# CURRICULUM VITAE

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| NAME: | **Patricia Lynn Opresko** |
| BUSINESS ADDRESS: | University of PittsburghSchool of Public HealthDepartment of Environmental and Occupational HealthUPMC Hillman Cancer Center5117 Centre Avenue, Suite 2.6cPittsburgh, PA15213-1863Phone: 412-623-7764Fax: 412-623-7761E-mail: plo4@pitt.edu |

## EDUCATION AND TRAINING

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| --- | --- | --- | --- |
| Undergraduate |  |  |  |
| 1990 - 1994 | DeSales UniversityCenter Valley, PA | B.S., 1994 | Chemistry andBiology |
| Graduate |  |  |  |
| 1994 - 2000 | Pennsylvania State University, College of Medicine, Hershey, PA  | Ph.D., 2000 | Biochemistry and Molecular Biology |
| Post-Graduate |  |  |  |
| 03/2000 - 05/2000 | Pennsylvania State University, College of Medicine, Jake Gittlen Cancer Research InstituteHershey, PA | Postdoctoral Fellow | Dr. Kristin Eckert,Mutagenesis and Cancer etiology |
| 2000 - 2005 | National Institute on Aging, National Institutes of Health,Baltimore, MD | IRTA Postdoctoral Fellow | Dr. Vilhelm BohrMolecular Gerontology and DNA Repair |

## APPOINTMENTS AND POSITIONS

|  |  |  |
| --- | --- | --- |
| Academic |  |  |
| 05/01/2023- present | Endowed Chair | Dr. Bernard F. Fisher Chair for Breast Cancer Discovery Science |
| 08/01/2018 – present | Co-leader  | Genome Stability Program, UPMC Hillman Cancer Center |
| 05/01/2018-present | Tenured Professor | Pharmacology and Chemical Biology, School of Medicine, University of Pittsburgh, Pittsburgh, PA |
| 02/01/2018-present | Tenured Professor | Environmental and Occupational Health, School of Public Health, University of Pittsburgh, Pittsburgh, PA |
| 03/01/2014 – 01/31/2018 | Tenured Associate Professor  | Environmental and Occupational Health, School of Public Health, University of Pittsburgh, Pittsburgh, PA |
| 5/1/2005 - 2014 | Assistant Professor | Environmental and Occupational Health, School of Public Health, University of Pittsburgh, Pittsburgh, PA |
| 3/2000-5/2000 | Postdoctoral Fellow | Pennsylvania State University, College of Medicine, Jake Gittlen Cancer Research InstituteHershey, PA |
| Non-Academic |  |  |
| 2000 - 2005 | IRTA Postdoctoral Fellow | Laboratory of Molecular Gerontology, National Institute on Aging, National Institutes of Health, Baltimore, MD |

## MEMBERSHIP IN PROFESSIONAL AND SCIENTIFIC SOCIETIES

|  |  |
| --- | --- |
| 1999 - present | American Association for Cancer Research |
| 2005 - present | Environmental Mutagenesis and Genomics Society |
| 2006 - present | University of Pittsburgh Cancer Institute. Molecular and Cellular Cancer Biology Program |
| 2010 - present | Invited member of the Center for Nucleic Acids Science and Technology, Carnegie Mellon University |

## HONORS

|  |  |
| --- | --- |
| 1991 | Freshman Chemistry Achievement Award, CRC Press |
| 1993 | Delta Delta Chapter of Delta Epsilon Sigmas, National Catholic Collegiate Honor Society |
| 1994 | American Chemical Society Award,Lehigh Valley Chapter of ACS |
| 1999 | Special Conference Travel Grant Award, American Association for Cancer Research |
| 1998-1999 | Mentored Investigator Award,The Four Diamonds Fund of the Milton S. Hershey  |
| 2005 | Travel Award, Environmental Mutagen Society |
| 2006 | Selected to present at the Senior Vice Chancellor's Research Seminar Series, University of Pittsburgh |
| 2006 | Ellison Medical Foundation New Scholar in Aging Research |
| 2006 | Outstanding New Environmental Scientist (ONES), NIEHS |
| 2008, 2010 | Annual Meeting of the Environmental Mutagen Society, Session Co-chair |
| 2009 | Annual International Conference on Environmental Mutagens, Session Co-chair |
| 2011 | 2011 FASEB meeting on Helicases and NTP-Driven Nucleic Acid Motors, Session Chair |
| 2012 | 2012 Gordon Conference on DNA damage, mutation and cancer; Session Chair |
| 2015 | Invited to give the keynote lecture at the Pennsylvania State University School of Medicine Graduate Student Research Forum. |
| 2016 | Elected as a Councilor of the Environmental Mutagenesis and Genomics Society for the 2017-2020 term. |
| 2016 | Research featured in Pittsburgh Post-Gazette and Pittsburgh Tribune Review |
| 2017 | NSMB article was selected for NIEHS Papers of the Month in January |
| 2017 | 2017 Gordon Conference on Mammalian DNA Repair; Session Chair |
| 2017 | Research was highlighted in PittMed Magazine: Summer 2017 |
| 2018 | Invited Public Lecture at the annual meeting for the German DNA Repair Society, Karlsruhe, Germany. |
| 2018 | Glenn Award for Research in Biological Mechanisms of Aging |
| 2019 | Elected next Vice Chair and Chair of the Gordon Conference on Mammalian DNA Repair |
| 2020 | Invited Keynote Lecture at the 5th Canadian Symposium on Telomeres and Genome Stability |
| 2020 | Elected as DNA Repair SIG representative to the Program Committee for EMGS |
| 2020 | Invited Keynote Lecture: NIEHS Outstanding New Environmental Scientist Virtual Grantee Meeting |
| 2020 | Merrill J. Egorin Excellence in Scientific Leadership Award, UPMC Hillman Cancer Center |
| 2022 | Invited Keynote lecture 2nd Annual Southern Genome Maintenance Conference.  |
| 2022 | Distinguished Speaker Series, UNC-Charlotte. |
| 2022 | Distinguished Scientist Seminar Series, University of South Alabama. |
| 2022 | Elected Vice President and next President of the Environmental Mutagenesis and Genomics Society. |

## PROFESSIONAL ACTIVITIES

**1. Teaching**

a. Courses Taught

| Years Taught | Course Number: Title | Hours of Lecture, creditsAverage Enrollment | Role in coursePrimary/Coordinator |
| --- | --- | --- | --- |
| Springbiennial2006-2022 | EOH 3305, MSMPHL 3330 and MSBMG 3530: Genome instability and human disease | 1.5 hrs, 3 credits5 students3 lectures | Co-director with Drs. Bennett Van Houten and Chris Bakkenist |
| Spring2010-2024 | HUGEN 2031Introduction to Human Genetics | 2 hr, 2 credits21 students | LecturerDirector: Dr. Quasar Padiath |
| Fall2007-2023 | EOH 2175: General Toxicology | 1.5 hr, 3 credits 2 lectures15 students | LecturerDirector: Dr. James Fabisiak |
| Fallbiennial2005-2022 | EOH 2310: Molecular Fundamentals | 3 hrs, 3 credits 6 students | LecturerDirector: Dr. Peter Di  |
| Spring biennial 2015-2024 | EOH 3210: Pathophysiology and Environmental Disease | 1.5 hrs, 12 graduate students | LecturerDirector: Berthony Deslouches  |
| Summerbiennial2008-2016 | EPIDEM 2980Biology and Physiology of Aging | 1 hr, 1 credit,15 students1 lecture | LecturerDirector: Dr. Anne Newman |
| 2013-2015 | MLB 1: Methods and Logic in Biomedicine | 2 hrs, 6 Tsinghua Students | Facilitator/ Dr. Peter Drain Course Director |
| Fall2011 | MSELCT 5130-1020. M.S.T.P. Research Basis of Medical Knowledge SOM, 2nd year students | 1.5 hr16 sessions11-16 students | Co-director with Dr. Bennett van Houten |
| Fall/Spring2006-2010  | MSLECT 5130-1020. M.S.T.P. Research Basis of Medical Knowledge SOM, 1st year students | 1.5 hr12 sessions11-16 students | Co-director with Dr. RichardSteinman |

**b. Other Teaching** (lectures, tutorials and continuing education courses)

| Date(s) | Type of Teaching | Title |
| --- | --- | --- |
| Fall 2006 | 1hr lecture "Basic orientation to 'bench' biomarkers of age with an emphasis on telomeres" to faculty, postdoctoral fellows and graduate students. | Biomarkers of Aging WorkshopNovember 7, 2006 The Pittsburgh Mind-Body Center |
| Fall 2006 | Preceptor for article "The aflatoxin B(1) formamidopyrimidine adduct plays a major role in causing the types of mutations observed in human hepatocellular carcinoma." Smela et al. 2002 PNAS. | **EOH 2176: Principles of Toxicology Conference** **EOH Graduate Program** |
| Fall 2006 | Preceptor for article "Xeroderma pigmentosum variant (XP-V) correcting protein from HeLa cells has a thymine dimer bypass DNA polymerase activity". Matsutani et al. 1999 EMBO J | **EOH 2176: Principles of Toxicology Conference** **EOH Graduate Program** |
| Spring 2006 | Lecture on experience with the peer review for a publication “POT1 Stimulates RecQ Helicases WRN and BLM to Unwind Telomeric DNA Substrates” Opresko *et al.*, 2005, *Journal Biological Chemistry*. | EOH 2109: Graduate Program in Molecular Toxicology Journal Club |
| Fall 2005 | Mentor/preceptor for student presentation of the article “DNA Helicase Srs2 disrupts the Rad51 presynaptic filament” Krejci 2003 Nature. | EOH 2311: Mol Fundamentals Conference.EOH Graduate Program  |
| Fall 2005 | Mentor for Aaron Secrest and Oni Obi for their presentation of the article “Defective Telomere Lagging Strand Synthesis in Cells Lacking WRN Helicase Activity” Crabbe *et al*, 2004, Science. | Journal Club 2nd year MD/PhD students |

**c. Major Advisor for Graduate Student Essays, Theses, and Dissertations**

| Name of Student | Degree Awarded, Year | Type of Document and Title | Notes |
| --- | --- | --- | --- |
| Gerald Nora | PhD, MBSBApril 2010 | Thesis, Processing of Alternative DNA Structures in the Human Telomere | Medical Director, Ascension Sacred Heart Rehabilitation Hospital, Adjuct Professor, Medical College of Wisconsin  |
| Rama Rao Damerla | Ph.D., HuGen April 2011 | Werner Syndrome protein and telomeric DNA replication | Assistant Professor, Department of Medical Genetics Kasturba Medical CollegeManipal Academy of Higher EducationManipal, Karnataka, India |
| Hannah Pope-Varsalona | Ph.D., EOHAugust 2014 | Cellular Defense against Telomere Dysfunction Induced by Exogenous Genotoxicants | Consultant for Toxicology and Human Health Risk Assessment at the WHO |
| Dhvani Mukesh Parikh  | Ph.D., EOHDecember 2014 | Nucleotide Excision Repair at Telomeres | Toxicologist at the U.S. Green Building Council, Washington, D.C. - Applying to re-enter the research workforce after staying home with small children during COVID. |
| Samantha Sanford | Ph.D., IDMAugust 2020 | Mechanisms of Telomerase Inhibition by Oxidized and Therapeutic dNTPs | Postdoctoral fellow UPMC Hillman Cancer Center |
| Samuel Johnson | Ph.D., MBSBMay 2023 | Specificity and stoichiometry of the G-quadruplex binding protein BG4 | Interviewing for positions in industry |
| Sanjana AjayThosar | Ph.D., MGDB,August 2023 | Oxidative guanine base damage plays a dual role in regulating productive ALT-associated homology directed repair | Scientist I, Vor Biopharma, Boston MA |
| Libby Childs | Ph.D., Human GeneticsExpected 2028 | TBA |  |
| Theresa Heidenreich | Ph.D., MGDB,Expected 2029 | TBA |  |

