Canada
- 2020 (Virtual) Northwestern University - Proteostasis Consortium Seminar Series – Working to solve aging and neurodegenerative disease, Evanston, IL
- 2020 (Virtual) Aging Science Talks – The African killifish – a vertebrate model to study aging and ‘suspended animation’
- 2020 (Virtual) Baylor College of Medicine – MCB Seminar Series, Houston, TX
- 2020 (Virtual) MIT Aging Brain Symposium – Cellular & Molecular Mechanisms of Neurodegeneration, Cambridge, MA
- 2020 (Virtual) Cold Spring Harbor Laboratory – Mechanisms of Aging, Cold Spring Harbor, NY
- 2020 Los Altos Hills Conference – Tackling Biology’s Final Frontier, Los Altos Hills, CA
- 2020 (Virtual) Oregon Health and Science University – Epigenetics Symposium, Portland, OR
- 2020 (Virtual) Cedars-Sinai – Center for Neural Science and Medicine Seminar, Los Angeles, CA
- 2020 (Virtual) MRC Laboratory of Molecular Biology – LMB Seminar, Cambridge, England, UK

- 2020 (Virtual) GSA Annual Scientific Meeting – Turning 75: Why Age Matters, Philadelphia, Pennsylvania
- 2020 (Virtual) Genentech – Neuroscience Department, South San Francisco, CA
- 2021**
- 2021 (Virtual) UCSF Biomedical Sciences Seminar, San Francisco, CA
- 2021 (Virtual) Inserm Conference, Paris, France
- 2021 (Virtual) NYU School of Medicine, Kimmel Center of Stem Cell Biology, New York, NY
- 2021 (Virtual) Northeastern Biology Colloquium, Boston, MA
- 2021 (Virtual) UCSD – Biomedical Sciences Program, San Diego, CA
- 2021 (Virtual) Calico Life Sciences, South San Francisco, CA
- 2021 (Virtual) Memorial Sloan Kettering Cancer Center – MSK Kravis Women in Science Symposium, New York, NY
- 2021 (Virtual) University of Wisconsin-Madison – Molecular and Cellular Pharmacology Seminar, Madison, WI
- 2021 (Virtual) University of Massachusetts, Worcester, MA
- 2021 **Named Lecture** - (Virtual) NIH Florence Mahoney Lecture on Aging, Bethesda, MD
- 2021 (Virtual) Stanford Distinguished Careers Institute Colloquium, Stanford, CA
- 2021 **Keynote Lecture** - (Virtual) Harvard Stem Cell Institute, Cambridge, MA
- 2021 (Virtual) Cold Spring Harbor Laboratory – Cellular Dynamics and Models, Cold Spring Harbor, NY
- 2021 (Virtual) Cold Spring Harbor Laboratory – Biological Time Keeping, Cold Spring Harbor, NY
- 2021 (Virtual) Keystone Symposia - Molecular and Cellular Biology, Denver, CO
- 2021 (Virtual) Pezcoller Symposium – Aging and Cancer, Trento, Italy
- 2021 (Virtual) International Society for Stem Cell Research, Hamburg, Germany
- 2021 Aging Research and Drug Discovery Conference (ARDD), Copenhagen, Denmark
- 2021 (Virtual) Center for Molecular Medicine Cologne Symposium (CMMC) – 25 Years of Progress in Molecular Medicine: From Basic Research to Clinical Application, Cologne, Germany
- 2021 (Virtual) Genentech – Journeys in Science Seminar, South San Francisco, CA
- 2021 (Virtual) Cold Spring Harbor Laboratory – Mechanisms of Metabolic Signaling, Cold Spring Harbor, NY
- 2021 (Virtual) University of Pennsylvania – Institute for Regenerative Medicine Symposium, Philadelphia, PA
- 2021 (Virtual) University of Cambridge – Department of Physiology, Development and Neuroscience Seminar, Cambridge, United Kingdom
- 2021 **Keynote Lecture** - (Virtual) EMBO|EMBL Symposium – Metabolism Meets Epigenetics, Heidelberg, Germany
- 2021 (Virtual) University of Pennsylvania – Developmental, Stem Cell, and Regenerative Biology, Philadelphia, PA

- 2021 (Virtual) Fritz Lipmann Institute Seminar, Jena, Germany
- 2022**
- 2022 (Virtual) University of Washington, Seattle, WA
- 2022 Harvard Medical School – Cell Biology Seminar Series, Boston, MA
- 2022 (Virtual) University of Toronto – Medicine by Design Global Speaker Series, Toronto, Canada
- 2022 Monte Verità Conference – Neurogenesis from Development to Adulthood in Health and Disease, Monte Verità, Ascona, Switzerland
- 2022 Euro-Geroscience Conference, Toulouse, France
- 2022 (Virtual) Keystone Symposia – Cancer: Aging in the Driver’s Seat, Snowbird, UT
- 2022 Cell Symposia – Metabolites in Signaling and Disease, Lisbon, Portugal
- 2022 Fusion Conference – Epigenetics: From Mechanisms to Disease, Cancun, Mexico
- 2022 EMBO Workshop – Developmental Circuits in Aging, Heraklion, Greece
- 2022 Keystone Symposia – Tissue Fibrosis and Repair: Mechanisms, Human Disease and Therapies, Keystone, CO
- 2022 University of Wisconsin-Madison – Metabolism, Aging, Pathogenesis, and Stress in *C. elegans*, Madison, WI
- 2022 FASEB Meeting – Transcription, Chromatin and Epigenetics in Aging, Sicily, Italy
- 2022 Nobel Minisymposium No. 59 – From models towards regenerative therapies – Nobel Forum, Stockholm, Sweden
- 2022 2nd StratRegen Conference – Stem cells, regeneration biology and regenerative medicine, Stockholm, Sweden
- 2022 **Keynote Lecture** – UCSF Developmental and Stem Cell Biology Retreat –Santa Cruz, CA
- 2022 (Virtual) St. Jude Children’s Research Hospital – Danny Thomas Lecture Series, Memphis, TN 38105
- 2022 Miami Epigenetics and Cancer Symposium, Miami Beach, FL
- 2022 (Virtual) Institute of Molecular Biology Seminar, Mainz, Germany
- 2023**
- 2023 The Rockefeller University – Harvey Society Lecture, New York City, NY
- 2023 UCLA Stem Cell Symposium – Back to Basics: Understanding Tissue Stem Cells, Los Angeles, CA
- 2023 Keystone Symposia – Stem Cells: Advances in the Application of Stem Cells and Their Role in vivo, Keystone, CO
- 2023 University of Southern California – Multidisciplinary Research in Gerontology Colloquium, Los Angeles, CA
- 2023 UCSF Gladstone Institute of Neurological Disease – Neuroscience Seminar, San Francisco, CA
- 2023 **Keynote Lecture** – Keystone Symposia Joint Meetings - Mitochondrial Dysfunction: From Ultra-Rare Disease to Aging; and Molecular Basis of Healthy Aging, Breckenridge, CO
- 2023 Princeton University – Butler Seminar, Princeton, NJ

2023 (Virtual) Foundation for National Institutes of Health (FNIH) – The New York Academy of Sciences, New York, NY

2023 Federation of European Neuroscience Societies (FENS) – Establishment and Maintenance of Brain Cell States, Rungstedgaard, Denmark

2023 Pfizer Frontiers in Human Disease Symposium – Biology of Aging and Age-Related Human Disease, La Jolla, CA

2023 Gordon Research Conference – Stem Cells and Cancer - Strategies for Controlling Development, Tissue Homeostasis and Cancer, Tuscany, Italy

2023 The Paul F. Glenn/AFAR Conference on the Biology of Aging, Santa Barbara, CA

2023 EMBO|EMBL Symposium – The Ageing genome: from mechanisms to disease, Heidelberg, Germany

2023 **Keynote Lecture** - Gordon Research Conference – Evolving Concepts of Organismal Aging, Barcelona, Spain

2023 Marine Biological Laboratory – Biology of Aging Course Lecture, Woods Hole, MA

2023 **Keynote Lecture** - Kern Lipid Conference – Lipids in aging, lifespan and age-related diseases, Vail, CO

2023 Aging Research and Drug Discovery Meeting (ARDD), Copenhagen, Denmark

2023 Max Planck Institute for Biology of Ageing – Farewell Symposium for Linda Partridge, Cologne, Germany

2023 **Keynote Lecture** - Yale University – Yale Center for Research on Aging Symposium, New Haven, CT

2023 UC San Diego – Division of Regenerative Medicine Seminar, La Jolla, CA

2024

2024 Fusion Conference – 3rd Neurogenesis Conference, Cancun, Mexico

2024 **Named Lecture** - Harvard Joslin Diabetes Center – Ray and Robert Kroc Lectureship on Diabetes, Boston, MA

