

Joseph M. Jez

Professor and Howard Hughes Medical Institute Professor
Department of Biology, Washington University in St. Louis
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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 (with Honors and English minor), 1992

Research Advisor: Prof. Gregory K. Farber

PROFESSIONAL EXPERIENCE

Washington University in St. Louis, St. Louis, MO

Professor, Department of Biology (2015-current)

Co-Director, Plant and Microbial Biosciences Program, Division of Biology & Biomedical Sciences
(2013-current)

Associate Professor, Department of Biology (2011-2015)

Assistant Professor, Department of Biology (2008-2011)

Honorary 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)

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)

U.S. Department of Agriculture, Eastern Region Research Center, Wyndmoor, PA

Physical Science Aide (1989-1990)

AWARDS, HONORS, AND FELLOWSHIPS

Gesellschaft Deutscher Chemiker Lecturer, International Symposium on Sulfation Pathways, Greifswald, Germany (2015)

McDonnell International Scholars Academy, Ambassador to China Agricultural University, Beijing, China (2015-current)

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)

Science Advisor, NSF Engineering Research Center for Biorenewable Chemicals (2010-2012)

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)

Presidential Early Career Award for Scientists and Engineers - PECASE (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: *The Journal of Biological Chemistry* (Associate Editor, 2016-current; Editorial Board Member 2008-2013 & 2014-2016); *Frontiers in Plant Metabolism and Chemodiversity* (Section Chief Editor, 2011-2015); *Frontiers in Technical Advances in Plant Science* (Reviewing Editor, 2011-2015); *The Biochemical Journal* (Editorial Board Member, 2013-current)

Grant Panels: USDA-NRI-Agricultural Plant Biochemistry (2007); NSF-MCB (2009-2015; 7 panels); ASPB-SURF Program (2010-2011; 2 panels); NSF Graduate Research Fellowship Program (2011-2015; 5 panels); NSF-IOS (2015)

Book Editor: *Sulfur: A Missing Link Between Soils, Crops, and Nutrition* (2008) American Society of Agronomy-Crop Science Society of America-Soil Science Society of America (ASA-CSSA-SSSA) Publishing, Madison, WI

Journal Reviewer (~70 manuscripts per year): *Cell, Science, Nature, Nature Chem Biol, Nature Plants, Nature Comm, Proc Natl Acad Sci USA, J Amer Chem Soc, Plant Cell, J Biol Chem, Chem Biol, J Mol Biol, Structure, Chem Comm, Plant J, Plant Physiol, New Phytol, J Bacteriol, Biochemistry, 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 Interaction, Enz Micro Tech, J Proteome Res, Food Chem Toxicol, Acta Cryst D, Planta, Nat Prod Rep, Reg Toxicol Pharm, Int J Parasitol, Biochem Soc Trans*

Ad hoc Grant Reviewer (6-8 proposals per year): NSF-MCB, NSF-Arabidopsis 2010, NSF-BES, NSF-Metabolic Engineering, NSF-Plant Genome, NSF-IOS, NSF-CHE, 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 - Chemistry, 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

Textbook Reviewer: *Biochemistry: A Conceptual Approach* by Sandler (Oxford University Press); *Lehninger Principles of Biochemistry* by Nelson & Cox (WH Freeman Press); *Exercise, Sport, and Bioanalytical Chemistry* by Hackney (Academic Press)

Meeting Organizer/Session Chair: 29th Midwest Enzyme Chemistry Conference Session Chair, Chicago, IL (2009); 6th International Phytotechnology Meeting Session Chair, St. Louis, MO (2009); 1st BIT Symposium on Enzymes and Biocatalysts Organizing Committee & Session Chair, Shanghai, China (2010); Society of Toxicology Annual Meeting Session Chair, Washington, DC (2011); American Chemical Society Midwest/Great Lakes Meeting Organizing Committee & Session Chair, St. Louis, MO (2011); 3rd International Plant Physiology Congress Organizing Committee, New Delhi, India (2015); Experimental Biology - ASBMB Chemical Biology Theme Co-Organizer & Session Chair, San Diego, CA (2016); 6th McDonnell International Scholars Academy Symposium Food & Water Theme Co-Organizer, Brisbane, Australia (2016); Plant Metabolic Engineering Gordon Research Conference, Co-Chair (2017)

Professional Societies: American Association for the Advancement of Science (1993-current); American Chemical Society (1995-current); American Society for Biochemistry and Molecular Biology/FASEB (2004-current); Phytochemical Society of North America (2005-current); American Society of Plant Biologists (2007-current); Biochemical Society (UK; 2013-current); Protein Society (2013-current)

Professional Society Service: American Society of Plant Biologists SURF Program Committee (2011-current); American Society for Biochemistry and Molecular Biology Annual Meeting Program Committee (2015-2016); HHMI Society of Professors Taskforce on Scaling Discovery-Based Research Experiences for Undergraduates (2015-2016); ASBMB Minority Affairs Committee - Faculty Mentor (2015-current)

Washington University Committee Member: Plant & Microbial Biosciences Program Admissions (2008-current; chair, 2010-2013); Biochemistry/Computational & Molecular Biophysics Program Steering (2008-2013); Harrison D. Stalker Award (2009-current; chair 2013-current); Plant Biology Faculty Search (2010-2011); Curriculum Implementation (2010-current); Microbial Biochemistry Faculty Search (2011-2012); Undergraduate Council (2011-current); Plant & Microbial Biosciences Program Steering (2011-current); Microbiology Faculty Search (2012-2013); Integrated Science Initiative (2012-2013); Florence Moog Fellowship (2013); Monsanto Graduate Research Fellowship (2013-2016); Coordinating Committee on Introductory Courses in Biology and Chemistry (2013-2015); Mallinckrodt Plant Sciences Endowed Professor Search (chair, 2013-2015); DBBS Programs and Student Affairs Committee (2013-current); Washington University Climate Change Initiative Steering Committee (2014-2015); Teaching and Learning IT Domain Governance Committee (2014-current); New Faculty Award Review Committee (co-chair, 2016-current)

Donald Danforth Plant Science Center Committee Member: Proteomics Facility Oversight (2004-2009); Evening of Exploration Steering (2004-2006); Fall Symposium Organizing (2005, 2007, 2010); Intellectual Property Review (2006-2008); Faculty Searches (2006-2008); Faculty Retreat Organizing (2007-2008); Biosafety Internal Review (2007-2009)