**d. Service on Masters or Doctoral Committees**

| Dates Served | Name of Student  | Degree Awarded | Title of Dissertation/Essay |
| --- | --- | --- | --- |
| 05/03/24-Present | Qing Cao | PhD, EOH | TBA |
| 02/02/24 | William Mannherz | PhD, Biology and Biomedical SciencesHarvard University | Control of human telomerase activity by nucleotide metabolism |
| 01/19/2022-05/17/2024Chair | Brittani Schnable | PhD, Molecular Biophysics and Structural Biology | Single-molecule studies of thymine DNA glycosylase interacting with DNA |
| 01/04/2022-present | Bersabel Wondimagegnhu | PhD, Biophysics, Johns Hopkins University | TBA |
| 12/01/2021-11/21/2024 | Anne Wondisford | MD/PhD, Molecular Pharmacology Program | ADP-ribosylation of telomeres in human cells |
| 07/27/2021-9/7/2023Chair | Sripriya Raja | PhD, Molecular Pharmacology Program | Understanding the role of UV-DDB in the SMUG1 mediated repair of oxidative DNA damage |
| 03/02/2020-present | Marlo Thompson | PhD, Basic Medical Sciences, University of South Alabama | TBA |
| 11/18/2020-present | Dennis Carl Braden | PhD, Molecular Pharmacology | TBA |
| 08/20/2020-2022 | Mohd Azrin Bin Jamalruddin | PhD, Molecular Pharmacology | Tranferred to University of Pennsylvania. |
| 08/04/2020-08/29/2023Chair & co-mentor | Hayley Lynn Rein | PhD, Molecular Pharmacology | Functional Characterization of RAD51 Paralog Cancer Associated Variants of Unknown Significance |
| 08/04/2020-4/07/2023 | Pattra Chun-On | PhD, Environmental and Occupational Health | Recurrent TPP1 Promoter Mutations Drive Telomere Maintenance in Melanoma |
| 07/30/2020-10/11/2023Chair | Angela Marie Hinchie | PhD, Molecular Pharmacology | A persistent variant telomere sequence in a human pedigree |
| 04/29/2020 | Pinelopi Kroustallaki | PhD, University of Oslo | Functions of SMUG1 and NEIL3 in telomere homeostasis. By Zoom. |
| 07/2019-11/2021Chair | Namrata Kumar | PhD, Molecular Genetics and Developmental Biology | Global and transcription-coupled repair of 8-oxoguanine is initiated by nucleotide excision repair proteins |
| 06/2019-12/2021 | Kirill Lavrenyuk | PhD, Molecular Biophysics and Structural Biology Program | Quantifying Mechanical Behavior and Coherence of Epithelial Cell Monolayers |
| 06/2019-07/2021 | Daniel Whitefiled | PhD, Biomedical Engineering, CMU | Chromatin Mechanics: Starting Local, Going Global |
| 09/2018-04/2022 | Thong The Luong | PhD, Molecular Pharmacology | Role and regulation of yeast Hrq1 and its human homolog, RECQL4, during DNA crosslink repair |
| 04/2018 | Xiaoshuang Xun | MPH, Epidemiology | The association between telomere length and risk of breast cancer in Singapore Chinese Health Study |
| 04/2018 | Meiyuzhen Qi | MPH, Epidemiology | The role of telomere length in the risk of colorectal cancer incidences: A cohort study from the Singapore Chinese Health Study |
| 10/2017-12/2019 | Song-My Hoang | PhD, Pharmacology and Chemical Biology | Roles of Parylation on Telomere Maintenance by ALT |
| 10/2016-11/2019 | Emily Beckwitt | PhD, Molecular Structural Biology and Biophysics | Single Molecule Studies of XPA Protein on DNA  |
| 04/21/2016thesis defense | Stanley Oyaghire | PhD, Chemistry, Carnegie Mellon University | Recognition of Guanine Quadruplexes by PNA and Gamma-PNA Oligomers |
| 06/2015-12/2018 | Meghan Sullivan | PhD, Molecular Genetics and Developmental Biology Program | Functional Insights into Rad51 Regulatory Proteins in Homologous Recombination |
| 06/2014-06/30/2017 | Muwen Ben Kong | PhD, Molecular Structural Biology and Biophysics | Single-Molecule Studies of Rad4-Rad23 Reveal a Dynamic DNA Damage Recognition Process |
| 02/28/2014-08/18/2016 | Kyle Knickelbein | PhD, Chemical Biology and Pharmacology  | Mechanisms and Novel Therapeutic Approaches for KRAS-Mediated Resistance to Anti-EGFR Therapy in Colorectal Cancer Cells |
| 12/3/2013-01/2016 | Dushani Palliyaguru | PhD, Environmental and Occupational Health | Characterizing Withaferin A as a novel Nrf2 inducer: implications for liver disease prevention |
| 12/18/2013-07/14/2016 | Sean Carney | PhD, Molecular Structural Biology and Biophysics | Characterizing excluded strand DNA interactions with hexameric helicases and determining roles in unwinding mechanisms |
| 08/23/2013-12/2015 | Stephen K. Godin | PhD, Molecular Genetics and Development Biology program | The Shu complex is a conserved regulator of Rad51 filament formation |
| 02/03/2012 | Karin Solvang-Garten | PhD Molecular Medicine | X-ray Repair Cross-Complementing Protein 1 – the roles as a scaffold protein in Base excision repair and Single strand break repairNorwegian University of Science and Technology, Trondheim, Norway |
| 04/2010-06/2012 | Advaitha Madireddy | PhD Human Genetics | Linking the Multiple Functions of XPF-ERCC1 Endonuclease in DNA Repair to Health Outcomes: Cancer and Aging |
| 10/2010-12/2011 | Matt Fagerburg | PhD Molecular Biophysics and Structural Biology | Discern Mechanism of RecA displacement from DNA by PcrA |
| 10/2009-11/2009 | Nikhil Bhagwat | PhD Human Genetics | ERCC1-XPF nuclease: roles in the repair of DNA interstrand crosslinks and chemotherapy resistance |
| 06/2009-08/2014 | Brian Graham | PhDChemistry | Mechanistic and Functional Characterization of *Sulfolobus solfactaricus* Primosome Components |
| 01/2009-05/2009 | Zuzanna Bukowy | PhD | Factors Regulating the Enzymatic Activity of WRN ProteinInstitute of Biochemistry and BiophysicsPolish Academy of Science, Warsaw, Poland |
| 02/2009-07/2012 | Kristin Klucevsek | PhDBiological Science | Investigating the Nuclear Role of the Conserved Ubiquitin Ligase Rkr1 |
| 09/2007-04/2009 | Antonia Nemec | PhDEnvironmental Health | Signaling Mechanisms for Gene Regulation by Metals and Metal Mixtures |
| 08/2007- | Brooke McClendon | Microbiology and Molecular Genetics | Withdrew |

**e. Service on Comprehensive or Qualifying Examination Committees**

| Dates Served | Student Population | Type of Exam(Qualifying/Comprehensive)  |
| --- | --- | --- |
| 07/09/2024 | Qing Cao, PhD student, EOH | Comprehensive Exam |
| 06/07/2024 | Quinn Douglas Murray, PhD student, Mol Pharmacology | Comprehensive Exam |
| 05/31/2024 | Jasper Jeffries, PhD student, MBSB | Comprehensive Exam |
| 08/23/2022 | Zach Clemens, PhD student, Environmental & Occupational Health | Qualifying Exam, chair |
| 05/17/2022 | Marlo Thompson, PhD student,U of S Alabama | Comprehensive Exam |
| 05/03/2022 | Adeola Fagunloye, PhD student, Molecular Pharmacology  | Comprehensive Exam, chair |
| 07/2021 | Brittani Schnable, PhD student, Molecular Biophysics and Structural Biology | Comprehensive Exam |
| 05/2020 | Priya Raja, PhD student, Molecular Pharmacology | Comprehensive Exam |
| 09/2020 | Yu Hong Wang, PhD student,Molecular Biophysics and Structural Biology | Comprehensive Exam |
| 08/2020 | Dennis Carl Barden, PhD student, Molecular Pharmacology | Candidacy Exam |
| 05/2020 | Mohd Azrin Bin Jamalruddin, PhD student, Molecular Pharmacology | Candidacy Exam |
| 05/2020 | Hayely Lynn Rein, PhD student, Molecular Pharmacology | Candidacy Exam, chair |
| 05/2020 | Pattra Chun-On, PhD student, Environmental and Occupational Health | Qualifying Exam, chair |
| 08/2019 | Daniel Whitefield, PhD student, Biomedical Engineering, Carnegie Mellon University | Qualifying Exam |
| 04/2019 | Meghan Matlack, PhD student, Environmental and Occupational Health | Qualifying Exam, chair |
| 11/2017 | Amrita Sahu, PhD student, Environmental and Occupational Health | Qualifying Exam, chair |
| 06/2016 | Emily Beckwitt, PhD student, Molecular Biophysics and Structural Biology Program  | Comprehensive Exam, chair |
| 06/2016 | Emilie Castronio, PhD student, Environmental and Occupational Health | Qualifying Exam, chair |
| 06/2014 | Kindra Witlatch, PhD student, Molecular Biophysics and Structural Biology Program | Comprehenisve Exam, chair |
| 06/2014 | Meghan Sullivan, PhD student, Molecular Genetics and Developmental Biology Program | Comprehensive Exam |
| 11/2014 | Teresa Anguiano, PhD student, Environmental and Occupational Health | Qualifying Examination, chair |
| 10/24/2013 | Amin Cheikhi, 1 PhD student, Environmental and Occupational Health | Qualifying Examination, chair |
| 07/29/2013 | Stephen K. Godin, 1 PhD student, Molecular Genetics and Developmental Biology program | Comprehensive Examination |
| 07/23/2013 | Courtney Roper, 1 PhD EOH student | Qualifying Examination, chair |
| 07/09/2013 | Muwen Ben Kong, 1 PhD student, Molecular Biophysics and Structural Biology program | Comprehensive Examination |
| 12/07/2011 | Shilpi Oberoi, 1 PhD EOH student | Qualifying Examination, chair |
| 06/15/201003/30/2011 | Advaitha Madireddy, 1 PhD Human Genetics student | Qualifying ExaminationComprehensive Examination |
| 04/19/2010 | Lolita Nidadavolu, 1 MD/PhD Microbiology and Molecular Genetics student | Comprehensive Examination |
| 01/04/2010 | Shannen Liu, 1 PhD EOHStudent | Qualifying Examination, Chair |
| 12/10/2009 | Brian Graham, 1 PhDChemistry student | Comprehensive Examination |
| 12/16/2008 | Thomas Biksey, 1 PhD EOH student | Qualifying Examination |
| 11/11/2008 | Pornsri Khlangwiset, 1 PhD EOH student | Qualifying ExaminationChair of exam committee |
| 07/09/2008 | Wazo Myint, 1 PhD MBSB student | Comprehensive Examination |
| 05/30/2008 | Elisenda Lopez-Manzano, 1 PhD EOH student  | Qualifying Examination |
| 04/22/2008 | Eileen Bauer, 1 PhD EOH student  | Qualifying Examination:Chair of exam committee |
| 03/06/2008 | Andria Robinson, 1 PhD Human Genetics student | Qualifying Examination |
| 07/11/2007 | Brooke McClendon1 PhD Molecular Genetics and Biochemistry student | Comprehensive Examination |
| 04/10/2007 | Rama Damerla, 1 PhD Human Genetics, student | Qualifying Examination |

**f. Supervision of Post-Doctoral Students, Residents, and Fellows**

| Dates Supervised | Name of Student | Position of Student |
| --- | --- | --- |
| 12/2020- | Samantha Sanford | Postdoctoral fellow |
| 01/2019- | Mariarosaria de Rosa | Postdoctoral fellow |
| 08/2017-7/2023 | Ryan Barnes  | Assistant Professor,Kansas University Medical Center |
| 06/2014-12/2018 | Elise Fouquerel | Assistant Professor, University of Pittsburgh, UPMC Hillman Cancer Center |
| 08/2015-12/2017 | Arindam Bose | Leica Microsystems as Lead Scientist - Spatial Proteomics, Leica Microsystems |
| 02/2011-12/31/2014 | Connor Murphy | Laboratory Associate, Point Park University, Department of Natural Sciences, Engineering and Technology |
| 09/2007-03/2011 | Fujun Liu | Associate Director, Head of Product Characterization and Risk Assessment, Takeda, Cambridge, MA |

**g. Other Teaching and Training – Mentoring/ Supervising Students**

| Dates | Teaching Activity | Program/Description |
| --- | --- | --- |
| 2024 Summer | Alastair Watt | HCC Academy HS program, URM |
| 2024 Spring | Theresa Heidenreich | IGBP, MGDB, rotation student |
| 2023 Fall | Tongyu Wu | IGBP, MGDB, rotation student |
| 2023 Summer | Averi Elsbury | HCC Academy HS program, URM |
| 2023 Summer | Libby Childs | SPH Human Genetics program |
| 2023 Spring | Christopher Morii-Sciolla | IBGP program |
| 2022 Spring | Madalyn Fry | Undergraduate Intern |
| 2020 Fall | Trey Harkness, PhD rotation student | IBGP Molecular Pharmacology |
| 2020 Summer | Geyon Garcia, PhD rotation student | MSTP program |
| 2019 Fall | Kaylee Ermine, PhD rotation student | IBGP Molecular Pharmacology  |
| 2019 Summer | Sachi Dhakal | SURP, MGDB program |
| 2019 Winter | Sanjana Ajay Thosar, PhD rotation student | Molecular Genetics and Developmental Biology graduate program University of Pittsburgh School of Medicine |
| 2018 Fall | Pattra Chun-On, PhD rotation student | Environmental and Occupational Health |
| 2017 Fall | Samuel Johnson, PhD rotation student | Molecular Biophysics and Structural Biology graduate program University of Pittsburgh School of Medicine |
| 2016-2018 Summer, Winter 2019 | Adam Barsouk, undergraduate | Undergraduate internship |
| 2015 Summer | Adam Barsouk, high school student | UPCI Academy |
| 2015 Spring | Lisa Clark, PhD Student in MBSB program | MBSB MB2 class; student present a research article from a selected mentors’ lab |
| 2014 Fall | Lu Yang, rotation medical student  | University of Pittsburgh and Tsinghua University Medical Research Scholars program |
| 2014 Spring | Meghan Sullivan, rotation PhD student  | Molecular Genetics and Developmental Biology graduate program University of Pittsburgh School of Medicine |
| 2013 Fall | Jingei Chen, rotation medical student  | University of Pittsburgh and Tsinghua University Medical Research Scholars program |
| 2013 Fall | Hanqi Tang, rotation medical student  | University of Pittsburgh and Tsinghua University Medical Research Scholars program |
| 2013 Summer | Laura Congelio, undergraduate student  | EOH summer undergraduate research program |
| 2012 Summer | Ashley Grinage, high school student  | PITT STEER program, Short Term Education Experience in Research |
| 2011 Summer | Vera Filatova, undergraduate student,  | EOH summer undergraduate research program |
| 2011 Spring, Summer | Cassandra Krise, Human Genetics Masters student  | Work study student |
| 2010 Summer | Steven Strutt, undergraduate student  | EOH summer undergraduate research program |
| 2009 Summer | Nathan Smith, first year medical student | Medical Student Training in Aging Research (MSTAR) Program sponsored by The American Federation for Aging Research and the National Institute on Aging  |
| 2009 Summer | Devin Kepchia, undergraduate student  | EOH summer undergraduate research program |
| 2009 Winter | Workshop with GSPH graduate students | Dean’s Day abstract preparation session |
| 2008 Summer2008 Fall | Abbe Jackson, undergraduate student  | EOH summer undergraduate research program |
| 2006 Summer | Hannah Colabrese, undergraduate student  | EOH summer undergraduate research program |
| 2004 Summer | Shamika Danzy, MS graduate student | NIH Summer Internship Program |
| 2000 – 2002 | Jean Philippe Laine, PhD graduate student -  | Laboratory of Molecular Gerontology, National Institute on Aging, NIH  |
| 2003 | Mentor for high school students  | NIH sponsored Women in Science Day |