2024 UCSF – The Basic Science Seminar in Biochemistry, San Francisco, CA

2024 UT Southwestern Medical Center – University Lecture Series, Dallas, TX

2024 Washington University in St. Louis – Brain Immunology and Glia Seminar, St. Louis, MO

2024 MIT – Biology Colloquium Series, Cambridge, MA

2024 EMBO Workshop – Developmental Circuits in Aging, Nice, France

2024 École Normale Supérieure – Biology Department, Paris, France

2024 Collège de France – Interdisciplinary Center for Biology Research, Paris, France

2024 Institut Curie – Tumor Biology and Immunology, Paris, France

2024 **Keynote Lecture** – (Virtual) University of Washington Nathan Shock Center of Excellence in Basic Biology of Aging, Seattle, WA

2024 Gordon Research Conference – Systems Aging, Barcelona, Spain

2024 University of Wisconsin-Madison – Metabolism, Aging, Pathogenesis, Stress and Small RNAs in *C. elegans*, Madison, WI

2024 Simons Foundation – SCPAB Workshop, New York, NY

2024 Calico Life Sciences – Women’s Forum Fireside Chat, South San Francisco, CA

2024 FASEB Science Research Conference – Cellular and Molecular Mechanisms of Brain Aging”, Niagara Falls, NY

2024 **Keynote Lecture** - FASEB Science Research Conference – Transcription, Chromatin, and Epigenetics in Aging, Melbourne, FL

2024 Washington University in St. Louis – 2024 ReThink Neuroimmunology Symposium, St. Louis, MO

2024 Fusion Conference – From Mechanisms to Disease, St. Julians, Malta

2024 **Keynote Lecture** - Chan Zuckerberg Biohub SF Inter-lab Confab, San Francisco, CA

2024 Simons Collaboration on Plasticity and the Aging Brain Annual Meeting, New York, NY

2024 Salk Institute – AHA-Allen External Advisory Board Meeting, La Jolla, CA

2025

2025 Baylor College of Medicine – Molecular and Human Genetics Seminar Series, Houston, TX

2025 **Keynote Lecture** – Keystone Symposia – Aging: New Frontiers in Rejuvenation and Gerotherapeutics, Breckenridge, CO

2025 NYU Langone Health – Laura and Isaac Perlmutter Cancer Center Research Seminar, New York, NY

2025 **Keynote Lecture** – Fox Chase Cancer Center – Cancer Epigenetics Institute Symposium, Philadelphia, PA

2025 Ecole Polytechnique Fédérale de Lausanne (EPFL) – BMI Distinguished Seminar, Lausanne, Switzerland

2025 EMBO Workshop – Developmental timing across species: From mechanisms to evolutionary insights, Paris, France

2025 89th Cold Spring Harbor Laboratory Symposium on Quantitative Biology – Senescence & Aging, Cold Spring Harbor, NY

2025 The Annual Harvard/Paul F. Glenn Symposium on Aging, Boston, MA

2025 UCLA – Department of Biological Chemistry, Los Angeles, CA

2025 **Keynote Lecture** – Gordon Research Conference – Stress Proteins in Growth, Development and Disease, Newry, ME

2025 Buck Institute for Research on Aging – Summer Training Course in Experimental Aging Research, Novato, CA

2025 Fusion Conference – Neuroepigenetics and Neuroepitranscriptomics, St. Julian’s, Malta

2025 Fusion Conference – Interventions in Aging, St. Julian’s, Malta

2025 Yale University – Neuroscience Seminar, New Haven, CT

2025 Côte d’Azur University – 50th Anniversary Symposium, Nice, France

Research Support

Current Research Support

2020-2026 Simons Foundation

Title: Conserved regulatory pathways in age-related loss of plasticity and cognitive function
Role: PI

2020-2026 Simons Foundation
Title: Glial mechanisms by which sleep preserves cognitive function and plasticity in aging
Role: PI

2021-2026 NIH R01
Sponsor: NIH
Title: T cells in the aging brain
Role: PI

2022-2027 Chan Zuckerberg Biohub Investigator
Title: Develop the killifish as a platform to study complex organisms through life at scale
Role: PI

2023-2028 NOMIS Foundation
Title: Organ Synchronization in Aging and Suspended Animation
Role: PI

2025-2026 Glenn Foundation for Medical Research
The Paul F. Glenn Center for Biology of Aging Research at Stanford
Title: Mechanisms of Damage Prevention and Repair for Longevity
Role: Director

2024-2029 NIH P01
Sponsor: University of California, Los Angeles/NIH
Title: Metabolic and epigenomic regulation of aging neural stem cells
Role: PI

2024-2026 Wu Tsai Neurosciences Institute
Title: Machine learning to model and boost brain repair and resilience during aging
Role: Co-PI

2025-2027 Wu Tsai Human Performance Alliance
Title: Aging-related impairments in bone healing and enhancing recovery in aged models
Role: Collaborator

2023-2027 Wu Tsai Neurosciences Institute
Title: Predicting and promoting resilient brain aging trajectories
Role: PI

2025-2027 Chan Zuckerberg Initiative
Title: Spatial Brain Aging
Role: PI

2025-2030 NIH DP1
Sponsor: NIH
Title: Peripheral nervous system aging
Role: PI

2026-2030 NIH R01
Sponsor: NIH
Title: The brain as a control center for other organs during aging
Role: PI

Past Research Support

2005-2007 Pfizer/AFAR Innovation in Aging Research Award
Sponsor: Pfizer/American Foundation for Aging Research
Title: Role of FOXO Transcription Factors In Mammalian Longevity
Role: PI

2005-2008 Klingenstein Fellowship Award in Neuroscience
Sponsor: Klingenstein Fund
Title: Role of the FOXO Family of Forkhead Transcription Factors In the Nervous System
Role: PI

2006-2008 Fellowship Award Brain Tumor Society
Sponsor: Brain Tumor Society
Title: Defining the role of Foxo transcription factors and Sirt1 deacetylase in suppressing glioblastoma
Role: PI

2006-2008 Sloan Research Fellowship
Sponsor: Alfred P. Sloan Foundation
Title: Does the Nervous System Regulate Overall Longevity?
Role: PI

2006-2008 Investigator-initiated Research Grant
Sponsor: American Institute for Cancer Research
Title: AMPK: a mediator of caloric restriction's ability to suppress cancer
Role: PI

2007-2009 Paul Glenn Foundation Award
Sponsor: Paul Glenn Foundation
Role: PI

2007-2009 McCormick Award
Sponsor: McCormick Foundation
Title: Defining the interaction between FOXO and the tumor suppressor p53 in cells and in mice
Role: PI

2008-2010	NIH R21 AG030464 Sponsor: NIH (NIA) Title: An unbiased search for genes underlying longevity in a short-lived fish model Role: PI
2005-2010	NIH R01 AG026648 Sponsor: NIH (NIA) Title: Forkhead transcription factors in the stress response Role: PI
2009-2011	Investigator Award Sponsor: NARSAD Title: Role of FOXO6 in cognitive function and mood regulation during aging Role: PI
2012-2013	SINTN Seed Grant Funding Title: Circuit-level understanding of age-dependent decline in hippocampal memory Role: Co-Investigator with Mark Schnitzer
2009-2013	Ellison Senior Scholar Award Sponsor: Ellison Medical Foundation Title: Role of Longevity Genes in Reprogramming Somatic Cells into Pluripotent Stem Cells Role: PI
2008-2013	California Institute of Regenerative Medicine New Faculty Award Sponsor: CIRM Title: Molecular mechanisms involved in adult neural stem cell maintenance Role: PI
2011-2016	NIH P01 Sponsor: NIH (NIA) Title of project: Mechanisms of neural stem cell regulation during aging Title of core: Genomics and ultra high throughput sequencing Role: Co-Investigator (PI: Tom Rando)
2011-2016	NIH P01 Sponsor: NIH Title: Effect of age and longevity genes on epigenomic mechanisms of reprogramming Role: Co-Investigator with Joseph Wu (PI: Mike Snyder)
2013-2016	Basic Biology Award Sponsor: CIRM Title: Energy metabolism and aging pathways in human stem cell reprogramming and differentiation

Role: PI

2011-2017 NIH P01
Sponsor: NIH
Title: Molecular Regulation of Stem Cell Aging
Role: Co-PI

2009-2017 NIH R56
Sponsor: NIH
Title: Molecular Mechanisms Underlying Lifespan Extension by Environmental Stimuli
Role: PI

2012-2017 Pioneer Award
Sponsor: NIH Director's Fund
Title: Transgenerational epigenetic inheritance of longevity
Role: PI

2017-2019 Zaffaroni Alzheimer's Research Fund
Title: Developing the African killifish as a new system to model the age-dependency, genetics, and spread of Alzheimer's disease.
Role: Co-PI

2017-2022 NIH P01
Sponsor: NIH
Title: Molecular Regulation of Stem Cell Aging
Role: Co-PI

2021-2022 Wu Tsai Neurosciences Institute
Stanford University Research Award
Role: PI

