

CURRICULUM VITAE

NANCY M. BONINI

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Education & Training:

- 1981 A.B. Biology, Princeton University
Undergraduate thesis advisor: Dr. William G. Quinn, Department of Biology
Project: Learning behavior in *Drosophila*.
- 1987 Ph.D. Neuroscience, Neurosciences Training Program, Univ. of Wisconsin-Madison
Graduate thesis advisor: Dr. David L. Nelson, Department of Biochemistry
Project: Regulation of ciliary motility by membrane potential in *Paramecium*.
- 1983 Cold Spring Harbor summer course "Molecular and Cellular Neurobiology"
1988 Cold Spring Harbor summer course "Neurobiology of *Drosophila*"
1988-1994 Research Fellow in Biology, California Institute of Technology.
Postdoctoral Advisor: Dr. Seymour Benzer, Division of Biology
Project: Molecular control of cell survival in the nervous system.
- 2008 Cold Spring Harbor summer course "*C elegans*"

Positions:

- 1994-2000 Assistant Professor, Department of Biology, University of Pennsylvania
1995- Member of David Mahoney Institute for Neurological Sciences
2000-2005 Associate Professor, Department of Biology, University of Pennsylvania
2000- Department of Neuroscience, University of Pennsylvania Medical School,
Secondary Faculty Appointment
- 2000-2013 Investigator of the Howard Hughes Medical Institute
2005- Professor, Department of Biology, University of Pennsylvania
2006-2012 Lucille B Williams Term Professor of Biology, University of Pennsylvania
2009-2014 Member of the Penn Genome Frontiers Institute
2012- Florence RC Murray Professor of Biology, University of Pennsylvania
2012- Member of the Institute of Regenerative Medicine, Neuroscience Program
2013- Cell and Developmental Biology Department, University of Pennsylvania Medical
School, Adjunct Faculty Appointment
- 2013- Affiliate Scientist, Lawrence Berkeley National Laboratory, Dept of Genome Dynamics
2014, 2018 Visiting scientist Feb 2014, Jan 2018, Salk Institute, with Dr. Joe Ecker
2014-2020 Associate Member, Computational and Integrative Biology Center, Rutgers University
Camden, NJ
- 2019- Member of the Penn Epigenetics Institute

Honors & Awards:

- 1983 Grass Foundation Fellowship CSH, for summer course "Molecular & Cellular
Neurobiology"
- 1988 Jerzy E. Rose Neuroscience Award for Research in the Neural Sciences, University of
Wisconsin-Madison, for PhD thesis work.
- 1988 CSH Laboratory scholarship, for summer course "Neurobiology of *Drosophila*"
1989 American Cancer Society postdoctoral fellowship
1991 American Cancer Society postdoctoral fellowship, California Division
1995 John Merck Scholars Award in the Biology of Developmental Disabilities in Children

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| 1996 | March of Dimes, Basil O'Connor Award |
| 1997 | Alzheimer's Association Award |
| 1997 | David and Lucile Packard Fellowship for Science and Engineering |
| 1998-2000 | Huntington's Disease Society of America, Coalition for the Cure Award |
| 1999-2001 | Hereditary Disease Foundation, Cure Huntington's Disease Initiative Award |
| 2000 | Investigator of the Howard Hughes Medical Institute, national competition |
| 2001, 2002 | G. William Fox Corporate Humanitarian Award |
| 2002 | Princeton Day School Achievement Award, Princeton, NJ, outstanding achievement |
| 2008 | Fidelity Foundation Award |
| 2009 | NIH EUREKA (Exceptional, Unconventional Research Enabling Knowledge Acceleration) |
| 2009 | Ellison Medical Foundation Senior Scholar in Aging Research |
| 2012 | Elected Fellow of the American Association for the Advancement of Science |
| 2012 | Elected Member of the National Academy of Sciences |
| 2012 | Elected Member of the National Academy of Medicine |
| 2014 | Elected Fellow of the American Academy of Arts and Sciences |
| 2015 | Glenn Award for Research in the Biological Mechanisms of Aging |
| 2016 | NIH Outstanding Investigator R35 Award, NINDS |
| 2017 | Excellence in Teaching Award, Department of Biology, University of Pennsylvania |
| 2020 | Excellence in Teaching Award, Department of Biology, University of Pennsylvania |
| 2022 | The John Scott Award, City Trusts of Philadelphia |

Major Meeting Organizer:

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| 2000 | Co-organizer, 12 th National Academy of Sciences Symposium <i>Frontiers of Science</i> , November |
| 2001 | Co-organizer of the Neurobiology of Disease Workshop on Triplet Repeat Diseases, Society for Neuroscience, November |
| 2003 | Co-organizer Society for Developmental Biology Mid-Atlantic Meeting, May |
| 2006 | Co-organizer, Parkinson's Disease: Insights from Genetic and Toxin Models, Banbury Center, Cold Spring Harbor Laboratory, May |
| 2005 | Session organizer, Cold Spring Harbor Laboratory <i>Drosophila</i> Neurobiology Meeting, for session entitled "Neuronal Cell Biology and Pathology," October |
| 2006 | Organizing Committee, 1 st International Parkinson's Disease World Congress Meeting |
| 2008 | Co-organizer, 49 th Annual <i>Drosophila</i> Research Conference, April |
| 2011 | Co-organizer, Cold Spring Harbor Laboratory meeting on "Neurobiology of <i>Drosophila</i> ", October |
| 2016 | Co-organizer, 57 th Annual <i>Drosophila</i> Research Conference. Launch of a new meeting format, with integrated genetics meetings of multiple systems, including mouse, <i>C elegans</i> and zebrafish. |
| 2020- | Co-Organizer, Wellcome Trust course in Neurodegenerative Disease, Wellcome Center, UK |

Scientific & Review Boards:

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| 1995-1997 | Council Member Society for Neuroscience, Philadelphia Chapter |
| 2001-2002 | Neurobiology of Disease Advisory Committee, Society for Neuroscience |
| 2001-2003 | Coalition for the Cure Steering Committee, Huntington's Disease Society of America |
| 2002-2004 | Member of the NINDS Scientific Review Council |
| 2004-2008 | Medical & Scientific Advisory Committee, Huntington's Disease Society of America |
| 2004-2008 | Coalition Review Committee, Huntington's Disease Society of America |
| 2004-2008 | Grants and Fellowships Review Committee, Huntington's Disease Society of America |
| 2004-2007 | Janelia Farms Group Leader Search Committee, Howard Hughes Medical Institute |
| 2005 | Scientific Advisory Board for the Thomas Hartman Foundation Cold Spring Harbor Laboratory Parkinson's Research Partnership |
| 2005 | Reviewer, Taube Prize for Huntington's Disease Research, for Institute of Neurodegenerative Diseases of the University of California |
| 2005-2009 | Member of Cellular and Molecular Neurodegeneration (CMND) study section, NIH |
| 2007-2009 | Genetics Society of America, Board of Directors |
| 2007-2010 | Scientific Advisory Board member, Genome Espana, Cetegen, Spain |
| 2010-2013 | National <i>Drosophila</i> Board |

2010 VIB Review Board, Department of Molecular and Developmental Genetics, Belgium
 2012-2016 Scientific Review Board, The Telethon Foundation, Italy
 2016 Scientific Reviewer, Howard Hughes Medical Institute International Predoctoral Fellowships.
 2016 Theme Selection Committee for the 2018 Bower Award and Prize for Achievement in Science, The Franklin Institute, Philadelphia, PA
 2017 Selection Committee, National Academy of Sciences, Lounsbery Award
 2016, 2018 Class Membership Committee (CMC), Class II, National Academy of Sciences.
 2011-2020 Scientific Review Board, National Ataxia Foundation
 2012-2021 Scientific Research Advisory Board, Project A.L.S
 2017-2020 Image Award Committee, *Drosophila* Research Conference.
 2019-2021 Scientific Reviewer for The Edward N and Della L Thorne Memorial Foundation Awards Program in Alzheimer's Disease Drug Discover Research.
 2020 Chan Zuckerberg Review Committee, for Chan Zuckerberg Biohub Investigators (UCSF, Stanford, Berkeley)
 2020-2022 Class II secretary, National Academy of Sciences
 2017-2022 Scientific Advisory Board, Glenn Foundation for Medical Research

 2012- Scientific Advisory Board, Bloomington *Drosophila* Stock Center
 2018- Committee on Life Sciences, Franklin Awards, The Franklin Institute.
 2021- Scientific Review Board, The Life Sciences Research Foundation.
 2023- Scientific Advisory Board, UK Dementia Research Institute Centre, King's College London.

Editorial Positions:

2004-2007 Associate Editor, Journal of Neuroscience
 2010-2012 Associate Editor, Journal of Clinical Investigation
 2005-2015 Editorial Board, Annual Reviews of Genetics
 2015-2016 Guest Editor, Disease models and Mechanisms, with Norbert Perrimon
 2016-2017 Guest Editor, Current Opinion in Developmental Genetics, with Allen Roses.
 2016-2020 Editor-in-Chief, Annual Review of Genetics
 2021 Co-Editor-in-Chief, Annual Review of Genetics

 2012- Ad hoc Editor, PNAS
 2016- Editorial Board, Disease Models and Mechanisms
 2021- Editorial Board, PNAS Nexus

Federal Advisory and Other National Service:

2002-2004 Member of the NINDS Scientific Review Council
 2005-2009 Member of CMND study section (formerly NDBG)
 2009, 2011 Reviewer for NIH Pioneer Awards
 2015-2016 Ad-hoc member of MNG (Molecular Neurogenetics) study section.
 2016-2020 Member of MNG (Molecular Neurogenetics) Study Section
 2018-2020 Chair, Molecular Neurogenetics Study Section (from fall 2018)
 1994- Ad-hoc reviewer NEI, NINDS, NIA, Pioneer grants, Transformative grants, R35 grants.

Scientific Society Memberships

American Association for the Advancement of Science
 American Academy of Arts and Sciences
 American Physiological Society
 American Society for Biochemistry & Molecular Biology
 American Society for Cell Biology
 Genetics Society of America
 International Society for Frontotemporal Dementias, Founding Member
 Society for Neuroscience
 National Academy of Sciences

National Academy of Medicine

Patents and Disclosures:

US patent Application No 12/965,618, July 2011, UPenn Docket No W5390US

Compositions and methods for the diagnosis and treatment of Amyotrophic Lateral Sclerosis

US patent Application/not being pursued NO. 61/547,594, Oct 2012, UPenn Y6028.

Trimmer-mediated microRNA processing

Disclosure Reference Y6128, Dec 2011

Novel fly wing model for acute neural injury.

Disclosure Reference X5985, June 2011

miR-34 modulation with anti-aging and anti-neurodegenerative therapeutic applications

Disclosure Oct 2016

Device to produce traumatic brain injury in model organisms

Disclosure July 2018, Tech ID 19-8733

Inhibitors of PARP1 and PARP2 activity for the treatment of ALS and FTD

Disclosure July 2018, Tech ID 19-8734

Inhibitors of PARP5a and PARP5b activity in the treatment of ALS and FTD

Disclosure April 2019, Tech ID 19-9003

CBP/P300 inhibitors for Alzheimer's disease treatment.