**2. Research and Training**

a. Grants and Contracts Received

#### Principal Investigator, Multiple Principal Investigator, or Program Project Principal Investigator

#### *\*as listed in NIH RePORT and/or on Notice of Award*

| Years Inclusive | Grant and/or Contract Number and Title | Source | Annual Direct Costs | % Effort |
| --- | --- | --- | --- | --- |
| **Current Support** |  |  |  |
| 05/01/24-04/30/29 | R01CA284633/Ribonucleotide Processing in Telomere Maintenance and Integrity | NCIPI: Freudenthal | $329,925 | 5% Opresko, CoI |
| 03/01/2024-12/31/2028 | R01ES035733/ Telomere dysfunction driven molecular outputs in the cardiac unit | NIEHSPI: Gurkar | $396,489 | 7.5% Opresko, CoI |
| 01/01/2023-12/31/2023 NCE | Oxidative telomere Damage and Aging | Richard King Mellon Foundation | $249,667 | 10% |
| 06/01/2019-03/31/2027 | R35ES030396/ Excision Repair of Environmental Telomere Damage | NIH, NIEHSScore = 10 | $638,303 | 50% |
| 03/08/2017-02/28/2028 Renewed  | R01CA207342/ Roles of Telomere Oxidative DNA Lesions in Telomere Length  | NCI, NIHCo-PI with Sua Myong | $320,00 | 14% |
| **Past Support** |  |  |  |
| 07/01/2017-06/30/2020 | R33ES025606/ ROS Driven Mitochondrial-Telomere Dysfunction During Environmental Stress | NIEHS, NIH\*co-PI with Ben Van Houten | $357,635 | 6% |
| 09/20/2018-09/19/2020 | Glenn Award for Research in Biological Mechanisms of Aging – unsolicited | Glenn Foundation for Medical Research  | $60,000No indirect | 0% |
| 03/20/2018-03/19/2020 | FY18 Aging Institute Seed Grant Program/Examining the spatio-temporal role of oxidative telomere damage on health span and lifespan by optogenetics | UPMC Aging Institute. Co-PI with Aditi Gurkar | $7,000No indirect | 0% |
| 09/01/2017-05/31/2019 | R01ES028242/ Inhibition of telomere maintenance by oxidized DNA precursors | NIEHS, NIHTerminated due to R35 | $233,716 | 25% |
| 09/01/2013-05/31/2019NCE | R01ES022944/ Mechanisms of Telomere Resistance to DNA Lesion Removal | NIEHS, NIH | $208,539 | 22% |
| 06/01/2016-05/31/2019 | R44GM108187 Phase II – GammaPNA Miniprobes for Telomere Analysis and RNA FISH | NIGMS, NIH\*Co-PI with Bruce Armitage and PNA Innovations | $78,671 | 10% |
| 11/01/2016-10/31/2018 | Creating transgenic mice to illuminate roles for mitochondrial and telomere damage in cancer and aging. | Stimulating Pittsburgh Research in Geroscience Pilot Project Award\*co-PI with Marcel Bruchez and Greg Delgoff | $30,000 | 0% |
| 02/09/2016-02/08/2017 | Investigating a non-canonical function of DNA polymerase eta in the maintenance of telomere integrity | Stimulating Pittsburgh Research in Geroscience Pilot Project Award\*co-PI with Roderick O’Sullivan | $30,000 | 0% |
| 03/01/2015-02/28/2017 | R21ES025606/ ROS Driven Mitochondrial-Telomere Dysfunction During Environmental Stress | NIEHS, NIH\*co-PI with Ben Van Houten | $140,209 | 8% |
| 07/2013-07/2014 | Role of Telomere and Mitochondria Cross-talk in Cellular Aging | University of Pittsburgh Aging Institute Pilot Program\*Co-PI with Bennett Van Houten | $20,000 | none |
| 07/01/2013-06/30/2015 | R34GM108187/GammaPNA Miniprobes for Telomere FISH | NIGMS, NIH\*Co-PI with Bruce Armitage and PNA Innovations | $50,000 | 8% |
| 07/01/2013-06/30/2015 | R21AG045545/Oxidative DNA Base Damage and Repair at Telomeres and the Relevance to Cell Senescence | NIA, NIH\*Co-PI with Li Lan | $137,500 | 10% |
| 01/01/2013-12/31/2013 | Mechanisms of Telomeric DNA Loss and Repair | University of Pittsburgh Bridge Funding | $100,000 | 0% |
| 08/01/2011-07/31/2012 | Mechanisms of Telomeric DNA Loss and Repair | University of PittsburghBridge Funding | $69,302 | 0% |
| 12/01/2010-11/30/2012 | Impact of UV-induced DNA damage on telomere integrity | The Specialized Program of Research Excellence in Melanoma & Skin Cancer | $35,000 | 5% |
| 07/01/2006-06/30/2011 | 1R01ES015052-01/ Mechanisms of Telomeric DNA Loss and Repair  | NIEHS, ONES program | $300,00 | 80% |
| 08/15/2009-07/31/2011 | 3R01ES015052-04S1/ “Mechanisms of Telomeric DNA Loss and Repair” | NIEHS / Recovery Act Funds for Administrative Supplement | $218,268 | 80%(parent grant) |
| 07/01/2008-06/30/2010 | Relationship of Age-Related Cataracts and Telomere Length in HumanCollaboration with Dr. Ann Newman at the University of Pittsburgh | Small Grants Program of the Central Research Development Fund- University of Pittsburgh | $14,900 | Supplies only |
| 07/2006-06/2010 | Molecular Mechanisms of Telomeric DNA Instability Associated with the Human Progeroid Werner Syndrome | Ellison Medical Foundation New Scholars in Aging Program | $50,000 | 20% |
| October 18-22, 2008 | Awarded to support the symposia on “DNA Damage in Neurodegeneration, Aging and Cancer” and “Consequences of Genotoxic Damage to Mitochondrial DNA” and the plenary lecture by Dr. Jerry Shay on “Aging and Cancer: Are Telomeres and Telomerase the Connection?” at the 39th Annual Meeting of the Environmental Mutagen Society held October 18-22, 2008, in Rio Grande, Puerto Rico.  | Ellison Medical Foundation | $10,000 | 0 |
| August 20-25,2009 | Awarded to support the symposia on “DNA Damage Repair and Aging” at the 10th International Conference on Environmental Mutagens held in Florence, Italy.  | Ellison Medical Foundation | $10,000 | 0 |

#### Site Principal Investigator

***\*include grants where serving as a significant Site PI (e.g., in a large clinical study, clinical trial, consortium grant or center grant) not identifiable in NIH RePORT***

| Years Inclusive | **Grant and/or Contract Number and Title****(PI: Name; Institution)** | Source | Annual Direct Costs | % Effort |
| --- | --- | --- | --- | --- |
| 08/01/2020-07/31/2025 | P30CA047904/ Cancer Center Support Grant (PI: Ferris) | NCI | $33,730,590 (Total) | 5% |

**Co-Investigator or Sponsor on Grants**

***\*Include institutional grants as well as inter-institutional subcontracts for which you are officially listed as Co-Investigator (e.g., key personnel designation in NIH grant)***