TEACHING ACTIVITIES

Washington University in St. Louis

Bio2010: *The Science of Biotech* (Fall 2015-current)
Bio2020: *Biotechnology Entrepreneurs Seminar* (Spring 2016-current)
Bio3041: *Plant Biology and Genetic Engineering* (Spring 2014 & 2015) - guest lecturer
Bio4024: *Plant Cells and Proteins* (Spring 2005, 2006, 2008)
Bio451: *General Biochemistry* (Fall 2015) - guest lecturer
Bio4522: *Laboratory in Protein Analysis* (Spring 2010-current)
Bio4810/Chem481: *General Biochemistry I* (Fall 2008-2011, 2013)
Bio4820/Chem482: *General Biochemistry II* (Spring 2009-2012, 2014)
Bio488: *Undergraduate Teaching* (2013)
Bio500: *Independent Study* (2010-2016)
Bio572: *Plant Biology Journal Club* (Spring 2007, 2010, 2013)
Bio5723: *Seminar in Plant & Microbial Bioscience* (Fall 2015)
Bio5924: *Molecular Basis of Heredity* (Summer 2015) - guest lecturer
Chem490: *Independent Study* (2010-2011)
Chem495: *Advanced Undergraduate Research in Chemistry* (2011-2014)
DBBS Graduate Student Fellowship Writing Workshops (Fall 2011-2016)
DBBS Bioethics Workshop (Spring 2012)

Donald Danforth Plant Science Center

Lecturer, *Bioinformatics* (Bio547), St. Louis Community College (Fall 2002-2006)
Mentor, *Pfizer-Solutia Students & Teachers as Research Scientists* (Summer 2006-2009)
Mentor, *Donald Danforth Plant Science Center NSF-REU Program* (Summer 2003-2009)

University of Pennsylvania

Graduate Teaching Assistant, *Molecular Biology of Life* (Bio121) (Fall 1993-1997)
Graduate Teaching Assistant, *Introductory Microbiology* (Bio175) (Spring 1994-1995)
Graduate Teaching Assistant, *Techniques of Structural Biology* (Biophys501) (Spring 1996)
Mentor, *NASA Sparks Program* (Summer 1996)

Penn State University

Undergraduate Teaching Assistant, *Experimental Biochemistry* (Bioch403) and *Introductory Biochemistry Laboratory* (Bioch243) (Spring 1992)

MENTORING ACTIVITIES

Postdoctoral Associates (2 current*, 8 past)

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

Julie A. Francois (2006-2007) *Scientist, Monsanto, St. Louis, MO*

Sangaralingam Kumaran (2006-2008) *Assistant Professor, National Institute of Microbial Technology, Chandigarh, India*

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

Naveen Bisht (2008-2010) *Assistant Professor, National Institute of Plant Genome Research, New Delhi, India*

Hankuil Yi (2008-2012) *Assistant 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*

*Soon Goo Lee (2012-current)

*Barrie Cascella (2015-current)

Research Assistants (1 current*, 2 past)

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

Yamini Bisht (2009-2010) *Teacher, New Delhi, India*

*Aron Allen (2014-current)

Graduate Students (3 current*, 7 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, St. Louis, MO*

Caitlin Ramsey (2008) *Plant Biology Program. Business analyst, Collabralink Technologies, Washington, DC*

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: Scientist, Busch Agricultural Resources, Moorhead, MN)*

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

Qingfeng Chen (2008-2012) *Graduate Student, Huazhong Agricultural University, Wuhan, China. Postdoctoral Associate, Jiang Lab, U. Texas-Southwestern & HHMI*

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, 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*

*Ashley Sherp (2012-current) *Plant Biology Program; NSF Graduate Research Fellow, Monsanto Trait Discovery Breeder Intern*

*Cynthia Holland (2014-current) *Plant & Microbial Biosciences Program, NSF Graduate Research Fellow, William H. Danforth Plant Science Graduate Fellow*

*Samantha Powers (2014-current) *Plant & Microbial Biosciences Program (Co-Advisor with Lucia Strader), William H. Danforth Plant Science Graduate Fellow*

Graduate Student Rotations (4 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

Visiting Scientists (2 past)

David Byun (2015) Visiting Graduate Student, U. Mass. - Amherst

Suchismita Roy (2015) Visiting Graduate Student, Jawaharlal Nehru University, New Delhi, India

Undergraduate and High School Students (6 current*, 38 past)

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

Kiani A.J. Arkus (2004-2007) NSF-REU Intern, ACS-PRF SUMR Fellow. *NIH-NRSA Graduate Fellow, Molecular & Cellular Biology Program, Duke U. (Current: Instructor, Guilford Technical College, Guilford, NC)*

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

Lavanya H. Palavalli (2005) NSF-REU Intern (U. Missouri-Columbia). *Medical Student, U. Missouri & HHMI-NIH Research Scholar (Current: OB-Gyn Resident, Baylor College of Medicine)*

Rebecca S. Rivard (2006-2008) Pfizer-Solutia STARS High School Intern. *NSF Graduate Fellow, Molecular & Cellular Biology Program, U. Pennsylvania, Philadelphia, PA*

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

Megan A. Clements (2007) NSF-REU Intern (Northeastern U.). *Graduate Student, Food Science Program, U.C.-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 Program, Michigan State U. (Current: DOE ARPA-E Fellow, Washington, DC)*

Jeremy Bleeke (2008) Pfizer-Solutia STARS High School Student Intern. *Student, Columbia U.*

William Johnston (2009) Pfizer-Solutia STARS High School Student Intern. *Student, Vanderbilt U.*

Alexander Markhov (2009) Pfizer-Solutia STARS High School Student Intern. *Student, Washington U. (Current: Medical Student, Washington U.)*

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. Adelaide, Australia)*

Naveena Lall (2009-2010) *Medical Student, U. Nebraska*

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

William Musgrave (2010-2011) *Medical Student, U. Texas - Southwestern.*

Sheri Balogun (2010-2012) MARC-uSTAR Scholar. *Pharmacy School, U. North Carolina - Chapel Hill*

Jonathan Herrmann (2010-2014) Summer Scholar in Biology & Biomedical Research, ASPB-SURF Scholar, HHMI-SURF Scholar, and Amgen (CalTech) Scholar. *NSF Graduate Fellow and DOE Graduate Fellow, Structural Biology Program, Stanford U.*