Disclosure January 2023

ACSS2

Plenary, Symposia & Distinguished Lectures

1995 Gordon Research Conference on Cell Death, July

1996 13th Annual Neuroscience Retreat Symposium, U Penn Medical School, April

1997 Drosophila Research Conference, Workshop on Aging, Washington, DC

1997 Developmental Biology Symposium, Department of Cell and Molecular Biology, University of Pennsylvania Medical School, Sept

1998 XIII International Congress on Eye Research, Symposium

"Responsible genes for early development of the eye," Paris, France, July

1998 The Royal Society, London, Symposium on Glutamine Repeats & Inherited Neurodegenerative Diseases: Molecular Aspects, October

1999 FASEB conference Amyloids and Other Protein Misfolding Processes, Copper Mountain, CO, June

1999 American Society for Cell Biology, 39th Annual Meeting, Symposium Cellular Degeneration and Disease, Washington DC, December

1999 National Academy of Sciences, 11th annual symposium on *Frontiers of Science*, Polyglutamine Disease/Cell Death, November

1999 International Symposium on Parkinson's Disease Research, Sixth National Parkinson Foundation Meeting, Miami, Fla., Oct

1999 German Society of Genetics, Annual Meeting, Symposium, Neuherberg, Oct

2000 University of Tokyo, Symposium on Neural Development and Degeneration, Tokyo, Japan, Jan

2000 Society for Neuroscience, 30th Annual Meeting, Symposium organizer & speaker, "Invertebrate models for human neurodegenerative disease," New Orleans, Nov.

2000 NIH Fly workshop program "Drosophila: Direct flight to understanding human disease and behavior," HHMI Conference Center, Chevy Chase, Maryland, Sept

2000 NINDS Retreat, Arlington, VA, July

2000 World Alzheimer's Congress 2000 event, 7th International Conference on Alzheimer's Disease and Related Disorders, Symposium speaker, Washington DC, July

2000 *Drosophila* Research Conference, 41st Annual Meeting, Plenary speaker, Pittsburgh, PA, March

2001 Gordon Research Conference on CAG Triplet Repeat Disorders, July

2001 American Academy of Neurology, "Genetics in Neurology", 53rd Annual Mtg, May

2001 University of Pennsylvania Neuroscience Retreat, April 19, 2001

2001 Workshop on "Molecular, Cellular and Clinical Aspects of Neurodegenerative diseases," Zermatt, Switzerland, January

- 2002 Adler Symposium, The Salk Institute, La Jolla, CA , January
- 2002 Sackler Colloquium on Self-perpetuating Structural States in Biology, Disease and Genetics, National Academy of Sciences, Washington, D.C., March
- 2002 Molecular Chaperones and the Heat Shock Response, Cold Spring Harbor Laboratory, May
- 2002 Pharmacia Symposium, Kalamazoo, MI, October
- 2002 Therapeutic Opportunities in Neurodegenerative Diseases, CSH Laboratory, Dec
- 2003 Gordon Conference on Aging, Irvine, California, March
- 2003 “Genetics in Neurology”, American Academy of Neurology, 55rd Annual Mtg, Hawaii, May
- 2003 Queenstown Molecular Biology Meeting, Queenstown, New Zealand, August
- 2003 National Parkinson’s Convention, 8th International, New Orleans, November
- 2004 Genetics Society of Australia, 51st Annual Conference, Melbourne, Australia, July
- 2004 Annual Meeting of the Swedish Society for Biochemistry & Molecular Biology, Linkoping University, Sweden, October
- 2004 Gerontological Society of America, Washington, DC, Nov.
- 2005 Onassis Lectures on “Programmed cell death and cell signaling in development and disease, Heraklion, Crete,
- 2005 Session Chair, Gordon Conference on CAG Triplet Repeat Disorders, Mt. Holyoke, July
- 2005 Scripps/Oxford International Biotechnology Conference Symposium, Palm Beach, Florida, Nov.
- 2006 Speaker & organizer, Parkinson’s Disease: Insights from Genetic and Toxin Models, Banbury Center, Cold Spring Harbor Laboratory, May
- 2006 Speaker & session chair, Keystone Symposium on Protein Misfolding Diseases: Mechanisms of Misfolding, Pathology and Therapeutic Strategies, Feb
- 2006 Swiss Society of Neuropathology biannual Meeting, St. Moritz, Switzerland, March
- 2006 Plenary, European Drosophila Neurobiology Meeting, Sept. 2-6, 2006
- 2007 Speaker & session chair, Keystone Symposium on Molecular Mechanisms of Neurodegeneration, Jan
- 2007 Franklin Institute Symposium in honor of Dr. Nancy Wexler, Franklin Life Sciences Award winner, Penn Department of Genetics, April
- 2007 Speaker, EMBO conference, The Biology of Molecular Chaperones, Tomar, Portugal, June
- 2007 Session leader, Gordon Research Conference, Oxford University, August
- 2007 Keynote Lecture, Protein misfolding and Neurological disorders symposium, Dunk Island, Australia, October
- 2008 Speaker, A Memorial to Seymour Benzer, Caltech, March
- 2008 Speaker, 2nd International Genome Dynamics & Neuroscience Meeting, Asilomar, June
- 2008 Speaker, RNA and the Etiology of Disease, Rome, Italy, June
- 2008 Speaker, 20th International Congress on Genetics, Berlin, Germany, July
- 2008 Zu Rhein Lecturer, Gabriele M. Zu Rhein Lecture, University of Wisconsin-Madison, Oct
- 2009 Speaker, 6th International Conference on Unstable Microsatellites and Human disease, Costa Rica, Jan
- 2009 Speaker, Research and Perspectives in Neurosciences, Fondation IPSEN, Paris, April
- 2009 Donders Lecturer, The Donders Institute for Brain, Cognition and Behaviour, The Radboud University Nijmegen Medical Centre, The Netherlands, May
- 2009 59th Annual Meeting of the American Human Genetics, Symposium on Model Organisms and Darwin’s legacy, October
- 2010 Charlie Rose: The Brain Series with Eric Kandel—The Disordered Brain (guests Nancy Bonini, John Donoghue, John Krakauer, and Mahlon DeLong), July
- 2010 Penn Genomic Frontiers and the Franklin Institute public program “Genomics and Health: Cradle to Grave”, March
- 2010 EMBO workshop, Proteolysis and Neurodegeneration, Organized by InProteolys, Spain, May
- 2010 OzBio2010, International Conference on “Molecules of Life: from discovery to Biotechnology” Melbourne, Australia, Oct
- 2010 7th International Conference on Frontotemporal Dementias, Oct
- 2011 Model Systems of Aging, Cologne, Germany, March
- 2011 European Society of Human Genetics, Amsterdam, May
- 2011 CAG Triplet Repeat Disorders Gordon Research Conference, June

- 2011 Keynote, Penn Genetics Symposium on Human Disease Models, Nov
- 2012 Keystone Symposium "Protein-RNA Interactions in Biology and Disease, March
- 2012 Keynote, Fourth Ataxia Investigators Meeting "Advancing Toward Therapeutics", San Antonio, Texas, March
- 2012 7th International Conference on Unstable Microsatellites and Human Disease, France, June
- 2013 Plenary, 54th Annual Drosophila Research Conference, April
- 2013 Colloquium on the Biology of Human Aging, Brown University, May
- 2013 Ellison Meeting on the Biology of Aging, Woods Hole, Aug
- 2013 SFN Satellite meeting RNA metabolism in Neurological Disease, Sept
- 2014 Liu Lecturer, University of Pennsylvania School of Medicine, April
- 2014 Welcome Trust Meeting, Translational Control of Brain Function in Health and Disease, July
- 2014 Ellison Meeting on the Biology of Aging, Woods Hole, Aug
- 2014 ALS/FTD Satellite Meeting, Society for Neuroscience, Nov
- 2015 Simons Science Series Speaker, Simons Foundation, May
- 2015 NIH workshop Neurocognition & Metabolism, July
- 2015 41st Annual Yoga Research Society, Plenary Speaker, Oct, "Insights into Genetic Healing"
- 2015 SFN Satellite meeting RNA metabolism in Neurological Disease, October
- 2016 Templeton Foundation Meeting speaker, "Big Questions in Neuroscience", January, Tucson, AZ
- 2016 Annual Society of Neurology, Plenary Speaker, Denver, CO, March
- 2017 Symposium Speaker, Year of Neuroepigenetics, Perelman School of Medicine, January
- 2017 Everson Lecture in Biochemistry, UW-Wisconsin, March
- 2017 Special Lecture, Plenary for Neurodegenerative Disorders & Injury, Society for Neuroscience, Washington DC, November
- 2018 Key Speaker, 38th Blankenese Conference, "Translating translation: From basic mechanisms to molecular medicine," May
- 2019 Symposium Speaker, National Ataxia Meeting, Washington, DC November 2019
- 2020 Barbara McCormick Memorial Lecture, LiveLikeLou Center for ALS research, University of Pittsburgh Brain Institute, May 2020 [COVID cancelled]
- 2020 Speaker, RNA mechanisms and Brain Disease, Denmark [COVID-19 cancelled]
- 2020 Symposium Speaker, Gordon Research Conference, Hong Kong, July 2020 [COVID-19 cancelled]
- 2020 St. Geme Lectureship, University of Colorado Medical School, Sept 2020 [Webinar]
- 2021 Symposium Speaker in University College London Healthy Aging series Neurodegeneration in Flies, Jan 2021 [Webinar]
- 2021 Symposium Speaker, Brain Awareness Week, Regional Centre for Biotechnology, Delhi, India March 2021 [Webinar]
- 2021 Plenary Speaker, Macquarie Neurodegeneration Meeting, September, Australia [Webinar]
- 2021 Symposium Speaker, 4th Annual ALS Research Symposium, U Mass Worcester, November [Webinar]
- 2022 Plenary Lecture, 25th Annual Mtg Korean Society for Brain and Neural Sciences, May [Webinar]
- 2023 34th Annual Wassenberg Memorial Lecture on Genetic Disease Research, San Diego State University, March
- 2023 Harvey Lecture, Rockefeller University, October 19th

Invited seminar presentations:

- 1995 Temple University, Department of Biology, 2/95
Bryn Mawr College, Department of Biology, 3/95
University of Pennsylvania, Department of Genetics, 11/95
- 1996 City College of New York, Department of Biology, 2/96
Rutgers University, Department of Molecular Biology and Biochemistry, 3/96
University of Pennsylvania, Department of Chemistry, 4/96
University of Toronto, The Hospital for Sick Children,
Dept of Molecular & Medical Genetics, 5/96
University of Pennsylvania, Department of Neuroscience, 9/96
- 1997 Drexel University, Department of Biosciences, 1/97