| Years Inclusive | Grant and/or Contract Number and Title**(PI: Name; Institution)** | Source | Annual Direct Costs | % Effort |
| --- | --- | --- | --- | --- |
| **Current Support** |  |  |  |
|  |  |  |  |  |
| 02/13/2024-01/31/2025 | K99ES035871/ Investigating roles for oxidative guanine damage in transcription regulation | NIEHSPI: De RosaSponsor: Opresko | $102,378 | 0% |
| 07/01/2022-06/30/2025 | F32 CA275287/ Investigating how chemotherapeutic thiopurines inhibit telomerase elongation of telomere.  | NCIPI: SanfordSponsor:Opresko | $69,500 | 0% |
|  |  |  |  |  |
| **Past Support** |  |  |  |
| 12/07/2021-11/30/2023 | K99ES033771/ Investigating the Cellular Impact of 8-oxo-Guanine on DNA Replication and Genome Stability | NIEHSPI: BarnesSponsor: Opresko | $99,216 | 0% |
| 12/07/2021- 11/30/2023 | K99ES033738/ Shu complex and RAD52 function in DNA damage recognition and subsequent repair | NIEHSPI:HengelCo-Sponsor | $100,040 | 0% |
| 09/01/2021-08/30/2024 | F31HL158063/ Discerning the mechanisms of telomere dysfunction caused by a mutant telomerase template | NHLBIPI: HinchieCo-Sponsor:Opresko | $46,036 | 0% |
| 01/01/2018-12/31/2021 | R01GM123246/ Sequence and structure specific DNA binding by cohesion and genome stability | NIGMS, NIH\*Hong Wang (PI) | $50,160 | 2% |
| 06/01/2020-11/301/2021Terminated due to K99 | F32AG067710/ Investigating the Impact of Telomere Specific Oxidative Base Damage in Cellular Aging. | NIAPI: R BarnesSponsor: P Opresko | $65,300 | 0 |
| 12/01/2017-11/30/2020 | R01ES028686/ Damage sensor role of UV-DDB during base excision repair | NIEHS, NIH\*Ben Van Houten (PI) | $11,929 | 4% |
| 12/01/2016-11/30/2018 | R21CA212628/ Leukocyte telomere length in bladder cancer survivors: diet and exercise trial | NIA, NIHPI- Bovbjerg | $4,506 | 1.5% |
| 06/01/2014-12/31/2014 | The Center for Nucleic Acids Science and Technology: An Interdisciplinary Research Center | DSF Charitable Foundation | $28,000 | 0% |
| 01/01/2011-05/31/2014 | The Center for Nucleic Acids Science and Technology: An Interdisciplinary Research Center | DSF Charitable Foundation | $112,334 | 0%  |
| 01/01/2010-06/30/2013 | Kirschstein-NRSA Individual Fellowship, 1F30AG032861-01A1"Processing of Alternative Structures in Telomeric DNA"Award to student Gerald Nora  | NIA  | $46,176 | 0%Sponsor |
| Pending Grants |
| Years Inclusive | Grant and/or Contract Number and Title | Source | Annual Direct Costs | % Effort |
|  |  |  |  |  |
| b. Invited Lectureships and Major Seminars Related to Your Research |
| Date | Title of Presentation | Venue |
| June 10-13, 2025 | Roles of oxidative telomere damage in aging | EMBO, EMBL Symposium: The ageing genome: from mechanisms to disease |
| Apr 29 – May 3, 2025  | Base excision repair at telomeres | CSHL Meeting on Telomere and Telomerase, CSHL, NY |
| Feb 2-7, 2025 | Oxidative DNA damage and repair at telomeres | GRC on Mammalian DNA Repair, Ventura, CA |
| Nov 13-17, 2024 | Roles for oxidative telomere damage in cellular senescence | 2024 Gerontological Society of America Annual Meeting |
| May 6-11, 2024 | Oxidative DNA damage and repair at telomeres | 2024 EMBO workshop 'Telomere function and evolution in health and disease’, Rome, Italy |
| March 6, 2024 | Oxidative DNA damage and repair at telomeres: implications for aging and cancer | University of Massachusetts, Worcester, MA.Invited by Sharon Cantor |
| March 5, 2024 | How oxidative stress promotes telomere dysfunction | Harvard T.H. Chan School of Public Health, Boston, MA. Invited by Zachary Nagel. Postponed. |
| February 22, 2024 | Oxidative DNA damage and repair at telomeres | Tulane University, Invited by Dr. Arthur Lustig |
| February 15,2024 | Oxidative DNA damage and repair at telomeres | Social DNAing. Columbia University, NY. |
| November 3, 2023 | Oxidative damage has a dual role in alternative lengthening of telomeres | Genome Instability, Discovery to Personalized Medicine, Philadelphia, PA |
| August 16, 2023 | Oxidative DNA damage and repair at telomeres | American Chemical Society National Meeting, TOXI symposium, San Francisco, CA |
| July 28, 2023 | ONES to RIVER | ONES and RIVER Awardee Symposium NIEHS, NC. |
| July 17, 2023 | Telomeres at the Interface of Cancer and Aging  | UPMC Enterprises Translational Sciences Monday Meetings. Invited by Bruce Pitt. |
| June 10, 2023 | How telomeric oxidative damage promotes cellular aging | 51st AGE American Aging Association meeting, Oklahoma City, OK. Invited by Laura Niedernhofer. |
| April 14, 2023 | How oxidative telomere damage drives cellular senescence and genomic instability  | Univeristiy of Calgary, Canada. Invite by Susan Lees-Miller. |
| January 23, 2023 | Oxidative DNA damage and repair at telomeres: Implications for Cancer and Aging | R. Ken Coit College of Pharmacy, University of Arizona.  |
| December 2, 2022 | Oxidative DNA damage and repair at telomeres: Implications for Cancer and Aging. | Department of Biology at the University of Iowa. Iowa City, IA. Invited by Dr. Anna Markova.  |
| November 8, 2022 | Oxidative DNA damage and repair at telomeres | 7th US-EU Conference on Endogenous DNA Damage and Repair. Stoneybrook, NY. |
| October 19, 2022 | Oxidative DNA damage and repair at telomeres | Center for Nucleic Acid Science and Technology (CNAST) Symposium. Carnegie Mellon University, Pittsburgh, PA. |
| October 13, 2022 | Roles for oxidative telomere damage in cancer and aging | Distinguished Scientist Seminar Series. University of South Alabama. Mobile, AL.  |
| September 12, 2022 | Oxidative DNA damage and repair at telomeres | Distinguished Speaker Series, UNC-Charlotte, NC. Invited by Dept. of Biological Sciences and NC Biotechnology Center.  |
| August 27, 2022 | BER Processing of Oxidative Lesions in Telomeres | 13th International Conference on Environmental Mutagens, Samuel H. Wilson Memorial Meeting: DNA Damage & Repair. Ottawa, CA. |
| June 25-26, 2022 | Keynote: The impact of oxidative DNA damage on telomere maintenance: Implications for Cancer and Aging | 2nd Southern Genome Maintenance Conference, Florida International University. Miami, FL.  |
| June 5-9, 2022 | Roles for oxidative telomere damage in cancer and aging | Unique cellular and microbial nucleic acids and the activation of immunity and immunological diseases workshop. Girdwood, AL. Invited by Jack Griffith and Jenny Ting. |
| April 7, 2022 | Roles for oxidative telomere damage in cancer and aging | University of Arizona. Tucson, AZ. Invited by Dr. Joann Sweasy. |
| March 22, 2022 | Roles for oxidative telomere damage in cellular aging | New Hallmarks of Aging Symposium. Copenhagen, Denmark. Virtual presentation. |
| March 10, 2022 | The processing of 8-oxoguanine a telomeres promotes cellular senescence | Gordon Research Conference on DNA Damage, Mutation and Cancer. Venture, CA. Invited speaker |
| March 6 - 11, 2022 | From DNA Damage, Repair and Replication to Immune Activation and Cancer Therapy | Ventura Beach Marriott2055 Harbor BoulevardVentura, CA, United States |
| February 16, 2022 | How oxidative stress accelerates telomere loss: implications for cancer and aging | Barshop Seminar Series. The Sam & Ann Barshop Institute for Longevity & Aging Studies. UT Heath Science Center at San Antonio, TX. Virtual |
| January 7, 2022 | The consequences of oxidative DNA damage at telomeres | Hollings Cancer Center, Medical University of South Carolina. Charleston, SC. Virtual visit. |
| October 13, 2021 | The impact of oxidative DNA damage and stress on telomere homeostasis | 23rd International Conference on Oxidative Stress Reduction, Redox Homeostasis and Antioxidants, Paris Redox 2021, Virtual. |
| August 22, 2021 | Using Chemoptogenetics to study cellular responses to telomere-specific 8-oxoguanine damage | Annual American Chemical Society Meeting, Division of Chemical Toxicology. Atlanta, GA.  |
| April 19, 2021 | How Oxidative Damage Impacts Telomere Function | University of Pennsylvania Center for Genome Integrity, Virtual. Invited by Roger Greenberg. |
| February 26, 2021 | The Consequences of Oxidative DNA Damage at Telomeres | IUPUI, School of Science, Dept. of Biology, invitation from graduate students for guest speaker “whose research has made a significant impact in the biological sciences.” |
| November 12, 2020 | Role of Oxidative Damage in Telomere Structure and Maintenance | Nucleic Acid Secondary Structures G4s and Beyond. Webinar Series. Universitats Klinikumbonn, University Hospital Bonn, Germany. |
| October 26, 2020 | Telomere and Genome Integrity in Cancer and Aging | Age-dependent changes in cancer biology, NCI, virtual workshop.  |
| September 24, 2020 | Role of oxidative DNA damage in telomere homeostasis | Molecular Biophysics Structural Biology Department Seminar Series, University of Pittsburgh. Virtual. |
| July 27, 2020 | A ONES Journey to the RIVER: How NIEHS Transformed my Career | Invited Keynote for the Outstanding New Environmental Scientist (ONES) Grantee Meeting. Virtual. NIEHS |
| June 18, 2020 | Mechanisms of telomerase inhibition | HCC Annual Retreat, Pittsburgh, PA. Cancelled due to COVID19 |
| June 7, 2020 | Oxidative base damage at telomeres promotes telomere loss and crisis | FASEB: The Dynamic DNA Structures in Biology Conference, Nova Scotia, Canada. Postponed due to COVID19 |
| May 19, 2020 | How Oxidative Stress Accelerates Telomere Loss | 5th Canadian Symposium on Telomeres and Genome Integrity 2020, Canmore, Alberta. Postponed due to COVID19 |
| April 28, 2020 | Impact of Oxidative DNA Damage on Telomere Maintenance | University of Oslo, Oslo, Norway. Invited by Dr. Hilde Loge Nilsen. Postposed due to COVID19 |
| March 30, 2020 | The impact of oxidative DNA damage on telomere maintenance | EACR, DNA Damage Responses and Cancer: Innovations from Radiobiology to Radiotherapy, Cambridge, UK. Cancelled due to COVID19 |
| March 17, 2020 | Using chemoptogenetics to study cellular responses to telomeric-specific 8-oxoguanine damage  | DNA Repair Video Conference, NIH. Hosted at the University of Pittsburgh. Pittsburgh, PA |
| December 13, 2019 | Investigating How Oxidative Stress Accelerates Telomere Loss: Implications for Cancer and Aging | Washington University, St. Louis, MO. Invited by Nima Mosammaparast. |
| October 18, 2019 | Using a Molecular Sniper to Uncover How Oxidative Stress Shorten Telomeres | Science 2019. University of Pittsburgh. Pittsburgh, PA.  |
| October 1, 2019 | Role of oxidative DNA damage in telomere maintenance: Implications for aging and cancer | University of Pittsburgh, Dept. of Medicine, Pulmonary Allergy and Critical Care Medicine Basic Translational Research Conference. Pittsburgh, PA. Invited speaker |
| September 23, 2019 | Novel Precision Tools for Studying DNA Damage and Repair | 2019 EMGS 50th Annual Meeting. Washington, DC. Invited speaker |
| June 23, 2019 | The Impact of Oxidative DNA Base Damage on Telomere Maintenance | Gordon Research Conference on Nucleoside, Nucleotides and Oligonucleotides. Newport, RI. Invited speaker. |
| May 13, 2019 | Investigating the Role of Oxidative Stress in Telomere Maintenance | Molecular Biophysics and Structural Biology Graduate Program Annual Symposium. University of Pittsburgh and Carnegie Mellon U. Pittsburgh, PA. Invited by PhD students. |
| April 30, 2019 | Targeted oxidative telomere base damage induces growth arrest and senescence in normal human cells  | Telomeres and Telomerase, CSHL meeting. New York. Invited session chair and speaker. Talk delivered by trainee Ryan Barnes as per tradition for this conference.  |
| March 22, 2019 | Investigating How Oxidative Stress Accelerates Telomere Loss: Implications for Cancer and Aging | Florida International University. Miami, FL. Invited by Dr. Yuan Liu. |
| February 14, 2019 | Why Our DNA Ages | 14th Annual University of Pittsburgh Winter Academy. Naples, FL. |
| February 11, 2019 | Induction and Repair of Damage in Telomeres | Gordon Research Conference on Mammalian DNA Repair. Ventura, CA. |
| January 22, 2018 | Telomeres: At the Interface of Cancer and Aging | UPMC Hillman Cancer Center Council Meeting. Pittsburgh, PA |
| January 17, 2018 | Investigating How Oxidative Stress Accelerates Telomere Loss: Implications for Cancer And Aging | Brain, Behavior, and Cancer Seminar Series. The Biobehavioral Oncology Program, UPMC Hillman Cancer Center. Pittsburgh, PA |
| November 2018 | The impact of oxidative DNA lesions on telomere maintenance | Annual meeting of the Society for Redox Biology and Medicine. Chicago, IL. |
| October 2018 | Telomeres in the Spotlight: Illuminating how stressed-out telomeres contribute to disease | Science 2018. University of Pittsburgh. Pittsburgh PA.  |
| September 2018 | DNA damage and repair at telomeres: implications for cancer and aging | Keynote lecture. Annual meeting of the German DNA Repair Society. Karlsruhe, Germany.  |
| July 2018 | Investigating how oxidative DNA base damage modulates telomere structure and function | Dynamic DNA Structures in Biology, FASEB Scientific Research Conferences. St. Bonaventure, NY. |
| May 2018 | Investigating how oxidative DNA base damage alters telomere maintenance | EMBO workshop on Telomeres in Health and Human Disease. Tróia, Portugal. |
| February 2018 | Investigating how oxidative stress accelerates telomere loss: implications for cancer and aging |  Magee-Womens Research Institute's Work-in-Progress (WIP) Seminar. Pittsburgh, PA.  |
| November 2017 | Telomeres: At the Interface of Aging and Cancer | One Book One Community, GSPH, University of Pittsburgh. Pittsburgh, PA. Invited by Jessica Burke |
| November 2017 | Telomeres: At the Interface of Aging and Cancer | Learner series Inventionland. Fox Chapel, PA. Invited by Mr. Davidson, CEO. |
| October 2017 | The impact of oxidative stress and DNA damage on telomere maintenance | IUBMB Meeting on “Molecular Aspects of Aging and Longevity”. Athens, Greece. Invited by Stathis Gonos |
| October 2017 | A New Tool for Examining Crosstalk Between Telomere and Mitochondrial Dysfunction | The 7th Regional Translational Research on Mitochondria, Metabolism, Aging, and Disease Symposium. Pittsburgh, PA.  |
| September 2017 | Environmental Exposures and Telomere Effects | Workshop on Exploring Telomeres as Sentinels for Environmental and Psychosocial Stress and Susceptibility, NIEHS and NIA. RTP, NC. Speaker and session chair. |
| September 2017 | Oxidative DNA damage and repair at telomeres  | 48th Annual Meeting of the Environmental Mutagenesis and Genomics Society. Raleigh, NC. Speaker and session chair. |
| June 2017 | Attacking telomeres and telomerase | 29th Annual UPCI Scientific Retreat Satellite Conference: New Therapeutic Strategies in Killing Tumor Cells: Exploiting Genome Instability. Pittsburgh, PA. Speaker and Co-chair |
| May 2017 | Excision repair at telomeres | Conference on Nucleotide Excision Repair and Interstrand Cross-link Repair – from molecules to humans. Smolenice, Slovakia. Invited by chair. |
| March 2017 | DNA damage and repair at telomeres | Seminar Series for NIEHS Training Program in Environmental Health Sciences, University of California. Davis, CA. Invited by students. |
| February 2017 | Dual role for 8-oxoguanine in regulating telomerase activity | Gordon Research Conference on Mammalian DNA Repair. Ventura, CA. Speaker and session chair. |
| January 2017 | DNA repair at telomeres and the implications for cancer and aging. | Department of Pharmacology and Chemical Biology. University of Pittsburgh School of Medicine, seminar series. Pittsburgh, PA. |
| August 2016 | DNA damage processing at telomeres: maintaining youthful chromosomes | MBSB student orientation research talks, University of Pittsburgh. Pittsburgh, PA. |
| May 2016 | Investigating roles for RecQ helicases in telomere replication | RECQ2016 – Partnering for progress. 3rd international meeting on RECQ helicases in biology and medicine. Seattle, WA.  |