- Loren Ramirez (2011) Summer Scholar in Biology & Biomedical Research. *High School Teacher, Chattahoochee High School, Alpharetta, GA*
- Blair Udem (2011) Cellular and Developmental Biology Research Apprenticeship Program (CD-BioRAP) Intern (McDaniel College). *Physical Therapy Student, U. Maryland*
- Dustin Kline (2011-2012) NSF-REU Intern (WUSTL). *Analyst, Yang Capital Group*
- Tara Alpert (2011-2013) HHMI-SURF Scholar and ASPB-SURF Scholar. NSF-GRFP Honorable Mention. *Graduate Student, Molecular & Cellular Biology Program, Yale U.*
- Margarita Gomez (2012) Summer Scholar in Biology & Biomedical Research. *Student, Washington U.*
- David Nathin (2012-2013) *Medical Student, Albany Medical College.*
- Ian Swenson (2012-2013) *Clinical Research Assistant, Washington U. Medical School.*
- 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) *Student, Washington U.*
- Taylor J. Brantley (2013) Summer Scholar in Biology & Biomedical Research. *Student, Washington U.*
- Ang (Tony) Xu (2013-2014) HHMI-SURF Scholar and MARC-uSTAR Scholar. *Medical Student, Baylor College of Medicine*
- Rishil Mehta (2014) Summer Scholar in Biology & Biomedical Research. *Student, Washington U.*
- Linkai Mei (2014) NSF-REU Intern (U. Nebraska). *U.S. Army*
- Madeleine Mullen (2014) Summer Scholar in Biology & Biomedical Research. *Student, Washington U.*
- Evelyn Schraft (2014-2015) *Medical Student, U. Illinois-Chicago*
- Zixing (Rex) Li (2014-2015) *Graduate Student, Computer Science, U. Pennsylvania*
- Manoj Palavalli (2014-2016) NSF-REU Intern (U. Missouri-Columbia). *Medical Student, U. Missouri*
- Keishla Sanchez (2015) Young Scientist Program Intern. *Student, U. Puerto Rico.*
- Daniel Berkovich (2016) STARS High School Intern.
- *Kayla Swiatek (2014-current)
- *Kaleena Zhang (2015-current)
- *Kourtney Kroll (2015-current) uSTAR Summer Scholar
- *Kate Harline (2015-current) NSF-REU Intern (Danforth Center)
- *Josephine Lee (2016-current) ASPB-SURF Scholar
- *Regina Liu (2016-current) Amgen (CalTech) Scholar

Washington University iGEM Team Members (27 past)

- 2010: Elaine Chang, Amanda Hay, Zach Knudsen, Brian Landry, Brenden McDearmon, Alice Meng
- 2011: Valerie Bostrom, Brad Donaldson, May Fu, Jonathan Herrmann, Seong Mike Kim, Jonathan Lin, Roy Pruden, Colleen Rhoades, Bo Zhang, Cong Zhang
- 2012: Caleb Ford, Andrew Ng, Brian Basco, Lucas Harrington, Peter Zhu, Ang Xu
- 2013: Andrew Ng, Jonathan Luskin, Jagdeesh Kottapalli, Philip Sossenheimer, Rebecca Shih

EDUCATION AND OUTREACH ACTIVITIES

Graduate Thesis Committee Member: Demos Chronis (2005-6; U. Missouri, Agronomy), Srivista Yanamadala (2006; U. Missouri, Biochem), Julie Francois (2006; Chem), Amy Szumlanski (2006-9; Plant Bio), Tom Ream (2006-9; Plant Bio), Jeff Cameron (2007-11; Plant Bio), Kim Wegener (2008-10; Plant Bio), Julie Thole (2008; Plant Bio), Deanna Mendez (2008-12; Mol Biophys), Ek Han Tan (2008-11; Mol Genetics Genomics), Charles Constantine (2009; Chem), Jeremy Haag (2009; Plant Bio), Jennifer Dulle (2009-13; Mol Cell Bio), Elaine Frawley (2009-10; Plant Bio), Donnell Carey (2009-14; Biochem), Jiyul Jong (2009-11; Plant Bio), Paul Buske (2010-13; Biochem), Chuanmei Zhu (2009-14; Plant Micro Bio), Erica Fishel (2010-13; Plant Bio); Rachel Schwoppe (2010-23; Mol Genetics Genomics), Brian San Francisco (2010-13; Plant Bio), Taekyung Kim (2010; Biochem), An-Chun Chien (2011-12; Mol Cell Bio), Jeremy King (2011-16; Plant Micro Bio), Annie Shieh (2011-12; Dev Bio), Sheri McClerklin (2011-16; Plant Micro Bio), Daniel Weisz (2011-16; Chem), Elwood Mullins (2012; Chem), Matthew Kilgore (2012-15; Plant Bio), Larry Page (2012; Biochem), Andrew Mutka (2013; Plant Bio), Christine Carle (2013; Mol Micro), Amelia Nguyen (2013-16; Plant Micro Bio), Jooyoung Park (2013-16; Biochem), *Shannon Ohlemacher* (2013-current; Biochem), David Korasick (2013-15; Plant Micro Bio), Tara Enders (2013-16; Plant Bio), *Eric Hamilton* (2014-current; Plant Micro Bio), Drew Michael (2014-15; Mol Cell Bio), *Elizabeth Frick* (2014-current; Plant Micro Bio), *Chad Schaber* (2014-current; Mol Micro Mol Path), Barrie Cascella (2014; Chem), Ann Guggisberg (2014-16; Mol Genetics Genomics), *Angela Schlegel* (2015-current; Plant Micro Bio), Guannan He (2015; Chem), *Yunci Qi* (2016-current; Plant Micro Bio), *Leiwei Yan* (2016-current; Plant Micro Bio)

Qualifying Examination Committees: Amy Szumlanski (2005), Julie Thole (2005), Jiyul Jung (2007), Jeff Cameron (2007), Silvano Ciani (2009), Wan Shi (2009), Donnell 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 Zimmerman (2016)

Undergraduate Advising: 18 current and 72 past advisees

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; 2009-2012 NIH-NRSA Predoctoral Fellow

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

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

Barrie Cascelle (PD): 2016 ASBMB Postdoctoral Travel Award

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

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 CalTech 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 Fellow; 2015-2019 William H. Danforth Plant Science Graduate Fellow; 2016 ASBMB Graduate Student Travel Award

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

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

Regina Liu (UG): 2015 CalTech Amgen Scholar

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

Ron Nwumbé (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

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

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 Fellow

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

Amy Schroeder (UG): 2007 ASPB-SURF Fellowship; 2008 ASPB-SURF Travel Award; 2009 ASPB Undergraduate Travel Award; 2010-2013 NSF Graduate Research Fellowship

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

Corey Westfall (GS): 2011-2013 USDA-NIFA Pre-doctoral Research Fellow; 2013 Spencer T and Ann W Olin Biomedical Research Fellow Award; 2015-2017 Arnold O. Beckman Postdoctoral Fellow (Levin Lab)

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-current)

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

Media Coverage: *Chemical & Engineering News* features on Jez & Noel (2000) & Zhang et al., (2006); *St. Louis Post Dispatch* Articles: From Green to Clean (Mar 14, 2004), Students Have Summer Down to a Science (July 16, 2006), Company Turns to Danforth Plant Center to Develop a Green Plastic (Feb 8, 2008); *St. Louis Magazine* The Second Science Center (June 2008); *JBC Podcast* (Jan 3, 2012); *Washington University Record* WUSTL People (Jan 27, 2012); *Voice of America* Interview (Jan 18, 2012); *US DOE Office of Science* Highlight (Jan 24, 2012); *ASBMB Today* (Feb 2012, Sept 2013; October 2015); *European Synchrotron Radiation Facility* Highlight (May 2012); *ASPB News Blog* (June 2012); *Argonne National Lab – Advanced Photon Source* Highlight (July 2012; July 2013; July 2015); *Science News for Kids* Cool Jobs Green Science (March 2013); *Voice of Russia* - US Edition Interview for The Prism (Oct 3, 2013); *Spectroscopy Now* (Apr 15, 2014); *Seed Today* (May 1, 2014); *The Biologist* - Little Green Chemists (Oct/Nov 2015)