- National Eye Institute, National Institutes of Health, 2/97
 Princeton University, Department of Molecular Biology, 5/97
 University of Pennsylvania, Department of Psychology, 11/97
- 1998 University of Pittsburgh, Department of Neuroscience, 2/98
 University of Iowa, Department of Biology, 10/98
- 1999 University of Pennsylvania Women's Club, 10/99
 University of Texas Southwest Medical Center, Dept of Cell Biology & Neuroscience, 11/99
- 2000 University of Pennsylvania, Department of Neuroscience, 2/00
 Temple University, Department of Biology, 2/00
 Skirball Institute of NYU School of Medicine, Developmental Genetics Program, 4/00
 Mass General Hospital, Cancer Center, 4/00
 University of Pennsylvania, Vet school, Department of Biochemistry, 5/00
 Baylor College of Medicine, Memory and Aging Program, 9/00
 University of Pennsylvania, Center for Neurobiology and Behavior Seminar Series, 9/00
 University of Wisconsin, Department of Genetics, 10/00
 Fox Chase Cancer Center, 11/00
 Harvard University School of Medicine, Dept of Cell Biology, 12/00
- 2001 University of Washington, Seattle, WA, Department of Genetics, 2/01
 UCSF, Department of Physiology, Neuroscience Seminar Series, 2/01
 Carnegie Institute of Washington, Baltimore, MD 2/01
 University of Iowa Medical College, Department of Neurology, 2/01
 Emory University School of Medicine, Dept of Cell Biology, Atlanta, Georgia 3/01
 Stowers Institute, Kansas 11/01
- 2002 University of Virginia, Charlottesville, Department of Biology, 2/02
 NIH Neuroscience series, NINDS 3/02
 Grace Kimball Memorial Seminar Speaker, Wilkes University, 4/02
 Merck Pharmaceutical Company, Ft. Collins, PA 6/02
 California Institute of Technology, Department of Biology, Pasadena, CA 9/02
 Yale University, Department of Biochemistry and Biophysics, New Haven, Conn. 11/02
- 2003 University of Pennsylvania, Department of Chemistry, 2/03
 Johns Hopkins University, Department of Biology, Baltimore, MD, 5/03
 MRC Human Genetics Unit, Edinburgh, Scotland, 6/03
 University of Michigan, Ann Arbor, 10/03
 Burnham Institute, La Jolla, CA 12/03
- 2004 Gladstone Institute of Neurological Disease, San Francisco, CA 4/04
 Lawrence Berkeley National Laboratories, Berkeley, CA 4/04
 Franklin Institute, "The human brain—Research & Rewards" prequel webcast seminar
 for Dr. Seymour Benzer, Bower Laureate for Achievement in Science, 4/04
 Max Delbrück Center for Molecular Medicine, Berlin, Germany 6/04
 Children's Hospital of Philadelphia, Inaugural speaker for Genes, Genomes & Pediatric
 Disease Seminar Series, 9/04
- 2005 University of Arizona, Tucson, spring 2005
 Columbia University, Department of Physiology, spring 2005
 Washington University at St. Louis, Department of Neuroscience, spring 2005
 Vollum Institute and Oregon Health Sciences University, Portland, Oregon, Dec 2005
- 2007 Stanford University, Pathology and Neurobiology Departments, Feb 2007
- 2008 University of Arizona, Tucson, Neuroscience Program, Sept 2008
 University of California, Santa Cruz, Molecular Cell & Developmental Biology, Nov 2008
 University of Minnesota, Genetics, Cell Biology & Development, Nov 2008
- 2010 Yale University, Cellular Neuroscience, Neurodegeneration & Repair, May 2010
 Heller Lecture, Interdisciplinary Center for Neural Computation, Hebrew University of
 Jerusalem, June 2010
 Roland Lecture, Interdisciplinary Center for Neural Computation, Hebrew University of
 Jerusalem, June 2010
 University of Indiana, Bloomington, Department of Biology, Nov 2010

- 2011 Columbia University School of Medicine, Motor Neuron Center Seminar, Feb 2011
 Institute of Molecular Biology, Academia Sinica, National Academy of Taiwan, Taipei. Sept
 Shanghai Jiaotong University, Shanghai, Sept 2011
 Brandeis University, Department of Biochemistry, Nov 2011
 U Mass-Worcester, Department of Neurology, Nov 2011
- 2012 Friedman Brain Institute, Mt Sinai School of Medicine, Neuroscience series, Sept 2012
 The Jackson Laboratory, Oct 2012
 MIT, Picower Brain Institute, Nov 2012
- 2013 University of Colorado, Boulder, Feb 2013
 University of California, Santa Barbara, Feb 2013
 University of Pennsylvania Medical School, Department of Genetics, Sept 2013
 Lawrence Berkeley National Laboratory, Oct 2013
 Harvard Medical School, Department of Genetics, Nov 2013
- 2014 The Scripps Research Institute, Department of Molecular & Experimental Medicine, Feb 2014
 Brown University, Department of Neuroscience, Dec 2014
- 2016 Weill Medical College, NYC, NY, April 2016
- 2017 Drexel University, January 2017
 NIH NIDDK, March 2017
 Denver Medical School, April 2017
 Haverford College, Department of Biology, Sept 2017
 Translational Research Seminar, CHOP, Philadelphia, October 2017
- 2018 Cornell University, March 2018
 University of Iowa, April 2018
 Northwestern University, April 2018
- 2019 Calico, San Francisco, CA. April 2019
- 2020 Jefferson University, Department of Neuroscience [COVID-19 cancelled]
- 2020 Stanford Bio-X Frontiers Interdisciplinary Biosciences seminar, April 2020 [Webinar]
- 2021 Jefferson University, Department of Neuroscience, March [Webinar]
- 2021 NeuroZoom seminar, June [Webinar]
- 2022 Proteostasis Consortium seminar, scheduled for the fall [Webinar]
- 2023 Emory University, Frontiers in Neuroscience Series, January
- 2023 UT Southwestern Medical Center, Gene Regulation and Genomics Seminar Series, March

RESEARCH SUPPORT:

Ongoing Research Support

National Institutes of Health/NINDS, R35 (\$450k/year) 12/01/16-11/31/24

Title: Molecular Insight into Neurodegenerative Disease from *Drosophila*

The goals of this project are to employ the power of the model organism *Drosophila* to provide insight into mechanisms of human neurodegenerative disease.

Role: PI

Effort in months: 6 months/year

This grant will be the sole funding source for the lab from the NINDS in line with the guidelines for this grant.

Robert J. Kleberg, Jr. and Helen C. Kleberg Foundation (\$300k/year for 3 years) 9/1/2021- 8/31/24

(Berger, Shelley, and Bonini, co-Principal Investigators)

Epigenetic dysfunction drives human Alzheimer's disease

The goals of this project are to establish models to test mechanisms to prevent Alzheimer's disease.

Role: co-PI

Effort: 1 month/year

NIH/NIA, R01 AG071777 (\$450k/year for 5 years) 01/2022-12/2026

Title: Deciphering the molecular interplay of sleep and neurodegeneration with *Drosophila*
 (PI Matt Kayser, Co-PI Bonini)

The goals of this project are to define how neurodegenerative disease proteins disrupt sleep and how sleep therapy protects the brain.

Role: co-PI

Effort: 1 month/year

Member of Training Grants:

Neurodegeneration Training Grant (PI: Virginia Lee)

Molecular Biology Training Grant (PI: Marisa Bartolemei)

Developmental Biology Training Grant (PIs: Jonathan Raper)

Systems Integrative Biology training grant (PI: Mike Nusbaum)

Sleep/Aging Training Grant (PI: Allan Pack)

Behavioral Biology Training Grant (PI: Ted Abel)

Genetics Training Grant (PI: Meera Sundaram)

TRAINEES:

Postdoctoral Fellows:

- 1995-1999 Dr. John Zimmerman (Research Specialist, Center for Sleep and Respiratory Neurobiology, University of Pennsylvania School of Medicine, Philadelphia, PA; now Senior Lecturer, College of Liberal and Professional Studies, University of Pennsylvania)
- 1996-2002 Dr. John Warrick, 1996-2002 (Associate Prof, University of Richmond, Richmond, VA)
- 1997-2004 Dr. Beth Gordesky-Gold (Senior Research Specialist, UPenn Medical School)
- 1999 Dr. Maria Jose Jorquera (Ayudante de Investigación (Investigation assistant), in the Estacion Experimental de Zonas Aridas (Arid Zones Research Station) Institute of the Spanish National Council for Research, Almeria, Spain)
- 1999-2001 Dr. Edwin Chan, 1999-2001 (Associate Prof, The Chinese University of Hong Kong)
- 2001-2003 Dr. Sebastien Gaumer, 2001-2003 (Associate Professor, Université Versailles-St Quentin-en-Yvelines, France)
- 2001-2008 Dr. Joonil Jung (Research Scientist, Broad Institute, MIT, Cambridge, MA; then Pharma). *Deceased.*
- 2002-2004 Dr. Cecilia Gold (childraising)
- 2003-2011 Dr. Zhenming Yu (Research Scientist, Children's Hospital of Philadelphia, Philadelphia; now Sequencing Technical Lead, Spark Therapeutics)
- 2005-2008 Dr. Kangning Liu, 2005-2008 (Scientific Leader, Galaxo-Smith Kline, Shanghai, China; now Research Specialist, Children's Hospital of Philadelphia, Philadelphia, PA)
- 2005-2011 Dr. Ling-Yang Hao (Research Scientist, Lycera Corp., Plymouth Michigan)
- 2006-2014 Dr. Lorena Soares (Project Manager, Regional Fund for Science and Technology, Azores)
- 2008-2013 Dr. Hyung-Jun Kim (Principal Researcher, Korea Brain Research Institute, Daegu, South Korea)
- 2008-2013 Dr. Yanshan Fang (Principal Investigator, Interdisciplinary Research Center on Biology and Chemistry, Shanghai, China)
- 2009-2017 Dr. Alondra Burguete (NIH NRSA Postdoctoral Fellowship) (Associate Research Associate Scientist, Taub Institute, Columbia University)
- 2010-2018 Dr. Jason Kennerdell (Research Scientist, University of Pittsburgh)
- 2011-2019 Dr. Amit Berson (NIH NRSA Postdoctoral Fellow) (Director of Discovery Research, Aquinnah Pharmaceuticals, Boston, MA)
- 2008-2019 Dr. Leeanne McGurk (National Ataxia Foundation Awardee) (Principal Investigator, Cell and Developmental Biology Department, University of Dundee, Scotland)
- 2021- Dr. Xiuming Quan (Fellowship from the National Center for Geriatrics and Gerontology, Japan).
- 2021- Dr. China Byrns, MD/PhD student.

