

I. Curriculum Vitae

Kevin D. Walker

Departmental Address:
Michigan State University
578 S Shaw Lane, Room 208
Department of Chemistry
Department of Biochemistry & Molecular Biology
East Lansing, Michigan 48824
Tel. 517-353-1112
E-mail: walker@chemistry.msu.edu

Education

- 1997 – 2000 Post-Doctoral, Washington State University, Pullman, WA.
1990 – 1997 Ph.D. Bioorganic Chemistry, University of Washington, Seattle, WA.
1988 – 1990 Research Chemist, Seafood Products Research Center (SPRC), U.S. Food and Drug Administration, Bothell, WA and National Marine Fisheries Service, Seattle, WA. Developed procedures to assay toxins, including metabolites of crude petroleum from the Prince William Sound oil spill (Alaska), in marine organisms.
1983 – 1988 B.S. Chemistry, University of Washington, Seattle, WA.

Professional Experience

- 2010 – present Associate Professor, Department of Chemistry, Michigan State University, East Lansing, MI.
2004 – 2010 Assistant Professor, Department of Chemistry, Michigan State University, East Lansing, MI.
2000 – 2003 Assistant Scientist/ Laboratory Manager, Washington State University, Pullman, WA.
1997 – 2000 NIH Postdoctoral Research Assistant, Washington State University, Pullman, WA.
1987 – 1988 Undergraduate Research Physical Chemistry, University of Washington, Seattle, WA. Collaborator with NASA to develop application of pressure sensitive porphyrins

Professional Development

- 2016 Organizer/Chair of Midwest Enzyme Chemistry Conference (2017), Loyola University, Chicago, IL.

- 2015 Organizer/Chair of session for the Ron Breslow Award: Biomimetic Chemistry (Eric Kool Awardee) ACS National Meeting, Denver, CO.
- 2014 Co-Chair at the 2014 ASBMB National Conference, San Diego, CA.
- 2007 Invited as Discussion Leader at Gordon Research Conference, Enzyme, Coenzymes and Metabolic Pathways, University of New England, Biddeford, ME.
- 2004 Invited as Discussion Leader at the Terpenoids section at the Frontiers of Bioorganic and Natural Product Chemistry Symposium, University of Washington, Seattle, WA.
- 2000 Drug Discovery 2000 Seminar, La Jolla, CA.
- 1998 Fred Pryor Seminars: Management Problems of the Technical Person in a Leadership Role, Spokane, WA.
- 1997 Drug Discovery and Development Seminar, Baltimore, MD.
- 1989 Featured in the FDA's monthly journal, FDA Consumer, Fishing for Facts in Fish Safety.23 (1). Abstract: As more Americans are making fish a healthful part of their diets, the safety of seafood is being questioned. The controversy has led FDA to take a closer look at its seafood program.

Grants, Fellowships and Awards

USAID/ USP Grant, Dec 2014 – Dec 2015, RC104517, Characterization of Related Impurities in Antibiotics, Michigan State University, East Lansing, MI.

Office of Inclusion and Intercultural Initiatives Award, 2015, Michigan State University.

Graduate Academic Advisor Award 2010-2011, Michigan State University.

NSF/ MCB/BIO -CAREER Award, Aug 2008 - 2013, NSF0746432, Molecular And Biochemical Evaluation of a Phenylalanine Aminomutase, Michigan State University, East Lansing, MI.

NSF/ MCB/BIO -RIG Award, Aug 2007- 2009, NSF639937, Dissecting the Biosynthetic Pathway Organization of Bioactive neo-Clerodanes in Plants, Michigan State University, East Lansing, MI.

MAES Non-Recurring Funds, Equipment Grant

WSU Inventor Recognition Event, March 23, 2007, WSU Research Foundation recognition of inventors from July 1, 2005 through December 31, 2006.

NSF/ DBI-MRI, Jan 2006, NSF 619489, Acquisition of Metabolite Profiling Mass Spectrometry Instrumentation for Michigan State University

Neish Young Investigator Award, 2006, Phytochemical Society of North America.