Contributor: St. Louis Science Center Bioremediation Exhibit (2007); CBiRC-NSF Workshop - Roadmap for the Advanced Manufacturing of Biobased Chemicals through Integrated Biology and Chemistry (2015); ASPB Plant Science Now Blog (2015); GMO Answers Website (2015-2016)

PUBLICATIONS

Research Papers

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 3 α -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 3 α -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 3 α -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 3 α -hydroxysteroid dehydrogenase from human prostate: Demonstration of bifunctional 3 α /17 β -HSD activity and cellular distribution. *Mol Endocrinol* 11, 1971-1984 (†equal contribution)
6. Schlegel BP, Jez JM, Penning TM (1998) Mutagenesis of 3 α -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 5 β -reductase activity into rat liver 3 α -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 3 α -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 17 β -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 an 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

32. Kumaran S, Jez JM (2007) Thermodynamics of the interaction between O-acetylserine sulfhydrylase and the C-terminus of serine acetyltransferase. *Biochemistry* 46, 5586-5594
33. Fu CJ, Jez JM, Kerley MS, Allee GL, Krishnan HB (2007) Identification, characterization, epitope mapping, and three-dimensional modeling of α -subunit of β -conglycinin of soybean, a potential allergen for young pigs. *J Agric Food Chem* 55, 4014-4020
34. Herrera K, Cahoon RE, Kumaran S, Jez JM (2007) Reaction mechanism of glutathione synthetase from *Arabidopsis thaliana*: site-directed mutagenesis of active site residues. *J Biol Chem* 282, 17157-17165
35. Hicks LM, Cahoon RE, Bonner ER, Rivard RS, Sheffield J, Jez JM (2007) Thiol-based regulation of redox-active glutamate-cysteine ligase from *Arabidopsis thaliana*. *Plant Cell* 19, 2653-2661
36. Phartiyal P, Kim WS, Cahoon RE, Jez JM, Krishnan HB (2008) The role of 5'-adenylylsulfate reductase in the sulfur assimilation pathway of soybean: molecular cloning, gene expression, and kinetic characterization. *Phytochemistry* 69, 356-364
37. Zubieta C, Arkus KAJ, Cahoon RE, Jez JM (2008) A single amino acid change is responsible for evolution of acyltransferase specificity in bacterial methionine biosynthesis. *J Biol Chem* 283, 7561-7567
38. Schroeder AC†, Kumaran S†, Hicks LM, Cahoon RE, Halls C, Yu O, Jez JM (2008) Contributions of conserved serine and tyrosine residues to catalysis, ligand binding, and cofactor processing in the active site of tyrosine ammonia lyase. *Phytochemistry* 69, 1496-1506 (†equal contribution)
39. Kumaran S, Yi H, Krishnan HB, Jez JM (2009) Assembly of the cysteine synthase complex and the regulatory role of protein-protein interactions. *J Biol Chem* 284, 10268-10275
40. Alvarez S, Berla BM, Sheffield J, Cahoon RE, Jez JM, Hicks LM (2009) Comprehensive analysis of the *Brassica juncea* root proteome in response to cadmium exposure by complementary proteomic approaches. *Proteomics* 9, 2419-2431
41. Chen Q, Zhang B, Hicks LM, Wang S, Jez JM (2009) A liquid chromatography-tandem mass spectrometry-based assay for indole-3-acetic acid-amido synthetases. *Anal Biochem* 390, 149-154
42. He Y, Mawhinney TP, Preuss ML, Schroeder AC, Chen B, Abraham L, Jez JM, Chen S (2009) A redox active isopropylmalate dehydrogenase functions in the biosynthesis of glucosinolates and leucine in *Arabidopsis*. *Plant J* 60, 679-690
43. Galant A, Arkus KAJ, Zubieta C, Cahoon RE, Jez JM (2009) Structural basis for evolution of product diversity in soybean glutathione synthesis. *Plant Cell* 21, 3450-3458
44. Schroeder AC†, Zhu C†, Yanamadala SR†, Cahoon RE, Arkus KAJ, Wachsstock L, Bleeke J, Krishnan HB, Jez JM (2010) Threonine-insensitive homoserine dehydrogenase from soybean: genomic organization, kinetic characterization, and in vivo activity. *J Biol Chem* 285, 827-834 (†equal contribution)
45. Higashi Y, Smith TJ, Jez JM, Kutchan TM (2010) Crystallization and preliminary x-ray diffraction analysis of salutaridine reductase from the opium poppy *Papaver somniferum*. *Acta Cryst F* 66, 163-166
46. Chen Q, Westfall CS, Hicks LM, Wang S, Jez JM (2010) Kinetic basis for the conjugation of auxin by a GH3 family indole acetic acid-amido synthetase. *J Biol Chem* 285, 29780-29786
47. Shin R, Jez JM, Basra A, Zhang B, Schachtman DP (2011) 14-3-3 Proteins fine-tune plant nutrient metabolism. *FEBS Lett* 585, 143-147