Master's students:

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| 2006-2007 | Michael Fitzen (PhD program, Karolinska Institute, Stockholm, Sweden; now Researcher) |
| 2007-2008 | Marijn van Jaarsveld (PhD program, Erasmus Medical Center, Rotterdam, The Netherlands; now Project Officer, EMBL Heidelberg) |
| 2008-2010 | Lindsay Yurcaba (Executive Coordinator, The Franklin Fountain) |
| 2010-2011 | Gert-Jan Hendriks (PhD program, Basel; now Karolinska Institute) |
| 2021- | Tran To, Biotech Master's student training in the lab. |
| 2021- | Sanjana Nuti, BioTech Master's student training in the lab. |

Graduate students:

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| 1999-2004 | Julide Bilen, Biology (Postdoctoral Scientist, Janelia Farm, Virginia with Lynn Riddiford; Postdoctoral Scientist, Harvard University; currently Research Scientist, Perlara, South San Francisco, CA) |
| 2000-2006 | Lingbo Li, Biology (Postdoctoral Scientist, Stanford University, with Dr. Keng Shen; now Senior Specialist, Merck, Palo Alto) |
| 2000-2003 | Pavan Auluck, Neuroscience (MD/PhD program) (Resident, Dept of Pathology, Massachusetts General Hospital, Boston, MA & postdoctoral scientist with Dr. Susan Lindquist, Whitehead Institute, Boston, MA; then BioGen Idec.; now MIMH in charge of mental health brain collection and pathology program) |
| 2000-2007 | Melanie Watson, Neuroscience (SVP Senior Medical Director, CMC Connect) |
| 2001-2005 | Marc Meulener, Cell and Molecular Biology (MD/PhD program) (Resident, Dept of Medicine, Robert Wood Johnson Medical School, New Brunswick, NJ and Resident, Dept of Dermatology, St Luke's-Roosevelt Hospital, New York, NY; now Dermatologist & Owner - Choice Dermatology LLC) |
| 2004-2010 | Nan Liu, Biology (Postdoctoral scientist, UCSD with Dr. Yishi Jin; now Principal Investigator, Interdisciplinary Research Center on Biology and Chemistry, Shanghai, China). |
| 2006-2011 | Shin-yi Shieh, Biology (Marketing Consultant - Independent Consultant) |
| 2008-2013 | Masashe Abe, Biology (Senior scientist, Astellas Pharma, Tokyo, Japan and Boston, MA). |
| 2011-2013 | Mimi Nick Cushman, Neuroscience (co-advisor with Dr. Jim Shorter) (Postdoctoral scientist, UCSF, with Dr. William DeGrado and Dr. Stan Pruisner; now education and lab consulting, Charlotte, NC) Instructor - Central Piedmont Community College |
| 2012-2017 | Inny Lekova, Cell and Molecular Biology (medical writer) |
| 2013-2018 | Chia-Yu Chung, Cell and Molecular Biology (postdoctoral scientist, Novartis) Principle Scientist, Early Target Discovery Group, Novartis. |
| 2013-2019 | Lindsey Goodman, Neuroscience (postdoctoral scientist, Baylor School of Medicine). |
| 2014-2020 | Janani Saikumar, Biology (HHMI International Predoctoral Fellowship Awardee) (postdoctoral scientist with Dr. Jerold Chun, Sanford-Burnham Prebys Medical Discovery Institute) |
| 2017-2021 | China Byrns, Neuroscience (MD/PhD), currently postdoc in the laboratory. |
| 2015-2021 | Ananth Srinivasan, Biology, current Life Sciences Specialist, L.E.K. consulting. |
| 2017-present | Alexandra Perlegos, Neuroscience |
| 2020-present | Zhenming Jin, Biology |

Undergraduate students:

| | |
|-----------|-----------------------------|
| 1994-1997 | Stacey Pusin |
| 1995-1996 | Sunil Mehta |
| 1995-1996 | Grace Kao (Vagelos Scholar) |
| 1995 | Kathryn Assad |

| | |
|-------------|--|
| 1998 | Eric Yecies |
| 2003-2005 | Yuanxiang Liu (Vagelos Scholar) |
| 2003-2005 | Rachel Bernstein (Vagelos Scholar) |
| 2007-2009 | Liane Toohey (Vagelos Scholar) |
| 2008-2010 | Michelle Min (Vagelos Scholar) |
| 2010-2013 | Rosaline Zhang (Vagelos Scholar) |
| 2012-2013 | Chang Su |
| 2012-2014 | Van Tran (Vagelos Scholar) |
| 2013-2015 | Jesi Kim |
| 2014-2015 | Matthews Lan (Vagelos Scholar) |
| 2014-2016 | Henry Zhou (Vagelos Scholar, Provost Award) |
| 2013-2017 | Ashley Sartoris (Vagelos Scholar, submatriculation masters) (NYU MD/PhD program) |
| 2016 | Sara Zhou |
| 2016-2017 | Decklan Cerza |
| 2017 summer | Lizmarie Garcia, University of Puerto Rico |
| 2015-2018 | Olivia Rifai (Vagelos Scholar) |
| 2017-2018 | James Aykit |
| 2018 | Alexander Chen |
| 2017-2019 | Luis Martinez-Ramirez |
| 2018-2019 | Zhecheng Jin (summer 2019) |
| 2018-2019 | Jinghan Xu (summer 2019) |
| 2018-2020 | Sofiya Patra (summer 2019) |
| 2018-2020 | Johanna Inamagua (summer 2019, PURM) |
| 2018-2020 | Joshua Kim (summer 2019) |
| 2019-2020 | Patrick Mercho (PURM) |
| 2019-2021 | Tracey Tran (PURM) |
| 2022 summer | Lauren Staelin |
| 2022 summer | Sophie Peterson (Colby College) |
| 2021- | Alhena Islam |
| 2022- | Shuyan Zhou |
| 2023 summer | Sophie Peterson (Colby College) |

Visiting Scientists:

| | |
|--------------------|--|
| 2000 | Dr. Michael Atchison, Associate Professor, Head, Laboratories of Biochemistry, Dept of Animal Biology, School of Veterinary Medicine, University of Pennsylvania |
| 2011-2012 | Dr. Robert Fairman, Professor of Biology, Haverford University |
| 2016-2017 2019- | Dr. Oksana Shcherbakova, Biology Faculty, Ivan Franco National University of Lviv, Ukraine (Fulbright Grantee) |

EDUCATIONAL MISSION TO THE UNIVERSITY:

| | |
|---------------------|---|
| 1994-1997 (fall) | Biology 101: Introductory Biology, Course Co-Director (~200 students) |
| 1996-2000 (sp) | Biology 540: Genetic systems (~30 students), Course Developer & Director |
| 2000 | Co-Developer Biology special concentration "neurobiology" |
| 1994-present | Biol399/499 Undergraduate Independent Study (5-10 students sponsored/semester) |
| 1994-present | Biology Undergraduate Advisor |
| 1999-present (fall) | Biology 221: Molecular Biology and Genetics (~100 students), Course Co-Director, 1999-2015 spring, 2015 fall – present. |
| 2004-present (fall) | Biology 527: Advanced Molecular Biology and Genetics (~5 students), Bio 221 lectures, plus additional reading & writing assignments |

2014-present (fall) Biology 466: Molecular Genetics of Neurological Disease (~20 students), Course Developer & Director
 2014-present Developer & Director of Biology special concentration "Mechanisms of Disease"

Lectures in various courses, including the following:

Biol 122: Living systems (~150 students)
 Biol 254: Developmental Biology (~30 students)
 Biol 421: Molecular Genetics (~ 30 students)
 Biol 488/Neurosci 578: Advanced Topics in Behavioral Genetics (~20 students)
 Biol 526: Principles of Genetics (~30 students)
 Biol 540: Genetic Systems (~35 students)
 Biol 999 Independent Study: (1 student at a time, with selected topics and papers)
 CAMB 511: Principles of Development (~30 students)
 CAMB 542: Topics in Molecular Medicine (~30 students)
 CAMB 615: Protein Conformation Diseases (~15 students)
 Cell 620: Developmental Biology (~15 students)
 Coll 100: "How do you know?" (~50 students)
 HSOC 241/STSC 241- Stem cells, science and society (~ 30 students)
 Molecular Biology 605: Post-transcriptional Regulation in Development (~30 students)
 Neuroscience 597: Developmental Neurobiology (~30 students)
 Neuroscience Core I, INSC 571: Cell and Molecular Neuroscience (~30 students)
 Neuroscience INSC 600-601: Neurobiology of Disease (~ 10 students)
 Neuroscience Seminar Course (~15 students)
 INSC Basic Skills/Journal Club Course (~30 students)

SERVICE TO THE DEPARTMENT:

Graduate Student Admissions Committee, Department of Biology 2021-2023
 Departmental Honors Committee, 2022
 Mentoring Committee, Dr. Corlett Wood, Department of Biology, 2021-
 Mentoring Committee (Chair), Dr. Yun Ding, Department of Biology, 2020-
 Awards Nomination Committee (Chair), Department of Biology, 2019-
 Departmental Undergraduate Advisor & Neuroscience & Mechanisms of Disease concentration, 2000-
 Sponsor for Adjunct Professorships, since 2000
 Biology Graduate Group, since 1994
 Member of many preliminary exam and thesis committees, since 1994

Executive Committee for the Chair, Department of Biology, 2018-2022
 Promotion to tenure Committee (Chair) for Dr. Nick Betley, Department of Biology, 2021-2022
 Mentoring Committee, Dr. Nick Betley, Department of Biology, 2016-2021
 Promotion to re-appointment Committee (Chair), for Dr. Yun Ding, 2021-2022
 Graduate Admissions Committee, Department of Biology, 2018-2020
 Mentoring Committee, Dr. Ishmail Abdus-Saboor, Department of Biology, 2018-2020
 Promotion Committee (Chair) for Dr. Nick Betley, Department of Biology, 2018
 Promotion Committee (Chair) for Dr. Marc Schmidt, Department of Biology, 2017
 Mentoring Committee, Dr. Tim Linksvayer, Department of Biology, 2012-2017
 Mentoring Committee for the Graduate Student 2014 class, 2014-2016
 Mentoring Committee, Dr. Brian Gregory, Department of Biology, 2010-2016
 Member of the Search Committee in Neurobiology, 2014-2015
 Development and Launch of the Mechanisms of Disease concentration, 2014-2015
 Promotions committee guidelines, Biology, 2014
 Promotion committee, Dr. Brian Gregory, Department of Biology, 2012
 Promotion to tenure committee, Dr. Deijen Ren, Department of Biology, 2009
 Biology Undergraduate Honors Committee, Dept Biology, 2009

Committee to select new Biology Department Chair, spring 2008
 Biology graduate group, Biology 700 Revision Committee, 2008
 Search Committee, Neurological basis of behavior, Department of Biology, 2006-2008
 Promotion to full professor committee for Dr. Ted Abel, Department of Biology, 2006-2007
 Chair, Promotion tenure committee for Dr. Marc Schmidt, Department of Biology, 2005-2006
 Promotion tenure committee for Dr. Doris Wagner, Department of Biology, 2005-2007
 Graduate Admissions Committee, Chair, Graduate Group in Biology, 1999-2006
 Biology newsletter Advisory Committee, 2001-2004
 Promotion tenure committee for Dr. Ted Abel, Department of Biology, 2003-2004.
 Undergraduate Advising Committee, 2000-2003
 Established undergraduate Concentration in Neuroscience, 2000
 Cell Biology and Genomics Search, 1999-2000
 Penn Advisory Board Presentation, 10/99
 Neurobiology Search, 1998-1999
 Biology Department Seminar Committee, chairman, 1997-1999.
 Board of Overseers presentation, 11/96
 Penn Alumni Club of New York speaker for "Biotech Horizons", 9/96
 Neurobiology Search, 1995-1996
 Biology Undergraduate Student Night speaker, 2/96
 Advisor, Graduate Group in Biology, 1994-1996
 Admissions, Graduate Group in Biology, 1994-1996
 Physiology Search, 1995-1996

