Joseph M. Jez

Chair of Biology, Spencer T. Olin Professor, and Howard Hughes Medical Institute Professor
Department of Biology, Washington University in St. Louis

EDUCATION

University of Pennsylvania, Philadelphia, PA
Ph.D. Biochemistry & Molecular Biophysics, 1998
Thesis: Steroid Recognition and Engineering of Catalysis in Mammalian Aldo-Keto Reductases
Research Advisor: Prof. Trevor M. Penning

Penn State University, University Park, PA
B.S. Biochemistry (Honors; English minor), 1992
Research Advisor: Prof. Gregory K. Farber

PROFESSIONAL EXPERIENCE

Washington University in St. Louis, St. Louis, MO
Director, Beckman Scholars Program, Washington University in St. Louis (2023-current)
Spencer T. Olin Professor, Department of Biology (2019-current)
Director, Amgen Scholars Program, Washington University in St. Louis (2019-current)
Chair, Department of Biology (2018-2023)
Associate Chair, Department of Biology (2017-2018)
Professor, Department of Biology (2015-2019)
Co-Director, Plant and Microbial Biosciences Program, Division of Biology & Biomedical Sciences (2013-2018)
Associate Professor, Department of Biology (2011-2015)
Assistant Professor, Department of Biology (2008-2011)
Honorary Adjunct Assistant Professor, Department of Biology (2006-2008)

Donald Danforth Plant Science Center, St. Louis, MO
Assistant Member & Principal Investigator (2002-2010)

Kosan Biosciences, Hayward, CA
Scientist, New Technology Group (2001-2002)
Supervisor: Dr. Daniel V. Santi

The Salk Institute for Biological Studies, La Jolla, CA
NIH-NRSA Postdoctoral Research Fellow, Structural Biology Laboratory (1998-2001)
Project: Structure, Mechanism, and Engineering of Plant Polyketide Biosynthesis
Research Advisor: Prof. Joseph P. Noel

BioPore, Inc., Bellefonte, PA
Research Assistant (1991-1992)
Supervisor: Prof. Roy H. Hammerstedt

U.S. Department of Agriculture, Eastern Region Research Center, Wyndmoor, PA
Physical Science Aide (1989-1990)
Supervisor: Dr. George Piazza

ACADEMIC LEADERSHIP EXPERIENCE

Chair, Department of Biology **2018-current**
Associate Chair, Department of Biology **2017-2018**

- As Chair, I manage 32 tenure-track faculty, 14 teaching faculty, 28 administrative staff, 62 research staff (research technicians, postdoctoral associates, staff scientists), ~65 graduate students, and ~650 undergraduate majors. Biology is one of 100 undergraduate majors at WUSTL, but it is one of the largest and is home for roughly 1 in 10 WUSTL students with a declared major. Biology's ~$10 million in annual external grant support (~$45 million total) is one of the highest on the Danforth Campus, which includes Arts & Sciences and Engineering, and more than some preclinical departments (i.e., Biochemistry, Cell Biology, Neuroscience) at the Medical School. Biology faculty hold leadership positions on campus and in the scientific community (NAS, HHMI, and AAAS) and include NSF-CAREER, PECASE, NIH Pathway to Independence, Searle, Packard, and Fulbright awardees.
- Re-organized department committee structure for improving shared governance, including establishing new Inclusion, Staff, Assistant and Associate Mentoring & Review, and Teaching Faculty Mentoring & Review committees.
- Launched the Biology Inclusion Committee, which includes representatives from the TT faculty, teaching faculty, staff, postdocs, graduate students, and undergraduates, established funds for the Biology DEI Award and the Garland Allen Prize for DEI in the Biological Sciences (senior prize), and working with Arts & Science to create a postdoctoral fellowship program aimed at improving diversity in the biological sciences.
- Organized the first Biology Administrative Staff Retreat with the aim of improving communications, relations, and interactions and setting 3-year goals; hired new departmental business manager following retirement of previous one after 30-years and assisted with new reporting/organization structure of administrative staff and post-COVID-19 operations.
- Updated Biology's faculty activity reporting process; developed and implemented new mentoring structure for assistant and associate professors; developed and implemented teaching faculty annual review guidelines and practices.
- Oversaw the hire of 12 new faculty (6 assistant professors, 1 associate professor, 1 professor, and 4 lecturers, including 1 as an education specialist and 1 as undergraduate research coordinator) and 19 faculty promotions (3 to associate professor; 5 to professor; 2 to endowed chairs, 1 to research assistant professor, 2 to teaching professor, and 6 to senior lecturer).
- Worked with WU Facilities to plan and execute renovations of research labs for computational biology, evolutionary environmental biology, molecular/cellular/developmental biology,

environmental justice, and genetics/genomics hires; updates to major infrastructure systems in four of seven Biology buildings; and design, renovation, and move of biology teaching laboratories into new and expanded space (vacated space to become research lab space for 6-8 TT hires to expand the faculty).

- Participated in an external A&S STEM review and organized Biology's response, which included the addition of a lecturer/STEM education specialist and lecturer/undergraduate research coordinator to our teaching faculty, continued evaluation and updating of introductory Biology and Summer Bridge courses, additional First-Year Program offerings, establishing majors advising guidelines, and improving communications across foundational STEM departments.
- Led Biology's Undergraduate Experience Initiative to broaden and integrate experiential elements (research and Med Prep) into our curriculum. This on-going effort includes hiring a lecturer/undergraduate research coordinator to improve communication about opportunities, provide bench mentor training, and coordinate a Bio Open House each semester, and using departmental endowments and resources to expand financial support of summer undergraduate research fellowships (BioSURF) and to establish new Biology Undergraduate Research Grant fund and the Prof. Paul Stein Instructional Assistants endowment.
- Established the Catharine Lieneman and the George Hayward Plant Biology Graduate Fellowships.
- Initiated the Danforth Plant Science Research Endowment Seed Grants. Biology has a substantial endowment to support the development of plant science in the department with the goal "*to develop the new seeds and plants that the people of the world need and to drive a center of new businesses based on biotechnology in this area.*" Established a process for requests and evaluation of seed grants (~$200,000 annual) to support the translation of basic science discoveries to potential applications that meet the goal of the endowment.
- Completed a departmental strategic planning process, as part of last year's external review. This includes a $20 million project for new teaching lab spaces, which opens lab space for 6-8 new TT hires and expansion of the biology faculty from 30 to 40.

Co-Director, Plant & Microbial Bioscience Graduate Program, DBBS 2013-2018

- Led transition from the Plant Biology (PB) program (was the last PB director for 6 months) to the new Plant & Microbial Biosciences (PMB) graduate program (co-director for 5 years).
- Improved faculty engagement from 24 PB to 54 PMB members from the Schools of Arts & Science, Engineering, and Medicine, as well as regional institutions (Donald Danforth Plant Science Center and Missouri Botanical Garden).
- Worked with co-director and steering committee to change curriculum to offer two courses centered on i) scientific process and thinking, grant writing, and communications and ii) modern experimental methods. The framework of these courses was recently adopted by DBBS to create a new common course for incoming DBBS students.
- Implemented programmatic changes that doubled the number of program students from 18 in 2013 to 36 in 2018, while also improving student diversity (5% to 20% URM) and reducing time-to-degree (6.5 to 4.9 years).
- Co-developed and implemented a fellowship writing workshop that tripled external fellowship support (primarily through the NSF GRFP). The workshop was subsequently adopted by the Graduate School for wider implementation.

- Established the William H. Danforth Plant Science Fellowship program, which seeks to foster a culture of intellectual entrepreneurship focused on research, leadership, and innovation in plant science to bridge agriculture, medicine, energy, and sustainability. Supported by a $15 million endowment gift, the program provides 3-5 4-year fellowships annually for students with plant science-related thesis in DBBS labs.
- Beyond the Bench Emphasis - as co-director fostered a program-wide environment for graduate student training that recognizes and encourages professional development opportunities, such as biotech consulting, policy, education & outreach, entrepreneurship, and internships, that complement graduate research training.

AWARDS, HONORS, AND FELLOWSHIPS

Arts & Sciences David Hadas Teaching Award (2022)

Arts & Sciences Faculty Marshal, Chancellor's Inauguration (2019)

Fellow, American Association for the Advancement of Science (2018)

Gesellschaft Deutscher Chemiker Lecturer, Greifswald, Germany (2015)

McDonnell International Scholars Academy Ambassador (2015-2020)

Howard Hughes Medical Institute Professor (2014-current)

Fulbright Senior Specialist Fellowship (2012)

Finalist, Howard Hughes Medical Institute - Gordon and Betty Moore Foundation Competition in the Plant Sciences (2011)

Exemplary Service Awards, *The Journal of Biological Chemistry* (2010-2013)

Fulbright Specialist Program Member (2009-2014)

International Scholar, National Key Laboratory of Crop Genetic Improvement, Huazhong Agricultural University, Wuhan, China (2007-2013)

Arthur C. Neish Young Investigator Award, Phytochemical Society of North America (2007)

Deutsche Forschungsgemeinschaft Lecturer, Heidelberg, Germany (2006)

Presidential Early Career Award for Scientists and Engineers - PECASE (2005)

USDA Young Investigator Award (2005)

NIH-NRSA Postdoctoral Research Fellowship (1999-2001)

Hoffman Foundation Pioneer Fund Postdoctoral Fellowship (1998-1999)

Saul Winegrad Biomedical Research Award, University of Pennsylvania (1998)

Finn Wold Travel Award, Protein Society, Boston, MA (1997)

Juan J. Grana Teaching Award, University of Pennsylvania (1996)

NIH Molecular Biology Pre-Doctoral Training Fellowship (1992-1994)

Gilmore Scholar Award, Penn State University (1992)

University Scholar, Penn State University (1990-1992)

PROFESSIONAL SERVICE

Editorial Boards

Encyclopedia of Biological Chemistry	Editor-in-Chief, 2018-2021
The Journal of Biological Chemistry	Associate Editor, 2016-current
	Editorial Board Member, 2008-2013 & 2014-2016
Methods in Enzymology	Editor, 2021-2022
Faculty of 1000 - Plant Biochem & Physiology	Member, 2019-current
The Biochemical Journal	Editorial Board Member, 2013-current
Emerging Topics in Life Sciences	Guest Editor, 2020-2021
Plant Science	Guest Editor, 2017-2018
Plant Cell Reports	Guest Editor, 2017-2018
Frontiers in Plant Metabolism	Section Chief Editor, 2011-2015

Scientific Advisory & Consulting

Scientific Advisory Board, Conagen (2019-current)
Scientific Advisory Group, Structural Biology Center, Argonne National Lab (2018-current)
Consultant, Coleman Research (2020-2021)
Consultant, UC-Riverside Know Hub (2018)
Committee of Visitors, DOE BER Advisory Committee (2017)
Consultant, Exeteur (2016)
Consultant, Conagen (2012-2018)
Consultant, Monsanto (2012-2013)
Advisory Committee Member, NSF Engineering Research Center for Biorenewable Chemicals (2010-2012)
Science Advisor, International Life Sciences Institute, Food Biotechnology (2009-13)
Consultant, Divergence (2005-2010)

Grant & Review Panel Service

Brookhaven National Laboratory, Biomolecular Structure Review Committee (2020-current)
DOE-BES Physical Biosciences Program External Review Committee (2020)
USDA-AFRI - Foundational Knowledge of Plant Products (2020)
DOE-BER Quantitative Plant Science Initiative Program External Review Committee (2020)
National Science Foundation (NSF) - Molecular & Cellular Biology (2009-2018; 10 panels)
NSF Graduate Research Fellowship Program (2011-2020; 7 panels)
NSF-Integrated Organisms & Systems (2015)
American Society of Plant Biology (ASPB) - Summer Undergraduate Research Fellowship (SURF) Program (2010-2011; 2 panels)
USDA-National Research Initiative -Agricultural Plant Biochemistry (2007)

Book Editor

Sulfur: A Missing Link Between Soils, Crops, and Nutrition (2008) Jez JM, Ed. American Society of Agronomy-Crop Science Society of America-Soil Science Society of America (ASA-CSSA-SSSA) Publishing, Madison, WI (335 pages)

Encyclopedia of Biological Chemistry, 3rd Edition (2021) Jez JM, Ed.; Allewell N, Blankenship R, Chapman KD, Cooper AJL, Maresca TJ, Pandey S, Zaher HS, Assoc. Eds. Elsevier, Oxford, UK (4822 pages)

Methods in Enzymology: Biochemical Pathways and Environmental Responses in Plants A-C, vols. 676 (2022), 680 (2023), 683 (2023) Jez JM, Ed. Elsevier, Cambridge, MA (432 +491 +268 pages)

Journal Reviewer (~50 manuscripts per year)