| April 2016 | The impact of oxidative DNA damage on telomerase activity and telomere maintenance | EMBO Meeting on Telomeres, Telomerase and Disease. Liege, Belgium. Speaker and session chair. |
| March 2016 | The impact of oxidative DNA damage on telomere maintenance and telomerase activity | University of Kansas Medical Center. Kansas City, KS.  |
| November 2015 | The health consequences of persistent DNA damage: Lessons learned from telomeres. | Special Seminar: The 2015 Nobel Prize in Chemistry. Celebrating the Science of DNA Repair. University of Pittsburgh. Pittsburgh, PA. |
| October 2015 | Roles for telomere maintenance in melanoma risk and melanomagenesis | International Melanoma Working Group (IMWG). Marseille, France. |
| October 2015 | How the very tips of chromosomes influence biological systems | Science 2015, University of Pittsburgh. Pittsburgh, PA. |
| September 2015 | Investigating how oxidative DNA damage influences telomere maintenance | EMGS Annual Meeting. New Orleans, LA. |
| June 2015 | Investigating how oxidative DNA damage influences telomere maintenance | University of Pittsburgh Mini-Symposium on Genome Stability. Pittsburgh, PA. |
| April 2015 | Structural Dynamics of Telomeric DNA | Molecular Biophysics and Structural Biology Department, University of Pittsburgh School of Medicine. Pittsburgh, PA.  |
| March 2015 | Mechanisms of Telomere Loss and Preservation: Implications for Aging and Cancer | EOH Departmental Seminar, which reception to follow. University of Pittsburgh, GSPH. Pittsburgh, PA. |
| March 2015 | DNA damage processing at telomeres: maintaining youthful chromosomes | DNA Repair Video Conference, NIH. Hosted at the University of Pittsburgh. Pittsburgh, PA. |
| March 2015 | How Penn State College of Medicine launched my career in biomedical basic research, and lessons learned along the way. | Penn State College of Medicine Graduate Student Research Forum, Keynote Speaker. Hershey, PA. |
| March 2015 | Mechanisms of Telomere Loss and Preservation: Implications for Aging and Cancer | Penn State College of Medicine Graduate Student Research Forum, Keynote Speaker. Hershey, PA. |
| February 2015 | Telomeres are Proficient for Nucleotide Excision Repair | Gordon Research Conference on Mammalian DNA Repair. Ventura, CA |
| January 2015 | Telomeres, oxidative damage and neurodegeneration | Pittsburgh Institute for Neurological Disorders, Department of Neurology, University of Pittsburgh. Pittsburgh, PA. |
| December 2014 | Isolating Telomeres for Detection of DNA Damage and Repair | CNAST, Carnegie Mellon University. Pittsburgh, PA. |
| November 2014 | Ultraviolet light induced DNA damage and repair at telomeres | UPCI Skin Cancer SPORE, work in progress seminar. Pittsburgh, PA. |
| November 2014 | Relationship of Telomeres with Cancer and Aging | Brain, Behavior, and Cancer seminar series. The Behavioral Medicine in Oncology Program. University of Pittsburgh Cancer Institute. Pittsburgh, PA. |
| September 2014 | Damage and Repair at Telomeres | EMGS Annual Meeting, Orlando, FL. |
| June 2014 | DNA Damage and Repair at Telomeres and Aging | UPCI Aging and Cancer Satellite Conference. Greensburg, PA. |
| March 2014 | Defending Telomere Against Bulky DNA Lesions | Gordon Research Conference on DNA damage, mutation and cancer. Ventura, CA. Invited by Phillip Hannawalt. |
| December 2013 | Consequences of Telomere Damage | Mitochondria, Aging, and Metabolism monthly seminar series, University of Pittsburgh. Pittsburgh, PA. Invited by Fabrisia Ambrosio |
| December 2013 | Protection against Cr(VI)-induced genomic instability | 9th Annual mini symposium on metals in biology, Duquesne University. Pittsburgh, PA. Invited by Partha Basu. |
| November 2013 | Roles for Translesion DNA Synthesis in Telomere Preservation | 11th International Conference on Environmental Mutagens. Foz do Iguassu, Brazil. Invited by Roger Woodgate. |
| October 2013 | Mechanisms of Telomeric DNA Loss and Repair | Fundamental Aspects of DNA Repair Symposium, Sao Paolo, Brazil. Invited by Carols Menck. |
| October 2013 | Challenges in Replicating Telomeric DNA: Implications for Cancer and Aging | Department of Cell Biology, Albert Einstein College of Medicine. The Bronx, NY. Invited by Carl Schildkraut.  |
| October 2013 | Mechanisms of Telomere Loss and Preservation: Implications for Aging and Cancer | Basic and Translational Research Seminar Series, University of Pittsburgh Cancer Institute. Pittsburgh, PA. Invited by Christopher Bakkenist |
| May 2013 | DNA Polymerase Delta Stalls on Lagging Strand Templates Independently from G-quadruplex Formation  | Selected from abstract. Telomere and Telomerase, |
| March 2013 | UV Defense Mechanisms At Telomeres | Molecular and Cellular Cancer Biology Program Retreat, UPCI. Pittsburgh, PA. Invited by Chris Bakkenist |
| March 2013 | Investigating Novel Structural Barriers to Telomeric DNA Synthesis | National Institute on Aging, Baltimore, MD. Invited by Vilhelm Bohr |
| November 2012 | Challenges in Telomeric DNA Replication | Vanderbilt University. Nashville, TN. Invited by David Cortez |
| July 2012 | Mechanisms of Telomeric DNA Loss and Repair | ONES Awardee Symposium. July 10-11. National Institute of Environmental Health Sciences. Durham, NC. |
| March 2012 | Mechanisms of Telomeric DNA Loss and Repair | 2012 Gordon Conference on DNA damage, Mutation and Cancer. Ventura, CA. Invited by organizers.  |
| October 2011 | Unraveling clues for maintaining youthful chromosomes | Science 2011, University of Pittsburgh. Pittsburgh, PA. |
| September 2011 | PNAS reveal mechanisms of telomere loss associated with aging and cancer | Center for Nucleic Acids Science and Technology Retreat and Symposium on Telomeres and Telomerase, Carnegie Mellon University. Pittsburgh, PA. |
| August 2011 | The Impact of UV-induced DNA Damage on Telomere Integrity | UPCI Skin Cancer SPORE, work in progress seminar. Pittsburgh, PA. |
| August 2011 | Aging and genomic instability, loss of telomeric DNA  | Invitation to present at the 2011 Gordon Conference on Cellular and Molecular Mechanisms of Toxicity, Proctor Academy. Andover, NH. Invited by Dr. Ruth Roberts. Unable to attend due to conflict with FASEB meeting. |
| August 2011 | Roles for WRN helicase in telomeric DNA replication | Invitation to present and chair a session at the 2011 FASEB meeting on Helicases and NTP-Driven Nucleic Acid Motors.Invited by Drs. James Keck and Eckhard Jankowsky |
| May 2011 | Roles for Telomeres in Aging and Cancer | Invitation to present at the “Aging and Cancer – major medical challenges” in Copenhagen, Denmark. Invited by Drs. Lene Rasmussen and Tinna Stevnsner – unable to attend due to pregnancy |
| March 2011 | WRN RecQ helicase suppresses mutagenesis in vectors with telomeric DNA | Ohio State University. Columbus, OH. Graduate student invitation byApril Gocha and byDr. Joanna Groden – postponed due to pregnancy |
| January 2011 | Base Excision Repair in Telomeric DNA  | International Workshop on BER, Brain Function and Aging,Hyderabad, IndiaInvited by Dr. Bruce Demple – unable to participate due to pregnancy  |
| August 2010 | Molecular Mechanisms of Telomeric DNA Instability Associated  with the Human Progeroid Werner Syndrome  | 2010 Biology of Aging Colloquium, Ellison Medical Foundation. Woods Hole, MA. |
| July 2010 | Roles for WRN protein in protection against Cr(VI) induced telomere instability | National Institute on Aging. Baltimore, MD.Invited by Vilhelm Bohr |
| March 2010 | The environmental carcinogen Cr(VI) induces telomere damage associated with defective DNA replication | Gordon Research Conference, DNA Damage, Mutations and Cancer. Ventura, CA |
| February 2010 | Mechanisms of telomere instability, loss and repair | DNA Repair and DNA Tumor Viruses Mini symposiumUPCI Molecular and Cellular Cancer Biology Program and Cancer Virology Program. Pittsburgh, PA. |
| January 2010 | Links between Telomere Instability, Environmental Genotoxins, and Human Disease | University of Pittsburgh, Department of Environmental and Occupational Health Seminar. Pittsburgh, PA. |
| November 2009 | Links between Telomere Instability, Genotoxins, and Human Disease | NIEHS, Extramural Research Program. RTP, NC. |
| September 2009 | Roles for the Werner Syndrome Protein in Genome Preservation and Protection Against Aging and Cancer | University of Southern Maine. Portland, ME. Invited by Dr. John Wise, Sr. |
| August 2009 | Environmental Causes of Telomere Defects | 10th International Conference on Environmental Mutagens. Florence, Italy. |
| July 2009 | Roles for Chromosome Ends in Protection Against Aging and Cancer | University of Pittsburgh. Pittsburgh, PA. EOH STEER summer student program |
| June 2009 | Links Between Telomere Dysfunction, Premature Aging, and Cancer | 21st Annual UPCI Scientific Retreat. Greensburg, PA. |
| May 2009 | Mechanisms for Preserving Chromosomal Ends in Protection Against Premature Aging and Cancer | Institute of Biochemistry and Biophysics, Polish Academy of Sciences. Warsaw, Poland.Invited by Dr. Barbara Tudek |
| April 2009 | RPA and POT1 Differentially Modulate WRN Processing of Mobile Telomeric D-loops  | Telomere and Telomerase,Cold Spring Harbor Laboratory Meetings. CSH, NY |
| March 2009 | Challenges in Telomeric DNA Replication and Repair | NIEHS. RTP, NC.Invited by Dr. Thomas Kunkel |
| March 2009 | Mechanisms of Telomeric DNA Loss and Repair | 48th Annual Meeting of the Society of Toxicology. Baltimore, MD |
| February 2009 | Werner Syndrome protein processing of recombination repair intermediates at telomeric vs. non-telomeric regions | 3rd US/EU Conference on Repair of Endogenous Genome Damage. Galveston, TX. |
| January 2009 | Modulation of Telomeric DNA Structure and Function | University of Pittsburgh Molecular Biophysics and Structural Biology graduate program: Faculty presentations. Pittsburgh, PA. |
| November 2008 | Telomeric DNA Replication and Repair | University of Rochester. Rochester, NY.Invited by Robert Bambara |
| October 2008 | The Werner Syndrome protein in telomere preservation and repair | 39th Annual Meeting of the Environmental Mutagen Society, PR.  |
| May 2008 | RecQ Helicase Functions at Telomeres  | Molecular and Clinical Mechanisms in Bloom’s Syndrome and Related DisordersUniversity of Chicago. Chicago, IL. |
| April 2008 | Roles for RecQ helicases in telomere preservation | DNA Repair Interest Group VideoconferenceUniversity of Pittsburgh. Pittsburgh, PA.Invited by Ken Kraemer and Vilhelm Bohr |
| December 2007 | Mechanism and Substrate Specificity of POT1 Stimulation of Werner Syndrome Helicase | AACR special conference in cancer research: The Role of Telomere and Telomerase in Cancer Research. San Francisco, CA |
| December 2007 | Links between Telomeres, Human Disease and Aging | Division of Pulmonary, Allergy, and Critical Care MedicineUniversity of Pittsburgh School of Medicine. Pittsburgh, PA. Invited by Dr. Bruce Pitt |
| November 2007 | Faculty research presentation  | Graduate School of Public Health, University of PittsburghBoard of Visitors Meeting. Pittsburgh, PA. |
| November 2007 | Links between Genomic Instability and Aging | Dean's Junior Faculty Seminar Series, GSPH, University of Pittsburgh. Pittsburgh, PA. Invited by Dr. Don Burke |
| November 2007 | Molecular mechanisms of telomere instability associated with aging | Gastroenterology Research Seminar Series, UPMC. Pittsburgh, PA.Invited by Dr. Robert Schoen |
| October 2007 | Mechanisms of telomere preservation: links between DNA helicases, premature aging, and cancer | Emory University School of Medicine, Department of Pathology Research Seminar. Atlanta, GAInvited by Dr. Jihn Ly |
| October 2007 | Telomeric protein POT1 regulated processing of telomeric ends by the Werner syndrome helicase/exonuclease. | 38th Annual Meeting of the Environmental Mutagen Society. Atlanta, GA. **Oral** presentation. |
| October 2007 | Role of Preserving Chromosome Ends in Protection Against Aging and Cancer | Science 2007University of Pittsburgh.Pittsburgh, PA |
| May 2007 | Roles for the Werner Syndrome Protein in Telomere Preservation | 3rd Japan-US DNA Repair Meeting, Akiu. Sendai, Japan. Invited by Akira Yasui. |
| February 2007 | Mechanisms of telomere preservation: links between DNA helicases, premature aging and cancer | BC Cancer Research Center. Vacouver, Canada. Invited by Peter Lansdorp. |
| January 2007 | Processing of Telomere Ends by the Werner Syndrome Protein and Telomeric POT1 Protein | Keystone Symposia on Genomic Instability and DNA Repair. Breckenridge, CO.  |
| October 2006 | Roles for the Werner syndrome protein in oncogenic proliferation | NIA, NI. Baltimore, MD. Invited by Vilhelm Bohr. |
| October 2006 | Molecular mechanisms of telomeric DNA instability associated with premature aging | Senior Vice Chancellor’s Research Seminar Series, University of Pittsburgh. Pittsburgh, PA. |
| October 2006 | Mechanisms of Telomeric DNA Loss and Repair  | National Institute on Environmental Science, NIH, meeting for ONES awardees.  |
| September 2006 | Mechanisms of telomere preservation: links between DNA helicases and premature aging | University of Pittsburgh, Molecular Biophysics Seminar Series. Pittsburgh, PA. |
| August 2006 | Cooperation of the Werner syndrome protein and POT1 in dissociating telomeric DNA substrates | Telomere and Genome Stability 2006, International Conference.Villar-sur-Ollon, Switzerland |
| May 2006 | Mechanisms of Telomeric DNA Loss and Repair  | National Institute of Environmental Health Sciences, NIH, presentation of research proposal |
| May 2006 | Roles for the Werner Syndrome Protein in Telomere Maintenance | Pittsburgh Chromatin Club, mini symposium. Pittsburgh, PA |
| May 2006 | Cooperation of RecQ Helicases and Telomeric Proteins in Dissociating Telomeric Substrates | International Workshop on RecQ Helicases and Other Helicases in Telomere Maintenance and Related Pathways, Lansdowne, VA \*co-organizer |
| January 2006 | Werner Syndrome Protein Functions at Telomeres  | University of Pittsburgh, Human Genetics Seminar series. Pittsburgh, PA. |
| October 2005 | Mechanisms of Telomere Instability Associated with Premature Aging | University of Pittsburgh Cancer Institute, Basic Research Seminar Series. Pittsburgh, PA.  |
| June 2005 | RecQ Helicases and Telomeric DNA Instability | University of Pittsburgh, Department of Molecular Genetics and Biochemistry. Pittsburgh, PA.  |
| March 2005 | RecQ Helicases and DNA Repair Pathways at Telomeric DNA | Keystone Symposia on Genome Instability and Repair. Taos, NM. |
| August 2004June 2004 | Links Between Premature Aging and Telomeres | 1. University of Pittsburgh Cancer Institute. Pittsburgh, PA2. University of Pittsburgh, Department of Environmental and Occupational Health Seminar. Pittsburgh, PA. |
| March 2004December 2003 | Investigating Roles for the Werner Syndrome Protein in Telomere Metabolism | 1. University of Maryland Biotechnology Institute. Baltimore, MD;2. Yale University School of Medicine, Department of Therapeutic Radiology and Genetic. New Haven, CT. |
| October 2003 | Roles for the Werner Syndrome Protein in Telomere Maintenance and Repair | US- EU DNA Repair Workshop: Endogenous Stress. Lansdowne, VA. |
| May 2003 | Investigating Roles for the Werner Syndrome Protein in Telomere Metabolism | International Workshop on Werner Syndrome. Lansdowne, VA. |
| February 2003 | Potential Role for the Werner Syndrome Protein in Telomere Metabolism | University of Aarhus, Department of Chemistry. Aarhus, Denmark. |
| February 2002February 2002January 2002 | Potential Roles for the Werner and Bloom Syndrome Proteins in Telomere Maintenance | 1. Medical Research Council, Radiation and Genome Stability Unit, Harwell. Oxfordshire, UK;2. Oxford University, Institute of Mol Med. Oxford, UK;3. Pennsylvania State College of Medicine, Biochemistry Department. Hershey, PA |