2016-2022 NIH R01
Sponsor: NIH
Title: Link between epigenetic modifiers and fat metabolism for healthy aging
Role: PI

2017-2022 Stanford Neurosciences Institute (SNI)
University Research Award
Stanford Brain Rejuvenation Project Phase II
Role: Co-I

2017-2022 NIH RF1
Sponsor: NIH
Title: Discovery of protein aggregates during vertebrate aging and neurodegeneration
Role: PI

2017-2023 NIH R01
Sponsor: NIH

Title: Proteostasis in the aging brain
Role: PI

2020-2022 Chan Zuckerberg Initiative
Title: Single cell analysis of aging brain and microbiome
Role: PI

2021-2023 Stanford ChEM-H
Title: Drug discovery for aggregate prevention in multi-tissue aging and age-related diseases
Role: Co-I

2020-2023 Silicon Valley Community Foundation (Chan Zuckerberg)
Title: Single cell analysis of aging brain and microbiome
Role: PI

2018-2024 NIH TR01
Sponsor: NIH
Title: Brain-wide screen for a neural pacemaker of aging
Role: Co-PI

2022-2024 NIH P01
Sponsor: NIH
Title: Molecular Regulation of Stem Cell Aging
Role: Project Lead

2021-2025 Milky Way Research Foundation
Title: Reprogramming of aging
Role: PI

2023-2025 Knight Initiative for Brain Resilience, Wu Tsai Neurosciences Institute
Title: Manipulating inflammation in the aging brain to promote brain resilience
Role: Co-PI

2024-2025 Chan Zuckerberg Institute
Title: Quantifying spatial brain aging and rejuvenation at single-cell resolution
Role: PI

2023-2026 Wu Tsai Neurosciences Institute
Title: Manipulating inflammation in the aging brain to promote brain resilience
Role: Co-PI

Training and Mentoring

Students

Eric Greer (Cancer Biology) – PhD – Present position: **Associate Professor**, Washington University, USA
Daniel Calnan (Cancer Biology) – PhD – Present position: Neurosurgeon, Co-Director of the Stroke Center. The Stroke and Brain Aneurysm Center of Long Island, USA
Victoria Rafalski (Neurosciences) – PhD – Present position: Principal Research Scientist, AbbVie, USA
Max Banko (Genetics) – PhD – Present position: Associate, Patent Prosecution, Morrison & Foerster LLP, USA
Elizabeth Pollina (Cancer Biology) – PhD – Present position: **Assistant Professor**, Washington University, USA
Dena Leeman (Cancer Biology) – PhD – Present position: Principal Scientist and Group Leader, Scribe Therapeutics, USA
Shuo Han (Genetics) – PhD – Present position: **Assistant Professor**, Duke University School of Medicine, USA
Bethany Schaffer (Cancer Biology) – PhD – Present position: Doctoral Fellow, The Blenis Lab, Weil Cornell College of Medicine, USA
Jana Lim (Neurosciences) – PhD – Present position: Director of Global Strategy & Business Services at UCLA Health, USA
Aaron Daugherty (Genetics) – PhD – Present position: Director Computational Biology, BridgeBio, USA
Ben Dulken (MSTP, Stem Cell Biology & Regenerative Medicine) – PhD – Present position: **Assistant Professor**, University of Washington, Seattle
Andrew McKay (Biology) – PhD – Present position: Principal Computational Researcher, Genentech, USA
Robin Yeo (Genetics) – PhD – Present position: Head of Biological Data Science, Epic Bio, USA
Matthew Buckley (Genetics) – PhD – Present position: Co-founder, Stealth Mode Biotech, USA
Adam Reeves (Genetics) – PhD – Present position: Bioinformatician Scientist/Senior Scientist, Juniper Genomics
Lucy Xu (Biology) – PhD – Present position: Postdoctoral Fellow, Greenberg Lab, Harvard Medical School
Olivia Zhou (MSTP) – PhD – Present position: Medical Student, Stanford Medical School
Eric Sun (BMI) – PhD – Present position: **Assistant Professor**, MIT, USA

Rahul Nagvekar (Genetics) – in training
Angela Pogson (Developmental Biology) – in training
Jeeyoon Na (Stem Cell) – in training
Brandon Ameglio (BioPhysics) – in training
Jason Yang (Genetics) – in training
Oswaldo Martinez (Genetics) – in training

Post-doctoral fellows

Dervis Salih – PhD – Present position: **Senior Research Associate UK**, Dementia Research Institute, University College London, UK
Valérie Renault – PhD – Present position: Research Scientist, Research Institute on Cancer and Aging, France (deceased)
Dario Valenzano – PhD – Present position: **Senior Group Leader, Director**, Leibniz Institute on Aging, Jena, Germany
Ashley Webb – PhD – Present position: **Associate Professor**, Buck Institute, USA

Travis Maures – PhD – Present position: Co-founder and Chief Scientific Officer, EditCo Bio, USA
Duygu Ucar – PhD – Present position: **Professor**, JAX Genomics, USA
Elena Mancini – PhD – Present position: Project Manager, Geistlich Pharma AG, Switzerland
Elizabeth Schroeder (Noblin) – PhD – Present position: Senior Science Officer, California Institute of Regenerative Medicine
Katja Hebestreit – PhD – Present position: Head of Discovery Genomics, BioMarin Pharmaceuticals Inc., USA
Bérénice Benayoun – PhD – Present position: **Associate Professor**, University of Southern California, USA
Itamar Harel – PhD – Present position: **Associate Professor**, University of Jerusalem, Israel
Salah Mahmoudi – PhD – Present position: Co-founder and CEO, ReneuBio, USA
Brittany Demmitt – PhD – Present position: **Tenure Track Faculty**, Santa Rosa Junior College, USA
Chi-Kuo Hu – PhD – Present position: **Assistant Professor**, Stony Brook University, New York, USA
Lauren Booth – PhD – Present position: Principal Scientist, Calico Life Sciences, USA
Param Priya Singh – PhD – Present position: **Assistant Professor**, UCSF, USA
Tyson Ruetz – PhD – Present position: Senior Scientist, AbCellera, Canada, Co-founder ReneuBio, USA
Xiaoai Zhao – PhD – Present position: **Assistant Professor**, Yale University, USA
Katharina Papsdorf – PhD – Present position: **Group Leader**, Institute for Molecular Biology, Mainz, Germany
Paloma Navarro – PhD – **Assistant Professor**, EPFL, Switzerland
Claire Bedbrook – PhD – Upcoming position: **Assistant Professor**, Princeton University, USA
Ravi Nath – PhD – Upcoming position: **Assistant Professor**, Princeton University, USA

Jason Miklas – PhD – in training
Jingxun Chen – PhD – in training
Felix Boos – PhD – in training
Daniel Heinzer – PhD – in training
Daniel Richard – PhD – in training
Blake Laham – PhD – in training
Nimrod Rappoport – PhD – in training
Giulia Notarangelo – PhD – in training

Publications

Peer-Reviewed Journal Articles

1. Lenormand P, Sardet C, Pagès G, L'Allemain G, **Brunet A** and Pouysségur J (1994) Growth factors induce nuclear translocation of MAP kinases (p42mapk and p44mapk) but not their activator MAP kinase kinase (p45mapkk) in fibroblasts. *J Cell Biol*, 122: 1079-1088.
2. Pagès G*, **Brunet A***, L'Allemain G and Pouysségur J (1994) Constitutive mutant and putative regulatory serine phosphorylation site of mammalian MAP kinase kinase (MEK1). *EMBO J*, 13: 3003-3010. *: both authors have contributed equally to the work.
3. **Brunet A**, Pagès G and Pouysségur J (1994) Constitutively active mutants of MAP kinase kinase (MEK1) induce growth factor-relaxation and oncogenicity when expressed in fibroblasts. *Oncogene*, 9: 3379-3387.