Cell, Science, Nature, Proc Natl Acad Sci USA, Science Adv, Nature Chem Biol, Nature Plants, Nature Comm, J Amer Chem Soc, Plant Cell, J Biol Chem, Cell Chem Biol, J Mol Biol, Structure, Chem Comm, Plant J, Plant Physiol, New Phytol, J Bacteriol, Biochemistry, ACS Synth Biol, Mol Cell Biol, Appl Environ Micro, Plant Biotech J, Org Lett, PLoS Pathogens, Mol Plant, Biochem J, Prot Sci, FEBS Lett, FEBS J, Biochim Biophys Acta, Plant Mol Biol, Environ Sci Tech, Biotech Bioeng, Biomacromolecules, J Struct Biol, Arch Micro, Phytochemistry, Bioorg Med Chem, Bioorg Med Chem Lett, Plant Physiol Biochem, J Plant Physiol, Proteome Sci, J Exp Bot, Amino Acids, Int J Phytoremediation, Anal Biochem, Trends Biotech, Front Plant Sci, PLoS One, Mol Biosys, Crop Sci, Mol Plant Micro Interact, J Proteome Res, Food Chem Toxicol, Acta Crystallog D, Planta, Nat Prod Rep, Reg Toxicol Pharm, Int J Parasitol, Biochem Soc Trans, Plant Cell Physiol, J Agr Food Chem, Plant Cell Rep, Plant Sci, ACS Catalysis, J Chem Educ, J Phys Chem, Sci Rep, Biol Pharm Bull, Hort Res, Ind Crop Prod, Trends Biochem Sci, Meth Enzymol

***Ad hoc* Grant Reviewer (~6 proposals per year)**

NSF-MCB, NSF-Arabidopsis 2010, NSF-BES, NSF-Metabolic Engineering, NSF-Plant Genome, NSF-IOS, NSF-CHE, NSF-EPSCoR, DOE-Basic Energy Sciences, USDA-NRI-Agricultural Plant Biochemistry, US-Israel BARD Fund, Israeli Science Foundation, Swiss National Science Foundation, Deutsche Forschungsgemeinschaft, Ontario Ministry of Research and Innovation, European Union Research Area - Chemistry Program, Research Grants Council - Hong Kong, Oklahoma COBRE in Structural Biology Program, U. Nebraska Center for Plant Science Innovation Seed Grant Program, NSERC Canada, European Research Council, Gordon Research Conferences, Human Frontier Science Program, National Science Center - Poland, Gordon Betty Moore Foundation, UK-BBSRC, Cottrell Scholars Program, ESF Postdoctoral Fellowships

Textbook Reviewer

Biochemistry: A Conceptual Approach by Sandler (Oxford University Press)

Lehninger Principles of Biochemistry (7th Ed. & 8th Ed.) by Nelson & Cox (WH Freeman Press)

Exercise, Sport, and Bioanalytical Chemistry by Hackney (Academic Press)

Plant Biochemistry by Heldt & Piechulla (Academic Press)

Meeting Organizer/Session Chair

Organizing Committee, 16th International Society for Biosafety Research, St. Louis, MO (2023)

Session Chair, Amgen Scholars Program Symposium, Los Angeles, CA (2022)

Session Chair, Plant Biology 2020, Virtual for COVID-19 (2020)

Session Chair, Plant Biology 2019, San Jose, CA (2019)
Session Chair, Plant Metabolic Engineering Gordon Research Conference, Barga, Italy (2019)
Co-Organizer & Session Chair, 7th McDonnell International Scholars Academy Symposium - Plant Biology for Agriculture Workshop, Tsinghua University, Beijing, China (2018)
Meeting Co-Chair, Plant Metabolic Engineering Gordon Research Conference, Waterville Valley, NH (2017)
Session Chair, 28th International Conference on Arabidopsis Research, St. Louis, MO (2017)
Co-Organizer & Session Chair, 6th McDonnell International Scholars Academy Symposium - Food and Water Workshop, University of Queensland, Brisbane, Australia (2016)
Co-Organizer & Session Chair, Experimental Biology - American Society for Biochemistry and Molecular Biology - Chemical Biology Theme, San Diego, CA (2016)
Organizing Committee, 3rd International Plant Physiology Congress, New Delhi, India (2015)
Organizing Committee & Session Chair, American Chemical Society Midwest/Great Lakes Meeting, St. Louis, MO (2011)
Session Chair, Society of Toxicology Annual Meeting, Washington, DC (2011)
Organizing Committee & Session Chair, 1st BIT Symposium on Enzymes and Biocatalysts, Shanghai, China (2010)
Session Chair, 6th International Phytotechnology Meeting St. Louis, MO (2009)
Session Chair, 29th Midwest Enzyme Chemistry Conference Chicago, IL (2009)

Professional Societies

Biochemical Society (UK; 2013-current)
Protein Society (2013-current)
American Society of Plant Biologists (ASPB) (2007-current)
Phytochemical Society of North America (PSNA) (2005-current)
American Society for Biochemistry and Molecular Biology (ASBMB) (2004-current)
American Chemical Society (ACS) (1995-current)
American Association for the Advancement of Science (AAAS) (1993-current)

Professional Society Service

ASPB Plantae Steering Committee (2021-2022)
ASPB Education Committee (2018-2022)
ASPB-Conviron Scholars Program Mentor (2018-2021)
ASPB-SURF Program Committee (2011-2018; chair, 2017-2018)
ASBMB Minority Affairs Committee - Faculty Mentor (2015-2018)
ASBMB Annual Meeting Program Committee (2015-2016)
HHMI Society of Professors Taskforce on Scaling Discovery-Based Research Experiences for Undergraduates (2015-2016)

Washington University Committee Service

Undergraduate Education Commission – Cultivating Disciplinary and Transdisciplinary Aptitudes Committee (2023)
Undergraduate Public Health Major Committee (2023)

Rhodes Scholar Mock Interview Committee (2022)
Arts & Sciences Faculty Personnel Procedures Review Committee (2022-current)
Arts & Sciences Dean's Advisory Committee (2021-2023)
Chemistry Department Oversight Committee (2021-2022)
University Librarian and Vice Provost Search Committee (2021)
Arts & Sciences Long-Range Capital Planning Committee (2021-current)
Faculty Committee on Technology Transfer (2020-2022)
Provost's Race & Ethnicity Cluster Hire Review Committee (2020-2023)
Arts & Sciences COVID-19 Instructional Planning Task Force (2020-2021)
Danforth Campus COVID-19 Research Ramp-Up Committee (2020)
Arts & Sciences COVID-19 Re-Budgeting Committee (2020)
WUSTL HHMI Driving Change Initiative Committee (2019-current)
WUSTL Gilliam Fellowship Selection Committee (2019-current)
University Student Affairs Advisory Board (2019-2021)
Cornerstone Review Committee (2019)
Division of Biology & Biomedical Sciences Executive Council (2018-current)
Undergraduate Experience Committee of the WUSTL Board of Trustees (2018-2020)
Arts & Sciences Tenure, Promotion, and Personnel Committee (2017-2020)
Arts & Sciences Academic Planning Committee (2017-2020)
Goldwater Fellowship Review Committee (2016-2017, 2020-2021)
WUSTL Medical School, Dept. of Biochemistry & Molecular Biophysics Promotions & Appointments Committee (2016-2017)
WUSTL Young Investigator Award Review Committee (co-chair, 2016-2018)
Teaching and Learning IT Domain Governance Committee (2014-2017)
WUSTL Climate Change Initiative Steering Committee (2014-2015)
WUSTL Monsanto Graduate Research Fellowship Selection Committee (2013-2018)
Division of Biology & Biomedical Sciences Programs & Student Affairs Committee (2013-2018)
Coordinating Introductory Courses in Biology and Chemistry Committee (2013-2016)
Mallinckrodt Plant Sciences Endowed Professor Search Committee (chair, 2013-2015)
Florence Moog Fellowship Selection Committee (2013)
Microbiology Faculty Search Committee (2012-2013)
Integrated Science Initiative Committee (2012-2013)
Plant & Microbial Biosciences Graduate Program Steering Committee (2011-current; chair, 2013-2018)
Undergraduate Council (2011-2017)
Microbial Biochemistry Faculty Search Committee (2011-2012)
Biology Curriculum Implementation Committee (2010-2015)
Plant Biology Faculty Search Committee (2010-11)
Harrison D. Stalker Award Committee (2009-2017; chair, 2013-2017)
Biochemistry/Computational & Molecular Biophysics Graduate Program Steering Committee (2008-2013)

Plant & Microbial Biosciences Graduate Program Admissions Committee (2008-current; chair, 2010-2013; 2022-2023)

Donald Danforth Plant Science Center Committee Service

Biosafety Internal Review Committee (2007-2009)
Faculty Retreat Organizing Committee (2007-2008)
Faculty Search Committee (2006-2008)
Intellectual Property Review Committee (2006-2008)
Fall Symposium Organizing Committee (2005, 2007, 2010)
Proteomics Facility Oversight Committee (2004-2009)
Evening of Exploration Steering Committee (2004-2006)

External Tenure/Promotion Reviewer

Samuel Roberts Noble Foundation (2009); Biochemistry & Molecular Biology, Michigan State U. (2015 & 2017); Biochemistry & Biophysics, Washington U. Medical School (2016); Biosciences, Rice U. (2015 & 2017); Biology, St. Louis U. (2017); Molecular & Structural Biochemistry, North Carolina State U. (2018); Biology, Brookhaven National Laboratory (2018 & 2022); US Dairy Forage Research Center, USDA/ARS, Madison, WI (2018 & 2020); Biological Sciences, Illinois Institute of Technology (2019); Chemistry, U. North Carolina-Chapel Hill (2019); Plant Biology, U. Illinois, Urbana-Champaign (2019); Plant Genetics Research-USDA/ARS, U. Missouri-Columbia (2020); Genetics & Biochemistry, Clemson U. (2020); Biochemistry, U. Illinois, Urbana-Champaign (2020); Biology, MIT (2021); Integrative Human Biological Sciences, Duke U. (2021); Biology, U. Mississippi (2021); Biochemistry; U. Missouri-Columbia (2022); Chemistry & Biochemistry, U. Oklahoma (2022); Academia Sinica, Institute of Plant and Microbiology (2022); Indian Academy of Sciences (2022)

TEACHING ACTIVITIES

Washington University in St. Louis

Bio2010: The Science of Biotech (FL2015-current)
Bio2020: Biotechnology Entrepreneurs Seminar (SP2016-current)
Bio3010: Biotechnology Project (FL2016-current) - course organizer & guest lecturer
Bio3041: Plant Biology and Genetic Engineering (SP2014-2017) - guest lecturer
Bio4024: Plant Cells and Proteins (SP2005-2008)
Bio451: General Biochemistry (FL2015) - guest lecturer
Bio4522: Laboratory in Protein Analysis (SP2010-2017; SP2021-2023)
Bio4810/Chem481: General Biochemistry I (FL2008-2011, 2013, 2019, 2021) - guest lecturer
Bio4820/Chem482: General Biochemistry II (SP2009-2012, 2014)
Bio488: Undergraduate Teaching (2013)
Bio200/500: Independent Study (2010-2022)
Bio572: Plant Biology Journal Club (SP2007, 2010, 2013)
Bio5702: Current Approaches in Plant Research (SP2021-2023) - guest lecturer
Bio5723: Seminar in Plant & Microbial Bioscience (FL2015-17; SP2017, SP2019, SP2023)
Bio5924: Molecular Basis of Heredity (SU2015 & SU2017) - guest lecturer
Chem490: Independent Study (2010-2011)
Chem495: Advanced Undergraduate Research in Chemistry (2011-2014; 2017)
DBBS WUSTL Amgen Scholars Summer Biotech Course (SU2018-current)
DBBS Graduate Student Fellowship Writing Workshops (FL2011-2022)
DBBS Bioethics Workshop (SP2012)

Donald Danforth Plant Science Center

Lecturer, *Bio547*: *Bioinformatics*, St. Louis Community College (FL2002-2006)
Mentor, *Pfizer-Solutia Students & Teachers as Research Scientists* (SU2006-2009; 2016-2019)
Mentor, *Donald Danforth Plant Science Center NSF-REU Program* (SU2003-2009)

University of Pennsylvania

Graduate Teaching Assistant, *Bio121: Molecular Biology of Life* (FL1993-1997)
Graduate Teaching Assistant, *Bio175: Introductory Microbiology* (SP1994-1995)
Graduate Teaching Assistant, *Biophys501: Techniques of Structural Biology* (SP1996)
Mentor, *NASA Sparks Program* (SU1996)

Penn State University

Undergraduate Teaching Assistant, *Bioch403: Experimental Biochemistry* and *Bioch243: Introductory Biochemistry Laboratory* (SP1992)

MENTORING ACTIVITIES

Postdoctoral Associates (1 current, 14 past)

Eric R. Bonner (2003-2004) *Scientist, Eurofins Bioanalytics, Inc., St. Louis, MO.*

Julie A. Francois (2006-2007) USDA Postdoctoral Research Associate. *Global Regulatory Pipeline Strategy Manager, Bayer Crop Science, St. Louis, MO.*

Sangaralingam Kumaran (2006-2008) *Senior Principal Scientist, National Institute of Microbial Technology, Chandigarh, India.*

Mary L. Preuss (2007-2009) *Chair & Associate Professor, Department of Biological Sciences, Webster University, St. Louis, MO.*

Naveen Bisht (2008-2010) *Staff Scientist V, National Institute of Plant Genome Research, New Delhi, India.*

Hankuil Yi (2008-2012) *Associate Professor, Department of Biological Sciences, Chungnam National University, Daejeon, South Korea.*

Sanghamitra Dey (2012-2013) *Assistant Professor, Dept. of Biology, Presidency University, Kolkata, India.*