**Other Research and Training Activities**

| Date | Position | Description of Activity |
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| April 2024 | Attendee | Environmental Justice: Origins, Impact and Manifestations in Southwestern PA, CENSWPA, Webinar |
| March 2024 | Attendee | Scientific Integrity, UPMC Hillman Cancer Center |
| Feb 27, 2024 | Attendee | Indetifying and Measuring Gender Inequities in Science |
| Oct 30, 2023 | Attendee | Customized Career Development Platform SPH |
| August 24, 2023 | Attendee | University of Pittsburgh, Mentoring Academy Session 2: Addressing Equity and Inclusion. University Center for Teaching and Learning, Virtual. |
| June 29-30, 2023 | Attendee | Molecular Signatures of Exposure in Cancer: A Joint NEIHS and NCI Workshop |
| Feb 15, 2023 | Participant | Pitt Career Club workshop |
| Feb 5, 2023 | Career Panelist  | Gordon Research Seminar Mammalian DNA Repair. Ventura, CA. |
| Jan 18, 2023 | Attendee | Gender in Academia and Science, UPMC Hillman Cancer Center, Assembly Bldg. |
| Oct 6, 2022 | Participant | Associate Editors meeting for the DNA Repair Journal, Amsterdam, Netherlands. |
| Sept 7, 2022 | Attendee | Center for Human Environmental and Equity Research, CHEER, Retreat to discuss NIEHS P30, Pittsburgh, PA. |
| April 21, 2022 | Attendee | Climate and Health Research Symposium, University of Pittsburgh School of Public Health and Swanson School of Engineering, Pittsburgh, PA. |
| March 2022 | Career Panelist and Power Hour Chair | Gordon Research Conference on DNA Damage, Mutation and Cancer. Ventura, CA. |
| January 13, 2022 | Delivered a lecture on Demystifying the “innovation” section and application for NIH grants and beyond | Lone Star Society of Toxicology Meeting 2020, Texas A&M University. Career-Development Day. Virtual |
| January 2022 | Participant | CSR study section Bias Awareness training for reviewers |
| December 2021  | Attendee | NCI Symposium on Mutation Signatures and Cancer |
| November 2021  | Career Panelist and Power Hour Chair | Gordon Research Conference on Mammalian DNA Repair |
| November 2021 | Attendee | Fostering Diverse and Inclusive Environments, sponsored by HCC Women’s Task Force, presented by Carrie Benson at the Pitt Office of Diversity and Inclusion  |
| September 2022 | Attendee | University of Pittsburgh Center for Human Environmental and Equity Research (CHEER) Retreat for NIEHS P30 planning |
| October 2021 | Panelist  | Penn State College of Medicine Career Day |
| February 2021 | Organizer | Western Pennsylvania (WPA) Environmental Risk Factors for Lung Cancer Mini-Workshop on Mutational Signatures of Exposure. HCC, virtual. |
| December 2020 | Attendee | Annual Diversity in Faculty Recruitment Workshop, University of Pittsburgh |
| January 2019 | Invited Panelist | Cancer and the Environment Symposium: Priorities for Research, Policy and Clinical Practice. Phipps Conservatory, Pittsburgh, PA. |
| January 2019 | Attendee | UPMC Hillman Cancer Center:Aging and Cancer Workshop. HCC, Pittsburgh, PA. |
| September 2017 | Invited Panelist | NIEHS Workshop “Telomere as readout for environmental exposures”. NIEHS, RTP, NC. |
| May 2017 | Invited Panelist | Breakout session on “Managing a research career with a family – work/life balance.” Conference on Nucleotide Excision Repair and Interstrand Cross-link Repair. Smolenice, Slovakia.  |
| February 2017 | Invited Panelist | 2017 Mammalian DNA Repair Gordon Research Seminar. Career Session. |
| December 2016 | Attendee | NIEHS Environmental Health Science FEST. Durham, NC. |
| October 2016 | Session Moderator | Science 2016: Game Changer, Spotlight Session 15: Development and Aging. University of Pittsburgh. |
| October 2014 | Session Moderator | Science 2014: Sustain It! Spotlight Session “On Again/Off Again Through Epigenetics. University of Pittsburgh. |
| March 2011 | Attendee | Cancer Genomics and the Impact of Next Generation Sequencing Symposium. UPCI 25th anniversary symposia series. Pittsburgh, PA |
| August 2009 | Invited attendee | 2009 Biology of Aging Colloquium, Ellison Medical Foundation, Woods Hole, MA. |
| October 2008 | Attendee | Aging and Cancer: Two sides of the same coin. An American Federation for Aging Research Conference. NYC, NY. |
| August 2008 | Invited attendee | 2008 Biology of Aging Colloquium, Ellison Medical Foundation, Woods Hole, MA |
| March 2008 | Organizer/ participant | NIEHS ONES advisory committee meeting to monitor and mentor progress  |
| Jan 2008 | Attendee | GTCbio New Applications in Aging Research Conference, San Diego, CA |
| August 2007 | Invited attendee | 2007 Biology of Aging Colloquium, Ellison Medical Foundation, Woods Hole, MA |
| June 2007 | Participant | One week course on Quantitative Fluorescence Microscopy, CBI University of Pittsburgh, MDIBL, Salisbury Cove, Maine |
| February 2007 | Trainee | Two weeks of training on telomere length measurement assays in Dr. Peter Lansdorp's laboratory, BC Cancer Research Center, Vancouver, Canada |
| September 2006 | Attendee | 4th Conference on Molecular Mechanisms of Metal Toxicity and Carcinogenesis, Morgantown, WV |
| August 2006 | Invited attendee | 2006 Biology of Aging Colloquium, Ellison Medical Foundation, Woods Hole, MA |
| Spring 2006 | Nominated and selected to participate | 2.5 day course on Scientific Management Leadership. University of Pittsburgh |
| Fall 2003 | Participant | Grantspersonship, Survival Skills and Ethics Workshop |
| July 1999 | Participant | Pathobiology of Cancer, American Association for Cancer Research Workshop |

## PUBLICATIONS

**Refereed Articles**

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| 1. Wondimageghnu B, Paul T, Liao T, Lee CY, Sanford S, **Opresko PL**, Ma W, Myong S. The molecular mechanism for TERRA recruitment and annealing to telomeres. Submitted to *NAR*.
2. Rivadeneira, D.B., Thosar, S., Quann, K., Gunn, W., Lontos, K., Barnes, R.P., Bruchez, M.P., **Oprekso, P.L.** Delgoffe, G.M. Oxidative stress-induced telomere instability drives T cell dysfunction in cancer. Under revision at *Immunity*.
3. Wondisford, A.R., Min, J., Lu, R., Schuller, M., Groslambert, J., Schamaus-Hayes, S., **Opresko, P.L,** Pickett, H., Ahel, I., and O’Sullivan, R.J. Deregulated DNA ADP-Ribosylation impairs telomere replication. *NSMB*. 2024. 31: 791-800. PMID: 38714889.
4. Thosar, S.A., Barnes, R.P., Bhargava, R., Wondisford, A., O’Sullivan, R.J., **Opresko, P.L**. Oxidative guanine base damage plays a dual role in regulating productive ALT-associated homology directed repair. *Cell Reports*. 2024, 43: 113656. PMID: 38194346.
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| 1. Rein, J.L., Rawal, Y., Parker, P., Russell, R., Darrah, K., Afsar, M., Hengel, S.R., Sullivan, M.R., **Opresko, P.L**., Lee, J.-M., Radke, M.R., Domchek, S., Swisher, E.M., Olsen, S., Sung, P., Bernstein, K.A. Comprehensive analysis of RAD51C ovarian cancer variants of unknown significance identifies the Walker B region as critical for homologous recombination function. Under revision at *Nature Communications*.
 |
| 1. Johnson, S., Paul, T., Sanford, S., Schnable, B., Van Houten, B., Myong, S., **Opresko, PL**. BG4 antibody can recognize telomeric G-quadruplexes harboring destabilizing base modifications and lesions. *Nucleic Acids Research.* 2024. 52: 1763-1778. PMID: 38153143.
 |
| 1. De Rosa, M., Barnes, R.P, Prasanth, N.R, Wipf, P. and **Opresko, P.L**. OGG1 and MUTYH repair activities promote telomeric 8-oxoguanine induced cellular senescence. 2023, BioRxiv, doi: 10.1101/2023.04.10.536247. Under review at *Nature Communications*.
 |
| 1. Hinchie, A.M., Sanford, S.L., Sutton, R.M., Sullivan, D., Chun-On, P., Silva, A.G., Loughridge, K.E., Parikh, A.H., Morrell, M.R., McDryer, J.F., **Opresko, P.L.**, and Alder, J.K. A persistent variant telomere sequence in a human pedigree. *Nature Communications,* 2024. 15: 4681. PMID: 38824190
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| 1. Liu, M., Pan, H., Kaur, P., Wang, L.J., Jin, M., Detwiler, A.C., **Opresko, P.L.**, Tao, Y.J., Wang, H., Riehn, R. Assebly path dependent of telomeric DNA compaction by TRF1, TIN2, and SA1. *Biophys J*. 2023. 122: 1822-1832. PMID: 37081787.
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| 1. Welfer, G.A., Borin, V.A., Cortez, L.M., **Opresko, P.L.**, Agarwal, P.K. and Freudenthal, B.D. Altered nucleotide insertion mechanisms of disease-associated TERT variants. *Genes.* 2023. 14: 281. PMID: 36833208.
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| 1. Hao, S., Tong, J., Jha, S., Risnik, D., Lizardo, D., Lu, X., Goel, A., **Opresko, P.L**. Yu, J., Zhang, L. Synthetical lethality of Werner helicase and mismatch repair deficiency is mediated by p53 and PUMA in colon cancer. *PNAS.* 2022. Dec 20; 119: e2211775119. PMID: 36508676.
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| 1. Schmauck-Medina, T., Molière, A., Lautrup, S., Zhang, J., Chlopicki, S., Madsen, H.B., Cao, S., Soendenbroe, C., Mansell, E., Vestergaard, M.B., Li, Z., Shiloh, Y., **Opresko, P.L.**, Egly, J.M., Kirkwood, T., Verdin, E., Bohr, V.A., Cox, L.S., Stevnsner, T., Rasmussen, L.J., Fang, E.F. New hallmarks of ageing: a 2022 Copenhagen ageing meeting summary. *Aging.* 2022, Aug 29. 14(16): 6829-6839. PMID: 36040386.
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| 1. Tenghui, Y., Slone, J., Liu, W., Barnes, R., **Opresko, P.L.**, Wark, L., Mai, S., Horvath, S., Huang, T. Premature aging is associated with higher levels of 8-oxoguanine and increased DNA damage in the Polg mutator mouse. *Aging Cell.* 2022, Sep. 21(9):e13669. PMID: 35993394.
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| 1. Barnes, R.P., de Rosa M., Thosar, S.A., Detwiler, A., Roginskaya, V., Van Houten, B., Bruchez, M.P., Stewart-Ornstein, J., **Opresko, P.L**. Telomeric 8-oxoguanine drives rapid premature senescence in the absence of telomere shortening. bioRxiv, 2021. *Nature Structural & Molecular Biology.* 2022 Jul. 29(7):639-652. PMID: 35773409, PMCID: PMC9287163.
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| 1. Paul, T., **Opresko, P.L**., Ha, T., Myong, S. Vectorial folding of telomere overhang promotes higher accessibility.  *Nucleic Acids Research.* 2022, Jun 24. 50(11):6271-6283. PMID: 35687089, PMCID: PMC9226509.
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| 1. Kumar, N., Theil, A.F., Ali, Y., Roginskaya, V., Calderon, M., Watkins, S., Barnes, R.P., **Opresko, P.L.**, Pines, A., Lans, H., Vermeulen, W., Van Houten, B. Global and transcription-coupled repair of 8-oxoG is initiated by nucleotide excision repair proteins. *Nature Communications.* 2022, Feb 21. 13(1):974. PMID: 35190564, PMCID: PMC8861037.
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| 1. Paul, T., Liou, W., Cai, X., **Opresko, P.L.**, and Myong, S. TRF2 promotes dynamic and stepwise looping of POT1 bound telomeric overhang. *Nucleic Acids Research.* 2021, Dec 2. 49(21):12377-93. PMID: 34850123, PMCID: PMC8643667.
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| 1. Kaur, P., Barnes, R., Pan, H., Detwiler, A.C., Mahn, C., Hall, J., Messenger, Z., Liu, M., Smart, R., Riehn, R., **Opresko, P.L.**, and Wang, H. TIN2 is an architectural protein that facilitate TRF2-mediated higher-order DNA and RNA structures at telomeres. *Nucleic Acids Research.* 2021, Dec16. 49(22): 13000-018. PMID: 34883513, PMCID: PMC8682769.
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| 1. Pan, H., Kaur, P., Barnes, R., Detwiler, A.C., Sanford, S.L., Liu, M., Xu, P., Mahn, C., Tang, Q., Hao, P., Bhattaram, D., You, C., Gu, X., Lu, W., Piehler, J., Xu, G., Weninger, K., Riehn, R., **Opresko, P.L**., and Wang, H. Structure, dynamics, and regulation of TRF1-TIN2-mediated trans- and cis-interactions on telomeric DNA. *J Biol Chem.* 2021, Sep. 297(3):101080. PMID: 34403696, PMCID: PMC8437784.
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| 1. Sanford, S., Welfer, G., Freudenthal, B., and **Opresko, P.L**. Mechanisms of telomerase inhibition by oxidized and therapeutic dNTPs. *Nature Communications.* 2020, Oct 20. 11(1):5288. PMID: 33082336, PMCID: PMC7576608.
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**Books and Book Chapters**