Carl Storm Underrepresented Minority Fellowship to support participation in the Plant Metabolic Engineering GRC, Tilton, NH, 2005.

National Institutes of Health Postdoctoral Fellowship, 1997-2001; CA55254, Washington State University, Pullman, WA.

National Institutes of Health Graduate Student Fellowship, 1991-1997; GM32333 supplement, University of Washington, Seattle, WA.

National Science Foundation Graduate Student Fellowship, 1991-1994; Special Projects Award 9119783, University of Washington, Seattle, WA.

National Aeronautics and Space Administration Four Year Graduate Fellowship, 1988; Physical Chemistry Dept., University of Washington, Seattle, WA.

Undergraduate Merit Scholarship, 1986-1987; University of Washington, Seattle, WA.

Undergraduate Merit Scholarship, 1983-1985; Seattle University, Seattle, WA.

Dean's List, 1984-1985; Seattle University, Seattle, WA.

Memberships and Service

Committees

Advisory Committee (CEM, 2005 – 2008, 2012 – 2013, 2015 – 2016)

MSU Chemistry Chair Review Committee (2015–2016)

MSU University Library Committee (2014, 2015)

AMU-MSU Summer Research/Graduate Admissions Pathway Committee (2012, 2013, 2014)

Theme Organizing Committee for ASBMB 2014 Conference (2012 – 2013)

Plant Biotechnology T32 Executive Committee Member (2012 – present)

Ad-Hoc Faculty Grievance (2012)

MSUT Director Search Committee (2011 – 2012)

CNS Curriculum Committee (2010 – 2011)

Graduate Programs and Curriculum (BMB, 2009 – present)

Student Judiciary (BMB, 2009 – present)

MSUT Campus Advisory Committee (2010 – present)

CNS Academic Grievance Hearing Committee (2008)

Colloquium Committee (CEM, 2007 – 2008)

Inorganic Search Committee (CEM, 2006 – 2007)

Chair Search Committee (CEM, 2005 – 2006)

CNS Life Sciences Task Force (2006 – 2007)

Plant Sciences (PSE III) Committee (2006 – 2007)

Service

2012 – pres Review Editorial Board of Frontiers in Plant Metabolism and Chemodiversity, a specialty of Frontiers in Plant Science.

Frontiers in Science Workshop for Secondary-teachers of science, May 4 & 5, 2007

1995 – 1996 Graduate School Minority Student Education Division Mentor; University of Washington, Seattle, WA.

1987 – 1988 Certified Phlebotomist, Harborview Medical Center, Seattle, WA.

1987 Volunteer Escort, University of Washington Medical Center, Seattle, WA.

Membership

NIH Center for Scientific Review Panel Member Dec. 2011

USDA Review Panel Member Aug. 2009

NSF Review Panel Member 2005, 2007, 2016 MCB/BIO (and REU).

American Chemical Society Member, 1991 – present.

American Society of Plant Biologists, 2001 – present.

NOBCChE Member, 1996 – 1997 (Seattle WA), 2004 (National Meeting, San Diego CA).

Teaching

1. Formal Courses Taught (evaluations are available upon request).

Semester / Year	Course	Avg. # of Students	Course description
Fall / 2004	CEM 251 CEM 850 (shared)	400 25	First Semester Organic Chemistry (undergraduate) Intermediate/Advanced Organic Synthesis (graduate)
Fall / 2005	CEM 251 CEM 850 (shared)	320 25	First Semester Organic Chemistry (undergraduate) Intermediate/Advanced Organic Synthesis (graduate)
Spring / 2006	BMB 804 (shared)	25	Biochemical Mechanisms and Structure
Fall / 2006	CEM 251 CEM 850 (shared) CEM 958 BMB 101 (shared)	320 25 20 60	First Semester Organic Chemistry (undergraduate) Intermediate/Advanced Organic Synthesis (graduate) Organic Chemistry Student Seminar Course (graduate) Description of topics in biochemistry research (undergraduate)
Spring / 2007	BMB 804 (shared)	25	Biochemical Mechanisms and Structure
Fall / 2007	CEM 251 CEM 850 (shared) CEM 958	320 25 20	First Semester Organic Chemistry (undergraduate) Intermediate/Advanced Organic Synthesis (graduate) Organic Chemistry Student Seminar Course (graduate)
Spring / 2008	BMB 804 (shared)	25	Biochemical Mechanisms and Structure
Fall / 2008	CEM 850 (coordinator)	25	Intermediate/Advanced Organic Synthesis (graduate)