Eitan Salomon (2014-2016) Vaadia-BARD Postdoctoral Fellow. *Scientist, National Center for Mariculture, Eliat, Israel.*

Barrie Cascella (2015-2017) WUSTL-HHMI Postdoctoral Teaching Fellow. *Instructor, Regis University, Denver, CO.*

Soon Goo Lee (2012-2018) *Assistant Professor, Dept. of Chemistry, University of North Carolina - Wilmington.*

Anne Robinson (2018-2021) WUSTL-HHMI Postdoctoral Teaching Fellow. *Instructor, Division of Biology & Biomedical Sciences, Washington University in St. Louis.*

Vandna Kukshal (2018-2021) *Scientist, Bayer Crop Science, St. Louis, MO.*

Jason Schaffer (2018-2021) *Senior Scientist, MilliporeSigma, St. Louis, MO.*

Sarah Stainbrook (2019-2022) NSF Postdoctoral Fellow in Biology. *Scientist, Michigan State U.*

*Jeremy Morris (2021-current) NSERC Postdoctoral Fellow

Research Assistants (3 past)

Rebecca E. Cahoon (2002-2008) *Staff Scientist, U. Nebraska, Lincoln, NE.*

Yamini Bisht (2009-2010) *High School Teacher (Biotech), Sadhu Vaswani International School for Girls, New Delhi, India.*

Aron Allen (2014-2020) *Counselor and Psychotherapy, Aron Allen Counseling, St. Louis, MO.*

Graduate Students (1 current, 11 past)

Soon Goo Lee (2007-2012) Plant Biology Program, 2013 Spencer T. and Ann W. Olin Biomedical Research Award. *Postdoctoral Associate, Jez Lab, Washington University in St. Louis, MO. Current: Assistant Professor, Dept. of Chemistry, University of North Carolina-Wilmington*

Caitlin Ramsey (2008) Plant Biology Program. *Business Analyst, Cigna, Washington, DC; Current: Snr Systems Analyst, Cigna*

Ashley Galant (2008-2011) Plant Biology Program, ASPB-Pioneer Hi-Bred Graduate Fellow, 2011 Spencer T. and Ann W. Olin Biomedical Research Award. *Postdoctoral Associate, USDA-ARS Citrus Research Center, Winter Haven, FL. Current: Maltings Process Manager, The South African Breweries, Johannesburg, South Africa.*

Geoff Ravilious (2008-2012) Computational & Molecular Biophysics Program. *IRTA Postdoctoral Fellow, Xiao Lab, NIH-NCI, Bethesda, MD; Current: Technology Transfer & Patent Specialist, NIH-NIAID, Frederick MD.*

Qingfeng Chen (2008-2012) Graduate Student, Huazhong Agricultural University, Wuhan, China. *Postdoctoral Associate, Jiang Lab, HHMI & U. Texas-Southwestern; Current: Assistant Professor, School of Life Science, Tianjin University, PRC.*

Corey Westfall (2009-2014) Biochemistry Program, USDA-NIFA Predoctoral Research Fellow, 2013 Spencer T. and Ann W. Olin Biomedical Research Award. *Keck Foundation and Arnold O. Beckman Postdoctoral Fellow, Levin Lab, Washington University in St. Louis, MO; Current: Lecturer, Dept of Biology, Washington University in St. Louis, MO.*

David Korasick (2012-2015) Plant & Microbial Biosciences Program, NSF Graduate Research Fellow, USDA-NIFA Predoctoral Research Fellow, 2016 Spencer T. and Ann W. Olin Biomedical Research Award (Co-Advisor with Lucia Strader). *Postdoctoral Associate, Tanner Lab, University of Missouri, Columbia, MO; Current: Snr Scientist, Bayer Crop Science, St. Louis, MO.*

Ashley Sherp (2012-2017) Plant Biology Program; NSF Graduate Research Fellow, Monsanto Trait Discovery Breeder Intern. *Current: Manager, Research & Development Operations, Benson Hill, St. Louis, MO.*

Cynthia Holland (2014-2018) Plant & Microbial Biosciences Program, NSF Graduate Research Fellow, William H. Danforth Plant Science Graduate Fellow. *NSF Postdoctoral Research Fellow, Jander Lab, Boyce Thompson Institute/Cornell University; Current: Assistant Professor, Dept. of Biology, Williams College, Williamstown, MA.*

Samantha Powers (2014-2019) Plant & Microbial Biosciences Program (Co-Advisor with Lucia Strader), William H. Danforth Plant Science Graduate Fellow, Monsanto Genome Engineering Intern. *Current: Scientist, Benson Hill, St. Louis, MO.*

Justin Miller (2019-2020) Biochemistry, Biophysics, & Structural Biology Program (Co-Advisor with Audrey Odom-John Lab, Children's Hospital of Philadelphia, PA). *Postdoc, Bowman Lab, Washington University Medical School, St. Louis, MO.*

*Vivian Kitainda (2019-current) Plant & Microbial Biosciences Program, Harold A. Schneiderman Graduate Fellow; Bayer Crop Science Protein Science Structure & Mechanism Intern.

Graduate Student Rotations (10 past)

Jeff Cameron (2006) Plant Biology Program, Pakrasi Lab

Chuanmei Zhu (2009) Plant & Microbial Biosciences Program, Dixit Lab

Amelia Nguyen (2011) Plant & Microbial Biosciences Program, Pakrasi Lab

Angela Schlegel (2013) Plant & Microbial Biosciences Program, Haswell Lab

Ryan Emenecker (2017) Plant & Microbial Biosciences Program, Strader Lab

Chia-Yun Cynthia Lee (2019) Plant & Microbial Biosciences Program, Kunkel Lab

Anastasiia Onyshchenko (2019) Plant & Microbial Biosciences Program, Peterson Lab

Cooper Hostetler (2020) Plant & Microbial Biosciences Program, Zhang Lab (DDPSC)

Katherine Benza (2022) Plant & Microbial Biosciences Program, Dixit Lab

Xinrui (Sherry) Ji (2022) Plant & Microbial Biosciences Program, Zhong Lab

Visiting Scientists (3 past)

David Byun (2015) Visiting Graduate Student, University of Massachusetts - Amherst. *Current: Associate Director, Data Science, Sloan School of Management, Massachusetts Institute of Technology, MA*

Suchismita Roy (2015) Visiting Graduate Student, Jawaharlal Nehru University, New Delhi, India. *Current: Postdoctoral Associate, Kufareva Lab, University of California-San Digeo, CA*

Roshan Kumar (2019) Visiting Postdoctoral Scholar. *Current: Research Fellow, National Institute of Plant Genome Research, New Delhi, India*

Undergraduate and High School Students (1 current*, 58 past)

Sarah M. Knapke (2003) NSF-REU Intern (Purdue U). *Graduate Student, Plant Genetics Program, Purdue U; Current: Scientist, Bayer Crop Science, St. Louis, MO.*

Kiani A.J. Arkus Gardner (2004-2007) NSF-REU Intern, ACS-PRF SUMR Fellow. *NIH-NRSA Graduate Fellow, Molecular & Cellular Biology Program, Duke U; Current: Assistant Professor of Practice, Dept. Medical Educ., Duke University.*

Katherine Herrera (2005) NSF-REU Intern (Adelphi U). *Research Associate, New York Botanical Garden, New York, NY.*

Lavanya H. Palavalli Parsons (2005) NSF-REU Intern (U Missouri-Columbia). *Medical Student, U. Missouri & HHMI-NIH Research Scholar; Current: Gyn Cancer Physician, U Texas.*

Rebecca S. Rivard (2006-2008) Pfizer-Solutia STARS High School Intern. *NSF Graduate Fellow, Molecular & Cellular Biology Program, U Pennsylvania, Philadelphia, PA; Current: Assistant Professor, Dept. of Biology, Gwynedd Mercy University, PA.*

Amy C. Schroeder (2006-2009) NSF-REU Intern (Truman State U) and ASPB-SURF Scholar. *NSF Graduate Fellow, Biochemistry & Molecular Biology Program, UC-Davis; Current: Program Manager Regulatory Affairs, Genentech, South San Francisco, CA.*

Megan A. Clements (2007) NSF-REU Intern (Northeastern U). *Graduate Student, Food Science Program, UC-Davis; Current: Scientist, Treasure8 Brands, San Francisco, CA.*

Leia M. Wachsstock (2007-2009) Pfizer-Solutia STARS High School Student Intern. *Student, Lander College; Current: Physical Therapist, St. Louis, MO.*

Matthew Juergens (2007-2011) NSF-REU Intern (Webster U) and ASPB-SURF Scholar. *Graduate Student, Plant Biology, Michigan State U; Current: Scientist, Bayer Crop Science, St. Louis, MO.*

Jeremy Bleeke (2008) Pfizer-Solutia STARS High School Student Intern. *Student, Columbia U; Current: Graduate Student, Art History, CUNY.*

William Johnston (2009) Pfizer-Solutia STARS High School Student Intern. *Student, Vanderbilt U; Current: Surgery Resident, U. Pennsylvania.*

Alexander Markhov (2009) Pfizer-Solutia STARS High School Student Intern. *Student, Washington U; Current: Clinical Fellow, Div. Endocrinology, Metabolism, & Lipid Research, Washington U. Medical School.*

Akina Nagata (2009) HHMI-SURF Scholar (Knox College). *Graduate Student, Immunology & Microbiology Program, Shinshu U, Japan.*

Jonathan Wignes (2009) *High School Chemistry Teacher, Parkway West, St. Louis, MO; Current: Graduate Student, Plant Biology Program, U Adeleide, Australia.*

Naveena Lall (2009-2010) *Medical Student, U North Dakota. Current: Internal Medicine Resident, Rutgers Robert Wood Johnson Medical School.*

Samuel McKinney (2009-2011) Summer Scholar in Biology & Biomedical Research. *Scientist, Pajarito Powder, Albuquerque, NM.*

William Musgrave (2010-2011) *Medical Student, U Texas - Southwestern; Current: Physician, Musgrave Family Medicine, Keller, TX.*

Sheri Balogun (2010-2012) MARC-uSTAR Scholar. *Pharm. D. Candidate, U North Carolina - Chapel Hill Pharmacy School; Current: Clinical Pharmacist, Senior Pharmassist.*

Jonathan Herrmann (2010-2014) Summer Scholar in Biology & Biomedical Research, ASPB-SURF Scholar, HHMI-SURF Scholar, and CalTech-Amgen Scholar. *NSF Graduate Fellow and DOE Graduate Fellow, Structural Biology Program, Stanford U; Current: Snr Engineer, Field Applications, Thermo Fisher Scientific.*

Loren Ramirez (2011) Summer Scholar in Biology & Biomedical Research. *High School Teacher, Chattahoochee High School, Alpharetta, GA.*

Blair Undem (2011) Cellular and Developmental Biology Research Apprenticeship Program (CD-BioRAP) Intern (McDaniel College). *Physical Therapy Student, U Maryland. Current: Physical Therapy Specialist, Sinai Hospital of Baltimore, MD.*

Dustin Kline (2011-2012) NSF-REU Intern (WUSTL). *Analyst, Yang Capital Group. Current: Vice President, The Chartres Lodging Group, San Francisco, CA.*

Tara Alpert (2011-2013) HHMI-SURF Scholar and ASPB-SURF Scholar. NSF-GRFP Honorable Mention. *Graduate Student, Molecular & Cellular Biology Program, Yale U. Current: Scientist, Novartis Gene Therapies, San Diego, CA.*

Margie Gomez (2012) Summer Scholar in Biology & Biomedical Research. *Student, Washington U.*

David Nathin (2012-2013) *Medical Student, Albany Medical College. Current: Physician, HMH Riverview Medical Center, Red Bank, NJ.*

Ian Swenson (2012-2013) *Clinical Research Assistant, Washington U. Current: Director of News/Audience Analytics, Salt Lake Tribune.*

Ron Nwumeh (2012-2016) Summer Scholar in Biology & Biomedical Research, uSTAR Summer Scholar, HHMI EXceptional Research Opportunities Program (EXROP) awardee (Cech Lab), and UNCF-Merck Science Scholar. *Medical Student, U Pennsylvania.*

Ankita Nallani (2013) *Medical Student, U Missouri Medical School.*

Taylor Brantley (2013) Summer Scholar in Biology & Biomedical Research. *MFA Student, Washington U.*

Ang (Tony) Xu (2013-2014) HHMI-SURF Scholar and MARC-uSTAR Scholar. *Medical Student, Baylor College of Medicine, Houston, TX. Current, Gastroenterology & Hepatology Fellow, Baylor College of Medicine, Houston, TX*

Rishil Mehta (2014) Summer Scholar in Biology & Biomedical Research. *Student, Washington U*

Linkai Mei (2014) NSF-REU Intern (U. Nebraska). *Graduate Student, Plant Pathology, Cornell U*

Madeleine Mullen (2014) Summer Scholar in Biology & Biomedical Research. *Student, Washington U.*

Evelyn Schraft (2014-2015) *Medical Student, U Illinois-Chicago. Current: Emergency Medicine Physician, Chicago, IL.*

Zixing (Rex) Li (2014-2015) *Graduate Student, Computer Science, U Pennsylvania. Current: Software Development Engineer, Amazon, San Diego, CA.*