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| 1. Barnes, R.P., Thosar, S.A., Fouquerel, E., **Opresko, P.L.** *Targeted Formation of 8-oxoguanine in Telomeres*. DNA damage signaling and repair. Methods in Molecular Biology. Editor Nima Mosammaparast. Springer publishers. 2022. 2444:141-159. PMID: 35290636.
2. Fouquerel, E., and **Opresko, P.L.** *Analysis of telomere length and aberrations by quantitative FISH*. Molecular Toxicology Protocols. Methods in Molecular Biology. Third edition. Editors Phouthone Keohavong, Kamaleshwar Singh, and Weimin Gao. Springer publishers. 2020. 2102: 237-249. PMID: 31989559.
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| 1. Fouquerel, E., Barnes, R.P, Wang, H., and **Opresko, P.L.** *Measuring UV Photoproduct Repair in Isolated Telomeres and Bulk Genomic DNA*. DNA Repair: Methods and Protocols. Methods in Molecular Biology. Editors Lata Balakrishnan and Jason Stewart. Springer publishers. 2019. 1999: 295-306. PMID: 31127586; PMCID: PMC6886745.
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| 1. Brosh, RM, Jr., **Opresko, P.L**., and Bohr, V.A. Enzymatic Mechanism of the WRN Helicase/Nuclease. *Methods in Enzymology*. San Diego, CA: Academic Press. 2006. 409: 52-85. PMID:16793395.
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| 1. **Opresko, P.L.**, Harrigan, J.A., Cheng, W.H., Brosh, R.M., and Bohr, V.A. Proposed biological functions for the Werner syndrome protein in DNA metabolism. *Molecular Mechanisms of Werner's Syndrome*, Georgetown, TX: Landes Bioscience, 2004. Chapter 8, 10 pgs.
 |
| 1. Cheng, W.-H., **Opresko, P.L.**, von Kobbe, C., Harrigan, J.A. and Bohr, V.A. The human Werner syndrome as a model for aging. *In Topics in Current Genetics.* Berlin: Springer. 2003. 239-268.
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| 1. Bohr, V.A, and **Opresko, P.L**. Genomic instability in human premature aging. *Aging at the Molecular Level*. Netherlands: Kluwer Academic Publishers. 2003. 65-77.
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**Review Articles**

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| --- |
| 1. De Rosa, M., and **Opresko, P.L**. Translating the telomeres. *Trends in Genetics*. 2023. 39: 593-595. PMID: 37179160.
2. Barnes, R.P., and **Opresko, P.L**. Telomere Fragility and MiDAS: Managing the Gaps at the End of the Road. *Genes*. 2023, 14: 348. PMID: 36833275.
3. Sanford, S.L., and **Opresko, P.L**. UV light-induced dual promoter mutations dismantle the telomeric guardrails in melanoma. *DNA Repair.* 2022. 122:103446. PMID: 36603239.
4. De Rosa, M., Johnson, S.A., **Opresko, P.L**. Roles for the 8-oxoguanine DNA repair system in protecting telomeres from oxidative stress. *Frontiers in Cell and Developmental Biology, Genome Instability: Old Problem, New Solutions*. 2021 Nov 19. 9:758402. PMID:34869348, PMCID: PMC8640134.
 |
| 1. Sanford, S.L., Welfer, G.A., Freudenthal, B.D., **Opresko, P.L**. How DNA damage and non-canonical nucleotides alter the telomerase catalytic cycle. *DNA Repair Special Issue.* 2021, Nov. 107:103198. PMID:34371388, PMCID: PMC8526386
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| 1. Barnes, R.P., Fouquerel, E., **Opresko, P.L**. The impact of oxidative DNA damage and stress on telomere homeostasis. *Mechanisms of Ageing and Development*. 2019. 177: 37-45. PMID: 29604323. PMCID: PMC6162185.
 |
| 1. Fouquerel, E., **Opresko, P**. Convergence of the Nobel fields of telomere biology and DNA Repair. *Photochemistry and Photobiology*. 2017. 93: 229-237. PMID: 27861975. PMCID: PMC5315637.
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| 1. Fouquerel, E., Parikh, D., **Opresko, P**. DNA damage processing at telomeres: The ends justify the means. *DNA Repair special issue.* 2016. 44:159-68. PMID: 2723313.
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| 1. **Opresko, P.L\***, Shay, J.W\*. Telomere-Associated Aging Disorders. *Ageing Research Reviews.* 2017. 33: 52-66. PMID: 27215853. \*Co-corresponding authors.
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| 1. Croteau, D.L., Popuri, V., **Opresko, P.L.**, Bohr, V.A. Human RecQ Helicases in DNA Repair, Recombination and Replication. *Annu Rev Biochem*. 2014. 83: 519-52. PMID: 24606147.
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| 1. Lin, J., Kaur, P., Countryman, P., **Opresko, P.L**., Wang, H. Unraveling secrets of telomeres: One molecule at a time. *DNA Repair*. 2014. 20: 142-53. PMID: 24569170.
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| 1. **Opresko, P.L**. Telomere ResQue and Preservation. Roles for the Werner Syndrome protein and other RecQ helicases**.** *Mechanisms of Aging and Development*, Special Issue on Telomeres. 2008. 129: 79-90. PMID: 18054793.
 |
| 1. Lee, J.W., Harrigan, J.A., **Opresko, P.L.**, and Bohr, V.A. Pathways and functions of the Werner syndrome protein. *Mechanisms of Aging and Development.* 2005. 126: 79-86.
 |
| 1. **Opresko, P.L.**, Cheng, W.H., and Bohr, V.A. At the junction of RecQ helicase biochemistry and human disease. *Journal Biological Chemistry.* 2004. 279: 18099-18102.
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| 1. **Opresko, P.L**., Cheng, W.H., von Kobbe, C., Harrigan, J.A., and Bohr, V.A. Werner syndrome and the function of the Werner protein; what they can teach us about the molecular aging process. *Carcinogenesis.* 2003. 24: 791-802.
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| 1. Bohr, V.A., Brosh, R.M., von Kobbe, C., **Opresko, P.L**., and Karmakar, P. Pathways defective in the human premature aging disease Werner syndrome. *Biogerontology*. 2002. 3: 89-94.
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## SERVICE

**Service to School and University**

| **Years** | **Committee** | **Position** |
| --- | --- | --- |
| *UPMC Hillman Cancer Center* |
| 2023-present | Thomas E. Richards Memorial Oncology Lectureship Committee | Member |
| 2023-present | Oncology Graduate Program faculty | Member |
| 2023-present | Junior faculty mentoring committee for Ben Nacev | Member |
| 2022- present | Genome Stability Program search committee | Chair |
| 2023-present | Junior faculty mentoring committee for Ben Nacev | Member |
| 2021-2022 | Search committee for HCC communications director | Member |
| 2021 | Annual Retreat organizing committee | Member |
| 2019-2021 | Junior faculty mentoring committee for Jacob Stewart Ornstein | Member |
| 2018-present | Strategic Vision Team: Environmental Risk Factor Role in W PA Cancer | Co-Chair  |
| 2018-present | UPMC Hillman Cancer Center Genome Stability Program | Co-leader |
| 2018-present | Women’s Task Force, UPMC Hillman Cancer Center | Member |
| 2018-present | Excellence in Education and Training Committee, UPMC Hillman Cancer Center | Member |
| 2018-present | Cancer Genomics Facility Advisory Committee, UPMC Hillman Cancer Center | Member |
| 2020-2021 | Faculty Search Committee, UPMC Hillman Cancer Center, GS program, Structural Biologist | Co-Chair |
| 2014 | Melanoma Program Faculty Search Committee, UPMC Hillman Cancer Center | Member |
| 2010, 2013, 2018 | Faculty Search Committee, UPMC Hillman Cancer Center, MCCB program | Member |
| 2009, 2015-2019 | Judging committee for poster award at the University of Pittsburgh Cancer Institute Annual Retreat | Member |
| 2006-2018  | UPMC Hillman Cancer Center Molecular and Cellular Cancer Biology Program | Member |
| *University of Pittsburgh School of Public Health (SPH*) |
| 2023-present | SPH Networking Mentor for Peng Gao | Member |
| 2023-present | Search Committee for Chair of the Department of Human Genetics | Member |
| 2022-present | SPH mentor committee for Allison Sanders | Member |
| 2022-present | SPH Faculty Mentoring Executive Committee | Member |
| 2021-2022 | Search Committee for tenure stream position in the Department of Biostatistics | Member |
| 2019-2020 | Search Committee for tenure stream position in the Department of Epidemiology | Member |
| 2017-2018 | Search Committee for tenure stream position in the Department of Epidemiology | Member |
| 2017-2023 | Faculty Appointment, Promotion, and Tenure Committee. GSPH | Member |
| 2015-2023 | GSPH Educational Policies and Curriculum Committee  | Alternate |
| 2008-2014 | GSPH Educational Policies and Curriculum Committee | Member |
| 2008  | GSPH Academic Integrity Committee | Member |
| 2006, 2013, 2015, 2017-2018 | GSPH Dean’s Day Student Research Competition: Delta Omega Poster and Rosenkranz Awards | Judge |
| *University of Pittsburgh Department of Environmental and Occupational Health (EOH)* |
| 2023 | EOH retreat planning committee | Member |
| 2023-present | EOH MS/PhD program committee | Member |
| 2020-2021 | Search Committee for tenure stream position in Department of Environmental and Occupational Health – Environmental Epidemiologist | Member |
| 2020-present | EOH Research Excellence Committee | Member |
| 2016-2017 | Search Committee for Chair of EOH | Member |
| 2008-2014 | EOH summer undergraduate internship program, committee to select interns | Member |
| 2008-2013 | Department of EOH STEER high school student summer internship. Committee to select interns | Member |
| 2006-present | EOH Graduate Advisory Committee | Member |
| 2006-2019 | EOH Curriculum Committee | Member |
| *University of Pittsburgh School of Medicine*  |
| 2006-present | Medical Scientist Training Program (MSTP) at the University of Pittsburgh and Carnegie Mellon University (MD/PhD program) | Member |
| 2016-present | MSTP selection and admissions committee | Member |
| 2014-present  | School of Medicine Interdisciplinary Biomedical Graduate Program in Molecular Genetics and Developmental Biology | Member |
| 2006-present | Graduate Program in Molecular Biophysics and Structural Biology (MBSB) at the University of Pittsburgh and Carnegie Mellon University  | Member |
| 2009-2023 | MBSB Graduate Program Oversight and Evaluation Committee | Member |
| 2009 | Interview applicants for the MBSB Graduate Program | Interviewer |
| *University of Pittsburgh Activities* |
| Sept 2021-2022 | SPRINGBOARD program in the Health Sciences | Faculty Advisor |
| May 2020-2022 | Radiation Safety Committee | Member |
| April 2015 | Women in Medicine and Science Forum | Mentor |
| February 2010 | Workshop “Advancing to an Academic Position: Being Prepared for the Job Market” | Invited Panelist |
| May 2009 | 2009 UPPDA Postdoctoral Data & Dine Symposium | Participant |
| April 2008 | 2008 Course in Scientific Management and LeadershipUniversity of PittsburghSession: “Challenges and Barriers to Academic Career Success: What are They and How to Overcome Them”  | Invited Panelist |
| *Carnegie Mellon University*  |
| 2014-present | Executive Board, The Center for Nucleic Acids Science and Technology, Carnegie Mellon University | Member |
| 2010-present | Center For Nucleic Acids Science And Technology, (CNAST) Carnegie Mellon University | Invited member |
| *Community Activities* |
| Nov 15, 2022 | Interview on WTAE News about telomerase and melanoma | Interviewee |
| July 19, 2022 | Research Brief for The Conversation entitled “Cells become zombies when the ends of their chromosomes are damaged -a tactic both helpful and harmful for health” | Author |
| July 2022` | Interviewed for the Pittsburgh Post-Gazette on our work in the article "New study by Pitt researchers targets ‘zombie cells’ for clues on how we age". –Hanna Webster | Interviewee |
| July 12, 2019 | Research Brief for The Converstaion entitled “DNA testing companies offer telomere testing – but what does it tell you about aging and disease risk?” | Author |
| April 30, 2019 | AACR/AACI Hill Day, meet with lawmakers | Participant |
| July 2013 | Interviewed for the Pittsburgh Post-Gazette for comment in the article "Biologist says he's on track to reversing aging process". – David Templeton | Interviewee |
| July 2011 | Interviewed by WTAE local news regarding new telomere length tests as a longevity biomarker in humans | Interviewee |
| November 2008 | Interviewed for the Pittsburgh Post-Gazette “The Thinkers” column. Nov 3 issue “Researcher Seeks Clues to Aging in Our DNA” – Mark Roth | Interviewee |

**Service to Field of Scholarship**

**Editorial Boards, Editorships**

| Date | Position | Organization |
| --- | --- | --- |
| Jan 2024 – present  | Editorial board | Nucleic Acids Research Cancer  |
| July 2022 – present | EAB member | Washington University P01 proposal to the NCI. PI – Alessandro Vindigni |
| May 2019April 2020Sept 2020 | Guest Editor | PNAS |
| 2022-present | Associate Editor | DNA Repair Journal |
| 2019-2022 | Editorial board  | DNA Repair Journal |
| 2006-present | Editorial board  | Mechanisms of Aging and Development |
| 2014-2021 | Associate Editor | Mechanisms of Aging and Development |
| 2011-present | Review editorial board member | Frontiers in Genetics of Aging |