Spring / 2009	CEM 251 BMB 804 (shared)	390 25	First Semester Organic Chemistry (undergraduate) Biochemical Mechanisms and Structure
Fall / 2009	CEM 850 (shared)	25	Intermediate/Advanced Organic Synthesis (graduate)
Spring / 2010	CEM 251 BMB 804 (shared)	420 25	First Semester Organic Chemistry (undergraduate) Biochemical Mechanisms and Structure
Fall / 2010	CEM 251 CEM 850 (shared) BMB 101 (shared)	320 25 60	First Semester Organic Chemistry (undergraduate) Intermediate/Advanced Organic Synthesis (graduate) Description of topics in biochemistry research (undergraduate)
Spring / 2011	CEM 251 BMB 804 (shared)	350 25	First Semester Organic Chemistry (undergraduate) Biochemical Mechanisms and Structure
Spring / 2012	CEM 956 BMB 804 (shared)	6 20 – 25	Fundamentals of Scientific Writing Biochemical Mechanisms and Structure
Fall / 2012	CEM 251 BMB 101	360 60	First Semester Organic Chemistry (undergraduate) Description of topics in biochemistry research (undergraduate)
Spring / 2013	BMB 805 (shared)	20 – 25	Biochemical Mechanisms and Structure
Fall / 2013	CEM 251	300	First Semester Organic Chemistry (undergraduate)
Spring / 2014	BMB 805 (shared)	20 – 25	Biochemical Mechanisms and Structure (Increased participation due to colleague taking on other duties)
Fall / 2014	CEM 251 CEM 958 BMB 101 (shared) CEM 420	320 20 60 1	First Semester Organic Chemistry (undergraduate) Organic Chemistry Student Seminar Course (graduate) Description of topics in biochemistry research (undergraduate) Undergraduate Research
Fall / 2015	CEM 850 (shared)	15	Organizer of Intermediate/Advanced Organic Synthesis (graduate)
Spring / 2016	CEM 251 CEM 420	360 2	First Semester Organic Chemistry (undergraduate) Undergraduate Research
Fall / 2016	CEM 251 CEM 420	360 2	First Semester Organic Chemistry (undergraduate) Undergraduate Research

2. Undergraduate research.

(listed in chronological order): **06/2004-09/2004:** 1) Tammy Tran (Pre Med). **01/2005-09/2005:** 2) Ted Amundsen (in Medical School), 3) Kim Jerkins (Pre Med), 4) Michelle Solomon (Pre Med). **01/2005-09/2006:** 5) Erin Merriweather (Dental School), 6) Becky Simon (res. tech. at Wayne State Univ), 7) Dave Ringham (Chem. Eng.), 8) Terri Brinks (Pre Med), 9) Chris Johnson (Medical School), 10) Dominique Hopkins (Pre Med), 11) Allyson Boers (Biochem), 12) Thomas Edwards (Graduate Chem, at Purdue University), 13) Jesse Zuehlke (Pre Med). 14) Selena Ransom (Pre Med), **01/2005-06/2007:** 15) Amanda Ward (grad. school at Univ Mich. Chem. Dept.), 16) Colin Seguin (Medical School), 17) Chris Prather (Bioc. Professorial Assistant through Lyman Briggs), **01/2008-07/2009:** 18) Joshua Bilsborrow (Vanderbilt Med. School), **01/2010:** 19) Aws Hammad, **01/2010-2011** 20) Robert J. Kubiak, **01/2010-2012:** 21) Yvonne Deporre (Graduate School, Univ. of Michigan), **01/2012-06/2014:** 22) Aaron Barto, **01/2013-06/2013:** 23) Doug Peters, **08/2014-07/2015:** 24) Olivia Goethe, **08/2015- present:** 25) Devinda Wijewardena, **01/2016- present:** 26) Brendyn Smith, 27) Shahrazad Polk, 28) Sydney Thomas