48. Bisht N, Jez JM, Pandey S (2011) An elaborate heterotrimeric G-protein family from soybean expands the diversity of plant G-protein networks. *New Phytologist* 190, 35-48
49. Alvarez S†, Galant A†, Pang Q, Jez JM, Hicks LM (2011) Redox-regulatory mechanisms induced by oxidative stress in *Brassica juncea* roots monitored by 2-DE proteomics. *Proteomics* 11, 1346-1350 (†equal contribution)
50. He Y, Galant A, Pang Q, Strul JM, Balogun S, Jez JM, Chen S (2011) Structural and functional evolution of isopropylmalate dehydrogenases in the leucine and glucosinolate pathways of *Arabidopsis thaliana*. *J Biol Chem* 286, 28794-28801
51. Lee SG, Haakenson W, McCarter JP, Williams DJ, Hresko MC, Jez JM (2011) Thermodynamic evaluation of ligand binding in the plant-like phosphoethanolamine methyltransferases of the parasitic nematode *Haemonchus contortus*. *J Biol Chem* 286, 38060-38068
52. Wang Y†, Yi H†, Wang M, Yu O, Jez JM (2011) Structural and kinetic analysis of the unnatural fusion protein 4-coumaroyl-CoA ligase:stilbene synthase. *J Am Chem Soc* 133, 20684-20687 (†equal contribution)
53. Hasnain G, Waller JC, Alvarez S, Ravilious GE, Jez JM, Hanson AD (2012) Mutational analysis of YgfZ, a folate-dependent protein implicated in iron/sulfur cluster metabolism. *FEMS Microbiol Lett* 326, 168-172
54. Kim WS, Chronis D, Juergens M, Schroeder AC, Hyun SW, Jez JM, Krishnan HB (2012) Transgenic soybean plants overexpressing O-acetylserine sulfhydrylase accumulate enhanced levels of cysteine and Bowman-Birk protease inhibitor in seeds. *Planta* 253, 13-23
55. Ravilious GE, Nguyen A, Francois JA, Jez JM (2012) Structural basis and evolution of redox regulation in plant adenosine-5'-phosphosulfate kinase. *Proc Natl Acad Sci USA* 109, 309-314
56. Lee SG, Kim YC, Alpert TD, Nagata A, Jez JM (2012) Structure and reaction mechanism of phosphoethanolamine methyltransferase from the malaria parasite *Plasmodium falciparum* - an anti-parasitic drug target. *J Biol Chem* 287, 1426-1434 (*JBC Paper of the Week)
57. Galant A, Koester RP, Ainsworth EA, Hicks LM, Jez JM (2012) From climate change to molecular response: redox proteomics of ozone-induced responses in soybean. *New Phytologist* 194, 220-229
58. Choudhury SW, Westfall CS, Laborde JP, Bisht NC, Jez JM, Pandey S (2012) Two chimeric regulator of G-protein signalling (RGS) proteins differentially modulate soybean heterotrimeric G-protein cycle. *J Biol Chem* 287, 17870-17881
59. Westfall CS†, Zubieta C†, Herrmann J, Kapp U, Nanao M, Jez JM (2012) Structural basis for pre-receptor modulation of plant hormones by GH3 family proteins. *Science* 336, 1708-1711 (†equal contribution)
60. Lee SG, Alpert TD, Jez JM (2012) Crystal structure of phosphoethanolamine methyltransferase from *Plasmodium falciparum* in complex with amodiaquine. *Bioorg Med Chem Lett* 22, 4990-4993
61. Yi H, Juergens M, Jez JM (2012) Structure of soybean β -cyanoalanine synthase and the molecular basis for cyanide detoxification in plants. *Plant Cell* 24, 2696-2706
62. Ravilious GE, Jez JM (2012) Nucleotide binding site communication in *Arabidopsis thaliana* adenosine 5'-phosphosulfate kinase. *J Biol Chem* 287, 30385-30394
63. Lallemand A, Zubieta C, Lee SG, Wang Y, Acajjaoui S, Timmins J, McSweeney S, Jez JM, McCarthy JG, McCarthy AA (2012) Structural basis for the biosynthesis of the major chlorogenic acids found in coffee. *Plant Physiol* 160, 249-260

64. Yi H, Jez JM (2012) Assessing functional diversity in the soybean β -substituted alanine synthase enzyme family. *Phytochemistry* 83, 15-24
65. Zhang M, Ravilious GE, Hicks LM, Jez JM, McCulla R (2012) Redox switching of adenosine-5'-phosphosulfate kinase with photoactivatable atomic oxygen precursors. *J Am Chem Soc* 134, 16979-16982
66. Musgrave WB, Yi H, Kline D, Cameron JC, Wignes J, Dey S, Pakrasi HB, Jez JM (2013) Probing the origins of glutathione biosynthesis through biochemical analysis of glutamate-cysteine ligase and glutathione synthetase from a model photosynthetic prokaryote. *Biochem J* 450, 63-72
67. Ravilious GE, Westfall CS, Jez JM (2013) Redox-linked gating of nucleotide binding by the N-terminal domain of adenosine 5'-phosphosulfate kinase. *J Biol Chem* 288, 6107-6115
68. Ravilious GE, Herrmann J, Lee SG, Westfall CS, Jez JM (2013) Kinetic mechanism of a dimeric ATP sulfurylase from plants. *Biosci Rep* 33, e00053
69. Lee SG, Jez JM (2013) Evolution of structure and mechanistic divergence in di-domain methyltransferases from nematode phosphocholine biosynthesis. *Structure* 21, 1778-1787
70. Round A, Brown E, Kapp U, Marcellin R, Westfall CS, Pernot P, Jez JM, Zubieta C (2013) Determination of GH3.12 protein conformation through on-line HPLC-integrated SAXS measurements combined with x-ray crystallography. *Acta Crystallogr D* 69, 2072-2080
71. Yi H†, Dey S†, Kumaran S, Lee SG, Krishnan HB, Jez JM (2013) Structure of soybean serine acetyltransferase and formation of the cysteine regulatory complex as an enzyme chaperone. *J Biol Chem* 288, 36463-36472 (†equal contribution)
72. Preuss ML, Cameron JC, Berg RH, Jez JM (2014) Immunolocalization of glutathione biosynthesis enzymes in *Arabidopsis thaliana*: implications for redox regulation. *Plant Physiol Biochem* 75, 9-13
73. Herrmann J, Ravilious GE, McKinney SE, Westfall CS, Lee SG, Baraniecka P, Giovannetti M, Kopriva S, Krishnan HB, Jez JM (2014) Structure and mechanism of soybean ATP sulfurylase - the committed step in plant sulfur assimilation. *J Biol Chem* 289, 10919-10929
74. Korasick DA, Westfall CS, Lee SG, Nanao M, Dumas R, Hagen G, Guilfoyle TJ, Jez JM, Strader LC (2014) Molecular basis for auxin response factor protein interaction and the control of auxin response repression. *Proc Natl Acad Sci USA* 111, 5427-5432
75. Lee SG, Krishnan HB, Jez JM (2014) Structural basis for regulation of Rhizobial nodulation and symbiosis gene expression by the regulatory protein NolR. *Proc Natl Acad Sci USA* 111, 6509-6514
76. Meesters C, Monig T, Oeljeklaus J, Krahn D, Westfall CS, Hause B, Jez JM, Kaiser M, Kombrink E (2014) A selective inhibitor of jasmonate signaling identified via high-throughput chemical screening targets the adenylate-forming enzyme JAR1 in *Arabidopsis thaliana*. *Nature Chem Biol* 10, 830-836 (*cover art)
77. Westfall CS, Xu A, Jez JM (2014) Structural evolution of differential amino acid effector regulation of plant chorismate mutases. *J Biol Chem* 289, 28619-28628
78. Saen-oon S†, Lee SG†, Jez JM, Guallar V (2014) An alternate mechanism for the methylation of phosphoethanolamine catalyzed by *Plasmodium falciparum* phosphoethanolamine methyltransferase. *J Biol Chem* 289, 33815-33825 (†equal contribution) (*JBC Paper of the Week)
79. Kim WS, Jez JM, Krishnan HB (2014) Effect of proteome rebalancing and sulfur nutrition on the accumulation of methionine rich δ -zein in transgenic soybean. *Front Plant Sci* 5, 633