SERVICE TO THE UNIVERSITY:

Selection Committee for Searle Fellows, VPR, 2018-
 Selection Committee for Packard Fellows, VPR, 2018-
 Mentoring Committee, Dr. Mike Hart, Department of Genetics, PSOM, 2020-
 Mentoring Committee, Dr. Lan Lin, Department of Pathology and Laboratory Medicine, CHOP, 2019-
 Institute of Regenerative Medicine, Neuroscience member, 2012-
 Ad-hoc member of various Promotion-to-Tenure Committees, U Penn Medical School, 2001-
 Member of preliminary exam and thesis committees for students in various departments of the
 Medical School, 1994-

 Search Committee, Director for the Institute of Aging, U Penn Medical School 2021
 Search Committee, Center for Neurodegenerative Disease Research, 2021
 Institute on Aging, Advisory Committee, U Penn Medical School, 2003-2021
 The Senate Committee on Faculty and the Administration (SCOA), Committee member, 2019-2020
 Mentoring Committee, Dr. Yuanquan Song, Department of Pathology and Laboratory Medicine, CHOP,
 2017-2022
 Search Committee in Neuro-Immunology, Department of Systems Pharmacology and Translational
 Therapeutics, Penn Medicine, 2019-2020
 Search Committee, Center for Neurodegenerative Disease Research, 2019-2020
 Chemistry Catastrophe Committee, Dean of Arts and Sciences, Fall 2018
 Member, MindCore Vision Committee, School of Arts and Sciences 2017-2019
 Year of Neurodegeneration Organizing Committee, Dept of Neuroscience, Penn Medicine, 2018-2019
 Personnel Committee, Natural Sciences Subpanel, 2014-2017
 Tenure Task Force Committee, School of Arts and Sciences, for Dean of Arts & Sciences, 2015-2016
 Selection Committee for HHMI international predoctoral students, for Vice Provost for Research, 2015
 Scientific Reviewer for the Center for the Penn Medicine Neuroscience Center, 2014, 2015
 Selection committee for Blavatnick Awards, for the VPR, Nov 2014
 Center for Technology Transfer, Scientific Oversight Committee, 2012-2014
 Provost Consultation Committee for selection of new Vice Provost for Research, 2013
 Member of Search Committee, BGS (Biological Graduate Studies graduate group) director and
 Associate Dean of Graduate Education search, Penn Medical School, spring 2013

Institute of Regenerative Medicine, Review Committee, 2012-2013
 Penn Medicine Neuroscience Center Pilot Grant Review Committee, 2012
 Search Committee, Biomedical Graduate Studies (BGS) Director and Associate Dean of Graduate Education, School of Medicine, 2013
 Faculty Senate Nominating Committee, School of Arts and Sciences, 2012-2013
 Professors of Integrative Medicine Advisory Committee, 2009-2012
 Planning and Priorities Committee, School of Arts and Sciences, 2009-2012
 Mentoring Committee, Dr. Aaron Gitler, Cell and Developmental Biology, 2007-2011
 Mentoring Committee, Dr. Sara Cherry, Dept of Microbiology, 2006-2012
 Penn Genomic Frontiers Institute, Scientific Advisory Committee, 2007-2011
 Department of Neuroscience Search Committee, 2008-2009
 PGFI-SOM search committee, Chair, 2008-2009
 Tenure advising Committee, Dr. Laurie Flanagan-Cato, Dept of Psychology, 2008
 CAMB Review Committee, 2008
 Internal Scientific Advisory Group for Aging Program Project Grant, PI: Allan Pack, 2006
 School of Arts and Sciences, Committee on Undergraduate Education, 2004-2006
 Search Committee for Chair of Genetics, U Penn Medical School, 2004-2006
 Penn Genomics Institute, Seed Grant Review Committee, 2004-2006
 Penn Reading Project, 2004, 2005, 2006
 Cell Center Advisory Committee, 2000-2008
 Stellar Task Force, Department of Neuroscience, U Penn Medical School, 2004-2006
 Seminar Committee, Department of Neuroscience, 2004
 Speaker for Student Committee on Undergraduate Education, January 2004
 Search Committee, Vice Provost for Research, 2003
 Search Committee, Dept of Pharmacology and Institute on Aging, 2003
 University Council Committee on Research, 2001-2002
 INSC Advisory Committee, 2001-2003
 INSC Preliminary Examination Topic Committee, 2001-2002
 Aging subgroup, University of Penn Medical School strategic planning, 2002
 Pharmacology Graduate Group Review Committee, Academic year 2001-2002
 Chemistry Search Committee, Academic year 2001-2002
 MD/PhD Admissions Committee for Neuroscience, 2000-2002
 Speaker for Academic Job Market: Penn Career Services, 9/25/01
 Conflict of Interest Standing Committee, 2001-2002
 Search Committee, Department of Animal Biology, Vet School, 2000-2001
 Penn on the Road Presentation, Boston, MA, 11/9/99
 University of Pennsylvania representative for the Science Coalition "Science: Invest in the Future" event, Washington, DC, 9/22/99
 Speaker for University of Pennsylvania Women's Club, 10/26/99
 Thesis Template Committee, Department of Neuroscience, 2000
 Academic Review Committee, Department of Neuroscience, 1999-2003
 Retreat Committee, Department of Neuroscience, academic year 1999-2001
 Steering Committee, Program in Developmental Biology, CAMB, 1999-2000
 Speaker for Career Services "Faculty conversations on the Academic Job Search and Academic Life: Preparing for Campus Interviews for Academic Jobs," Jan 19, 1999
 Speaker for Career Services "Academic Career Conference: Going on the Job Market", Sept. 22, 1998
 Committee on Undergraduate Research Proposals, 1998
 Speaker for "Biotech Horizons", New York Penn Club, 9/97
 Graduate Student Rotation Talk Committee, Department of Neuroscience, 1997-2002
 Freshman Advisor, 1997-2002
 Seminar Selection Committee, Department of Neuroscience, 1997-1998
 Graduate Group Representative to Selection Committee for Department of Neuroscience, Cell & Molecular Biology Training Grant, 1997
 Cell and Developmental Biology Retreat committee, 1996

Graduate Group Memberships:

1994-present Biology Graduate Group
 1996-2003 Cell and Molecular Biology Graduate Group
 1996-2005 Vision Center member and Faculty Trainer of Vision Training Grant,
 1996-present Neuroscience Graduate Group, University of Pennsylvania
 2012-present Cell and Molecular Biology Graduate Group

PUBLICATIONS (*non-peer-reviewed):**As an undergraduate:**

1. Tempel BL, Bonini NM, Dawson DR, and Quinn WG (1983) Reward learning in normal and mutant *Drosophila*. Proc. Natl. Acad. Sci. USA 80:1482-1486.

As a graduate student:

2. Bonini NM, Gustin MC and Nelson DL (1986) Regulation of ciliary motility by membrane potential in *Paramecium*: A role for cyclic AMP. Cell Motil. Cytoskeleton 6:256-272.
3. Bonini NM and Nelson DL (1988) Differential regulation of *Paramecium* ciliary motility by cAMP and cGMP. J. Cell Biol. 106:1615-1623.
4. Bonini NM and Nelson DL (1990) Phosphoproteins associated with cyclic nucleotide stimulation of ciliary motility in *Paramecium*. J Cell Science 95:219-230.
5. *Bonini NM, Evans TC, Miglietta LAP, and Nelson DL (1991) The regulation of ciliary motility in *Paramecium* by Ca²⁺ and cyclic nucleotides. Advances in Second Messenger and Phosphoprotein Research. Vol. 23: 227-272.
6. Bonini NM, Leiserson WM, and Benzer S (1993) The *eyes absent* gene: genetic control of cell survival and differentiation in the developing *Drosophila* eye. Cell 72:379-395.
7. Leiserson WM, Bonini NM and Benzer S (1994) Transvection at the *eyes absent* gene of *Drosophila*. Genetics 138:1171-1179.

As a Principal Investigator:

8. *Bonini NM and Choi K-W (1995) Early decisions in *Drosophila* eye morphogenesis. Current Opinion in Genetics and Development 5: 507-515.
9. *Bonini NM (1997) Surviving *Drosophila* eye development. Cell Death & Differentiation 4:4-11.
10. Zimmerman J, Bui Q, Steingrimmson E, Nagle DL, Fu W, Genin A, Spinner N, Copeland NG, Jenkins NA, Bucan M, and Bonini NM. (1997) Cloning and characterization of two vertebrate homologs of the *Drosophila eyes absent* gene. Genome Research 7:128-141.
11. Boyle M, Bonini N and DiNardo S. (1997) Expression and function of *cliff* in the development of somatic gonadal precursors within the *Drosophila* mesoderm. Development 124:971-982.
12. Bonini NM, Bui QT, Gray-Board GL and Warrick JM (1997) The *Drosophila eyes absent* gene directs ectopic eye formation in a pathway conserved between flies and vertebrates. Development 124: 4819-4826.
13. Bonini NM, Leiserson WM and Benzer S. (1998) Expression and multiple roles of the *eyes absent* gene in *Drosophila*. Developmental Biology, 129: 42-57.
14. Leiserson WM, Benzer S and Bonini NM. (1998) Dual functions of the *Drosophila eyes absent* gene in the eye and embryo. Mechanisms of Development 73:193-202.
15. Warrick JM, Paulson H, Gray-Board GL, Bui QT, Fischbeck K, Pittman RN, and Bonini NM. (1998) Expanded polyglutamine protein forms nuclear inclusions and causes neural degeneration in *Drosophila*. Cell 93: 939-949.