4. **Brunet A***, Pagès G* and Pouyssegur J (1994) Growth factor-stimulated MAP kinase induces rapid retrophosphorylation and inhibition of MAP kinase kinase (MEK1). *FEBS Lett*, 346: 299-303. *: both authors have contributed equally to the work.
5. Papin C, Eychène A, **Brunet A**, Pagès G, Pouyssegur J, Calothy G and Barnier JV (1995) B-Raf protein isoforms interact with and phosphorylate MEK-1 on serine residues 218 and 222. *Oncogene*, 10: 1647-1651.
6. Pagès G, Stanley ER, Le Gall M, **Brunet A** and Pouyssegur J (1995) The mouse p44 mitogen-activated protein kinase (extracellular signal-regulated kinase 1) gene. *J Biol Chem*, 270: 26986-26992.
7. **Brunet A** and Pouyssegur J (1996) Identification of MAP kinase domains by re-directing stress signals into growth factor responses. *Science*, 272: 1652-1655.
8. Lavoie JN, L'Allemain G, **Brunet A**, Müller R and Pouyssegur J (1996) Cyclin D1 expression is regulated positively by the p42/p44MAPK and negatively by the p38/HOG MAPK pathway. *J Biol Chem*, 271: 20608-20616.
9. Brondello JM, **Brunet A**, Pouyssegur J and McKenzie FR (1997) The dual specificity Mitogen-activated protein kinase phosphatase-1 and-2 are induced by the p42/p44MAPK cascade. *J Biol Chem*, 272: 1368-1376.
10. Briant L, Robert-Hebmann V, Sivan V, **Brunet A**, Pouyssegur J and Devaux C (1998) Involvement of extracellular signal-regulated kinase module in HIV-mediated CD4 signals controlling activation of nuclear factor-kappa B and AP-1 transcription factors. *J Immunol*, 160: 1875-1885.
11. Englaro W, Bertolotto C, Busca R, **Brunet A**, Pagès G, Ortonne J-P and Ballotti R (1998) Inhibition of the mitogen-activated protein kinase pathway triggers B16 melanoma cell differentiation. *J Biol Chem*, 273: 9966-9970.
12. Lenormand P, Brondello J-M, **Brunet A** and Pouyssegur J (1998) Growth factor-induced p42/p44 MAPK nuclear translocation and retention requires both MAPK activation and neosynthesis of nuclear anchored proteins. *J Cell Biol*, 142: 625-633.
13. **Brunet A**, Roux D, Lenormand P, Dowd S, Keyse S and Pouyssegur J (1999) Nuclear translocation of p42/p44 mitogen-activated protein kinase is required for growth factor-induced gene expression and cell cycle entry. *EMBO J*, 18: 664-674.
14. **Brunet A**, Bonni A, Zigmond MJ, Lin MZ, Juo P, Hu LS, Anderson MJ, Arden KC, Blenis J, Greenberg ME (1999) Akt promotes cell survival by phosphorylating and inhibiting a Forkhead transcription factor. *Cell*, 96: 857-868.
15. Bonni A, **Brunet A**, West AE, Datta SR, Takasu MA, Greenberg ME (1999) Cell survival promoted by the Ras-MAPK signaling pathway by transcription-dependent and transcription-independent mechanisms. *Science*, 286: 1358-1362.
16. Nichols A, Camps M, Gillieron C, Chabert C, **Brunet A**, Wilsbacher J, Cobb M, Pouyssegur J, Shaw JP, Arkinstall S (2000) Substrate recognition domains within extracellular signal-regulated kinase mediate binding and catalytic activation of mitogen-activated protein kinase phosphatase-3. *J Biol Chem*, 275: 24613-24621.
17. **Brunet A**, Park J, Tran H, Hu LS, Hemmings BA, Greenberg ME (2001) The protein kinase SGK mediates survival signals by phosphorylating the Forkhead transcription factor FKHL1/FOXO3a. *Mol Cell Biol*, 21: 952-965.
18. Shin I, Bakin, AV, Rodeck, U, **Brunet A**, Arteaga CL (2001) Transforming growth factor beta enhances epithelial cell survival via Akt-dependent regulation of FKHL1. *Mol Biol Cell*, 12: 3328-3339.
19. **Brunet A***, Kanai F*, Stehn J, Xu J, Sarbassova D, Frangioni D, Dala JV, DeCaprio JA, Greenberg ME and Yaffe MB (2002) 14-3-3 Transits to the Nucleus and Actively

Participates in Dynamic Nucleo-Cytoplasmic Transport. *J Cell Biol*, 156: 817-828 *: both authors have contributed equally to the work.

20. Tran H*, **Brunet A***, Grenier JM, Datta SR, Fornace Jr AJ, DiStefano PS, Chiang LW and Greenberg ME (2002). DNA repair pathway stimulated by the Forkhead transcription factor FOXO3a (FKHRL1) through the GADD45 protein. *Science*, 296: 530-534. *both authors have contributed equally to the work.
21. Chou FL, Hill JM, Hsieh JC, Pouysségur J, **Brunet A**, Glading A, Uberall F, Ramos JW, Werner MH and Ginsberg MH (2003) PEA-15 binding to ERK1/2 MAP kinases is required for its modulation of integrin activation. *J Biol Chem*, 278: 52587-52597.
22. **Brunet A**, Sweeney LB, Sturgill FJ, Chua KF, Greer PL, Lin Y, Tran H, Ross SE, Mostoslavsky R, Cohen H, Hu LS, Cheng H-L, Jedrychowsky M, Gygi SP, Sinclair DA, Alt FW, Greenberg ME (2004) Stress-Dependent Regulation of FOXO transcription factors by the SIRT1 Deacetylase. *Science*, 303: 2011-2015.
23. Greer EL, Dowlatshahi D, Banko MR, Hoang K, Blanchard D, and **Brunet A** (2007) An AMPK FOXO pathway mediates the extension of lifespan induced by a novel method of dietary restriction in *C. elegans*. *Curr Biol*, 17: 1646-1656.
24. Greer EL, Oskoui PR, Banko MR, Maniar JM, Gygi MP, Gygi SP, and **Brunet A** (2007) The energy sensor AMP-activated protein kinase directly regulates the mammalian FOXO3 transcription factor. *J Biol Chem*, 282: 30107-30119.
25. Greer EL and **Brunet A** (2009) Different dietary restriction regimens extend lifespan by both independent and overlapping genetic pathways in *C. elegans*. *Aging Cell*, 8: 113-127.
26. Renault VM, Rafalski VA, Morgan AA, Salih DAM, Brett JO, Webb AE, Villeda SA, Thekkat PU, Guilleroy C, Denko NC, Palmer TD, Butte AJ, and **Brunet A** (2009) FoxO3 regulates neural stem cell homeostasis. *Cell Stem Cell*, 5: 527-539.
27. Valenzano DR, Kirschner J, Kamber RA, Zhang E, Weber D, Cellerino A, Englert C, Platzer M, Reichwald K and **Brunet A** (2009) Mapping loci associated with tail color and sex determination in the short-lived fish *Nothobranchius furzeri*. *Genetics*, 183: 1385-1395.
28. de la Torre-Ubieta L, Gaudillière B, Yang Y, Ikeuchi Y, Yamada T, DiBacco S, Stegmüller J, Schüller U, Salih DA, Rowitch D, **Brunet A** and Bonni A (2010) A FOXO-Pak1 transcriptional pathway controls neuronal polarity. *Genes & Dev*, 8: 799-813.
29. Greer EL, Maures TJ, Hauswirth AG, Green EM, Leeman DS, Maro, GS, Han S, Banko MR, Gozani O and **Brunet A** (2010) Members of the H3K4 trimethylation complex regulate lifespan in a germline-dependent manner in *C. elegans*. *Nature*, 466: 383-387.
30. Renault VM, Thekkat PU, Hoang KL, White JL, Brady CA, Kenzelmann Broz D, Venturelli OS, Johnson TM, Oskoui PR, Xuan Z, Santo EE, Zhang MQ, Vogel H, Attardi LD, **Brunet A** (2011) The pro-longevity gene FoxO3 is a target of the p53 tumor suppressor. *Oncogene*, 30: 3207-3221.
31. Brett JO, Renault VM, Rafalski VA, Webb AE and **Brunet A** (2011) The microRNA cluster miR-106b~25 regulates adult neural stem and progenitor cell proliferation and neuronal differentiation. *Aging*, 3: 108-124.
32. Arnold CP, Tan R, Zhou B, Yue SB, Schaffert S, Biggs JR, Doyonnas R, Lo MC, Perry JM, Renault VM, Sacco A, Somerville T, Viatour P, **Brunet A**, Cleary ML, Li L, Sage J, Zhang DE, Blau HM, Chen C, and Chen CZ. (2011) MicroRNA programs in normal and aberrant stem and progenitor cells. *Genome Res*, 21: 798-810.
33. Maures TJ, Greer EL, Hauswirth AG, and **Brunet A** (2011) H3K27 demethylase UTX-1 regulates *C. elegans* lifespan in a germline-independent, insulin-dependent, manner. *Aging Cell*, 10: 980-990.