80. Korasick DA, Chatterjee S, Tonelli M, Dashti H, Lee SG, Westfall CS, Fulton DB, Andreotti AH, Amarashinghe G, Strader LC, Jez JM (2015) Defining a two-pronged structural model for PB1 domain interaction in plant auxin responses. *J Biol Chem* 290, 12868-12878
81. Malik MR†, Yang W†, Patterson N, Tang J, Wellinghoff RL, Preuss ML, Burkitt C, Sharma N, Ji Y, Jez JM, Peoples OP, Jaworski JG, Cahoon EB, Snell KD (2015) Production of high levels of poly-3-hydroxybutyrate in plastids of *Camelina sativa* seeds. *Plant Biotech J* 13, 675-688 (†equal contribution)
82. Bhuiya MW†, Lee SG†, Jez JM, Yu O (2015) Structure and mechanism of ferulic acid decarboxylase (FDC1) from *Saccharomyces cerevisiae*. *Appl Environ Micro* 81, 4216-4223 (†equal contribution)
83. Cahoon RE, Lutke WK, Cameron JC, Chen S, Lee SG, Rivard RS, Rea PA, Jez JM (2015) Adaptive engineering of phytochelatin-based heavy metal tolerance. *J Biol Chem* 290, 17321-17330
84. Herrmann J, Nathin D, Lee SG, Sun T, Jez JM (2015) Recapitulating the structural evolution of redox-regulation in adenosine-5'-phosphosulfate kinase from cyanobacteria to plants. *J Biol Chem* 290, 24705-24714
85. Lee SG, Nwumeh R, Jez JM (2016) Structure and mechanism of isopropylmalate dehydrogenase from *Arabidopsis thaliana*: insights on leucine and aliphatic glucosinolate biosynthesis. *J Biol Chem* 291, 13421-14330 (*JBC Paper of the Week)
86. Kilgore M, Holland CK, Jez JM, Kutchan TM (2016) Identification of a noroxomaritidine reductase with Amaryllidaceae alkaloid biosynthesis-related activities. *J Biol Chem* 291, 16740-16752
87. Hackenberg D, McKain M, Lee SG, Roy Choudhury S, McCann T, Schreier S, Harkess A, Pires JC, Wong GKS, Jez JM, Kellogg E, Pandey S (2016) Gα:RGS protein pairs maintain functional compatibility and conserved interaction interface throughout evolution despite frequent loss of RGS proteins in plants. *New Phytologist* (in press)

Reviews and Commentaries

88. Penning TM, Pawlowski JE, Schlegel BP, Jez JM, Lin HK, Hoog SS, Bennett MJ, Lewis M (1996) Mammalian 3α-hydroxysteroid dehydrogenases. *Steroids* 61, 508-523
89. Jez JM, Flynn TG, Penning TM (1997) A new nomenclature for the aldo-keto reductase superfamily. *Biochem Pharmacol* 54, 639-647
90. Penning TM, Bennett MJ, Smith-Hoog S, Schlegel BP, Jez JM, Lewis M (1997) Structure and function of rat 3α-hydroxysteroid dehydrogenase. *Steroids* 62, 101-111
91. Jez JM, Bennett MJ, Schlegel BP, Lewis M, Penning TM (1997) Comparative anatomy of the aldo-keto reductase superfamily. *Biochem J* 326, 625-636
92. Jez JM, Noel JP (2000) A kaleidoscope of carotenoids. *Nature Biotech* 18, 825-826 (*featured in *C&E News*)
93. Penning TM, Jez JM (2001) Enzyme redesign. *Chem Rev* 101, 3027-3046 (*cover art)
94. Mallis RJ, Bruzin K, Jez JM, Wilson EK, Dieckmann GR, Robic S, Harrahy J (2001) Proteins: the complete works. *Trends Biochem Sci* 26, 642-643
95. Penning TM, Ma H, Jez JM (2001) Engineering steroid hormone specificity into aldo-keto reductases. *Chem-Biol Interact* 130-132, 659-671
96. Jez JM, Penning TM (2001) The aldo-keto reductase superfamily: an update. *Chem-Biol Interact* 130-132, 499-525

97. Jez JM, Ferrer JL, Bowman ME, Austin MB, Schröder J, Dixon RA, Noel JP (2001) Structure and mechanism of chalcone synthase-like polyketide synthases. *J Ind Micro Biotech* 27, 393-398
98. Jez JM (2007) Phosphatidylcholine biosynthesis as a potential target for inhibition of metabolism in parasitic nematodes. *Curr Enz Inhib* 3, 133-142
99. Yu O, Jez JM (2008) Nature's assembly line: biosynthesis of simple phenylpropanoids and plant polyketides. *Plant J* 54, 750-762
100. Yi H, Preuss ML, Jez JM (2009) The devil (and an active jasmonate hormone) is in the details. *Nature Chem Biol* 5, 273-274
101. Yi H, Galant A, Ravilious GE, Preuss ML, Jez JM (2010) Sensing sulfur conditions: simple to complex biochemical regulatory mechanisms in plant thiol metabolism. *Mol Plant* 3, 269-279
102. Yi H, Ravilious GE, Galant A, Krishnan HB, Jez JM (2010) Thiol metabolism in soybean: sulfur to homogluthathione. *Amino Acids* 39, 963-978
103. Westfall CS, Herrmann J, Chen Q, Wang S, Jez JM (2010) Modulating plant hormones by enzyme action: the GH3 family of acyl acid amido synthetases. *Plant Signal Behav* 5, 1597-1602
104. Hammond BG, Jez JM (2011) Impact of food processing on the dietary risk assessment of proteins introduced into biotechnology-derived soybean and corn crops. *Food Chem Toxicol* 49, 711-721
105. Jez JM (2011) Toward protein engineering for phytoremediation: possibilities and challenges. *Int J Phytoremediation* 13, S77-89
106. Lee SG, Jez JM (2011) The phosphobase methylation pathway in *Caenorhabditis elegans*: a new route to phospholipids in animals. *Curr Chem Biol* 5, 183-188
107. Galant A, Preuss ML, Cameron J, Jez JM (2011) Plant glutathione synthesis - structure, mechanism, regulation, and molecular diversity. *Front Plant Sci* 2, 45
108. Parrott W, Jez JM, Hannah LC (2012) To be or not to be transgenic. *Nature Biotech* 30, 825-826
109. Ravilious GE, Jez JM (2012) Structural biology of plant sulfur metabolism: from assimilation to biosynthesis. *Nat Prod Rep* 29, 1138-1152
110. 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
111. 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
112. 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
113. Westfall CS, Muehler AM, Jez JM (2013) Enzyme action in the regulation of plant hormone responses. *J Biol Chem* 288, 19304-19311
114. 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
115. 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)
116. Lee SG, Jez JM (2014) Nematode phospholipid metabolism: an example of closing the genome-structure-function circle. *Trends Parasitol* 30, 241-250
117. Jez JM, Blankenship R (2014) Lights, x-rays, oxygen! *Cell* 158, 701-703
118. Korasick DA, Jez JM, Strader LC (2015) Refining the nuclear auxin response pathway through structural biology. *Curr Opin Plant Biol* 27, 22-28
119. Jez JM, Ravilious GE, Herrmann J (2016) Structural biology and regulation of the plant sulfation pathway. *Chem-Biol Interact* (in press)
120. Machingura M, Salomon E, Jez JM, Ebbs SD (2016) The β -cyanoalanine synthase pathway: beyond cyanide detoxification. *Plant Cell Environ* (in press)
121. Jez JM (2016) Revisiting protein structure, function, and evolution in the genomic era. *J Invert Path* (in press)
122. Jez JM, Lee SG, Sherp AM (2016) The next green movement: plant biology for the environment and sustainability. *Science* (in press)