16. Perez MK, Paulson HL, Pendse SJ, Saionz SJ, Bonini NM and Pittman RN (1998) Recruitment and the role of nuclear localization in polyglutamine-mediated aggregation. *J Cell Biol* 143: 1457-1470.
17. *Bonini NM (1999) A genetic model for human polyglutamine-repeat disease in *Drosophila melanogaster*. *Phil. Trans. R. Soc. Lond. B* 354: 1057-1060.
18. Bonini NM and Fortini, ME (1999) Survival during *Drosophila* eye development: Integrating cell death with cell differentiation during formation of a neural structure. *BioEssays* 21: 991-1003.
19. Zimmerman J, Bui Q, Liu H, and Bonini NM (1999) Molecular genetic analysis of *Drosophila* eye *absent* mutants reveals features critical for eye cell expression. *Genetics*, 154: 237-246.
20. Chai Y, Koppenhafer SL, Bonini NM and Paulson HL (1999) Analysis of the role of heat shock protein (Hsp) molecular chaperones in polyglutamine disease. *J Neuroscience*, 19: 10338-10347.
21. Warrick J, Chan HYE, Gray-Board GL, Paulson H and Bonini NM (1999) Suppression of polyglutamine disease in *Drosophila* by the molecular chaperone hsp70. *Nature Genetics*, 23: 425-428.
22. Fortini ME and Bonini NM (2000) Modeling human neurodegenerative diseases in *Drosophila*: on a wing and a prayer. *Trends in Genetics* 16: 161-167.
23. *Bonini NM (2000) *Drosophila* as a genetic tool to define vertebrate pathway players. *Methods Mol Biol.* 136:7-14.
24. *Bonini NM (2000) Methods to detect patterns of cell death in *Drosophila*. *Methods Mol Biol.* 136:115-21.
25. Bui QT, Zimmerman JE, Liu H, Gray-Board GL and Bonini NM. (2000) Functional analysis of an eye enhancer of the *Drosophila* *eyes absent* gene: Differential regulation by eye specification genes. *Dev Biol* 221: 355-364.
26. Bui QT, Zimmerman JE, Liu H and Bonini NM. (2000) *Drosophila* *eyes absent* mutants reveal functional subdomains within the conserved Eya domain. *Genetics* 155: 709-720.
27. *Paulson H and Bonini NM. (2000) Spinocerebellar ataxia type 3. *Neuroscience News* 3:87-93.
28. Chan HYE and Bonini NM. (2000) Neuropathological Cell death in *Drosophila*. *Cell Death Differ.* 7: 1075-1080.
29. Chan HYE, Warrick JM, Gray-Board GL, Paulson HL and Bonini NM (2000) Mechanisms of chaperone suppression of polyglutamine disease: selectivity, synergy, and modulation of protein solubility in *Drosophila*. *Hum Mol Genetics* 9:2811-2820.
30. *Paulson HL, Bonini NM and Roth KA (2000) Polyglutamine disease and neuronal cell death. *Proc. Natl. Acad. Sci. USA* 97: 12957-12958.
31. *Bonini NM. (2001) *Drosophila* as a genetic approach to human neurodegenerative disease. *Parkinsonism Relat. Disord.* 7:171-175
32. *Bonini NM (2001) A genetic model for human polyglutamine-repeat disease in *Drosophila melanogaster*. In *Glutamine repeats and neurodegenerative diseases: molecular aspects*, edited by Prof. P.S. Harper and Dr. M. Perutz, Oxford University Press.
33. *Bonini, NM (2001) Stores to die for. *Developmental Cell* 1:447-448.
34. *Bonini NM and Fortini ME (2002) "Applications: Models for Human Disease" pp. 257-275 in *Drosophila Eye Development*, K Moses editor, Springer-Verlag, Berlin.
35. *Chan HYE and Bonini NM (2002) *Drosophila* models of polyglutamine diseases, pp. 241-251 in *Methods in Molecular Biology, vol 217: Neurogenetics: Methods and Protocols*, Potter NT, editor.

36. Auluck PK, Chan HYE, Trojanowski JQ, Lee VML and Bonini NM (2002) Chaperone Suppression of α -Synuclein Toxicity in a *Drosophila* Model for Parkinson's Disease. Online 1067389. *Science* 295:865-868.
[Publication highlighted in Science Perspectives in the same issue, Science 295: 809-10].
37. Bonini NM (2002) Chaperoning brain degeneration. *Proc. Natl. Acad. Sci. USA* 99: 16407-16411
38. Chan HYE, Warrick JM, Andriola I, Merry D, and Bonini NM (2002) Genetic modulation of polyglutamine toxicity by protein conjugation pathways in *Drosophila*. *Human Molecular Genetics* 11: 2895-2904.
39. Auluck PK and Bonini NM (2002) Pharmacologic Prevention of Parkinson's disease in *Drosophila*. *Nature Medicine* 8:1185-1186.
40. Atchison L, Ghias A, Wilkinson F, Bonini N and Atchison ML (2003) Transcription factor YY1 functions as a PcG Protein in vivo. *EMBO J.* 22:1347-58.
41. *Bonini NM and Fortini ME (2003) Human neurodegenerative disease modeling using *Drosophila*. *Ann. Rev. Neurosci.* 26:627-56. Epub 2003 Apr 10.
42. Gunawardena S, Her LS, Bruschi RG, Laymon RA, Niesman IR, Gordesky-Gold B, Sintasath L, Bonini NM, Goldstein LS (2003) Disruption of axonal transport by loss of huntingtin or expression of pathogenic polyQ proteins in *Drosophila*. *Neuron* 40: 25-40.
[Publication highlighted in news and views articles: Love, R (2003) The Lancet Neurology, Vol 2: 651; Feany and LaSpada (2003) Neuron 40: 1-2]
43. Auluck PK, Meulener MC and Bonini NM (2005) Mechanisms of suppression of alpha-synuclein neurotoxicity by geldanamycin in *Drosophila*. *J Biol Chem.* 280: 2873-8. Epub 2004 Nov 18.
44. Warrick JM, Gordesky-Gold B, Morabito L, Faust L, Paulson HL, and Bonini NM. (2005) Ataxin-3 suppresses polyglutamine neurodegeneration in *Drosophila* by a ubiquitin-associated mechanism. *Molecular Cell* 18: 37-48.
45. Meulener MC, Graves CL, Sampathu DM, Armstrong-Gold CE, Bonini NM and Giasson BL. (2005) DJ-1 is present in a large molecular complex in human brain tissue and interacts with alpha-synuclein. *J. Neurochemistry* 93: 1524-32.
46. Bilen J and Bonini NM (2005) *Drosophila* models of human age associated neuro-degenerative diseases. *Ann. Rev. Genetics* 39: 153-171.
47. *Bonini NM and Giasson BI (2005) Snaring the function of alpha-synuclein. *Cell* 123: 359-361.
48. Meulener M, Whitworth AJ, Armstrong-Gold CE, Rizzu P, Heutink P, Wes PD, Pallanck LJ, Bonini NM (2005) *Drosophila* DJ-1 mutants are selectively sensitive to environmental toxins with Parkinson's disease. *Curr Biol* 15: 157207.
[Publication highlighted in Nature Reviews Genetics, among other journals]
49. Bonini NM and LaSpada AR (2005) Silencing polyglutamine degeneration with RNAi. *Neuron* 48: 715-8.
50. Giasson BI, Covy JP, Bonini NM, Hurtig HI, Farrer MJ, Trojanowski JQ, Van Deerlin VM (2006) Biochemical and pathological characterization of Lrrk2. *Ann. Neurol.* 59: 315-322.
51. Uryu K, Richter-Landsberg C, Welch W, Sun E, Goldbaum O, Norris EH, Pham CT, Yazawa I, Hillburger K, Micsenyi M, Giasson BI, Bonini NM, Lee VM, Trojanowski JQ (2006) Convergence of heat shock protein 90 with ubiquitin in filamentous alpha-synuclein inclusions of alpha-synucleinopathies. *Am J Pathol.* 168: 947-961.
52. Boeddrich A, Gaumer S, Haacke A, Tzvetkov N, Albrecht M, Evert BO, Müller EC, Lurz R, Breuer P, Schugardt N, Plaßmann S, Xu K, Warrick JM, Suopanki J, Wüllner U, Frank R, Hartl FU, Bonini NM, Wanker EE. (2006) An arginine/lysine-rich motif in ataxin-3 is responsible for the

interaction with the molecular chaperone VCP that modulates aggregate formation and neurotoxicity. *EMBO J* 25:1547-1558.

53. Cooper AA, Gitler AD, Cashikar A, Haynes CM, Hill KJ, Bhullar B, Liu K, Xu K, Strathearn KE, Liu F, Cao S, Caldwell GA, Marsischky G, Kolodner RD, Labaer J, Rochet JC, Bonini NM, Lindquist S (2006) Alpha-synuclein blocks ER-Golgi traffic and rab1 rescues neuron loss in Parkinson's models. *Science* 313: 324-8. Epub 2006 Jun 22.
54. Meulener M, Xu K, Thomson L, Ischiropoulos H and Bonini NM (2006) Mutational analysis of DJ-1 in *Drosophila* implicates functional inactivation by oxidative damage and aging. *Proc. Natl. Acad. Sci USA* 103: 12517-22. Epub 2006 Aug 7.
55. Bilen J, Liu N, Burnett BG, Pittman RN, and Bonini NM (2006) MicroRNA pathways modulate polyglutamine-induced neurodegeneration. *Molecular Cell* 24: 157-63.
56. Bilen J, Liu N and Bonini NM (2006) A new role for microRNA pathways: modulation of degeneration induced by pathogenic human disease proteins. *Cell Cycle* 5: 2835-8.
57. *Liu N and Bonini NM (2006) Hosting neurotoxicity in polyglutamine disease. *Cell* 127: 1299-300.
58. *Bilen J and Bonini NM (2006) Invertebrate models of age-associated neurodegenerative diseases, in Uversky VN and Fink AL, eds, *Protein misfolding, aggregation and conformational diseases*, Kluwer Academic/Plenum publishers.
59. Jung J and Bonini NM (2007) CREB-binding Protein Modulates Repeat Instability in a *Drosophila* Model for PolyQ Disease. *Science* 315: 1857-1859. Published online 1 March 2007 10.1126/science.1139517.
[Publication highlighted in *Science News & Views, Nature Structural & Molecular Biology, among others*]
60. Bilen J and Bonini NM (2007) Genome-wide screen for modifiers of ataxin-3 neurodegeneration in *Drosophila*. *PLoS Genet.* 3:1950-64.
61. Li LB, Xu K and Bonini NM (2007) Suppression of polyglutamine toxicity by the yeast sup35 prion domain in *Drosophila*. *J Biol Chem* 282: 37694-701.
62. Lessing D and Bonini NM (2008) Polyglutamine genes interact to modulate the severity and progression of neurodegeneration in *Drosophila*. *PLoS Biol.* 6: e29.
[Publication highlighted in *PLoS series*]
63. Li LB, Yu Z, Teng X and Bonini NM (2008) RNA toxicity is a component of ataxin-3 degeneration in *Drosophila*. *Nature*, 453:1107-11. Epub 2008 Apr 30.
[Publication highlighted in *Current Biology*]
64. Watson MR, Lagow RD, Xu K, Zhang B and Bonini NM (2008) A *Drosophila* model for amyotrophic lateral sclerosis reveals motor neuron damage by human SOD1. *J Biol Chem* 283: 24972-81. Epub 2008 Jul 2.
[Selected Paper of the Week, with Author profile of Melanie Watson]
65. *Bonini NM (2008) A tribute to Seymour Benzer, 1921-2007. *Genetics* 180: 1265-73.
66. *Bonini NM (2008) *Drosophila* models for Parkinson's disease Research. In Nass R and Przedborski S "Parkinson's disease: Pathogenic and therapeutic insights from toxin and genetic models". Elsevier Press, San Diego, CA.
67. Lessing D and Bonini NM (2009) Maintaining the brain: Insight into human neurodegeneration from *Drosophila* mutants. *Nature Rev Genet* 10: 359-370. Epub 2009 May 12.
68. Jung J, Xu G, Lessing D and Bonini NM (2009) Preventing ataxin-3 protein cleavage mitigates degeneration in a *Drosophila* model of SCA3. *Hum Mol Genet* 18: 4843-4852. Epub 2009 Sept 25. PMID: 19783548.