34. Greer EL, Maures TJ, Ucar D, Hauswirth AG, Mancini E, Lim JP, Benayoun BA, Shi Y and **Brunet A** (2011) Transgenerational epigenetic inheritance of longevity in *Caenorhabditis elegans*. **Nature**, 479: 365-371. **Full article**.
35. Banko MR, Allen JJ, Schaffer BE, Wilker EW, Tsou P, White JL, Villen J, Wang B, Kim SR, Sakamoto K, Gygi SP, Cantley LC, Yaffe MB, Shokat KM and **Brunet A** (2011) Chemical genetic screen for AMPK α 2 substrates uncovers a network of proteins involved in mitosis. **Mol Cell**, 44:878-892.
36. Valenzano DR, Sharp S and **Brunet A** (2011) Transposon-mediated transgenesis in the short-lived African killifish *Nothobranchius furzeri*, a vertebrate model for aging. **G3, Genes Genome Genetics**, 1: 531-538. **Cover article**.
37. Calnan DR, Webb AE, White JL, Stowe TR, Goswami T, Shi X, Espejo A, Bedford MT, Gozani O, Gygi SP, and **Brunet A** (2012) Methylation by Set9 modulates FoxO3 stability and transcriptional activity. **Aging**, 4: 462-79.
38. Salih DA, Rashid AJ, Colas D, de la Torre-Ubieta L, Zhu RP, Morgan, AA, Santo EE, Cole CJ, Madison DV, Shamloo M, Butte AJ, Bonni A, Josselyn SA and **Brunet A** (2012) FoxO6 regulates memory consolidation and synaptic function. **Genes & Dev**, 26: 2780-801.
39. Rafalski VA, Ho PO, Brett JO, Ucar D, Dugas JC, Pollina EA, Chow LML, Ibrahim A, Baker SJ, Barres BA, Steinman L, and **Brunet A** (2013) Expansion of oligodendrocyte progenitor cells upon SIRT1 inactivation in the adult brain. **Nat Cell Biol**, 15: 614-624. **Full article**.
40. Liu L, Cheung TH, Charville GW, Hurgo BM, Leavitt T, Shih J, **Brunet A**, and Rando TA (2013) Chromatin Modifications as Determinants of Muscle Stem Cell Quiescence and Chronological Aging. **Cell Rep**, 4: 189-204.
41. Webb AE, Pollina EA, Vierbuchen T, Urban N, Ucar D, Leeman D, Sewak M, Rando TA, Guillemot F, Wernig M, and **Brunet A** (2013) Genome-wide interaction between the pro-longevity factor FOXO3 and the neuronal determinant ASCL1 in adult neural stem/progenitor cells. **Cell Rep**, 4: 477-491.
42. Wapinski OL, Vierbuchen T, Qu K, Lee QY, Chanda S, Fuentes DR, Giresi PG, Ng YH, Marro S, Neff NF, Drechsel D, Martynoga B, Castro DS, Webb AE, Südhof TC, **Brunet A**, Guillemot F, Chang HY, Wernig M (2013) Hierarchical mechanisms for direct reprogramming of fibroblasts to neurons. **Cell**, 155: 621-635.
43. Maures TJ, Booth LN, Benayoun BA and **Brunet A** (2014) Males shorten the life span of *C. elegans* hermaphrodites via secreted compounds. **Science** 343: 541-544.
44. Gopinath SD, Webb AE, **Brunet A** and Rando TA (2014) FOXO3 promotes quiescence in adult muscle stem cells during the process of self-renewal. **Stem Cell Reports**, 2: 414-426.
45. Benayoun BA, Pollina EA, Ucar D, Mahmoudi S, Karra K, Wong E, Devarajan K, Daugherty AC, Kundaje A, Mancini E, Rando TA, Snyder MP, Baker JC, Cherry M and **Brunet A** (2014) H3K4me3 breadth is linked to cell identity and transcriptional consistency. **Cell**, 158: 673-688.
46. Kareta MS, Gorges LL, Hafeez S, Benayoun BA, Marro S, Zmoos AF, Cecchini MJ, Spacek D, Batista LF, O'Brien M, Ng YH, Ang CE, Vaka D, Artandi SE, Dick FA, **Brunet A**, Sage J, Wernig M (2015) Inhibition of pluripotency networks by the Rb tumor suppressor restricts reprogramming and tumorigenesis. **Cell Stem Cell**, 16: 39-50.
47. Harel I, Benayoun BA, Machado M, Singh PP, Hu CK, Pech MF, Valenzano DR, Zhang E, Sharp SC, Artandi SE and **Brunet A** (2015) A Platform for rapid exploration of aging and diseases in a naturally short-lived vertebrate. **Cell**, 160: 1013-26

48. Li YH, Luo J, Mosley YC, Hedrick VE, Paul LN, Chang J, Zhang G, Wang YK, Banko MR, **Brunet A**, Kuang S, Wu JL, Chang CJ, Scott MP, Yang JY (2015) AMP-Activated Protein Kinase Directly Phosphorylates and Destabilizes Hedgehog Pathway Transcription Factor GLI1 in Medulloblastoma. *Cell Rep*,12: 599-609
49. Schaffer BE, Levin RS, Hertz NT, Maures TJ, Schoof ML, Hollstein PE, Benayoun BA, Banko MR, Shaw RJ, Shokat KM and **Brunet A** (2015) Identification of AMPK Phosphorylation Sites Reveals a Network of Proteins Involved in Cell Invasion and Facilitates Large-Scale Substrate Prediction. *Cell Metab*, 22: 907-921.
50. Pech MF, Garbuzov A, Hasegawa K, Sukhwani M, Zhang RJ, Benayoun BA, Brockman SA, Lin S, **Brunet A**, Orwig KE, Artandi SE (2015) High telomerase is a hallmark of undifferentiated spermatogonia and is required for maintenance of male germline stem cells. *Genes & Dev*, 29: 2420-34.
51. Valenzano DR, Benayoun BA, Singh PP, Zhang E, Etter PD, Hu CK, Clement-Ziza M, Willemsen D, Cui R, Harel I, Machado BE, Yee, MC, Sharp SC, Bustamante CD, Beyer A, Johnson EA, and **Brunet A** (2015) The African turquoise killifish genome provides insights into evolution and genetic architecture of lifespan. *Cell*, 163: 1539-1554.
52. Webb AE, Kundaje A and **Brunet A** (2016) Characterization of the direct targets of FOXO transcription factors throughout evolution. *Aging Cell*, 15: 673-685.
53. Ahlenius H, Chanda S, Webb AE, Yousif I, Karmasin J, Prusiner SB, **Brunet A**, Sudh f TC and Wernig M (2016) FoxO3 regulates neuronal reprogramming of cells from postnatal and aging mice. *Proc Natl Acad Sci*, 113: 8514-8519.
54. Harel I, Valenzano DR and **Brunet A** (2016) Efficient genome engineering approaches for the short-lived African turquoise killifish. *Nature Protocols*, 10: 2010-2028.
55. Dulken BW, Leeman DS, Boutet SC, Hebestreit K and **Brunet A** (2017) Single-cell transcriptomic analysis defines heterogeneity and transcriptional dynamics in the adult neural stem cell lineage. *Cell Rep*, 18: 777-790.
56. Han S, Schroeder EA, Silva-Garcia CG, Hebestreit K, Mair WB and **Brunet A** (2017) Mono-unsaturated fatty acids link H3K4me3 modifiers to *C. elegans* lifespan. *Nature*, 544: 185-190. **Full article.**
57. Theret M, Gsaier L, Schaffer B, Juban G, Ben Larbi S, Weiss-Gayet M, Bultot L, Collodet C, Foretz M, Desplanches D, Sanz P, Zang Z, Yang L, Vial G, Viollet B, Sakamoto K, **Brunet A**, Chazaud B, Mounier R (2017) AMPK α 1-LDH pathway regulates muscle stem cell self-renewal by controlling metabolic homeostasis. *EMBO J*, 36: 1946-1962.
58. Tan MH, Li Q, Shanmugam M, Piskol R,...Pollina EA, Leeman DS,...**Brunet A**, Conrad DF, Samuel CE, O'Connell MA, Walkley CR, Nishikura K and Li JB (2017) Dynamic landscape and regulation of RNA editing in mammals. *Nature*, 550: 249-254.
59. Daugherty AC, Yeo RW, Buenrostro JD, Greenleaf WJ, Kundaje A, and **Brunet A** (2017) Chromatin accessibility dynamics reveal novel functional enhancers in *C. elegans*. *Genome Research*, 27: 2096-2107
60. Wagner JT, Singh PP, Romney AL, Riggs CL, Minx P, Woll SC, Roush J, Waren WC, **Brunet A**, and Podrabsky JF (2018) The genome of *Austrofundulus limnaeus* offers insights into extreme vertebrate stress tolerance and embryonic development. *BMC Genomics*, 19: 155.