Manoj Palavalli (2014-2016) NSF-REU Intern (U. Missouri-Columbia). *Medical Student, U Missouri. Current: Surgery Resident, Ohio State College of Medicine, Columbus, OH.*

Kayla Swiatek (2014-2018) Kentucky Biomedical Research Infrastructure Network Fellow, WUSTL-HHMI Summer Undergraduate Research Fellow. *Medical Student, U Kentucky*

Keishla Sanchez Ortiz (2015) Young Scientist Program Intern (U. Puerto Rico). *Graduate Student, Scripps Research Institute, La Jolla, CA.*

Kourtney Kroll (2015-2017) uSTAR Summer Scholar. *Graduate Student, Bioengineering, U Chicago.*

Kaleena Zhang (2015-2017) *Medical Student, Albert Einstein College of Medicine.*

Josephine Lee (2016) ASPB-SURF Scholar. *Software Engineer, Broad Institute of MIT & Harvard.*

Kate Harline (2015-2017) NSF-REU Intern (Danforth Center). NSF-GRFP Honorable Mention. *NSF Graduate Fellow & ASPB-Conviron Scholar, Plant Biology Program, Cornell U.*

Briana Hickey (2016-2017) *Medical Student, Columbia U.*

Caroline Focht (2016-2017) Gutsche Award in Chemistry. *Medical Research Scholar Graduate Fellow Biochemistry, Biophysics & Structural Biology Program, Yale U.*

Regina Liu (2016-2017) CalTech-Amgen Scholar. *Medical Student, U California - Los Angeles.*

Madeline Kohn (2016-2018) Undergraduate, WUSTL. *Physical Therapy School, U Texas. Current: Physical Therapist, Bercutt, Physical Therapy, Houston, TX.*

Poorva Sheth (2017) High School Intern. *Undergraduate, St. Louis U.*

Elias Chahoud (2017) STARS High School Intern. *Undergraduate, U Notre Dame.*

Emily Walter (2017-2018) High School Intern. *Undergraduate, U Missouri-Columbia.*

Alejandro De Santiago Perez (2017-2018) HHMI EXceptional Research Opportunities Program (EXROP) awardee (UC-Riverside). *Graduate Student, U Georgia.*

Bram Osterhout (2017-2019) WUSTL-HHMI Summer Undergraduate Research Fellow; NSF-REU Intern (Donald Danforth Plant Science Center). *Graduate Student, U Bonn (Germany); U. Illinois, Urbana-Champaign.*

Daniel Gatewood (2019) STARS High School Intern.

Ben Connally (2018-2019) WUSTL-HHMI Summer Undergraduate Researcher(Brandeis U).

Peter Warner (2018-2020) WUSTL-HHMI Summer Undergraduate Research Fellow.

Danielle Wilder (2019-2020) WUSTL-HHMI Summer Undergraduate Research Fellow; 2021 Ralph Quatrano Thesis Prize. *Medical Student, Washington U School of Medicine.*

Catherine Emanuel (2021) *Associate Scientist, Confluence Discovery Technologies*

Lindsey Aubuchon (2021) WUSTL-Amgen Scholar (UNC-Wilmington). *Graduate Student, Washington U.*

*Daniel Berkovich (2016-current) STARS High School Intern & Research Associate; ASPB-SURF Scholar; WUSTL-HHMI Summer Undergraduate Research Fellow.

Vasanth Ramesh (2021-2022) *Student, Washington U.*

Washington University iGEM Team Members (27 past)

2010: Elaine Chang, Amanda Hay (NSF-GRF), Zach Knudsen, Brian Landry (NDSEG-GRF), Brenden McDearmon (NSF-GRF), Alice Meng

2011: Valerie Bostrom, Brad Donaldson, May Fu, Jonathan Herrmann (NSF-GRF), Seong Mike Kim, Jonathan Lin, Roy Pruden, Colleen Rhoades (NSF-GRF), Bo Zhang, Cong Zhang

2012: Caleb Ford, Andrew Ng, Brian Basco, Lucas Harrington (NSF-GRF), Peter Zhu, Ang Xu

2013: Andrew Ng (NDSEG-GRF), Jonatha Luskin, Jagdeesh Kottapalli, Philip Sossenheimer, Rebecca Shih

EDUCATION AND OUTREACH ACTIVITIES

Graduate Thesis Committees

Demos Chronis (2005-2006; U Missouri, Agronomy - external examiner), Srivista Yanamadala (2006; U Missouri, BCM - external examiner), Julie Francois (2006; Chem), Amy Szumlanski (2006-2009; PB), Tom Ream (2006-2009; PB), Jeff Cameron (2007-2011; PB), Kim Wegener (2008-2010; PB), Julie Thole (2008; PB), Deanna Mendez (2008-2012; CMB), Ek Han Tan (2008-2011; MGG), Charles Constantine (2009; Chem), Jeremy Haag (2009; PB), Jennifer Dulle (2009-2013; MCB), Elaine Frawley (2009-2010; PB), Donnell Carey (2009-2014; BCM), Jiyul Jong (2009-2011; PB), Paul Buske (2010-2013; BCM), Chuanmei Zhu (2009-2014; PMB), Erica Fishel (2010-2013; PB); Rachel Schwope (2010-2013; MGG), Brian San Francisco (2010-2013; PB), Taekyung Kim (2010; BCM), An-Chun Chien (2011-2012; MCB), Jeremy King (2011-2016; PMB), Annie Shieh (2011-2012; DB), Sheri McClerklin (2011-2016; PMB), Daniel Weisz (2011-2016; Chem), Elwood Mullins (2012; Chem), Matthew Kilgore (2012-2015; PB), Larry Page (2012; BCM), Andrew Mutka (2013; PB), Christine Carle (2013; MMMP), Amelia Nguyen (2013-2016; PMB), Jooyoung Park (2013-2016; BCM), Shannon Ohlemacher (2013-2017; BCM), David Korasick (2013-2015; PMB), Tara Enders (2013-2016; PB), Eric Hamilton (2014-2017; PMB), Drew Michael (2014-2015; MCB), Elizabeth Frick (2014-2017; PMB), Chad Schaber (2014-2018; MMMP), Barrie Cascella (2014; Chem), Ann Guggisberg (2014-2016; MGG), Angela Schlegel (2015-2020; PMB), Guannan He (2015; Chem), Yunci Qi (2016-2021; PMB), Leiwei Yan (2016-2021; PMB), Benjamin Wolf (2017-2019; PMB), Dinesh Gupta (2017-2020; PMB), Justin Miller (2017-2020, BCM), Todd Tyson (2017-2022; BBSB), Cameron Sargent (2017-2022; BCM), Virginia Johnson (2018-2022; PMB), Jason Schaffer (2018; Chem), *Ryan Calcutt* (2018-current; PMB), Jeremy Morris (2019; U Calgary, Biol Sci - external examiner), Erin Gemmell (2020; Chem), David Goad (2021; EEPB), Juvenal Lopez (2021; MMMP), Jordan Brock (2021; EEPB), Ryan Emenecker (2021; PMB), Maria Sorkin (2022; PMB), *Will McHargue* (2022-current; PMB), *Sarah Pardi* (2022-current; PMB), Patricia Walker (2022; PMB), Xinzhe Zhong (2023; Chem)

Qualifying Examination Committees

Amy Szumlanski (2005), Jule Thole (2005), Jiyul Jung (2007), Jeff Cameron (2007), Silvano Ciani (2009), Wan Shi (2009), Donell Carey (2009), Nicole Salinas (2009), Maggie Wilson (2010), Erica Fishel (2010), Chuanmei Zhu (2010), Jeremy King (2011), Sheri McClerklin (2011), Siyao Xing (2011), Katie Lindstrand (2011), Matt Kilgore (2012), Brian Malpede (2012), Amelia Nguyen (2013), Tara Enders (2013), Nick Dietrich (2013), Shannon Ohlemacher (2013), Angela Schlegel (2015), Robb Welty (2015), Arshag Mooradian (2015), Kristen Wendt (2015), Leiwei Yan (2016), Anne Phillips (2016), Jennette Shoots (2018), Rachel Jouni (2020), Anastasiia Onyshchenko (2020), Edward Lopatto (2021), Brian Gallagher (2022)

Undergraduate Advising

23 current and 115 past advisees

Jez Lab Undergraduate, Graduate Student, & Postdoc Awards and Fellowships

Tara Albert (UG): 2011 Washington U HHMI-SURF Fellowship; 2012 Washington U HHMI-SURF Travel Award, 2012 ASPB-SURF Fellowship; 2013 ASPB-SURF Travel Award; 2013-2016 NSF Graduate Research Fellowship Honorable Mentions

Kiani Arkus (UG): 2005 Best Undergraduate Presentation Award ASPB Midwest Meeting; 2006

American Chemical Society-Petroleum Research Fund SUMR Fellowship; 2007 ASBMB Undergraduate Travel Award; 2007 Best Undergraduate Poster Award Phytochemical Society of North America Meeting; 2009-12 NIH-NRSA Pre-doctoral Fellowship

Lindsey Aubuchon (UG): 2021 WUSTL-Amgen Scholar

Sheri Balogun (UG): 2010-2012 NIH MARC-uSTAR Scholar; 2012 ASBMB Undergraduate Travel Award

Daniel Berkovich (UG): 2018 ASPB-SURF Fellowship; 2019 ASPB-SURF Travel Award

Naveen Bisht (PD): 2008-2010 NIPGR-DDPSC Fellowship; 2009 Plant Lipids Gordon Research Conference Travel Award

Barrie Cascelle (PD): 2016 ASBMB Postdoctoral Travel Award

Alejandro De Santiago Perez (UG) 2017 & 2018 HHMI-EXROP (UC-Riverside)

Caroline Focht (UG): 2017 Gutsche Award in Chemistry

Ashley Galant (GS): 2010 ASPB-Pioneer Hi-Bred Graduate Research Fellowship and Travel Award; 2011 Spencer T and Ann W Olin Biomedical Research Award

Daniel Gatewood (HS): 2019 STARS Program Award for Excellence in Research

Kate Harline (UG): 2017 NSF Graduate Research Fellowship Honorable Mention; 2018 ASPB-Conviron Scholar; 2019-2022 NSF Graduate Research Fellow

Jonathan Herrmann (UG): 2011 ASPB-SURF Fellowship; 2012 ASPB-SURF Travel Award; 2012 ACS Younger Chemists Committee, St. Louis Section, Travel Award; 2012 Best Undergraduate Poster Award ACS Midwest Regional Meeting; 2013 2nd Place Best Undergraduate Poster Award ASPB Midwest Regional Meeting; 2013 Best Undergraduate Poster Award St. Louis Area Undergraduate Research Symposium; 2013 Cal Tech-Amgen Scholar; 2014-2017 NSF Graduate Research Fellowship; 2016-2017 DOE Office of Science Graduate Research Fellowship

Cynthia Holland (GS): 2014-2017 NSF Graduate Research Fellowship; 2015-2019 William H. Danforth Plant Science Graduate Fellowship; 2016 ASBMB Graduate Student Travel Award; 2018-2021 NSF Postdoctoral Research Fellowship

Matthew Juergens (UG): 2008 ASPB-SURF Fellowship; 2009 ASPB-SURF Travel Award

Vivian Kitainda (GS): 2020 Howard A. Schneiderman Graduate Fellowship; 2023 Bayer Crop Science Protein Science Structure & Mechanism Intern

David Korasick (GS): 2011-2014 NSF Graduate Research Fellowship; 2013 ASPB Travel Award; 2014-2016 USDA-NIFA Pre-doctoral Research Fellowship; 2016 Spencer T and Ann W Olin Biomedical Research Award

Kourtney Kroll (UG): 2015 uSTAR Summer Scholar

Sangaralingam Kumaran (PD): 2007 ASBMB Postdoctoral Travel Award

Josephine Lee (UG): 2015 ASPB-SURF Fellowship; 2016 ASPB-SURF Travel Award

Soon Goo Lee (GS): 2010 Banff Plant Metabolism Conference Travel Award; 2011 ASBMB Travel Award; 2011 Korea-US Science Cooperation Center Travel Award; 2012 & 2014 JBC Paper of the Week; 2013 Spencer T and Ann W Olin Biomedical Research Award; 2014 Finn Wold Travel Award

Regina Liu (UG): 2015 Cal Tech-Amgen Scholar

Alex Markov (HS): 2009 STARS Program Pfizer Award for Excellence in Research

Jeremy Morris (PD): 2021-2023 Natural Sciences & Engineering Research Council of Canada Postdoctoral Fellow

Ron Nwumeh (UG): 2013 uSTAR Summer Scholar; 2013 CBCF Spouses Education Scholarship; 2015 & 2016 HHMI-EXROP Awardee (Cech Lab - UC Boulder); 2015 United Negro College Fund/Merck Undergraduate Science Research Scholarship; 2016 FASEB MARC Travel Award

Bram Osterhout (UG): 2017 WUSTL-HHMI Summer Undergraduate Research Fellowship; 2018 NSF-REU Intern (Donald Danforth Plant Science Center)