69. Li LB and Bonini NM (2010) Roles of trinucleotide-repeat RNA in neurological disease and degeneration. *Trends Neurosci* 33: 292-8. PMID 20398949.
70. Hao L-Y, Giasson B and Bonini NM (2010) DJ-1 is critical for mitochondrial function and rescues PINK1 loss of function. *Proc Natl Acad Sci USA* 107: 9747-52. Epub 2010 May 10. PMID: 20457924.
71. Elden AC[^], Kim H-J[^], Hart M[^], Chen-Plotkin AS[^], Johnson BS, Fang X, Armarkola M, Geser F, Greene R, Lu MM, Padmanabhan A, Clay D, McCluskey L, Elman L, Juhr D, Gruber PJ, Rub U, Auburger G, Trojanowski JQ, Lee VM-Y, Van Deerlin VM, Bonini NM* and Gitler AD* (2010) Ataxin-2 intermediate length polyglutamine expansions are associated with increased risk for ALS. *Nature* 466: 1069-75. PMID: 20740007.
[Publication highlighted in Nature News & Views, Nature Reviews Neurology, among others]
[^]co-first authors *co-corresponding authors
72. Jung J, van Jaarsveld M, Shieh S-Y, Xu K and Bonini NM (2011) Defining genetic factors that modulate intergenerational repeat instability in *Drosophila melanogaster*. *Genetics* 187: 61-71. Epub 2010 Nov 1.
73. Lee T, Li YR, Ingre C, Weber M, Grehl T, Gredal O, de Carvalho M, Meyer T, Tysnes OB, Auburger G, Gispert S, Bonini NM, Andersen PM, Gitler AD. (2011) Ataxin-2 intermediate-length polyglutamine expansions in European ALS patients. *Hum Mol Genet* 20: 1697-700. Epub 2011 Feb 3.
74. Yu Z, Teng X, and Bonini NM (2011) Triplet repeat-derived siRNAs enhance RNA-mediated toxicity in a *Drosophila* model for myotonic dystrophy. *PLoS Genet* 7:e1001340. Epubl 2011 Mar 17.
75. Yu Z, Zhu Y, Chen-Plotkin AS, Clay-Falcone D, McCluskey L, Elman L, Kalb RG, Trojanowski JQ, Lee VM, Van Deerlin VM, Gitler AD*, Bonini NM* (2011) PolyQ repeat expansions in ATXN2 associated with ALS are CAA interrupted repeats. *PLoS One* 6: e17951.
 **co-corresponding authors.
76. *Yu Z and Bonini NM (2011) Modeling human trinucleotide repeat diseases in *Drosophila*. *Int Rev Neurobiol.* 99:191-212.
77. Lee T, Li T, Chesi A, Mart MP, Ramos D, Jethava N, Hosangadi D, Epstein J, Hodges B, Bonini NM and Gitler AD (2011) Evaluating the prevalence of polyglutamine repeat expansions in amyotrophic lateral sclerosis. *Neurology* 76: 2062-5. Epub 2011 May 11.
78. Shieh SY, Bonini NM (2011) Genes and pathways affected by CAG-repeat RNA-based toxicity in *Drosophila*. *Hum Mol Genet.* 20: 4810-21. Epub 2011 Sept 20
79. Liu N[^], Abe M[^], Sabin LR, Hendriks G-J, Naqvi A, Yu Z, Cherry S*, Bonini NM* (2011) The exoribonuclease Nibbler controls 3' end processing of microRNAs in *Drosophila*. *Current Biology*, 21: 1888-93. Epub 2011 Nov 3
[Publication highlighted in Nature Genetics, among others]
[^]co-first authors *co-senior authors
80. McGurk L, Bonini NM (2012) Protein interacting with C kinase (PICK1) is a suppressor of spinocerebellar ataxia type 3-associated neurodegeneration in *Drosophila*. *Hum Mol Genet* 21:76-84. Epub 2011 Sep 23. PMID: 21949352.
81. Couthouis J, Hart MP, Shorter J, DeJesus-Hernandez M, Erion R, Oristano RE, Liu XA, Ramos D, Jethava N, Hosangadi D, Epstein J, Chiang A, Diaz Z, Nakaya T, Ibrahim F, Kim H-J, Solски JA, Williams KL, Mojsilovic-Petrovic J, Ingre C, Boylan K, Graff-Radford N, Dickson D, Clay-Falcone D, Elman L, McCluskey L, Greene R, Kalb RG, Lee VM, Trojanowski JQ, Ludolph AC, Robberecht W, Andersen PM, Nicholson GA, Blair IP, King OD, Bonini NM, Van Deerlin VM, Rademakers R, Mourelatos Z, Gitler AD (2011) A yeast functional screen predicts new candidate ALS disease genes. *Proc. Natl. Acad. Sci, USA* 108: 20118-90. Epub 2011 Nov 7
82. *McGurk L and Bonini NM (2011) Yeast informs Alzheimer's disease. *Science* 334: 1212-3.

83. Liu N, Landreh M, Cao K, Abe M, Hendriks GJ, Kennerdell JR, Zhu Y, Wang LS, Bonini NM (2012) The microRNA miR-34 modulates ageing and neurodegeneration in *Drosophila*. *Nature* 482: 519-23. Doi 10.1038/nature 10810.
[publication highlighted in *Alzheimer's disease forum, Nature podcast and Cell Research, etc*]
^co-first authors *co-corresponding authors
84. Fang Y, Soares L, Teng X, Geary M and Bonini NM (2012) A novel *Drosophila* model of nerve injury reveals an essential role of endogenous Nmnat in maintaining axon integrity. *Curr Biol* 22: 590-595.
[publication highlighted in *Current Biology*]
85. Couthouis J, Hart MP, Erion R, King OD, Diaz Z, Nakaya T, Ibrahim F, Kim HJ, Mojsilovic-Petrovic J, Panossian S, Kim CE, Frackelton EC, Solski JA, Williams KL, Clay-Falcone D, Elman L, McCluskey L, Greene R, Hakonarson H, Kalb RG, Lee VM, Trojanowski JQ, Nicholson GA, Blair IP, Bonini NM, Van Deerlin VM, Mourelatos Z, Shorter J, Gitler AD. (2012) Evaluating the role of FUS/TLS-related gene EWSR1 in amyotrophic lateral sclerosis. *Hum Mol Gen.* 2012 Mar 27.
86. *Fang Y and Bonini NM (2012) Axon degeneration and regeneration: Insights from *Drosophila* models of nerve injury. *Ann Rev Cell Dev Biol* 28: 575-97. Epub 2012 Jul 23.
87. Abe M and Bonini NM (2013) MicroRNAs and neurodegeneration: Role and impact. *Trends Cell Biol* 23: 30-6. Epub 2012 Sep 28.
88. Fang Y, Soares L and Bonini NM (2013) Design and implementation of in vivo imaging of neural injury responses in the adult *Drosophila* wing. *Nat Protocol* 8: 810-19. Epub 2013 Mar 28.
89. Cushman-Nick M, Bonini NM* and Shorter J* (2013) Hsp104 suppresses polyglutamine-induced degeneration post onset in a *Drosophila* MJD/SCA3 model. *PLoS Genetics* 9:e1003781. Epub 2013 Sep 5.
*co-senior authors.
90. Kim HJ, Raphael AR, LaDow ES, McGurk L, Weber RA, Trojanowski JQ, Lee VM, Finnkbeiner S, Gitler AD, Bonini NM (2014) Therapeutic modulation of eIF2 α phosphorylation rescues TDP-43 toxicity in amyotrophic lateral sclerosis disease models. *Nat Genet* 46: 152-160. Epub 2013 Dec 15.
91. Abe M, Naqvi A, Hendriks GJ, Feltzin V, Zhu Y, Grigoriev A*, Bonini NM* (2014) Impact of age-associated increase in 2'-O-methylation of miRNAs on aging and neurodegeneration in *Drosophila*. *Genes Dev* 28: 44-57.
*co-senior authors.
[highlighted in *Nature World News, Science Daily, Huffington Post*]
92. McGurk L, Lee VM, Trojanowski JQ, Van Deerlin VM, Lee EB, Bonini NM (2014) Poly-A binding protein-1 localization to a subset of TDP-43 inclusions in amyotrophic lateral sclerosis occurs more frequently in patients harboring an expansion in C9orf72. *J Neuropathol Exp Neurol* 73: 837-845.
93. Soares L, Parisi M and Bonini NM (2014) Axon injury and regeneration in the adult *Drosophila*. *Sci Rep.* 4: 6199. Doi: 10.1038/srep06199
94. Yu Z, Goodman LD, Shieh S-Y, Min M, Teng X, Zhu Y and Bonini NM (2014) A fly model for the CCUG repeat expansion of myotonic dystrophy type 2 reveals a novel interaction with MBNL1. *Hum Mol Genet* doi: 10.1093 (in press).
95. *Grigoriev A and Bonini NM (2014) Age-dependent patterns of microRNA RISC loading. *Aging* 6: 705-6.
96. *Bonini NM and Hardiman O (2015) Ataxin-2 expands insight into the ALS clinical spectrum. *Neurology* 84: 244-5.