61. Leeman DS, Hebestreit K, Ruetz T, Webb AE, McKay A, Pollina EA, Dulken BW, Zhao X, Yeo RW, Ho TT, Mahmoudi S, Devarajan K, Passequé E, Rando TA, Frydman J, and **Brunet A** (2018) Lysosome activation clears aggregates and enhances quiescent neural stem cell activation during aging. **Science**, 359: 1277-1283.
62. Lim JP, Fehlauer H*, Das A, Saro G, Glauser DA, **Brunet A***, and Goodman MB* (2018) Loss of CaMKI function disrupts salt aversive learning in *C. elegans*. **Journal of Neuroscience**, 38: 6114-6129. *: co-corresponding authors
63. Contrepolis K, Mahmoudi S, Ubhi BK, Papsdorf K, Hornburg D, **Brunet A**, and Snyder M (2018) Cross-platform comparison of untargeted and targeted lipidomics approaches on aging mouse plasma. **Sci Rep.**, 8: 17747.
64. Benayoun BA, Pollina EA, Singh PP, Mahmoudi S, Harel I, Casey KM, Dulken BW, Kundaje A, and **Brunet A** (2019) Remodeling of epigenome and transcriptome landscapes with aging in mice reveals widespread induction of inflammatory responses. **Genome Research**, 29: 697-709.
65. Dulken BW, Buckley MT, Navarro Negredo P, Saligrama N, Cayrol R, Leeman DS, George BM, Boutet SC, Hebestreit K, Pluinage JV, Wyss-Coray T, Weissman IL, Vogel H, Davis MM, **Brunet A** (2019) Single-cell analysis reveals T cell infiltration in old neurogenic niches. **Nature**, 571: 205-210.
66. Booth LN, Maures TJ, Yeo RW, Tantilert C, **Brunet A** (2019) Self-sperm induce resistance to the detrimental effects of sexual encounters with males in hermaphroditic nematodes. **Elife**, 8. pii: e46418.
67. Mahmoudi S, Mancini E, Xu L, Moore A, Jahanbani F, Hebestreit K, Srinivasan R, Li X, Devarajan K, Prélôt L, Ang CE, Shibuya Y, Benayoun BA, Chang ALS, Wernig M, Wysocka J, Longaker MT, Snyder MP, **Brunet A** (2019) Heterogeneity in old fibroblasts is linked to variability in reprogramming and wound healing. **Nature**, 574: 553-558.
68. Ahadi S, Zhou W, Schüssler-Florenza Rose SM, Sailani MR, Contrepolis K, Avina M, Ashland M, **Brunet A**, Snyder M (2020) Personal aging markers and ageotypes revealed by deep longitudinal profiling. **Nature Medicine**, 26: 83-90.
69. Hu CK, Wang W, Brind'Amour J, Singh PP, Reeves GA, Lorincz MC, Alvarado AS, **Brunet A** (2020) Vertebrate diapause preserves organisms long term through Polycomb complex members. **Science**, 367: 870-874.
70. Vonk WIM, Rainbolt TK, Dolan PT, Webb AE, **Brunet A** and Frydman J (2020) Differentiation drives widespread rewiring of the neural stem cell chaperone network. **Molecular Cell**, 78: 329-345.e9.
71. Yan X, Zhao X, Zhou Z, McKay A, **Brunet A** and Zare RN (2020) Cell-type-specific metabolic profiling achieved by combining desorption electrospray ionization mass spectrometry imaging and immunofluorescence staining. **Anal Chem**, 92: 13281-13289.
72. Wang W, Hu C-K, Zeng A, Alegre D, Hu D, Gotting K, Ortega Granillo A, Wang Y, Robb S, Schnittker R, Zhang S, Alegre D, Li H, Ross E, Zhang N, **Brunet A**, and Sánchez Alvarado A (2020) Changes in regeneration-responsive enhancers shape regenerative capacities in vertebrates. **Science**, 369: eaaz3090.
73. Cabruja M, Priotti J, Domizi P, Papsdorf K, Kroetz DL, **Brunet A**, Contrepolis K, Snyder MP (2021) In-depth triacylglycerol profiling using MS³ Q-Trap mass spectrometry. **Anal Chim Acta**, 1184: 339023.

74. Booth LN, Shi C, Tantilert C, Yeo RW, Miklas JW, Hebestreit K, Hollenhorst CN, Maures TJ, Buckley MT, Murphy CT, and **Brunet A** (2022) Males induce premature demise of the opposite sex by multifaceted strategies. *Nat Aging*, 2: 809-823, doi: 10.1038/s43587-022-00276-y.
75. McKay A, Costa EK, Chen J, Hu C-K, Chen X, Bedbrook CN, Khondker RC, Thielvoldt M, Singh PP, Wyss-Coray T, and **Brunet A** (2022) An automated feeding system for the African killifish reveals effects of dietary restriction on lifespan and allows scalable measurement of associative learning. *ELife*, doi: 10.7554/eLife.69008.
76. Buckley MT, Sun ED, George BM, Liu L, Schaum N, Xu L, Reyes JM, Goodell MA, Weissman IL, Wyss-Coray T, Rando TA, and **Brunet A** (2023) Cell-type-specific aging clocks to quantify aging and rejuvenation in neurogenic regions of the brain. *Nat Aging*, 3:121-137, doi: 10.1038/s43587-022-00335-4.
77. Papsdorf K, Miklas JW, Hosseini A, Cabruja M, Morrow CS, Savini M, Yu Y, Silva-García CG, Haseley NR, Murphy LM, Yao P, de Launoit E, Dixon SJ, Snyder MP, Wang MC, Mair WB, **Brunet A** (2023) Lipid droplets and peroxisomes are co-regulated to drive lifespan extension in response to mono-unsaturated fatty acids. *Nat Cell Biol*, 25: 672-684. doi: 10.1038/s41556-023-01136-6.
78. Liu L, Kim S, Buckley MT, Reyes JM, Kang J, Tian L, Wang M, Lieu A, Mao M, Rodriguez-Mateo C, Ishak HD, Jeong M, Wu JC, Goodell MA, **Brunet A**, Rando TA (2023) Exercise reprograms the inflammatory landscape of multiple stem cell compartments during mammalian aging. *Cell Stem Cell*, 30:689-705.e4. doi: 10.1016/j.stem.2023.03.016.
79. Bedbrook CN, Nath RD, Nagvekar R, Deisseroth K, and **Brunet A** (2023) Rapid and precise genome engineering in a naturally short-lived vertebrate. *ELife*, doi: 10.7554/eLife.80639.
80. Yeo RW, Zhou OY, Zhong BL, Sun ED, Navarro Negredo P, Nair S, Sharmin M, Ruetz TJ, Wilson M, Kundaje A, Dunn AR, and **Brunet A** (2023) Chromatin accessibility dynamics of neurogenic niche cells reveal defects in neural stem cell adhesion and migration during aging. *Nat Aging*, 3:866-893, doi: 10.1038/s43587-023-00449-3.
81. Silva-García CG, Láscares-Lagunas LI, Papsdorf K, Heintz C, Prabhakar A, Morrow CS, Pajuelo Torres L, Sharma A, Liu J, Colaiácovo MP, **Brunet A**, Mair WB (2023) The CRTCC-1 transcriptional domain is required for COMPASS complex-mediated longevity in *C. elegans*. *Nat Aging*. 3:1358-1371, doi: 10.1038/s43587-023-00517-8.
82. Reyes JM, Tovy A, Zhang L, Bortoletto AS, Rosas C, Chen CW, Waldvogel SM, Guzman AG, Aguilar R, Gupta S, Liu L, Buckley MT, Patel KR, Marcogliese AN, Li Y, Curry CV, Rando T, **Brunet A**, Parchem RJ, Rau RE, Goodell MA (2024) Hematologic DNMT3A reduction and high-fat diet synergize to promote weight gain and tissue inflammation. *iScience*, 27:109122, doi: 10.1016/j.isci.2024.109122.
83. Sun ED, Ma R, Navarro Negredo P, **Brunet A**, Zou J (2024) TISSUE: uncertainty-calibrated prediction of single-cell spatial transcriptomics improves downstream analyses. *Nat Methods*, 21:444-454, doi: 10.1038/s41592-024-02184-y.
84. Xu L, Ramirez-Matias J, Hauptschein M, Sun ED, Lunger JC, Buckley MT and **Brunet A** (2024) Restoration of neuronal progenitors by partial reprogramming in the aged neurogenic niche. *Nat Aging*, 4:546-567, doi: 10.1038/s43587-024-00594-3.
85. Singh PP, Reeves GA, Contrepolis K, Papsdorf K, Miklas JW, Ellenberger M, Hu CK, Snyder MP, and **Brunet A** (2024) Evolution of diapause in the African turquoise killifish by remodeling the ancient gene regulatory landscape. *Cell*, 187:3338-3356.e30. doi: 10.1016/j.cell.2024.04.048.