3. Snapshot of Student Committee Assignments

KEVIN WALKER

12 year counts and current committee membership counts

Program	Type	12 Year Counts						Count of Current Committee Memberships		
		Chair	Doctoral Dissertati on Director	Total	Chair	Masters Dissertati on Director	Total	Chair	Doctoral Dissertati on Director	Total
Biochemistry & Molecular Biology	Core	2	1	13				1		4
Cell and Molecular Biology	Core	1		2						
Chemical Engineering	Assc			1						
Chemistry	Core	14	2	67	2		7	3	2	24
Entomology							1			
Genetics	Core									
Plant Biology				2						1
Plant Breeding & Genetics				1						1
Quantitative Biology		1		2						
Total:		18		88	2		8	4		30

<p>4. Current Ph.D. and M.S. advisees.</p> <ol style="list-style-type: none"> 1. Tyler Walter (O-Chem) Ph.D. candidate 2. Prakash Shee (O-Chem) Ph.D. candidate 3. Gayanthi Attnayake (O-Chem) Ph.D. candidate <p>Past Advisees</p> <ol style="list-style-type: none"> 1. Chelsea Thornburg (BMB) Ph.D. Dec 2015 2. Ruth Muchiri (O-Chem) Ph.D. June 2015 3. Dilini Ratnayal (O-Chem) Ph.D. Jan 2015 4. Udayanga Wanninayake(O-Chem) Ph.D. 5. Irosha Nawarathne (O-Chem) Ph.D., Dec 2011 6. Danielle Nevarez (Cell & Molecular Biol) Ph.D., Dec 2011 7. Getrude Dibo (O-Chem) M.S., Dec 2010 8. Mark Ondari, (O-Chem) Ph.D., Dec 2010 9. Sullivan, Sean (BS/MS-Chem)-BS/MS, May 2010 10. Dennis Quist (O-Chem) M.S., May 2010 11. Washington Mutatu, (Inorg. Chem.) Ph.D., March 2010 12. Yemane Mengistu (O-Chem) M.S., Jan 2010 13. Sanjit Sanyal, (O-Chem) M.S, June 2007 <p>5. Current Ph.D. and M.S. guidance committee students.</p> <ol style="list-style-type: none"> 1. Jagannath Silwal (Biochemistry & Molecular Biology) 2. Fanny Chu (Forensics) 3. Jia Gao (Chemistry) 4. Fangyi Shen (Chemistry) 5. Evert Njomen (Chemistry) 6. Bryan Leong (Plant Research Lab) 7. Daniel Lybrand (Biochemistry & Molecular Biology) 8. Justin R. Klesmith (Biochemistry & Molecular Biology) 9. Aaron Baker (Org. Chem.) 10. Xiaoxiao Liu (Org. Chem.) 11. Peng Wang (Org. Chem.) 12. Mike Sgambelluri (Plant Biology) 13. Xiaoran Zhang (Anal. Chem.) 14. Kristen Entwistle (Biochemistry & Molecular Biology) 15. Calvin Grant (Org. Chem.) 16. Xiaofei Jia (Org. Chem.) 17. Feng Shi (Org. Chem.) 18. Jiangyin Bao (Anal. Chem.) 	<p>Past guidance committee students who defended their Thesis</p> <ol style="list-style-type: none"> 19. Remie Fawaz (Biological Chemistry) 20. Indiwari Gopallawa (Biochemistry & Molecular Biology) 21. Nossoni, Rafida (Zahra) (Org. Chem.) 22. Liu, Nan (Biochemistry & Molecular Biology) 23. Sungsuwan, Suttipun (Org. Chem.) 24. Aparajita Banerjee (Biochemistry & Molecular Biology) 25. Watson, Camille (Org. Chem.) 26. DuLaney, Steven (Org. Chem.) 27. Berbasova, Tetyana (Org. Chem.) 28. Halpin, Stephen (Anal. Chem.) 29. Vogel, Paul (Anal. Chem.) 30. Hu, Heyi (Org. Chem.) 31. Ziru Li (Biochemistry & Molecular Biology) 32. Juliana Sacoman (Biochemistry & Molecular Biology) 33. Bentley, Phillip (Org. Chem.) 34. Wang, Wenjing (Org. Chem.) 35. Nguyen, Thu (Org. Chem.) 36. Bodnar, Melissa (Anal. Chem.) 37. Wortas, Susan (Org. Chem.) 38. Suntae Kim (BMB) 39. Molengraft, Andrea (Org. Chem.) 40. Liu, Ping (Org. Chem) 41. Rahim, Ronald (Org. Chem) 42. Bhattacharjee, Somnath (Org. Chem.) 43. Molina, Maria Isabel (Plant Research Lab) 44. Job, Nileena Alexy (Analy. Chem) 45. Olumulade, Toyin (Org. Chem) 46. Ki Duk Kim (Entomology) 47. Jaime Curtis (Phys. Chem.) 48. Matthew Nethercutt (Phys. Chem.)
<p>6. Post-Doctoral Trainees</p> <ol style="list-style-type: none"> 1. Catherine Loncaric-Gatzmeyer (Bristol Meyers Squibb) 2. Brad Cox 	