Book Chapters

123. 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* (H Weiner, R Lindahl, DW Crabb, & TG Flynn, Eds.) pp. 579-589, Plenum Press, NY
124. Penning TM, Lin HK, Jez JM, Ricigliano JW (1997) Inhibition of type 3 3 α -hydroxysteroid dehydrogenase in *Emerging Therapeutic Targets, Vol. 1: Oncologic, Endocrine, & Metabolic* (A Ward, Ed.) pp. 141-145, Ashley Publications Ltd., London
125. 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* (JT Romeo, Ed.) pp. 197-222, Plenum Press, NY
126. 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* (NA Khan, S Singh, S Umar, Eds.) pp. 97-109, Springer-Verlag, NY
127. 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
128. 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
129. 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 and Varma A, Eds.), pp. 289-302, Springer-Verlag, NY
130. Korasick DA, Jez JM (2016) Protein domains: structure, function, and methods. In *Encyclopedia of Cell Biology, Vol. 1* (Bradshaw RA and Stahl P, Eds.), pp. 91-7, Academic Press, Waltham, MA

Education Papers

131. 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
132. Arkus KAJ, Jez JM (2008) An integrated protein chemistry lab module: chlorophyll and chlorophyllase. *Biochem Mol Biol Educ* 36, 125-128
133. Jez JM (2015) Little green chemists. *The Biologist* 62, S10-11

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. PCT Patent Application 2004/0096955: JP Noel, JM Jez, ME Bowman (5/20/04), Methods and compositions for determining isomerase enzymatic activity.
5. PCT Patent Application 2007/0298438: JP Noel, JL Ferrer, JM Jez, MB Austin, ME Bowman (5/14/07), Methods and compositions for determining enzymatic activity.
6. PCT Patent Application 2010/0317030: JP Noel, JL Ferrer, JM Jez, MB Austin, ME Bowman (12/16/10), Methods and compositions for determining enzymatic activity.
7. PCT Patent Application 2011/0020895: JP Noel, JM Jez, ME Bowman (1/27/11), Methods and compositions for determining isomerase enzymatic activity.
8. PCT Patent Application 62/340,931: JM Jez, RE Cahoon, PA Rea (5/24/16), Transgenic plants exhibiting enhanced phytochelatin-based heavy metal tolerance and methods of use thereof.

RECENT SEMINARS AND MEETING PRESENTATIONS

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 Agr. U., Wuhan, China (2011)
75. Fudan University, Institute of Plant Biology, Shanghai, China (2011)
76. Monsanto Technical Community Colloquium, St. Louis, MO (2011)
77. 4th 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 Agr. U., Wuhan, China (2012)
89. Wuhan University, Dept. of Biochemistry, Wuhan, China (2012)
90. University of Illinois, Urbana-Champaign, Dept. of Biochemistry (2013)
91. 27th Annual Protein Society Symposium, Boston, MA (2013)
92. ILSI-India/ILSI-IFBiC/Dept. of Biotechnology Workshop on Biotech Safety Assessment, New Delhi, India (2013)
93. MOBIO Ag Research & Innovation, St. Louis, MO (2013)
94. National Key Laboratory for Crop Improvement, Huazhong Agr. U., Wuhan, China (2013)
95. Howard Hughes Medical Institute Professor Symposium, Chevy Chase, MD (2014)
96. 4th Banff Conference on Plant Metabolism, Banff, Canada (2014)
97. University of Missouri, Conversations on College Science Teaching, Columbia, MO (2014)
98. University of Missouri, Dept. of Biochemistry, Columbia, MO (2014)
99. Chungnam National University, Daejeon, South Korea (2014)
100. Korean Research Institute of Bioscience & Biotechnology, Daejeon, South Korea (2014)
101. 2014 International Symposium on Plant Sciences & Annual Conference of the Korean Society of Plant Biologists, Kaejeon, South Korea (2014)
102. St. Louis University, Dept. of Biology, St. Louis, MO (2015)
103. SEAS Junior Faculty Workshop, St. Louis, MO (2015)
104. Conagen, Inc., Bedford, MA (2015)
105. Monsanto, St. Louis, MO (2015)
106. Gordon Research Conference on Plant Metabolic Engineering, Waterville, NH (2015)
107. International Congress on Invertebrate Pathology and Microbial Control & the 48th Annual Meeting of the Society of Invertebrate Pathology, Vancouver, Canada (2015)
108. Gesellschaft Deutscher Chemiker Lecture - International Symposium on Sulfation Pathways, Greifswald, Germany (2015)

109. McDonnell International Scholars Academy Global Leadership Vision, St. Louis, MO (2015)
110. TEDx Gateway Arch, St. Louis, MO (2015)
111. 3rd International Plant Physiology Congress, New Delhi, India (2015)
112. Experimental Biology 2016 - American Society of Biochemistry and Molecular Biology Meeting, San Diego, CA (2016)
113. Donald Danforth Plant Science Center, St. Louis, MO (2016)
114. China Agricultural University, Beijing, China (2016)
115. 30th Annual Protein Society Symposium, Baltimore, MD (2016)
116. Purdue University, West Lafayette, IN (2016)
117. University of Wisconsin, Madison, WI (2016)
118. Toxicology Forum, Washington, DC (2017)