Samantha Powers (GS): 2015 ASPB Travel Award, 2015-2019 William H. Danforth Plant Science Graduate Fellowship; 2016 NSF Graduate Research Fellowship Honorable Mention; 2018 Monsanto Genome Engineering Intern

Loren Ramirez (UG): 2011 Ronald McDonald House Charities/HACER Scholarship

Rebecca Rivard (UG): 2013 NSF Graduate Research Fellowship Honorable Mention; 2014-2017 NSF Graduate Research Fellowship

Eitan Salomon (PD): 2014-2016 Vaadia-BARD Postdoctoral Fellowship

Amy Schroeder (UG): 2007 ASPB-SURF Fellowship; 2008 ASPB-SURF Travel Award; 2009 ASPB Undergraduate Travel Award; 2010-13 NSF Graduate Research Fellowship

Ashley Sherp (GS): 2012-2015 NSF Graduate Research Fellowship; 2016 Monsanto Trait Discovery Breeder Internship

Sarah Stainbrook (PD): 2019-2023 NSF Postdoctoral Research Fellowship in Biology

Kayla Swiatek (UG): 2014 Kentucky Biomedical Research Infrastructure Network Fellow; 2017 WUSTL-HHMI Summer Undergraduate Research Fellowship

Corey Westfall (GS): 2011-2013 USDA-NIFA Pre-doctoral Research Fellowship; 2013 Spencer T and Ann W Olin Biomedical Research Award; 2015-17 Arnold O. Beckman Postdoctoral Fellowship (Levin Lab)

Danielle Wilder (UG): 2019 WUSTL-HHMI Summer Undergraduate Research Fellow; 2020 Finalist Skandalaris Center Venture Competition; 2020 Quatrano Prize

Ang (Tony) Xu (UG): 2012 Washington U HHMI-SURF Fellowship; 2013-2015 NIH MARC-uSTAR Scholar; 2014 3rd Place Best Poster ACS Undergraduate Symposium

Faculty Advisor

Washington University International Genetically Engineered Machine Competition (iGEM) Team (2009-2013)

Journal Club for Undergraduates in Biological and Engineering Sciences (JCUBES; 2015-2018)

Outreach Activities and Presentations

WUSTL Admissions Bear Days (2022-2023)

Hire WashU Event (2022-2023)

McKelvey School of Engineering Early Career STEM Workshop (2022-2023)

Around and Across America III: College Tours (2020)

Tillman Elementary School 4th Grade Science Class, Kirkwood, MO (2017)

Fort Zumwalt South High School, St. Peters, MO (2017)

Kearny High School, San Diego, CA (2016)

United States Patent and Trademark Office Site Educational Experience, St. Louis, MO (2016)

WUSTL SOAR Program (2016-2022)

Rock Canyon High School, Highlands Ranch, CO (2015-2018)

WUSTL uSTAR Program (2015-2021)
WUSTL Pre-Med Institute (2015-2016)
St. Louis University Undergraduate Research Symposium Judge (2015)
WUSTL Parents Council (2015)
TEDx Gateway Arch: Catalyst (2015)
Laclede Elementary School 5th Grade Science Class, St. Louis, MO (2014)
Ford Elementary School 5th Grade Science Class, St. Louis, MO (2014)
WUSTL Beyond Brookings (2014)
WUSTL K-12 Connections (2014)
American School of Grenoble, France (2014)
Madison High School, Vienna, VA (2013)
League of Women Voters St. Louis Speaker Series (2013)
WUSTL Mentor Connections Program (2012, 2017, 2020)
Gateway Elementary School 5th Grade Science Class, St. Louis, MO (2012 & 2013)
Donald Danforth Plant Science Center, NSF-Research Experiences for Undergraduates Program, St. Louis, MO (2011-2019)
2nd Annual Science Leaders Institute (2011)
Kemper Art Museum - Saraceno: Science and Sustainability (2011)
Annual Biomedical Research Conference for Minority Students (2011)
John C. Danforth Center for Politics and Religion Democracy & Citizenship Initiative: Science in the Arts and Sciences (2010)
American Institute of Architects - St. Louis Chapter (2009)
Vanderbilt University Math & Science High School Summer Program (2008)
National Urban League Incentives to Excel & Succeed Meeting (2007)
Bayless High School Environmental Science Program (2007)
Cornerstone Program, WUSTL (2006)
Ladue Chapel Adult Education (2006)
Missouri Regional Junior Science, Engineering and Humanities Symposium (2005)

Media Coverage

Discover Magazine (17 June 2019)
El Mundo (11 June 2019)
DOE-BER Structural Biology highlight (22 Feb 2018)
Seed Today (1 May 2014)
Spectroscopy Now (12 Mar 2012; 15 Apr 2014)
Voice of Russia - US Edition Interview for The Prism - Soybeans & Ozone (3 Oct 2013)
Science News for Kids - Cool Jobs Green Science (Mar 2013)
Argonne National Lab - Advanced Photon Source highlights (July 2012; July 2013; July 2015)
ASPB News Blog (June 2012)
European Synchrotron Radiation Facility highlight (May 2012)
ASBMB Today (Feb 2012, Sep 2013; Oct 2015; June 2017; June 2018)
US DOE Office of Science highlight (24 Jan 2012)

Voice of America interview - Fighting Malaria (18 Jan 2012)

Washington University Record (6 Jan 2012; 27 Jan 2012; 18 Jun 2012; 24 Mar 2014; 17 Apr 2014; 28 Apr 2014; 30 Jun 2014; 15 Sep 2016; 22 Nov 2016; 26 June 2017; 26 Jan 2018; 29 Jan 2018; 12 June 2019; 11 July 2019; 4 Oct 2019, 17 Aug 2020, 29 Jan 2021, 30 April 2021, 12 May 2021, 22 April 2022, 9 May 2022)

JBC Podcast (3 Jan 2012)

St. Louis Magazine article: The Second Science Center (June 2008)

St. Louis Post Dispatch: From Green to Clean (14 Mar 2004), Students Have Summer Down to a Science (16 Jul 2006), Company Turns to Danforth Plant Center to Develop a Green Plastic (8 Feb 2008)

Chemical & Engineering News: Jez & Noel (2000), Zhang et al. (2006), Lee et al. (2019)

Contributor

DOE-BER Workshop on Transformative Research Needs to Advance Understanding Gene Function Across Taxa - Workshop White Paper (2019)

Scientific American - Biology for a Changing World - textbook chapter with genetic engineering interview and excerpts on Plants 2.0 (2018)

Integrating Academic & Career Development: Strategies to Scale Experiential Learning and Reflection Across the Curriculum, Academic Affairs Forum (2017)

Scientific American online - Lost in Translation article (2016)

The Biologist - Little Green Chemists article (Oct/Nov 2015)

GMO Answers Website (2015-2018)

ASPB Plant Science Now Blog (2015)

CBiRC-NSF Workshop - Roadmap for the Advanced Manufacturing of Biobased Chemicals through Integrated Biology and Chemistry (2015)

St. Louis Science Center Bioremediation Exhibit (2007)

PUBLICATIONS

Research

1. Jez JM, Vanderkooi JM, Laties AM (1996) Spectroscopic characterization of bendazac and benzydamine: possible photochemical modes of action. ***Biochem Biophys Res Comm*** *221*, 266-270
2. Bennett MJ, Schlegel BP, Jez JM, Penning TM, Lewis M (1996) Structure of 3α-hydroxysteroid/dihydrodiol dehydrogenase complexed with $NADP^+$. ***Biochemistry*** *35*, 10702-10711
3. Jez JM, Schlegel BP, Penning TM (1996) Characterization of the substrate binding pocket in rat liver 3α-hydroxysteroid/dihydrodiol dehydrogenase: the roles of tryptophans in ligand recognition and protein fluorescence. ***J Biol Chem*** *271*, 30190-30198
4. Bennett MJ, Albert RH, Jez JM, Ma H, Penning TM, Lewis M (1997) Steroid recognition and regulation of hormone action: structure of testosterone and $NADP^+$ bound to 3α-hydroxysteroid/dihydrodiol dehydrogenase. ***Structure*** *5*, 799-812 (*cover art)
5. Jez JM[†], Lin HK[†], Schlegel BP, Peehl DM, Pachter JA, Penning TM (1997) Expression and characterization of recombinant type 2 3α-hydroxysteroid dehydrogenase from human prostate: Demonstration of bifunctional 3α/17β-HSD activity and cellular distribution. ***Mol Endocrinol*** *11*, 1971-1984 ([†]equal contribution)
6. Schlegel BP, Jez JM, Penning TM (1998) Mutagenesis of 3α-hydroxysteroid dehydrogenase reveals a "push-pull" mechanism for proton transfer in aldo-keto reductases. ***Biochemistry*** *37*, 3538-3548
7. Jez JM, Penning TM (1998) Engineering steroid 5β-reductase activity into rat liver 3α-hydroxysteroid dehydrogenase. ***Biochemistry*** *37*, 9695-9703
8. Ferrer JL, Jez JM, Bowman ME, Dixon RA, Noel JP (1999) Structure of chalcone synthase and the molecular basis of plant polyketide biosynthesis. ***Nature Struct Biol*** *6*, 775-784
9. Jez JM, Ferrer JL, Bowman ME, Dixon RA, Noel JP (2000) Dissection of malonyl-CoA decarboxylation from polyketide formation in the reaction mechanism of a plant polyketide synthase. ***Biochemistry*** *39*, 890-902
10. Jez JM, Bowman ME, Dixon RA, Noel JP (2000) Structure and mechanism of the evolutionarily unique plant enzyme chalcone isomerase. ***Nature Struct Biol*** *7*, 786-791
11. Penning TM, Burczynski ME, Jez JM, Hung CF, Lin HK, Ma H, Moore M, Palackal N, Ratnam K (2000) Human 3α-hydroxysteroid dehydrogenase isoforms (AKR1C1-1C4) of the aldo-keto reductase superfamily: functional plasticity and tissue distribution reveals roles in the inactivation and formation sex hormones. ***Biochem J*** *351*, 67-77
12. Jez JM, Noel JP (2000) Mechanism of chalcone synthase: pK_a of the catalytic cysteine and the role of the conserved histidine in a plant-specific polyketide synthase. ***J Biol Chem*** *275*, 39640-39646
13. Jez JM, Austin MB, Ferrer JL, Bowman ME, Schröder J, Noel JP (2000) Structural control of polyketide formation in plant-specific polyketide synthases. ***Chem Biol*** *7*, 919-930 (*cover art)
14. Penning TM, Burczynski ME, Jez JM, Lin HK, Ma H, Moore M, Ratnam K, Palackal N (2001) Structure-function aspects and inhibitor design of type 5 17β-hydroxysteroid dehydrogenase (AKR1C3). ***Mol Cell Endocrinol*** *171*, 137-149
15. Jez JM, Bowman ME, Noel JP (2001) Structure-guided programming of polyketide chain-length determination in chalcone synthase. ***Biochemistry*** *40*, 14829-14838

16. Jez JM, Noel JP (2002) Reaction mechanism of chalcone isomerase: pH-dependence, diffusion control, and product binding differences. ***J Biol Chem*** *277*, 1361-1369
17. Jez JM, Bowman ME, Noel JP (2002) The role of hydrogen bonds in the reaction mechanism of chalcone isomerase. ***Biochemistry*** *41*, 5168-5176
18. Jez JM, Bowman ME, Noel JP (2002) Expanding the biosynthetic repertoire of plant type III polyketide synthases by altering starter molecule specificity. ***Proc Natl Acad Sci USA*** *99*, 5319-5324
19. Jez JM, Chen JC, Rastelli G, Stroud RM, Santi DV (2003) Crystal structure and molecular modeling of 17-DMAG in complex with the N-terminal domain of human hsp90. ***Chem Biol*** *10*, 361-368
20. Jez JM, Cahoon RE, Chen S (2004) *Arabidopsis thaliana* glutamate-cysteine ligase: functional properties, kinetic mechanism, and regulation of activity. ***J Biol Chem*** *279*, 33463-33470
21. Jez JM, Cahoon RE (2004) Kinetic mechanism of glutathione synthetase from *Arabidopsis thaliana*. ***J Biol Chem*** *279*, 42726-42731
22. Arkus KAJ, Cahoon EB, Jez JM (2005) Mechanistic analysis of wheat chlorophyllase. ***Arch Biochem Biophys*** *438*, 146-155
23. Bonner ER, Cahoon RE, Knapke SM, Jez JM (2005) Molecular basis of plant cysteine biosynthesis: structural and functional analysis of O-acetylserine sulfhydrylase from *Arabidopsis thaliana*. ***J Biol Chem*** *280*, 38803-38813
24. Arkus KAJ, Jez JM (2006) Development of a high-throughput purification method and a continuous assay for chlorophyllase. ***Anal Biochem*** *353*, 93-98
25. Palavalli LH†, Brendza KM†, Haakenson W, Cahoon RE, McLaird M, Hicks LM, McCarter JP, Williams DJ, Hresko MC, Jez JM (2006) Defining the role of phosphomethylethanolamine N-methyltransferase from *Caenorhabditis elegans* in phosphocholine biosynthesis by biochemical and kinetic analysis. ***Biochemistry*** *45*, 6056-6065 (†equal contribution)
26. Phartiyal P, Kim WS, Cahoon RE, Jez JM, Krishnan HB (2006) Soybean ATP sulfurylase, a homodimeric enzyme involved in sulfur assimilation, is abundantly expressed in roots and induced by cold treatment. ***Arch Biochem Biophys*** *450*, 20-29
27. Romanyuk ND†, Rigden DJ†, Vatamaniuk OK†, Lang A, Cahoon RE, Jez JM, Rea PA (2006) Mutagenic definition of papain-like catalytic triad and sufficiency of N-terminal domain for single-site enzyme acylation and core catalysis by a eukaryotic phytochelatin synthase. ***Plant Physiol*** *141*, 858-869 (†equal contribution)
28. Zhang Y, Li SZ, Pan X, Cahoon RE, Jaworski JG, Wang X, Jez JM, Chen F, Yu O (2006) Using unnatural protein fusions to engineer resveratrol biosynthesis in yeast and mammalian cells. ***J Am Chem Soc*** *128*, 13030-13031 (*featured in *C&E News*)
29. Francois JA†, Kumaran S†, Jez JM (2006) Structural basis for interaction of O-acetylserine sulfhydrylase and serine acetyltransferase in the Arabidopsis cysteine synthase complex. ***Plant Cell*** *18*, 3647-3655 (†equal contribution)
30. Brendza KM, Haakenson W, Cahoon RE, Hicks LM, Palavalli LH, Chiapelli B, McLaird M, McCarter JP, Williams DJ, Hresko MC, Jez JM (2007) Phosphoethanolamine N-methyltransferase (PMT-1) catalyzes the first reaction of a new pathway for phosphocholine biosynthesis in *Caenorhabditis elegans*. ***Biochem J*** *404*, 439-448
31. Shin R, Alvarez S, Burch AY, Jez JM, Schachtman DP (2007) Phosphoproteomic identification of targets of the Arabidopsis sucrose nonfermenting-like kinase SnRK2.8 reveals a connection to metabolic processes. ***Proc Natl Acad Sci USA*** *104*, 6460-6465