86. Harel I, Chen YR, Ziv I, Singh PP, Heinzer D, Navarro Negredo P, Goshtchevsky U, Wang W, Astre G, Moses E, McKay A, Machado BE, Hebestreit K, Yin S, Sánchez Alvarado A, Jarosz DF* and **Brunet A*** (2024) Identification of protein aggregates in the aging vertebrate brain with prion-like and phase-separation properties. *Cell Rep*, 43: 112787. Doi: 10.1016/j.celrep.2023.112787.
87. Chen YR, Harel I, Singh PP, Ziv I, Moses E, Goshtchevsky U, Machado BE, **Brunet A*** and Jarosz DF* (2024) Tissue-specific landscape of protein aggregation and quality control in an aging vertebrate. *Dev Cell*, 59:1892-1911.e13.doi: 10.1016/j.devcel.2024.04.014.
88. Ruetz TJ, Pogson AN, Kashiwagi CM, Gagnon SD, Morton B, Sun ED, Na J, Yeo RW, Leeman DS, Morgens DW, Tsui CK, Li A, Bassik MC and **Brunet A** (2024) CRISPR-Cas9 screens reveal regulators of ageing in neural stem cells. *Nature*, 634:1150-1159. doi: 10.1038/s41586-024-07972-2.
89. Sun ED, Zhou OY, Hauptschein M, Rappoport N, Xu L, Navarro Negredo P, Liu L, Rando TA, Zou J* and **Brunet A*** (2025) Spatial transcriptomic clocks reveal cell proximity effects in brain ageing. *Nature*, 638:160-171. doi: 10.1038/s41586-024-08334-8.
90. Oh HS, Le Guen Y, Rappoport N, Urey DY, Rutledge J, Channappa D, Wagner AD, Mormino E, **Brunet A**, Greicius MD, Wyss-Coray T (2025) Plasma proteomics links brain and immune system aging with healthspan and longevity. *Nature Medicine*, doi: 10.1038/s41591-025-03798-1.
91. Navarro Negredo P, You J, Hauptschein M, Schroer AB, Richard DJ, Abhiraman GC, Tsai AP, Sun ED, Notarangelo G, Ramirez-Matias J, Zhou OY, Buckley MT, Malacon KE, Xu L, Sucharov J, Ramirez Lopez E, Picton L, Wyss-Coray T, Saxton RA, Fernandes RA, Villeda SA, Garcia KC, **Brunet A** (2026) Targeting immune cells in the aged brain reveals that engineered cytokine IL-10 enhances neurogenesis and improves cognition. *Immunity*, 59:458-476.e13. doi: 10.1016/j.immuni.2026.01.016.

Preprinted

92. Zhao X, Yan X, Contrepolis K, Vallania F, Ellenberger M, Kashiwagi CM, Gagnon SD, Siebrand CJ, Cabruja M, Traber GM, McKay A, Hornburg D, Khatri P, Snyder MP, Zare RN and **Brunet A*** (2022) Lipidomic profiling reveals age-dependent changes in complex plasma membrane lipids that regulate neural stem cell aging *BioRxiv*.
<https://doi.org/10.1101/2022.08.18.503095>
93. Costa EK, Chen J, Guldner IH, Mboning L, Schmahl N, Tsenter A, Wu MR, Moran-Losada P, Bouchard LS, Wang S, Singh PP, Pellegrini M, **Brunet A**, Wyss-Coray T (2025) Multi-tissue transcriptomic aging atlas reveals predictive aging biomarkers in the killifish. *bioRxiv*.
<https://www.biorxiv.org/content/10.1101/2025.01.28.635350v1>
94. Chakraborty M, Shi SM, Porter IE, Richard DJ, Marinov GK, Moore AA, Blum JLE, Natarajan A, Jahng JW, Wu JC, Lu SX, Davidson SM, Greenleaf WJ, Saw NL, Shamloo M, **Brunet A**, Wyss-Coray T, Bhatt AS (2025) Age-related microbiome metabolites alter RNA splicing and chromatin accessibility in the brain. *bioRxiv*.
<https://www.biorxiv.org/content/10.1101/2025.10.03.680371v2>
95. Bedbrook CN, Nath RD, Zhang L, Linderman SW, **Brunet A**, Deisseroth K (2025) Life-long behavioral screen reveals an architecture of vertebrate aging. *bioRxiv*.
<https://www.biorxiv.org/content/10.1101/2025.11.21.688112v1>

96. Sun ED, Buendia A, **Brunet A**, Zou J (2025) SpatialProp: tissue perturbation modeling with spatially resolved single-cell transcriptomics. *bioRxiv*.
<https://www.biorxiv.org/content/10.64898/2025.11.30.691355v1>

Invited Reviews and Commentaries

1. **Brunet A**, Brondello JM, L'Allemain G, Lenormand P, McKenzie F, Pagès G and Pouysségur J (1995) MAP kinase module: role in the control of cell proliferation *C R Seances Soc Biol*, 189: 43-57
2. **Brunet A** (1998) Signal transduction from membrane to the nucleus: variation on common themes. *Bull Cancer*, 85: 527-537
3. Datta SR, **Brunet A** and Greenberg ME (1999) Cellular survival: a play in three Akts. *Genes & Dev*, 13: 2905-2927.
4. **Brunet A**, Datta SR and Greenberg ME (2001) Transcription-dependent and -independent control of neuronal survival by the PI3K-Akt signaling pathway. *Curr Opin Neurobiol*, 11: 297-305.
5. Tran H, **Brunet A**, Griffith E, and Greenberg ME (2003) The Many Forks in FOXO's Road. *Sci STKE*, 172: RE5.
6. Greer EL, and **Brunet A** (2005) FOXO transcription factors at the interface between longevity and tumor suppression. *Oncogene*, 24:7410-7425.
7. Carter, ME, and **Brunet A** (2007) FOXO transcription factors. *Curr Biol*, 7: R113-114.
8. **Brunet A** and Rando T (2007) Aging: From stem to stern. *Nature*, 449: 288-289.
9. **Brunet A** (2007) Aging and cancer: killing two birds with one worm. *Nature Genetics*, 39: 1306-1307.
10. Greer EL and **Brunet A** (2008) FOXO transcription factors in ageing and cancer. *Acta Physiol*, 192: 19-28.
11. Greer EL and **Brunet A** (2008) Signaling networks in aging. *J Cell Sci*, 121: 407-412.
12. Calnan DR and **Brunet A** (2008) The FoxO code. *Oncogene*, 27: 2276-2288.
13. Salih DAM and **Brunet A** (2008) FoxO transcription factors in the maintenance of cellular homeostasis during aging. *Curr Opin Cell Biol*, 20: 126-136.
14. Greer EL, Banko MR and Brunet A (2009) AMP-activated protein kinase and FoxO transcription factors in dietary restriction-induced longevity. *Ann NY Acad Sci*, 1170: 688-692.
15. **Brunet A** (2009) Cancer: When restriction is good. *Nature*, 458: 713-714.
16. Rafalski V and **Brunet A** (2011) Energy metabolism in adult neural stem cell fate. *Prog Neurobiol*, 93: 182-203
17. Pollina EA and **Brunet A** (2011) Epigenetic regulation of aging stem cells. *Oncogene* 30: 3105-26
18. **Brunet A** (2011) A CRTCal link between energy and life span. *Cell Metab*, 13: 358-360.
19. Han S and **Brunet A** (2012) Histone methylation: making its mark on longevity. *Trends in Cell Biol*. 22: 42-9.
20. Mahmoudi S and **Brunet A** (2012) Aging and reprogramming: a two-way street. *Curr Opinion in Cell Biol*, 24: 744-756.
21. Rafalski VA, Mancini E and **Brunet A** (2012) Energy metabolism and energy-sensing pathways in mammalian embryonic and adult stem cell fate. *J Cell Science*, 125: 5597-608.
22. Lim JP and **Brunet A** (2013) Bridging the transgenerational gap with epigenetic memory. *Trends in Genetics*, 29: 176-186.