**Manuscript and Other Document/Publication Review**

| Dates | Journal Title |
| --- | --- |
| 2000-2004 | Journal of Biological Chemistry, Molecular Biology of the Cell, Cancer Research, Human Genetics Chemico-Biological Interactions, Archives of Biochemistry and Biophysics |
| 2005-2006 | FEBS Letters, Proceedings of the National Academy of Science, Oncogene |
| 2006-2007 | DNA Repair, Central European Journal of Physics, Mechanisms of Ageing and Development, Oncogene, Cancer Research |
| 2007-2008 | Mechanisms of Aging and Development, EMBO J, BMC Medicine, Oncogene, Neurobiology of Aging, Molecular Cancer Therapeutics |
| 2008-2009 | Biochimica and Biophysica acta, Cancer Research, EMBO J, IJCEM, Mechanisms of Aging and Development, *Nucleic Acids Research*, Journal of Molecular Biology, Journal Cell Science Molecular Microbiology,  |
| 2009-2010 | Cancer Research, Carcinogenesis, EMBO J, PLoS Genetics, Toxicological Sciences, *Nucleic Acids Research*, Journal of Biological Chemistry, *PNAS*, DNA Repair, Environmental and Molecular Mutagenesis, Journal of Cell Science, Mechanisms of Aging and Development |
| 2010-2011 | Biochemistry, Mechanisms of Aging and Development, EMBO J, *Nucleic Acids Research*, PLoS Genetics, DNA Repair |
| 2011-2012 | DNA Repair, *Nucleic Acids Research*, Environmental and Molecular Mutagenesis, PLoS Genetics, Molecular Cancer, Biochemistry, Carcinogenesis, Frontiers in Life Science, Journal of Biological Chemistry, Mutation Research |
| 2012-2013  | PLoS ONE, PLoS Genetics, Carcinogenesis, Molecular Genetics and Genomic Medicine, Frontiers in Genetics of Aging, *Nucleic Acids Research*, Frontiers in Life Science, Aging Cell, Journal of Biochemical and Molecular Toxicology, DNA Repair |
| 2013-2014 | Nucleic Acids Research, Toxicological Sciences, Journal of Biological Chemistry, Aging Cell, Carcinogenesis, Cell Reports, International Journal of Epidemiology, Genetics, PLoS ONE |
| 2014-2015 | Mechanisms of Aging and Development, *Nucleic Acids Research*,  |
| 2015-2016 | Mechanisms of Aging and Development, *Nucleic Acids Research*, Cell Reports, *Nature Communications*, PLoS ONE, Ageing Research Reviews, Toxicological Sciences.  |
| 2016-2017 | Mechanisms of Aging and Development, Nature Structural and Molecular Biology, Free Radical Biology and Medicine, DNA Repair, *Nucleic Acids Research*, *Scientific Reports*, PLoS ONE, FEBS letters, Molecular and Cellular Biology.  |
| 2017-2018 | Mechanisms of Aging and Development, *Nucleic Acids Research*, Aging Cell, DNA Repair, Chem Tox Reviews, EMBO Reports, Human Molecular Genetics, Nat Struc Mol Biol, Tox Sci, Aging Reviews |
| 2018-2019 | Aging Cell, Chemical Science, EMM, *Nucleic Acids Research*, *PNAS*, Mechanisms of Aging and Development, Mutation Research, Journal of Biological Chemistry |
| 2019-2020 | Aging, Reviews, Cell Cycle, Cell Reports, DNA Repair, FASEB J, Free Radical Biology and Medicine, Nature, *Nucleic Acids Research*, *PNAS*, Redox Biology, *Scientific Reports*  |
| 2020-2021 | Nucleic Acids Research, *PNAS*, Redox Biology, Aging Cell, NAR Cancer, Cell Reports, DNA Repair, Developmental Cell, Gene and Development |
| 2021-2022 | DNA Repair, NAR Cancer, Cancer Research, PLoS Genetics, *PNAS*, *Nature Communications*, Open Biology, Cell Reports, Aging Cell, Trends in Biochemical Sciences, Communications Biology, Nature Protocols |
| 2022-2023 | DNA Repair, NAR Cancer, NAR, PNAS, Sci Adv, Cell Reports, Nat Comm, Genes & Dev, Cancer Research  |
| 2023-2024 | BioGerontology, Cancer Discovery, Cell Reports, Communications Biology, DNA Repair, JMB, Mutation Research, NAR, Nature, Nature Communications, NSMB, Redox Biology |

**Study Sections, Review Panels, and Advisory Boards**

| Date | Position | Organization and Nature of Activity |
| --- | --- | --- |
| 6/21/204 | Member | NIEHS ViCTER Review Special Emphasis Panel |
| 02/2024- present | Member | American Federation for Aging Research (AFARO National Scientific Advisory Council  |
| 05/09/2023 | Reviewer | NCI, Raidation Biology Branch and Radiation Oncology Branch Site Visit |
| 10/27/2022 | Ad Hoc Reviewer | SEP-9: NCI Clinical and Translational Research Review Meeting, R21 and R03 applications |
| 05/01/2022 | Ad Hoc Reviewer | Graduate Women in Science (GWIS) National Fellowship Program application review. URM candidate. |
| 02/02-02/03/2022 | Ad Hoc Reviewer | Organization: NIH/NCI Special emphasis panel for scientific review of application addressing “Basic mechanisms in Cancer Health disparities” |
| 2021 – 2023 | Reviewer | FASEB Science Research Conferences Advisory Committee review of conferences. |
| 06/2021 – present | External Advisory Board | Washington University Siteman Cancer Center, P01 Program Project Grant, PI Alessandro Vindigni  |
| 12/02/2021 | Ad Hoc Reviewer | NIH National Institute of Child Health and Human Development Site Visit |
| 06/14/2021 | Ad Hoc Reviewer | NIH Cancer Etiology Study Section |
| 11/13/2019 | Reviewer | FY19 Aging Institute & Hillman Cancer Center Seed Grant Pilot |
| 05/15/2019 | Ad Hoc Reviewer | Special Emphasis Panel/Scientific Review Group ZES1 LWJ-D(U2) for U01 and U24 NIHES/NIA Telomere Research Network |
| 12/21/2018 | Ad Hoc Reviewer | Swiss National Science Foundation – Project funding in biology and medicine (division III) |
| 12/12/2018 | Reviewer | UPMC Hillman Developmental Funding Program |
| 03/02/2018 | Ad Hoc Reviewer | ZCA1 TCRB-T (M2), study section for NCI P01 proposals |
| 09/01/2017-11/2021 | Member | Environmental Health Sciences Review Committee (EHSCR) at NIEHS |
| 09/25/2017 | Ad Hoc Reviewer | NIH, Special emphasis panel 2018/-1 ZCA1 SRB-P (J1) S, study section for R21 and R03s. |
| 06/15/2017 | Ad Hoc Reviewer | NIH, MGB study section for R series applications |
| 04/27/201704/27/2018 | Reviewer | CMRF Competitive Medical Research Fund, University of Pittsburgh Office of Research, Health Sciences |
| 03/14/2017 | Reviewer | FY2017 UPMC Aging Institute Pilot Funding Program |
| 06/09/2016 | Ad Hoc Reviewer | NIH, MGB study section for R series applications |
| 04/17/2016 | Reviewer | Swiss Cancer League, review grant application |
| 04/01/2016 | Reviewer | FY2016 Stimulating Pittsburgh Research in Geroscience Post-Doctoral Scholar program  |
| 03/07/2016 | Ad Hoc Reviewer | NCI, NIH, Special Emphasis Panel for R03 and R21 applications, ZCA1 SRB-L |
| 02/26/2016 | Reviewer | FY2016 Aging Institute/University of Pittsburgh Center for Behavioral Health and Smart Technology Seed Grant Program |
| 11/05/2015 | Ad Hoc Reviewer | Study Section, NIEHS, Environmental Health Sciences Review Committee, P30 Center proposals |
| 06/09/2015 | Ad Hoc Reviewer | NCI, NIH, Special Emphasis Panel for R03 and R21 applications, ZCA1 SRB-L  |
| 07/01/2015 | Ad Hoc Reviewer | NIH, Members Conflict Oncology-Basic Translational Special Emphasis Panel for R01 applications, ZRG1 OBT-B |
| 04/24/201504/27/2017 | Reviewer | Competitive Medical Research Fund, University of Pittsburgh |
| 02/19/2015 | Reviewer | National Science Foundation, Chemistry of Life Processes Nucleic Acids I Panel |
| 04/22/2014 | Reviewer | University of Pittsburgh: The Vascular Medicine Institute (VMI) and the Clinical and Translational Science Institute (CTSI) Pilot Project Program in Hemostasis and Vascular Biology |
| 03/20/2014 | Reviewer  | UPMC Aging Institute Pilot Grant program |
| 02/09/2014 | Ad Hoc Reviewer | National Science Foundation Research Proposal - Genetic Mechanisms section |
| 09/01/2013 | Ad Hoc Reviewer | National Science Foundation CAREER awards |
| 05/22/2013 | Reviewer | University of Pittsburgh CDRF research proposal |
| 10/02/2012 | Reviewer | Women’s Cancer Research Center and the Clinical and Translational Science Institute Pilot Project Program. University of Pittsburgh |
| 05/30/2012 | External Reviewer | Fondazione Telethon – Foundation funds research towards a cure for muscular dystrophies and genetic diseases |
| 03/23/2012 | Reviewer | CTSI (Clinical and Translational Science Institute) -PEIR program |
| 02/21/2012 | External Reviewer | Sharing Partnership for Innovative Research in Translation (SPIRiT) Pilot proposals; for the University of Pittsburgh Clinical and Translational Science Institute. |
| 02/10/2012 | External Reviewer | Johns Hopkins University of Claude D. Pepper Older Americans Independence Center. Pilot/Exploratory Studies Core proposal  |
| 01/13/2012 | External Reviewer | Diabetes UK charity, RD Lawrence Fellowship program |
| 05/2011 | Reviewer | UPMC and University of Pittsburgh Aging Institute Pilot Funding program |
| 04/29/2011 | External Reviewer | Fondazione Telethon – Foundation funds research towards a cure for muscular dystrophies and genetic diseases |
| 08/23/2011 | Ad Hoc Member | Study Section, NIEHS, Environmental Health Sciences Review Committee RFA ES10-001, P30 Center proposals |
| 02/24/2011 | Ad Hoc Member | Study Section, NIEHS, Special emphasis panel review of Outstanding New Environmental Scientist RFA 10-004, ZES1 TN-J  R01 |
| 10/01-02/2007 | Ad Hoc Member  | Study Section, NIGMS, MBRS Support of Competitive Research Review Panel, ZGM1 MBRS-7 CC |

**Leadership in Scholarly and Professional Organizations and Honorary Societies**

| Date | Position | Organization |
| --- | --- | --- |
| 20222023 | Vice President ElectVice President | Environmental Mutagenesis and Genomics Society (EMGS) |
| 2022-present | Member | EMGS Executive Board |
| 2022-present | Member | EMGS Nomination Committee |
| 2020-present | EMGS representative | FASEB Science Research Conferences Advisory Committee |
| 2020-present | Elected as the DNA Repair SIG Representative to the Program Committee | Environmental Mutagenesis and Genomics Society |
| 2019 | Elected Vice Chair 2021/Chair 2023 | Gordon Research Conference on Mammalian DNA Repair |
| 2018-20192022- present | Executive Committee | Environmental Mutagenesis and Genomics Society |
| 2017-2020 | Elected to Council | Environmental Mutagenesis and Genomics Society |
| 2017-2020 | Member | Environmental Mutagenesis and Genomics Society Finance Committee |
| 2017 | Invited to organized and chair a meeting session | 48th Annual Meeting for the Environmental and Genomics Society |
| 2017 | Invited to chair a meeting session | 2017 Gordon Conference on Mammalian DNA Repair.  |
| 2012 | Invited to chair a meeting session | 2012 Gordon Conference on DNA Damage, Mutation and Cancer. Session on Role of Telomeres in Genomic Instability and Cancer |
| 2011-2013 | Member | Environmental Mutagen Society Awards and Honors committee |
| 2010 | Invited to chair a meeting session  | 2011 FASEB meeting on Helicases and NTP-Driven Nucleic Acid Motors |
| 2010 | Chair of Plenary Lecture session | Selected to introduce the Plenary Lecture speaker Dr. Thomas Kensler at the 41th Annual Meeting of the Environmental Mutagen Society, Dallas, TX |
| 2010 | Co-chaired and organized a session on “Telomeres, Aging and Human Disease” | Environmental Mutagen Society, 41th Annual Meeting, Dallas, TX |
| 2009 | Co-chaired and organized a session on “DNA Damage, Repair and Aging”  | 10th Annual International Conference on Environmental Mutagens, Florence, Italy.Co-organizer and co-chair |
| 2008 | Co-chaired and organized asession on DNA repair, aging, neurodegeneration, and cancer | Environmental Mutagen Society, 39th annual meeting program committee  |
| 2006-2010  | Member program committee | Environmental Mutagen Society, 38th annual meeting  |
| May 2008 | Member  | 10th Annual Midwest DNA Repair Symposium. Pittsburgh, PA. Committee to select oral presentations from abstracts |
| Apr 2008 | Invited panelist  | 11th Annual National Institute of Environmental Health Science Career Fair |
| May 2006 | Co-organizer  | International Workshop on RecQ Helicases and Other Helicases in Telomere Maintenance and Related Pathways, Lansdowne |

**Non-Professional Service**

| **Year(s)** | **Position and Organization** | **Type of Service** |
| --- | --- | --- |
| 02/2023 | W. PA Girl Scouts, 6th grade | Discussion of career in science and gene bracelet project |
| 03/2021 | W. PA Girl Scout, St. Bede School 4th Grade, virtual | Science project on acid and base reactions |
| 02/20/2020 | W. PA Girl Scout Brownie Troop Science Meeting, St. Bede School 1st-2nd grade | Science project on water testing |
| 08/20/2019 | St. Bede School 2nd Annual Back to School Clean Up Day | Participated in cleaning the grounds for the school year |
| 01/24/2019 | W. PA Girl Scout Brownie Troop Science Meeting, St. Bede School 1st-2nd grade | Led science project on paper chromatography |
| 08/20/2016 | St. Bede School 2nd Annual Back to School Clean Up Day | Participated in cleaning the grounds for the school year |
| 07/31/2014 | Participant, DNAZone – CNASTSciencepalooza | Participated in a demonstration for grade school students of chemiluminescence. |
| 02/09/2014 | Participant, DNAZone - CNAST educational outreach program (K-12)  | Participated in a workshop for grades 3-5 (10 students) on chemistry of cooking at the Jewish Community Center, Pittsburgh, PA |
| 07/09/2009 | Participant, Kaboom and Home Depot | Participated in the construction of a playground in the Addison Terrace community, Pittsburgh |