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148. Weber N, Halpin C, Hannah LC, Jez JM, Kough J, Parrott W (2012) Crop genome plasticity and its relevance to food and feed safety of genetically engineered breeding stacks. ***Plant Physiol*** *160*, 1842-1853
149. Steiner HY, Halpin C, Jez JM, Kough J, Parrott W, Underhill L, Weber N, Hannah LC (2013) Evaluating the potential for adverse interactions within genetically engineered breeding stacks. ***Plant Physiol*** *161*, 1587-1594
150. Jez JM, Dey S (2013) The cysteine regulatory complex from plants and microbes: what was old is new again. ***Curr Opin Struct Biol*** *23*, 302-310
151. Westfall CS, Muehler AM, Jez JM (2013) Enzyme action in the regulation of plant hormone responses. ***J Biol Chem*** *288*, 19304-19311
152. Hammond B, Kough J, Herouet-Guicheney C, Jez JM; ILSI International Food Biotechnology Committee Task Force on the Use of Mammalian Toxicology Studies in the Safety Assessment of GM Foods (2013) Toxicological evaluation of proteins introduced into food crops. ***Crit Rev Toxicol*** *43* (S2), 25-42
153. Bartholomaeus A, Parrott W, Bondy G, Walker K; ILSI International Food Biotechnology Committee Task Force on the Use of Mammalian Toxicology Studies in the Safety Assessment of GM Foods* (2013) The use of whole food animal studies in the safety assessment of genetically modified crops: Limitations and recommendations. ***Crit Rev Toxicol*** *43* (S2), 1-24 (*group author)
154. Lee SG, Jez JM (2014) Nematode phospholipid metabolism: an example of closing the genome-structure-function circle. ***Trends Parasitol*** *30*, 241-250

155. Jez JM, Blankenship R (2014) Lights, x-rays, oxygen! ***Cell*** *158*, 701-703
156. Korasick DA, Jez JM, Strader LC (2015) Refining the nuclear auxin response pathway through structural biology. ***Curr Opin Plant Biol*** *27*, 22-28
157. Machingura M, Salomon E, Jez JM, Ebbs SD (2016) The β-cyanoalanine synthase pathway: beyond cyanide detoxification. ***Plant Cell Environ*** *39*, 2329-2341
158. Jez JM, Lee SG, Sherp AM (2016) The next green movement: plant biology for the environment and sustainability. ***Science*** *353*, 1241-1244
159. Jez JM, Ravilious GE, Herrmann J (2016) Structural biology and regulation of the plant sulfation pathway. ***Chem-Biol Interact*** *259*, 31-38
160. Holland CK, Cascella BG, Jez JM (2016) Dissonance strikes a chord in stilbene synthesizers. ***Cell Chem Biol*** *23*, 1140-1141
161. Jez JM (2017) Revisiting protein structure, function, and evolution in the genomic era. ***J Invert Path*** *142*, 11-15
162. Xu Q, Liu F, Chen P, Jez JM, Krishnan HB (2017) β-*N*-oxalyl-L-α, β-diaminopropionic acid (β-ODAP) content in *Lathyrus sativus*: the integration of nitrogen and sulfur metabolism through β-cyanoalanine synthase. ***Intl J Mol Sci*** *18*, 526 (*cover art)
163. Jez JM (2018) Introduction to the thematic minireview series: green biological chemistry. ***J Biol Chem*** *293*, 5016-5017
164. Krishnan HB, Jez JM (2018) The promise and limits for enhancing sulfur-containing amino acid content of soybean seed. ***Plant Sci*** *272*, 14-21
165. Hanson AD, Jez JM (2018) Synthetic biology meets plant metabolism. ***Plant Sci*** *273*, 1-2
166. Anbar A, Elgin S, Jez J, O'Dowd D, Shapiro B, Zaman M, HHMI Society of Professors (2018) Improving societies' harassment policies. ***Science*** *361*, 984-985
167. Stewart CN, Patron N, Hanson AD, Jez JM (2018) Plant metabolic engineering in the synthetic biology era: plant chassis selection. ***Plant Cell Rep*** *37*, 1357-1358
168. Holland CK, Jez JM (2018) Arabidopsis: the original plant chassis organism. ***Plant Cell Rep*** *37*, 1359-1366
169. Jez JM (2019) Plant nitrilase: a new job for an old enzyme. ***Biochem J*** *476*, 1105-1107
170. Jez JM (2019) Structural biology of plant sulfur metabolism: from sulfate to glutathione. ***J Exp Bot*** *70*, 4089-4103
171. Nair SK, Jez JM (2020) Natural product biosynthesis - what's next? An introduction to the JBC reviews thematic series. ***J Biol Chem*** *295*, 335-336
172. Jez JM (2020) Plants in the real world - an introduction to the JBC reviews thematic series. ***J Biol Chem*** *295*, 15376-7
173. Topp CN, Jez JM (2021) Introduction to emerging approaches and technologies in plant science. ***Emerging Topics Life Sci*** *5*, 177-8 (*cover art)
174. Schaffer JE, Kukshal V, Miller JJ, Kitainda V, Jez JM (2021) Beyond x-rays: an overview of emerging structural biology methods. ***Emerging Topics Life Sci*** *5*, 221-230
175. Stainbrook S, Jez JM (2021) Protecting P-type plasma membrane H+-ATPases from ROS. ***Biochem J*** *478*, 1511-1513
176. Kitainda V, Jez JM (2021) Structural studies of aliphatic glucosinolate chain-elongation enzymes. ***Antioxidants*** *10*, 1500

177. Jez JM (2022) Connecting primary and specialized metabolism: amino acid conjugation of phytohormones by GRETCHEN HAGEN 3 (GH3) acyl acid amido synthetases. ***Curr Opin Plant Biol*** *66*, 102194

Book Chapters

178. Jez JM, Flynn TG, Penning TM (1996) A proposed nomenclature system for the aldo-keto reductase superfamily in ***Enzymology and Molecular Biology of Carbonyl Metabolism 6*** (Weiner H, Lindahl R, Crabb DW, & Flynn TG, Eds.) pp. 579-589, Plenum Press, NY
179. Penning TM, Lin HK, Jez JM, Ricigliano JW (1997) Inhibition of type 3 3α-hydroxysteroid dehydrogenase in ***Emerging Therapeutic Targets, Vol. 1: Oncologic, Endocrine, & Metabolic*** (Ward A, Ed.) pp. 141-145, Ashley Publications Ltd., London
180. Noel JP, Jez JM, Austin MB, Bowman ME, Ferrer JL (2002) Structurally guided alteration of biosynthesis in plant type III polyketide synthases in ***Recent Advances in Phytochemistry, vol. 36 – Phytochemistry in the Genomics and Post-Genomics Era*** (Romeo JT, Ed.) pp. 197-222, Plenum Press, NY
181. Kumaran S, Francois JA, Krishnan HB, Jez JM (2008) Regulatory protein-protein interactions in primary metabolism: the case of the cysteine synthase complex In ***Sulfur Assimilation and Abiotic Stress in Plants*** (Khan NA, Singh S, Umar S, Eds.) pp. 97-109, Springer-Verlag, NY
182. Jez JM, Fukagawa NK (2008) Plant sulfur compounds and human health In ***Sulfur: A Missing Link Between Soils, Crops, and Nutrition*** (Jez JM, Ed.) pp. 281-292, ASA-CSSA-SSSA Publishing, Madison, WI
183. Jez JM, Krishnan HB (2009) Sulfur assimilation and cysteine biosynthesis in soybean seeds: towards engineering sulfur amino acid content In ***Modification of Seed Composition to Promote Health and Nutrition*** (Krishnan HB, Ed.), pp. 249-262, ASA-CSSA-SSSA Publishing, Madison, WI
184. Hardaluk L, Preuss ML, Jez JM (2011) Sulfur metabolism as a support system for plant heavy metal tolerance In ***Detoxification of Heavy Metals*** (Sheramenti I & Varma A, Eds.), pp. 289-302, Springer-Verlag, NY
185. Krishnan HB, Jez JM (2014) Challenges and opportunities in the improvement of soybean protein quality. In ***Proceedings of SOYCON 2014: International Soybean Research Conference*** (Gupta GK & Joshi OP, Eds.), pp. 57-64, Society for Soybean Research, Indore, India
186. Korasick DA, Jez JM (2016) Protein domains: structure, function, and methods. In ***Encyclopedia of Cell Biology, Vol. 1*** (Bradshaw RA & Stahl P, Eds.), pp. 91-97, Academic Press, Waltham, MA
187. Schaal BA, Jez JM (2017) Biodiversity, biotechnology, and the environment. In ***Biodiversity and the Law: Intellectual Property, Biotechnology and Traditional Knowledge*** (McManis CR & Ong B, Eds.), pp. 98-108, Eathscan Publishing, London, UK
188. Holland CK, Jez JM (2018) Structural biology of jasmonic acid metabolism and responses in plants. In ***Plant Structural Biology: Hormonal Regulations*** (Hejatko J & Takoshima T, Eds.), pp. 67-82, Springer-Verlag, NY
189. Korasick DA, Jez JM (2022) Protein domains: structure, function, and methods. In ***Encyclopedia of Cell Biology, 2nd Edition, Vol. 2*** (Bradshaw RA & Stahl P, Eds.), pp. 106-114, Elsevier, Oxford, UK

Books

190. Jez JM (Ed.) (2008) ***Sulfur: A Missing Link Between Soils, Crops, and Nutrition***. American Society of Agronomy-Crop Science Society of America-Soil Science Society of America (ASA-CSSA-SSSA) Publishing, Madison, WI (335 pages)
191. Jez JM (Ed.) Allewell N, Blankenship R, Chapman KD, Cooper AJL, Maresca TJ, Pandey S, Zaher HS (Assoc. Eds.) (2021) ***Encyclopedia of Biological Chemistry, 3rd Edition.*** Elsevier, Oxford, UK (4822 pages)
192. Jez JM (Ed) (2022) ***Methods in Enzymology: Biochemical Pathways and Environmental Responses in Plants A***, vols. 676. Elsevier, Cambridge, MA (432 pages)
193. Jez JM (Ed) (2023) ***Methods in Enzymology: Biochemical Pathways and Environmental Responses in Plants B***, vols. 680. Elsevier, Cambridge, MA (491 pages)
194. Jez JM (Ed) (2023) ***Methods in Enzymology: Biochemical Pathways and Environmental Responses in Plants C***, vols. 683. Elsevier, Cambridge, MA (~300 pages) (in press)

Education and Outreach

195. Jez JM, Schachtman DP, Berg RH, Taylor CG, Chen S, Hicks LM, Jaworski JG, Smith TJ, Nielsen E, Pikaard CS (2007) Developing a new interdisciplinary lab course for undergraduate and graduate students: plant cells and proteins. ***Biochem Mol Biol Educ*** *35*, 410-415
196. Arkus KAJ, Jez JM (2008) An integrated protein chemistry lab module: chlorophyll and chlorophyllase. ***Biochem Mol Biol Educ*** *36*, 125-128
197. Jez JM (2015) Little green chemists. ***The Biologist*** *62*, S10-11
198. Jez JM (2016) Lost in translation: the truth behind university-industry collaborations. ***Scientific American*** online (www.scientificamerican.com/products/lost-in-translation/the-truth-behind-university-industry-collaborations)
199. Cascella B, Jez JM (2018) Beyond the teaching assistantship: CURE leadership as a training platform for future faculty. ***J Chem Educ*** *95*, 3-6
200. Robinson A, Wegorzewska M, Cascella B, Jez JM (2023) Biotech explorers pathway: preparing students for future challenges. ***Nature Biotech*** (in preparation)

PATENTS

1. US Patent 7,217,557: JP Noel, JL Ferrer, JM Jez, MB Austin, ME Bowman (5/15/07), Three-dimensional structure of polyketide synthases.
2. US Patent 7,792,645: JP Noel, JM Jez, ME Bowman (9/7/10), Three-dimensional structure of chalcone isomerase and methods of use thereof.
3. US Patent 8,247,205: JP Noel, JM Jez, ME Bowman (8/21/12), Chalcone isomerase polypeptides and crystals thereof.
4. US Patent 10,370,675: PA Rea, JM Jez, RE Cahoon (8/6/19), Transgenic plants exhibiting enhanced phytochelatin-based heavy metal tolerance and methods of use thereof.