97. Fang Y and Bonini NM (2015) Hope on the (fruit) fly—the *Drosophila* wing paradigm of axon injury. *Neural Regen Res* 10: 173-5.
98. Feltzin VL, Khaladkar M, Abe M, Parisi M, Hendriks G-J, Kim J and Bonini NM (2015) The exonuclease Nibbler regulates age-associated traits and modulates piRNA length in *Drosophila*. *Aging Cell* 14: 443-52.
99. McGurk L, Berson A and Bonini NM (2015) *Drosophila* as an *in vivo* model for human neurodegenerative disease. *Genetics* 201: 377-402.
100. Burguete AS, Almeida S, Gao FB, Kalb R, Akins MR and Bonini NM (2015) GGGGCC microsatellite RNA is neurotically localized, induces branching defects and perturbs transport granule function. *Elife*. doi:10.7554/eLife.08881.
101. Perrimon N, Bonini NM, Dhillon P (2015) Fruit Flies on the front line: The translational impact of *Drosophila*. *Dis Model Mech* 9: 229-31.
102. Kramer NJ, Carlomagno Y, Zhang YJ, Almeida S, Cook CN, Gendron TF, Prudencio M, Van Blitterswijk M, Belzil V, Couthouis J, Paul JW 3rd, Goodman LD, Daugherty L, Chew J, Garrett A, Pregent L, Jansen-West K, Tabassian LJ, Rademakers R, Boylan K, Graff-Radford NR, Josephs KA, Parisi JE, Knopman DS, Petersen RC, Boeve BF, Deng N, Feng Y, Cheng TH, Dickson DW, Cohen SN, Bonini NM, Link CD, Gao FB, Petrucelli L, Gitler AD. Spt4 selectively regulates the expression of C9orf72 sense and anti-sense mutant transcripts. *Science*. 2016 Aug 12;353(6300):708-12. doi: 10.1126/science.aaf7791.
103. Crowe EP, Tuzer F, Gregory BD, Donahue G, Gosai SJ, Cohen J, Leung YY, Yetkin E, Nativio R, Wang LS, Sell C, Bonini NM, Berger SL, Johnson FB, Torres C (2016) Changes in the transcriptome of human astrocytes accompanying oxidative stress-induced senescence. *Front Aging Neurosci* 8:208 doi:10.3389/fnagi.2016.00208.
104. Sproviero W, Shatunov A, Stahl D, Shoai M, van Rheenen W, Jones AR, Al-Sarraj S, Andersen PM, Bonini NM, Conforti FL, Van Damme P, Daoud H, Del Mar Amador M, Fogh I, Forzan M, Gaastra B, Gellera C, Gitler AD, Hardy J, Fratta P, La Bella V, Le Ber I, Van Langenhove T, Lattante S, Lee YC, Malaspina A, Meininger V, Millicamps S, Orrell R, Rademakers R, Robberecht W, Rouleau G, Ross OA, Salachas F, Sidle K, Smith BN, Soong BW, Sorarù G, Stevanin G, Kabashi E, Troakes C, van Broeckhoven C, Veldink JH, van den Berg LH, Shaw CE, Powell JF, Al-Chalabi A (2016) ATXN2 trinucleotide repeat length correlates with risk of ALS. *Neurobiol Aging* 16: 30297-4 doi: 10.1016/j.neurobiolaging2016.11.010.
105. Bonini NM, Berger SL (2017) The Sustained Impact of Model Organisms—in Genetics & Epigenetics. *Genetics* 205:1-4. Doi: 10.1534/genetics.116.187864.
106. *Bonini NM, Lee EB, Wasco W, Roses AD (2017) Editorial overview: Molecular & genetic basis of disease. *Curr Opin Genet Dev* 44:iv-vi. Doi: 10.1016/j.gde.2017.04.003.
107. Kim SA, D'Acunto VF, Kokona B, Hofmann J, Cunningham NR, Bistline EM, Garcia FJ, Akhtar NM, Hoffman SH, Doshi SH, Ulrich KM, Jones NM, Bonini NM, Roberts CV, Link CD, Laue TM, Fairman R (2017) Sedimentation velocity analysis with fluorescence detection of mutant Huntingtin exon 1 aggregation in *Drosophila melanogaster* and *Caenorhabditis elegans*. *Biochemistry* 56: 4676-4688. PMC5639329.
108. Berson A, Sartoris A, Nativio R, Van Deerlin V, Toledo JB, Porta S, Liu S, Chung CY, Garcia BA, Lee VM, Trojanowski JQ, Johnson FB, Berger SL, Bonini NM (2017) TDP-43 promotes neurodegeneration by impairing chromatin remodeling. *Curr Biol* 27: 3579-3590. PMC5720388.
109. Nativio R, Donahue G, Berson A, Gosai SJ, Toledo JB, Amlie-Wolf A, Tuzer F, Torres C, Trojanowski JQ, Wang L-S, Gregory BD, Johnson, FB, Bonini NM and Berger SL (2018) Dysregulation of the epigenetic landscape of normal aging in Alzheimer's disease. *Nat Neurosci* 21:497-505. Doi: 10.1038/s41593-018-0101-9.
110. Berson A, Nativio R, Berger SL and Bonini NM (2018) Epigenetic regulation in neurodegenerative diseases. *Trends Neurosci* 41:587-598. PMC6174532.

111. Mordes DA, Prudencio M, Goodman LD, Klim JR, Moccia R, Limone F, Pietilainen O, Chowdhary K, Dickson DW, Rademakers R, Bonini NM, Petrucelli L, Eggan K (2018) *Acta Neuropathol Commun* 6: 55. PMC6031111.
112. McGurk L, Gomes E, Guo L, Mojsilovic-Petrovic J, Tran V, Kalb RG, Shorter J, Bonini NM. Poly (ADP-ribose) prevents pathological phase separation of TDP-43 by promoting liquid demixing and stress granule localization. *Mol Cell* 71: 703-717. PMC6128762.
113. McGurk L, Mojsilovic-Petrovic J, Van Deerlin VM, Shorter J, Kalb RG, Lee VM, Trojanowski JQ, Lee EB, Bonini NM (2018) *Acta Neuropathol Commun* 6: 84. PMC6114235.
114. Kennerdell JR, Liu N, and Bonini NM. (2018) MiR-34 inhibits polycomb repressive complex 2 to modulate chaperone expression and promote healthy brain aging. *Nat Commun* 9: 4188. PMC6180074.
115. Chung CY, Berson A, Kennerdell JR, Sartoris A, Unger T, Porta S, Kim HJ, Smith ER, Shilatifard A, Van Deerlin V, Lee VM, Chen-Plotkin A, Bonini NM (2018) Aberrant activation of non-coding RNA targets of transcriptional elongation complexes contributes to TDP-43 toxicity. *Nat Commun* 9: 4406. PMC6199344.
116. *Bonini NM (2018) Allan Campbell (April 27, 1929-April 19, 2018). *Annu Rev Genet.* 52: vi-viii.
117. *Feltzin V, Wan KH, Celniker SE, Bonini N. (2019) Role and impact of the gut microbiota in a *Drosophila* model for parkinsonism. bioRxiv 718825; doi: <https://doi.org/10.1101/718825>.
118. *Bonini NM (2019) En masse analysis of genetic modifiers informs players and processes in ALS. *Neuroscience* 396: A1-A2.
119. Goodman LD, Prudencio M, Kramer NJ, Martinez-Ramirez LF, Srinivasan AR, Lan M, Parisi MJ, Zhu Y, Chew J, Cook CN, Berson A, Gitler AD, Petrucelli L, Bonini NM (2019) Toxic expanded GGGGCC repeat transcription is mediated by the PAF1 complex in *c9orf72*-associated FTD. *Nat Neurosci.*22: 863-874. doi: 10.1038/s41593-019-0396-1.
120. Berson A*, Goodman LD*, Sartoris AN, Otte CG, Aykit JA, Lee VMY, Trojanowski JQ, Bonini NM (2019) *Drosophila* Ref1/ALYREF regulates transcription and toxicity associated with ALS/FTD disease etiologies. *Acta Neuropathol Commun.* 7: 65. Doi10.1186/s40478-019-0710.*co-first authors.
121. Goodman LD, Prudencio M, Srinivasan AR, Rifai OM, Lee VMY, Petrucelli L, Bonini NM (2019) eIF4B and eIF4H mediate GR production from expanded G4C2 in a *Drosophila* model for *c9orf72*-associated ALS. *Acta Neuropathol Commun.* 7: 62. Doi 10.1186/s40478-019-0711-9.
122. McGurk L, Rifai O and Bonini NM (2019) Poly(ADP-ribosylation) in age-related neurological disease. *Trends Genet* 35: 601-613.
123. Goodman LD and Bonini NM (2019) Repeat-associated non-AUG (RAN) translation mechanisms running into focus for GGGGCC-repeat associated ALS/FTD. *Prog Neurobiol* 183: 101697.
124. Goodman LD and Bonini NM (2020) New roles for canonical factors in RNAPII-transcription of human repeat expansion diseases. *Trends Genet.* 36: 81-92.
125. *Saikumar J, Kim J, Byrns CN, Hemphill M, Meaney DF, Bonini NM (2020) dTBI: A paradigm for closed- head injury in *Drosophila*. *Protocol Exchange.* doi: 10.21203/rs.3.pex-949/v1.
126. Saikumar J, Byrns CN, Hemphill M, Meaney DF, Bonini NM (2020) Dynamic neural and glial responses of a head-specific model for traumatic brain injury in *Drosophila*. *Proc Natl Acad of Sci USA* 117:17269-17277. DOI: 10.1073/pnas.2003909117. PMID: 32611818; PMC738222.
127. McGurk L, Rifai OM, Bonini NM. (2020) TDP-43, a protein central to amyotrophic lateral sclerosis, is destabilized by tankyrase-1 and -2. *J Cell Sci* 133: jcs245811. DOI: 10.1242/jcs.245811. PMC7328137.

128. Nativio R, Lan Y, Donahue G, Sidoli S, Berson A, Srinivasan AR, Shcherbakova O, Amlie-Wolf A, Nie J, Cui X, He C, Wang L-S, Garcia BA, Trojanowski JQ, Bonini NM and Berger SL (2020) An integrated multi-omics approach identifies epigenetic drivers associated with Alzheimer's disease. *Nat Genet.* 52: 1024-1035. Doi: 10.1038/s41588-020-0696-0. Epub 2020 Sep 28.
129. Saikumar J, Kim J, Byrns CN, Hemphill M, Meaney DF, Bonini NM (2021) Inducing different severities of traumatic brain injury in *Drosophila* using a piezoelectric actuator. *Nat Protoc* 16: 263-282, doi: 10.1038/s41596-020-00415-y. Epub 2020 Dec 4.
130. *Byrns C and Bonini NM (2021) An integrated multi-omics approach identifies therapeutic potential for ATP6V1A in late onset Alzheimer's disease. *Neuron* 109: 193-194. Doi:10.1016/j.neuron.2020.12.015. PMID: 33476559.
131. McGurk L, Rifai OM, Shcherbakova O, Perlegos AE, Byrns CN, Carranza FR, Zhou HW, Kim H-J, Zhu Y, Bonini NM. (2021) Toxicity of pathogenic ataxin-2 in *Drosophila* shows dependence on a pure CAG repeat sequence. *Human Mol Genet* 30: 1797-1810. PMC8444453.
132. Saikumar JS and Bonini NM (2021) Synergistic effects of brain injury and aging: Common mechanisms of proteostatic dysfunction. *TINS* 44: 728-740. PMC8387351.
133. Byrns CN, Saikumar J, Bonini NM. (2021) Glial AP1 is activated with aging and accelerated by traumatic brain injury. *Nature Aging* 1:585-597. PMC8553014.
134. Srinivasan A, Tran T and Bonini NM. (2022) Loss of miR-34 in *Drosophila* dysregulates protein translation and protein turnover in the aging brain. *Aging Cell* 21:e13559. PMC8920459.
135. Perlegos A, Shields E, Shen H, Liu KF, Bonini NM. (2022) Mettl3-dependent M⁶A modification attenuates the brain stress response in *Drosophila*. *Nat Commun.* 13: 5387. PMC9474545.
136. Bonini NM. (2023) A perspective on *Drosophila* genetics and its insight into human neurodegenerative disease. *Front Mol Biosci* 9:1060796. PMC9743296.