23. Webb AE and **Brunet A** (2013) FOXO flips the longevity SWItch. *Nat Cell Biol*, 15: 444-6.
24. Leeman DS and **Brunet A** (2014) Stem cells: Sex specificity in the blood. *Nature*, 505: 488-490.
25. Webb AE and **Brunet A** (2014) FOXO transcription factors: key regulators of cellular quality control. *Trends Biochem Sci*, 39: 159-169.
26. **Brunet A**, Berger SL (2014) Epigenetics of aging and aging-related disease. *J Gerontol A Biol Sci Med Sci Suppl*, 1: S17-20.
27. Kennedy BK, Berger SL, **Brunet A**, Campisi J, Cuervo AM, Epel ES, Franceschi C, Lithgow GJ, Morimoto RI, Pessin JE, Rando TA, Richardson A, Schadt EE, Wyss-Coray T, and Sierra F (2014) Geroscience: linking aging to chronic disease. *Cell*, 159: 709-713.
28. Han S and **Brunet A** (2015) Cell biology: Lysosomal lipid lengthens life span. *Science*, 347: 32-33.
29. Dulken B, **Brunet A** (2015) Stem Cell Aging and Sex: Are We Missing Something? *Cell Stem Cell*, 16: 588-90.
30. Booth LN, **Brunet A** (2015) Shockingly early: Chromatin-mediated loss of the heat shock response. *Mol Cell*, 59: 515-6.
31. Schroeder EA, **Brunet A** (2015) Lipid Profiles and Signals for Long Life. *Trends Endocrinol Metab*, 26: 589-92.
32. Benayoun BA, Pollina EA, **Brunet A** (2015) Epigenetic regulation of aging: linking environmental inputs to genomic stability. *Nat Rev Mol Cell Biol*, 16: 593-610.
33. Harel I, **Brunet A** (2015) The African Turquoise Killifish: A Model for Exploring Vertebrate Aging and Diseases in the Fast Lane. *Cold Spring Harb Symp Quant Biol*, 80:275-9.
34. Hardie DG, Schaffer BE, **Brunet A** (2016) AMPK: An Energy-Sensing Pathway with Multiple Inputs and Outputs. *Trends Cell Biol*, 26: 190-201.
35. Yeo R and **Brunet A** (2016). Deconstructing dietary restriction: a case for systems approaches in aging. *Cell Metab*, 23: 395-96.
36. Booth LN and **Brunet A** (2016). The aging epigenome. *Molecular Cell*, 62: 728-44.
37. Mahmoudi S and **Brunet A** (2016). Burst of reprogramming: a path to extend lifespan? *Cell*, 167: 1672-1674.
38. **Brunet A** and Rando T (2017). Interaction between epigenetic and metabolism in stem cell aging. *Current Opinion in Cell Biology*, 45:1-7.
39. Kao AW, McKay A, Singh PP, **Brunet A**, Huang EJ (2017). Progranulin, lysosomal regulation and neurodegenerative disease. *Nature Rev Neuroscience*, 18:325-333.
40. Russell JJ, Theriot JA, Sood P, Marshall WF, Landweber LF, Fritz-Laylin L, Polka JK, Oliferenko S, Gerbich T, Gladfelter A, Umen J, Bezanilla M, Lancaster MA, He S, Gibson MC, Goldstein B, Tanaka EM, Hu CK, **Brunet A** (2017) *BMC Biol*, 15: 55.
41. Dulken BW and **Brunet A** (2018). Same path, different beginnings. *Nature Neuroscience*, 21: 159-160.
42. Hu CK and **Brunet A** (2018). The African turquoise killifish: A research organism to study vertebrate aging and diapause. *Aging Cell*, 17: e12757.
43. Papsdorf K and **Brunet A** (2019). Linking Lipid Metabolism to Chromatin Regulation in Aging. *Trends Cell Biol*, 29:97-116.
44. Mahmoudi S, Xu L, and **Brunet A** (2019). Turning back time with emerging rejuvenation strategies. *Nat Cell Biol*, 21: 32-43.
45. Singh PP, Demmitt BA, Nath RD, and **Brunet A** (2019). The Genetics of Aging: A Vertebrate Perspective. *Cell*, 177: 200-220.
46. Miklas JW, **Brunet A** (2020). Support cells in the brain promote longevity. *Science*, 367: 365-366.

47. **Brunet A** (2020). Old and new models for the study of human ageing. *Nature Reviews Molecular Cell Biology*, doi: 10.1038/s41580-020-0266-4.
48. Navarro Negredo P, Yeo RW, and **Brunet A** (2020) Aging and rejuvenation of neural stem cell niches. *Cell Stem Cell*, 27: 202-223.
49. Navarro Negredo P and **Brunet A** (2021) Unwanted help from T cells in the aging central nervous system. *Nature Aging*, 1:330-331.
50. Miklas JW and **Brunet A** (2022) Long life depends on open communication. *Nature Cell Biology*, 24:808-810.
51. **Brunet A***, Goodell MA*, and Rando TA* (2022) Ageing and rejuvenation of stem cells and their niches. *Nature Rev. Mol Cell Biol*, doi: 10.1038/s41580-022-00510-w.
52. Zhou OY and **Brunet A** (2023) Seeing is believing: old clones die young. *Nat Aging*, 3: 371-373. doi: 10.1038/s43587-023-00394-1.
53. Sun ED, Nagvekar R, Pogson AN and **Brunet A** (2025) Brain aging and rejuvenation at single-cell resolution. *Neuron*, 113:82-108, doi: 10.1016/j.neuron.2024.12.007.
54. Rando TA, **Brunet A**, and Goodell MA (2025) Hallmarks of stem cell aging. *Cell Stem Cell*, 32:1038-1054, doi: 10.1016/j.stem.2025.06.004.

Book Chapters

1. **Brunet A** and Pouysségur J (1997) Mammalian MAP kinase modules: how to transduce specific signals. *Essays Biochem*, 32: 1-16.
2. **Brunet A**, Tran H and Greenberg ME (2003) The FOXO family of transcription factors: key targets of the PI3K-Akt pathway that regulate cell proliferation, survival and organismal aging. *Handbook of Cellular Signaling*. 3: 251.
3. Greer EL and **Brunet A** (2010) The genetic network of lifespan extension by caloric restriction. *Handbook on the Biology of Aging*.
4. **Brunet A**, Mahmoudi S, Mancini E, Rafalski VA, and Webb AE (2014) Longevity pathways in mammalian stem cells. *Annual Review of Gerontology and Geriatrics*, Volume 34, 2014: Genetics.
5. Nath RD, Bedbrook CN, Nagvekar R, **Brunet A** (2023) Husbandry of the African Turquoise Killifish *Nothobranchius furzeri*. *Cold Spring Harb Protoc*. doi: 10.1101/pdb.prot107738.
6. Chen J, Khondker RC, **Brunet A** (2023) Breeding and Reproduction of the African Turquoise Killifish *Nothobranchius furzeri*. *Cold Spring Harb Protoc*. doi: 10.1101/pdb.prot107816.
7. Bedbrook CN, Nath RD, Barajas R, **Brunet A** (2023) Life Span Assessment in the African Turquoise Killifish *Nothobranchius furzeri*. *Cold Spring Harb Protoc*. doi: 10.1101/pdb.prot107917.
8. Reeves GA, Singh PP, **Brunet A** (2023) Chromatin Accessibility Profiling and Data Analysis using ATAC-seq in *Nothobranchius furzeri*. *Cold Spring Harb Protoc*, doi: 10.1101/pdb.prot107747.
9. Boos F, Chen J, **Brunet A** (2023) The African Turquoise Killifish: A Scalable Vertebrate Model for Aging and Other Complex Phenotypes. *Cold Spring Harb Protoc*, doi: 10.1101/pdb.over107737.

Commentaries on our Research

1. Chen E and Finkel T (2009) Preview. The Tortoise, the hare, and the FoxO. *Cell Stem Cell*, 5: 451-452.
2. Suh Y. and Vijg J (2010) Preview. The Long and Short of Fertility and Longevity.

- Cell Metabolism**, 12: 209-210
3. Mango SE (2011). News and Views. Ageing: generations of longevity. **Nature**, 479: 302-303.
 4. Muers M (2011). New and Views. Epigenetics: inheriting a long life. **Nat Rev Genet**, 12: 806-807.
 5. Berger SL (2012). Preview: Transgenerational Inheritance of Longevity: Epigenetic Mysteries Abound. **Cell Metabolism**, 15: 6-7.
 6. Robitaille AM and Hall MN (2012) Ramping up mitosis: an AMPK α 2-regulated signaling network promotes mitotic progression. **Molecular Cell**, 45: 8-9.
 7. Zuccaro E and Arlotta P (2013) The quest for myelin in the adult brain. **Nat Cell Biol** 2013 15: 572-575.
 8. Promislow DE and Kaeberlein M (2014) Chemical warfare in the battle of the sexes. **Science**, 343: 491-
 9. Finch CE and Tower J (2014) Sex-specific aging in flies, worms, and missing great-granddads. **Cell**, 156: 398-399.
 10. Wang AM, Promislow DE, Kaeberlein M (2015) Fertile water for aging research. **Cell**, 160:814-815.
 11. Lakhina V, Murphy CT (2015) Genome Sequencing Fishes out Longevity. **Cell**, 163:1312-1313.
 12. Simic MS, Dillin A (2018) The Lysosome, Elixir of Neural Stem Cell Youth. **Cell Stem Cell**, 22: 619-620.
 13. Bond AM, Song H (2019) Infiltration of old brains by T cells causes dysfunction of neural stem cells. **Nature**, 571: 178-179.
 14. Rustenhoven J, Herz J, Kipnis J (2019) Old T cells interfer(on) with neurogenesis. **Trends Immunol.** 40: 783-785.
 15. Sutphin GL (2019) A new defense in the battle of the sexes. **ELife**, pii: e50140.
 16. Van Gilst M (2020) A time to grow and a time to pause. **Science**, 367: 851-852.
 17. Sifoglu D, Alcedo J (2022) Homme fatal: how males cause demise. **Nature Aging**, 2: 773-774.
 18. Mathuru AS (2022) The holy grail of longevity research. **Elife**. 11:e85001.
 19. Mendenhall, A.R. (2023) Mediterranean mechanisms of longevity. **Nat Cell Biol**, doi: 10.1038/s41556-023-01115-x.
 20. Asmussen NC, Schafer MJ (2024) Partial reprogramming of the mammalian brain. **Nat Aging**, 4:440-442, doi: 10.1038/s43587-024-00596-1.
 21. Zhang J, Liu Q (2026) Shedding light on interventions for brain aging. **Immunity**, 59:235-237. doi: 10.1016/j.immuni.2026.01.021.