SEMINARS AND CONFERENCE PRESENTATIONS

1. Symposium on Steroid Synthesis, Hauptman-Woodward Research Inst., Buffalo, NY (1995)
2. 2nd International Symposium on Molecular Steroidogenesis, Monterey, CA (1996)
3. University of California - San Diego, Dept. of Chemistry & Biochemistry, San Diego, CA (1997)
4. Salk Institute of Biological Studies, Structural Biology Laboratory, San Diego, CA (1997)
5. University of California - San Francisco, Dept. of Pediatrics, San Francisco, CA (1998)
6. University of Texas - Southwestern, Dept. of Endocrinology, Dallas, TX (1998)
7. Bioorganic Catalysis Gordon Research Conference, Andover, NH (1999)
8. 7th Genetics & Molecular Biology of Industrial Microorganisms Conf, Bloomington, IN (2000)
9. Chiron, Emeryville, CA (2000)
10. Donald Danforth Plant Science Center, St. Louis, MO (2000)
11. University of Tennessee, Dept. of Biochemistry, Knoxville, TN (2000)
12. Middlebury College, Dept. of Chemistry, Middlebury, VT (2000)
13. Pharmacia, Kalamazoo, MI (2000)
14. SmithKline Beecham Pharmaceuticals, Collegeville, PA (2000)
15. San Diego Protein Crystallography Supergroup Meeting, La Jolla, CA (2000)
16. BASF Bioresearch, Worcester, MA (2001)
17. Kosan Biosciences, Hayward, CA (2001)
18. Donald Danforth Plant Science Center, St. Louis, MO (2002)
19. Washington University, Dept. of Biochemistry & Biophysics, St. Louis, MO (2002)
20. University of Pennsylvania, Dept. of Biochemistry & Biophysics, Philadelphia, PA (2003)
21. Truman State University, Dept. of Biology, Kirksville, MO (2004)
22. American Society of Plant Biology Midwest Section Meeting, St. Louis, MO (2005)
23. 3rd International Phytotechnologies Conference, Atlanta, GA (2005)
24. Plant Metabolic Engineering Gordon Research Conference, Tilton, NH (2005)
25. 2005 Phytochemical Society of North America Meeting, La Jolla, CA (2005)
26. Divergence, Inc., St. Louis, MO (2005)
27. 25th Midwest Enzyme Chemistry Conference, Chicago, IL (2005)
28. Iowa State University, Dept. of Biochemistry & Molecular Biology, Ames, IA (2005)
29. Washington University, Plant Biology Retreat, St. Louis, MO (2005)
30. University of Nebraska, Redox Biology Center, Dept. of Biochemistry, Lincoln, NE (2005)
31. Washington University, Dept. of Biology, St. Louis, MO (2006)
32. J.W. Goethe University, Institute Biophysical Chemistry, Frankfurt, Germany (2006)
33. Institut de Biologie Structurale, Grenoble, France (2006)
34. Sulfur-containing Defense Compounds Conference, Heidelberg, Germany (2006) (***Deutsche Forschungsgemeinschaft Lecturer, Keynote Talk***)
35. USDA Genes to Products Meeting, Washington, DC (2007) (***Keynote/PECASE Talk***)
36. Bilateral Symposium on Crop Functional Genetics, Wuhan, China (2007)
37. Plant Biology & Botany 2007 Joint Congress, Chicago, IL (2007)
38. Plant Metabolic Engineering Gordon Research Conference, Tilton, NH (2007)
39. 2007 Phytochemical Society of North America Meeting, St. Louis, MO (2007)

40. 27th Midwest Enzyme Chemistry Conference, Chicago, IL (2007)
41. Washington University, Dept. of Chemistry, St. Louis, MO (2007)
42. Washington State University, Institute of Biological Chemistry, Pullman, WA (2007)
43. Plant and Animal Genome XVI Conference, San Diego, CA (2008)
44. University of Idaho, Dept. of Micro., Mol. Biol., & Biochemistry, Moscow, ID (2008)
45. Summer Institute in Plant Biology: Proteomics and Metabolomics, Wuhan, China (2008)
46. Anhui Agriculture University, Hefei, China (2008)
47. Escuela de Medicina Tec de Monterrey, Monterrey, Mexico (2008)
48. Villanova University, Dept. of Chemistry, Philadelphia, PA (2008)
49. 1st Banff Conference on Plant Metabolism, Banff, Canada (2008)
50. Abbott Laboratories, Abbott Park, IL (2008)
51. Brookhaven National Laboratory, New York, NY (2008)
52. 2008 Annual Joint Meeting of the GSA-SSSA-ASA-CSSA, Houston, TX (2008)
53. 25 Years of Plant Biology, The Salk Institute for Biological Studies, La Jolla, CA (2008)
54. University of Florida, Dept. of Biology, Gainesville, FL (2008)
55. University of California - Irvine, Dept. of Biochemistry, Irvine, CA (2009)
56. National Key Laboratory for Crop Improvement, Huazhong Agr. U., Wuhan, China (2009)
57. University of Hong Kong, Dept. of Botany, Hong Kong, China (2009)
58. Monsanto, Chesterfield, MO (2009)
59. International Life Sciences Institute, Washington, DC (2009)
60. 2nd Sulphyton Meeting on Plant Sulfur Research, John Innes Center, Norwich, UK (2009)
61. 6th International Conference on Phytotechnologies, St. Louis, MO (2009)
62. 1st BIT Symposium on Enzymes & Biocatalysis 2010, Shanghai, China (2010)
63. Institute of Plant and Microbial Biology, Academia Sinica, Taipei, Taiwan (2010)
64. Institute of Plant Biology, National Taiwan University, Taipei, Taiwan (2010)
65. Frontiers in Plant Biology Symposium, Wuhan, China (2010)
66. Purdue University, Dept. of Biochemistry, West Lafayette, IN (2010)
67. 12th Annual Fall Symposium, Donald Danforth Plant Science Center, St. Louis, MO (2010)
68. European Food Safety Agency 15th Colloquium on Emerging Risks, Parma, Italy (2010)
69. UK Food Standards Agency, London, UK (2010)
70. Society of Toxicology Meeting, Washington, DC (2011)
71. Webster University, Dept. of Biological Sciences, St. Louis, MO (2011)
72. International Center for Advanced Renewable Energy and Sustainability, Washington University, St. Louis, MO (2011)
73. Experimental Biology 2011 - American Society of Biochemistry and Molecular Biology Meeting, Washington, DC (2011)
74. National Key Laboratory for Crop Improvement, Huazhong Agricultural U., Wuhan, China (2011)
75. Fudan University, Institute of Plant Biology, Shanghai, China (2011)
76. Monsanto Technical Community Colloquium, St. Louis, MO (2011)
77. 4h International Conference on Enzymes in the Environment: Activity, Ecology, and Applications, Bad Nauheim, Germany (2011)

78. Michigan State University, Dept. of Biochemistry & Molecular Biology, East Lansing, MI (2011)
79. Joint Midwest/Great Lakes Regional American Chemical Society Meeting, St. Louis, MO (2011)
80. 50th Anniversary Phytochemical Society of North America Meeting, Kona, HI (2011)
81. ILSI Argentina/IFBiC Workshop on Food Safety, Montevideo, Uruguay (2012)
82. ILSI Andean/IFBiC Workshop on Food and Feed Safety Evaluation, Santiago, Chile (2012)
83. 3rd Banff Conference on Plant Metabolism, Banff, Canada (2012)
84. Society for Industrial Microbiology and Biotechnology Meeting, Washington, DC (2012)
85. Monsanto, St. Louis, MO (2012)
86. 10th Annual Redox Biology Center Symposium, University of Nebraska, Lincoln, NE (2012)
87. EuropaBio Meeting, Brussels, Belgium (2012)
88. National Key Laboratory for Crop Improvement, Huazhong Agricultural U., Wuhan, China (2012)
89. Wuhan University, Dept. of Biochemistry, Wuhan, China (2012)
90. University of Illinois, Urbana-Champaign, Dept. of Biochemistry (2013)
91. Organization for Economic Cooperation and Development (OECD) Meeting on Biosafety, Paris, France (2013)
92. 27th Annual Protein Society Symposium, Boston, MA (2013)
93. ILSI-India/ILSI-IFBiC/Dept. of Biotechnology Workshop on Biotech Safety Assessment, New Delhi, India (2013)
94. MOBIO Ag Research & Innovation, St. Louis, MO (2013)
95. National Key Laboratory for Crop Improvement, Huazhong Agricultural U., Wuhan, China (2013)
96. Howard Hughes Medical Institute Professor Symposium, Chevy Chase, MD (2014)
97. 4th Banff Conference on Plant Metabolism, Banff, Canada (2014)
98. University of Missouri, Conversations on College Science Teaching, Columbia, MO (2014)
99. University of Missouri, Dept. of Biochemistry, Columbia, MO (2014)
100. Chungnam National University, Daejon, South Korea (2014)
101. Korean Research Institute of Bioscience & Biotechnology, Daejon, South Korea (2014)
102. 2014 International Symposium on Plant Sciences & Annual Conference of the Korean Society of Plant Biologists, Kaejon, South Korea (2014)
103. St. Louis University, Dept. of Biology, St. Louis, MO (2015)
104. SEAS Junior Faculty Workshop, St. Louis, MO (2015)
105. Conagen, Inc., Bedford, MA (2015)
106. Monsanto, St. Louis, MO (2015)
107. Howard Hughes Medical Institute Society of Professors Symposium, Chevy Chase, MD (2015)
108. Gordon Research Conference on Plant Metabolic Engineering, Waterville, NH (2015)
109. International Congress on Invertebrate Pathology and Microbial Control & the 48th Annual Meeting of the Society of Invertebrate Pathology, Vancouver, Canada (2015)
110. International Symposium on Sulfation Pathways, Greifswald, Germany (2015) (***Gesellschaft Deutscher Chemiker Lecturer***)
111. McDonnell International Scholars Academy Global Leadership Vision, St. Louis, MO (2015)
112. TEDx Gateway Arch, St. Louis, MO (2015)

113. 3rd International Plant Physiology Congress, New Delhi, India (2015)
114. National Institute for Plant Genome Research, New Delhi, India (2015)
115. Jawaharal Nehru University, New Delhi, India (2015)
116. Experimental Biology 2016 - American Society of Biochemistry and Molecular Biology Meeting, San Diego, CA (2016)
117. Donald Danforth Plant Science Center, St. Louis, MO (2016)
118. China Agricultural University, Beijing, China (2016)
119. 30th Annual Protein Society Symposium, Baltimore, MD (2016)
120. Purdue University, West Lafayette, IN (2016)
121. 6th McDonnell International Scholars Academy Symposium - Food & Water Workshop, Brisbane, Australia (2016)
122. University of Wisconsin, Department of Botany, Madison, WI (2016)
123. International Conference on Functional & Interaction Proteomics New Delhi, India (2016)
124. Jawaharal Nehru University, School of Life Sciences, New Delhi, India (2016)
125. HHMI Professors Midterm Symposium, Bethesda, MD (2017)
126. Toxicology Forum, Washington, DC (2017)
127. University of Illinois, Urbana-Champaign, Dept. of Plant Biology & Crop Science (2017)
128. 6th U. Missouri - Gyeongsang Natl. U. Joint International Joint Symposium in Plant Biotechnology, Columbia, MO (2017)
129. 28th International Conference on Arabidopsis Research - Structural Biology Session, St. Louis, MO (2017)
130. 28th International Conference on Arabidopsis Research - Chemistry & Plant Biology Workshop, St. Louis, MO (2017)
131. Plant Metabolic Engineering Gordon Research Seminar, Waterville Valley, NH (2017) (***Keynote Talk***)
132. University of California - Davis, College of Biological Sciences, Davis, CA (2017)
133. Webster University - Department of Biological Sciences, St. Louis, MO (2018)
134. NSF Workshop on Molecular Visualization, St. Louis, MO (2018) (***Keynote Talk***)
135. Keck Graduate Institute, Claremont, CA (2018)
136. University of California - Riverside, Plant Science Institute, Riverside, CA (2018)
137. California Baptist University - College of Health Science, Riverside, CA (2018) (***Distinguished Lecture Series***)
138. ASBMB - IMAGE Workshop, Washington, DC (2018)
139. John Innes Center, Norwich, UK (2018)
140. 11th International Plant Sulfur Workshop, Conegliano, Italy (2018) (***Keynote Talk***)
141. Cross-Campus Educational Research Group, Washington University in St. Louis, St. Louis, MO (2018)
142. 7th McDonnell International Scholars Academy Symposium - Plant Biology for Agriculture Workshop, Tsinghua University, Beijing, China (2018)
143. Pennsylvania State University, Department of Biochemistry, State College, PA (2019)
144. Oxford University, Department of Biochemistry, Oxford, UK (2019)
145. University of Illinois-Chicago, Department of Biological Sciences, Chicago, IL (2019)