RECENT MEETING PRESENTATIONS BY LAB MEMBERS

54. Ravilious G*, Jez JM, Experimental Biology 2011 - ASBMB Meeting, 9-13 Apr 2011, Washington, DC ***Platform Presentation**
55. Lee SG*, Jez JM, Experimental Biology 2011 - ASBMB Meeting, 9-13 Apr 2011, Washington, DC ***ASBMB Graduate Student Travel Award**
56. Halpin C, Parrott W, Hannah C, Jez JM, Kough J, Underhill L, Walker K, Pohl M, Hunst P, Tagliani L, Lahman L, Weber N, Kramer C, York-Steiner H, OECD Meeting, 10-23 May 2011, Paris, France
57. Hicks LM, Galant A, Ainsworth E, Jez JM, 59th American Society of Mass Spectrometry Meeting, 5-9 Jun, 2011, Denver, CO
58. Lee SG*, Jez JM, 2011 Korea-US Science Cooperation Meeting, 10-14 Aug 2011, Park City, UT ***Graduate Student Travel Award**
59. Jez JM, Galant A, Ainsworth EA, Hicks LM, 27th New Phytologist Symposium, 25-28 Sept 2011, Tuscon, AZ
60. Hicks LM, Jez JM, Alvarez S, Galant A, Liu Z, Joint Midwest/Great Lakes Regional American Chemical Society Meeting, 20-22 Oct 2011, St. Louis, MO
61. Alpert TD*, Lee SG, Jez JM, Experimental Biology 2012 - ASBMB Meeting, 20-24 Apr 2012, San Diego, CA ***HHMI-SURF Undergraduate Travel Award**
62. Balogun S*, Galant A, Chen S, Jez JM, Experimental Biology 2012 - ASBMB Meeting, 20-24 Apr 2012, San Diego, CA ***ASBMB Undergraduate Travel Award**
63. Herrmann J*, Westfall CS, Jez JM, Plant Biology 2012 - American Society of Plant Biologists, 20-24 July 2012, Austin, TX ***ASPB-SURF Travel Award**
64. Lee SG, Jez JM, Korea-US Science Cooperation Conference, 8-11 Aug 2012, Los Angeles, CA
65. Westfall CS*, Zubieta C, Herrmann J, Nanao M, Jez JM, USDA-NIFA Fellowship Program Meeting, 16-17 Aug 2012, Washington, DC ***Platform Presentation**
66. ILSI Task Force 9, 12th International Symposium on Biosafety of Genetically Modified Organisms, 16-20 Sept 2012, St. Louis, MO
67. Herrmann J**, Westfall CS, Zubieta C, Nanao M, Jez JM, American Chemical Society Midwest Meeting, 24-27 October 2012, Omaha, NE ***ACS-YCC St. Louis Section Travel Award & *Best Undergraduate Poster Award**
68. Herrmann J*, Ravilious GE, McKinney S, Westfall CS, Krishnan HB, Jez JM, American Society of Plant Biologists Midwest Regional Meeting, 23-24 March 2013, Chicago, IL ***2nd Place Best Undergraduate Poster Award**
69. Herrmann J*, Ravilious GE, McKinney S, Westfall CS, Krishnan HB, Jez JM, St. Louis Area Undergraduate Research Symposium, 27 April 2013, Edwardsville, IL ***Best Undergraduate Poster Award**
70. Lemke SL, Barlow S, Bartholomeaus A, Bondy G, Chukwudebe A, Delaney B, Hammond B, Herouet-Guicheney C, Jez J, Juberg D, Karaki H, Kough J, MacIntosh S, Sauve A, Zambone F, International Congress of Toxicology, 30 June-4 July 2013, Seoul, South Korea
71. Alpert TD*, Jez JM, Plant Biology 2013 - American Society of Plant Biologists, July 20-24, 2013, Providence, RI ***ASPB-SURF Travel Award**
72. Korasick D*, Westfall CS, Guilfoyle T, Jez JM, Strader LC, Plant Biology 2013 - American Society of Plant Biologists, July 20-24, 2013, Providence, RI ***ASPB Travel Award**
73. Lee SG, Kim Y, Alpert TD, Nagata A, Jez JM, 27th Annual Symposium of the Protein Society, July 20-23, 2013, Boston, MA
74. Xu A, Westfall CS, Jez JM, Midstates Consortium for Math & Science, Nov 1-2, 2013, St. Louis, MO

75. Xu A, Westfall CS, Jez JM, Annual Biomedical Research Conference for Minority Students, Nov 13-16, 2013, Nashville, TN
76. Xu A, Westfall CS, Jez JM, 2014 American Chemical Society Undergraduate Symposium, Apr 11, 2014, St. Louis, MO ***3rd Place Best Poster Award**
77. Xu A, Westfall CS, Jez JM, St. Louis Area Undergraduate Research Symposium, Apr 19, 2014, Carbondale, IL
78. Sherp AM, Westfall CS, Jez JM, 2014 Auxin Missouri Meeting, 20 June 2014, Columbia, MO ***Platform Presentation**
79. Muehler-Sherp AM, Westfall CS, Jez JM, Plant Biology 2014 - American Society of Plant Biologists, 12-16 Jul 2014, Portland, OR
80. Powers SK*, Korasick DA, Jez JM, Strader LC, Plant Biology 2014 - American Society of Plant Biologists, 12-16 Jul 2014, Portland, OR ***ASPB-SURF Travel Award**
81. Meesters C, Monig T, Oeljeklaus J, Krahn D, Westfall CS, Hause B, Jez JM, Kaiser M, Kombrink E, Plant Biology 2014 - American Society of Plant Biologists, 12-16 Jul 2014, Portland, OR
82. Lee SG, Jez JM, 28th Annual Symposium of the Protein Society, 27-30 Jul 2014, San Diego, CA
83. Korasick DA, Westfall CS, Lee SG, Jez JM, Strader LC, 25th International Conference on Arabidopsis Research, 28 Jul - 1 Aug 2014, Vancouver, Canada
84. Nwumeh R, Lee SG, Jez JM, St. Louis Area Undergraduate Research Symposium, 25 April 2015, Kirkwood, MO
85. Korasick DA, Westfall CS, Lee SG, Jez JM, Strader LC, 26th International Conference on Arabidopsis Research, 5-9 Jul 2015, Paris, France
86. Sherp AM, Westfall CS, Jez JM, 26th International Conference on Arabidopsis Research, 5-9 Jul 2015, Paris, France
87. Lee SG, Jez JM, 29th Annual Symposium of the Protein Society, 22-25 Jul 2015, Barcelona, Spain
88. Powers SK, Korasick DA, Jez JM, Strader LC, Plant Biology 2015 - American Society of Plant Biologists, 26-30 Jul 2015, Minneapolis, MN
89. Holland C, Jez JM, Experimental Biology 2016 - ASBMB Meeting, 2-6 Apr 2016, San Diego, CA ***ASBMB Graduate Student Travel Award**
90. Cascella BG, Jez JM, Experimental Biology 2016 - ASBMB Meeting, 2-6 Apr 2016, San Diego, CA ***ASBMB Postdoc Travel Award**
91. McClerklin S, Lee SG, Jez JM, Kunkel BN, 2016 International Congress on Molecular Plant-Microbe Interactions, 17-21 July 2016, Portland, OR
92. Lee SG, Krishnan HB, Jez JM, 2016 International Congress on Molecular Plant-Microbe Interactions, 17-21 July 2016, Portland, OR
93. Schenck C, Holland CK, Schneider M, Jez JM, Maeda HA, 55th Phytochemical Society of North American Meeting, 6-10 August 2016, Davis, CA

RESEARCH SUPPORT

Current

- PI: Jez, *Structure and Function of Phosphoethanolamine Methyltransferases - New Anti-Parasitic Targets*, NIH-R01-AI097119, \$1,012,000 total cost, 4/2012-3/2017.
- PI: Jez, *Molecular Diversification of Plant Hormone Modification by Acyl Acid Amido Synthetases*, NSF-MCB-1614539, \$790,000 total cost, 7/2016-6/2020.
- 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, 9/2014-8/2019.

Past

- 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, *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.