146. Argonne National Laboratory, Structural Biology Center, Argonne, IL (2019)
147. Plant Biology 2019, Minority Affairs Committee Panel, San Jose, CA (2019)
148. Conagen, Inc., Boston, MA (2019)
149. Plant Metabolic Engineering Gordon Research Conference, Barga, Italy (2019)
150. University of Calgary, Dept. of Biological Sciences, Calgary, Canada (2019)
151. University of Nebraska-Lincoln, Dept. of Agronomy & Horticulture, Lincoln, NE (2020)
152. Conagen, Inc., virtual (2020)
153. Amgen Scholars Program Symposium, virtual (2020)
154. Plant Biology 2021 Worldwide Summit, ASPB President's Symposium, virtual (2021)
155. Joint Meeting for Plant and Human Sulfur Biology and Glucosinolates, Sevilla, Spain - virtual (2021) (***Keynote Talk***)
156. HHMI Professors Symposium, virtual (2022)
157. PhD Workshop of the Natural Products Section of the German Society for Plant Sciences, Jena, Germany - virtual (2022)
158. 10th International Congress on Plant Nutrition and Applied Physiology, Aguascalientes, Mexico - virtual (2022) (***Keynote Talk***)
159. WUSTL Office of General Counsel Retreat (2022)
160. 17th Stupka Undergraduate Research Symposium, Iowa State University, Ames, IA (2023) (***Keynote Talk***)
161. WUSTL Elliott Society (2023)
162. DOE Workshop on New Science Enabled by Ultra-High-Throughput Crystallography, Brookhaven National Laboratory, Brookhaven, NY (2023)
163. DBBS 50th Anniversary (2023)
164. 16th International Society for Biosafety Research Symposium, St. Louis, MO (2023) (***Keynote Talk***)

GRANT & CONTRACT SUPPORT

Current

PI: Jez, *Structural Studies of Biosynthesis Enzymes*, Conagen, Inc., $234,874 total cost, 8/2015-8/2023.

PIs: Odom John, Dowd, Jez; *Structure-Guided Microbial Targeting of Anti-Staphylococcal Prodrugs*; NIH; $4,198,190 total cost (Jez lab: $863,401 total cost), 9/2022-8/2027.

PI: Jez, *WUSTL-Amgen Scholars Program*, Amgen Foundation, $670,000 total cost, 5/2019-8/2023.

PI: Jez, *Beckman Scholars Program*, $156,000 total costs, 5/2023-10/2026.

PI: Hermanstyne; Co-PIs: Jose-Edwards, Fields, Jez, Kamimura, Skeath. *HHMI Driving Change: Self-Study Award*, $60,000 total cost, 4/2021-3/2023.

PI: Morris (mentor: Jez), NSERC Postdoctoral Fellowship, $90,000 total cost, 1/2022-12/2023.

Past - PI and co-PI

PI: Jez, *Expression of Plant Thioesterases and Acyl-Carrier Proteins*, Dupont Science and Engineering Collaborative Research and Education Grant, $40,000 total cost, 10/2003-9/2005.

PI: Beachy; Co-PI: Jez, Smith, Xia, *Developing a Molecular System for Phytoremediation*, EPA-X-83220101, $484,700 total cost (Jez lab: $150,000 total cost), 2/2005-1/2007.

PI: Taylor; Co-PI: Jez, Schubert, McCarter, Williams, Shortt, Hresko, *Development of Methods for Control of Parasitic Nematodes*, EPA-X-83228201, $1,969,000 total cost (Jez lab: $125,000 total cost), 4/2005-3/2008.

PI: Jez, *PECASE: Structure/Function Analysis of the Cysteine Synthase Complex*, USDA-NRI-2005-02518, $425,000 total cost, 9/2005-8/2010.

PI: Jez, *Structure/Function Studies and Protein Engineering of ATP-Dependent Peptide Ligases*, American Chemical Society Petroleum Research Fund, PRF-43012-AC4, $80,000 total cost, 9/2005-8/2008.

PI: Wang; Co-PI: Jaworski, Schachtman, Xiong, Yu, Cahoon, Chen, Jez, *Acquisition of LC-MS for Plant Metabolic Profiling,* NSF-DBI-0521250; $500,900 total cost, 9/2005-9/2006.

PI: Krishnan; Co-PI: Jez, *Engineering Soybean for Enhanced Sulfur Amino Acid Content*, Illinois-Missouri Biotechnology Alliance, $140,000 total cost (Jez lab: $72,000 total cost), 10/2005-9/2007.

PI: Jaworski, Co-PI: Cahoon, Jez, *Engineering Bioplastics Production in Plants*, Missouri Life Sciences Trust Fund, $1,140,000 total cost (Jez lab: $325,000 total cost), 1/2008-6/2010.

PI: Jaworski, Co-PI: Cahoon, Jez, Wang, *BioDiesel: Meeting the Challenge of Increasing Seed Oil Yield,* U.S. Biodiesel Board, $1,200,000 total cost (Jez lab: $380,000 total cost), 1/2008-12/2010.

PI: Jez, Co-PI: Hicks, *Molecular Basis and Redox Regulation of Plant Glutathione Biosynthesis*, NSF-MCB-0904215, $513,257 total cost, 8/2008-12/2011.

PI: Jez, *Sulfur Assimilation and Chilling Tolerance in Maize*, Washington University/Monsanto Plant Science Program, $60,000 total cost, 5/2009-12/2010.

PI: Jez, *Molecular Evolution of Phytochelatin Transport for Heavy Metal Detoxification*, International Center for Advanced Renewable Energy and Sustainability (iCARES), Washington University, $30,000 total cost, 5/2010-4/2011.

PI: Jez, *Structure and Function of Phosphoethanolamine Methyltransferases - New Anti-Parasitic Targets*, NIH-R01-AI097119, $1,012,000 total cost, 2/2012-1/2017.

PI: Jez, *Molecular Basis of Pre-Receptor Modulation of Plant Hormones by Acyl-Acid Amido Synthetases*, NSF-MCB-1157771, $687,923 total cost, 3/2012-2/2016.

PI: Jez, *Teams Taking First Steps Toward Scientific Challenges: The Biotech Explorers Pathway and Beyond*, HHMI Professor Competition, Jez lab: $1,000,000 total cost, 9/2014-8/2021.

PI: Jez, *Comparative Structural Biology of Plant Orphan Allergen Proteins*, Monsanto, $329,366 total cost, 9/2014-8/2017.

PI: Pareek; Co-PI: Wangikar, Pakrasi, Jez, *Indo-US Advanced Bioenergy Consortium: Second Generation Biofuels*, DE-FOA-0000506, Jez lab: $150,000 total cost, 11/2014-12/2021.

PI: Jez; Co-PI: Hanson; NSF-MCB-1648695: *2017 Plant Metabolic Engineering Gordon Research Conference and Gordon Research Seminar*, $11,850 total cost, 4/2017-9/2017.

PI: Hanson; Co-PI: Jez; USDA-NIFA-2016-10503: *2017 Plant Metabolic Engineering Gordon Research Conference and Gordon Research Seminar*, $18,500 total cost, 4/2017-9/2017.

PI: Jez; Co-PI: Hanson; NIH-NCCIH R13 AT009506-01: *2017 Plant Metabolic Engineering Gordon Research Conference and Gordon Research Seminar*, $20,000 total cost, 4/2017-9/2017.

PI: Hanson; Co-PI: Jez; DOE: *2017 Plant Metabolic Engineering Gordon Research Conference and Gordon Research Seminar*, $15,000 total cost, 4/2017-9/2017.

PI: Hanson; Co-PI: Jez; ONR: *2017 Plant Metabolic Engineering Gordon Research Conference and Gordon Research Seminar*, $10,000 total cost, 4/2017-9/2017.

PI: Jez, *Molecular Diversification of Plant Hormone Modification by Acyl Acid Amido Synthetases*, NSF-MCB-1614539, $812,490 total cost, 7/2016-6/2021.

PI: Jez, *Evaluation of Engineered Phytochelatin Synthases in Brassica juncea for Heavy Metal Remediation*, Clean Earth, $15,525 total cost, 7/2019-6/2020.

PIs: Maeda, Jez, *Collaborative Proposal: Mechanisms and Impacts of De-regulating Aromatic Amino Acid Biosynthesis in Plants,* NSF-MCB-1818040; $762,000 total cost (Jez lab: $100,054), 8/2018-7/2022.

PI: Jez, *Engineering Acyl Acid Amido Synthetases for Phenoxyalkanoic Acid Herbicide Conjugation: A Potential Resistance Trait*, WUSTL Biology Seed Grant, $76,525 total cost, 8/2019-7/2022.

Past - research mentor

PI: Arkus (mentor: Jez), *ACS-PRF Supplement for Underrepresented Minority Research*, American Chemical Society Petroleum Research Fund; $5,000 total cost, 5/2006-8/2006.

PI: Schroeder (mentor: Jez), *ASPB-Summer Undergraduate Research Fellowship*, American Society of Plant Biologists, $4,000 total cost, 5/2007-8/2007.

PI: Juergens (mentor: Jez), *ASPB-Summer Undergraduate Research Fellowship*, American Society of Plant Biologists, $4,000 total cost, 5/2008-8/2008.

PI: Galant (mentor: Jez), *ASPB-Pioneer Hi-Bred Graduate Research Fellowship for Ashley Galant,* American Society of Plant Biologists, $23,000 total cost, 7/2010-6/2011.

PI: Balogun (mentor: Jez), *NIH MARC-uSTAR Scholarship,* NIH $55,000 total cost, 9/2010-8/2012.

PI: Herrmann (mentor: Jez), *ASPB-Summer Undergraduate Research Fellowship*, American Society of Plant Biologists, $5,275 total cost, 5/2011-8/2011.

PI: Alpert (mentor: Jez), *HHMI-Summer Undergraduate Research Fellowship*, Washington University SURF Program, $2,500 total cost, 5/2011-8/2011.

PI: Korasick (mentor: Strader/Jez), *Ubiquitinylation and Signaling in Plants*, National Science Foundation Graduate Research Fellowship, $121,500 total cost, 6/2011-5/2014.

PI: Westfall (mentor: Jez), *Structure and Function of the Plant GH3 Enzyme Family: Regulating Plant Hormone Activity*, USDA-NIFA-Predoctoral Fellowship MOW-2010-05240, $75,000 total cost,

8/2011-11/2013.

PI: Alpert (mentor: Jez), *ASPB-Summer Undergraduate Research Fellowship*, American Society of Plant Biologists, $5,275 total cost, 5/2012-8/2012.

PI: Muehler (mentor: Jez), *Novel Jasmonate Hormone Regulation by GH3 Acyl-Acid Amido Synthetases*, National Science Foundation Graduate Research Fellowship, $121,500 total cost, 8/2012-7/2015.

PI: Holland (mentor: Jez), *Protein Engineering of Acyl-Acid Amido Synthetases*, National Science Foundation Graduate Research Fellowship, $121,500 total cost, 7/2014-6/2017.

PI: Xu (mentor: Jez), *NIH MARC-uSTAR Scholarship,* NIH $55,000 total cost, 1/2013-5/2014.

PI: Salomon (mentor: Jez), *Using Small Molecules to Explore Redox Sensing in Plants*, Vaadia-BARD Postdoctoral Fellowship, $67,500 total cost, 8/2014-7/2016.

PI: Korasick (mentor: Strader/Jez), *Ubiquitinylation and Signaling in Plants*, USDA-NIFA-Predoctoral Fellowship, $68,266 total cost, 9/2014-8/2016.

PI: Berkovich (mentor: Jez), *ASPB-Summer Undergraduate Research Fellowship*, American Society of Plant Biologists, $5,275 total cost, 5/2018-8/2018.

PI: Kitianda (mentor: Jez), Howard A. Schneiderman Graduate Fellowship, $45,750 total cost, 1/2020-6/2021.

PI: Stainbrook (mentor: Jez), NSF Postdoctoral Fellowship in Biology, $225,000 total cost, 3/2020-2/2023.

PI: Kitianda, *Evaluation of Engineered Phytochelatin Synthase in Brassica juncea for Heavy Metal Remediation in Brown Field Soils,* WUSTL Biology Seed Grant, $10,000 total cost, 8/2021-7/2022.

Pending

PI: Jez; *REU Site: Plant & Microbial Bioscience for a Sustainable Future*; $369,957 total cost, 5/2023-4/2026.

PI: Jez, Co-PI: Vigueria, *WUSTL-Amgen Scholars Program*, Amgen Foundation, $500,000 total cost, 5/2024-8/2029.