7. Special undergraduate advising.

Charles Drew and McNair Minority Student Advisor

Ashley Wallace

4-Plus Bridge to the Doctorate Program (Michigan State University Department of Chemistry)

Zayna King (Medgar Evers College) funded through the Office for Inclusion and Intercultural Initiatives

MSU Summer Research Opportunity Program

Shahrazad Polk

Sydney Thomas

8. Special High School advising.

Project SEED

Bhakti R. Pokhrel (Everett High School, 2014)

Asha Abdulahi (East Lansing High School, 2013)

9. REU Mentoring.

Yvonne DePorre (2012)

Jenna Reeger (2012)

Ebony Love (2012)

Chelsea Theisen (2013)

Jonathon Hall (2014)

Oliva Goethe (2014)

Lawrence Allen (2015)

Brendyn Smith (2016)

Presentations

Invited

1. Walker, K. **2017**, BioTrans2017, Repurposing Enzymes for Biocatalysis of Natural Product Analogues Eötvös Lóránd University, Budapest, Hungary, 9-13 July 2017.
2. Walker, K. **2016**, Repurposing Enzymes for Biocatalysis of Natural Product Analogues Gordon Research Conference, Waterville Valley, NH, July 29, 2016.
3. Walker, K. **2016**, Repurposing Enzymes for Biocatalysis of Natural Product Analogues, North Central College, Naperville IL, March 7, 2016.
4. Walker, K. **2015**, Repurposing Enzymes for Biocatalysis of Natural Product Analogues, Kalamazoo College, Kalamazoo MI, October 23, 2015.
5. Walker, K. **2015**, Repurposing Enzymes for Biocatalysis of Natural Product Analogues, University of Iowa, Iowa City IA, October 9, 2015.
6. Walker, K. **2014** Application of Plant and Bacterial Enzymes in the Biocatalysis of Paclitaxel, ASBMB Annual Meeting. San Diego CA, April 26-30, 2014
7. Walker, K. **April 2014**, Application of Plant and Bacterial Enzymes in the Biocatalysis of Paclitaxel, ASBMB National Meeting, San Diego, CA.

8. Walker, K. **2014** Mechanism and Repurposing of MIO-Dependent Aminomutases, ASBMB Annual Meeting, San Diego CA, April 26-30, 2014.
9. Walker, K. **2013** Lecture: Anabolism and Catabolism of Acetylcholine in Neural Signaling. Oakland Medical School, Oakland, MI.
10. Walker, K. **2013** Moving Towards Sustainable Biocatalysis of Taxol Analogs, 2nd Annual Plant Biotechnology for Health and Sustainability, East Lansing, MI, MSU October 25, 2013.
11. Walker, K. June **2013**, Application of Plant and Bacterial Enzymes in the Biocatalysis of Paclitaxel, Academia Sinica, Nankang, Taipei, Taiwan.
12. Walker, K. March **2013**, Historical Perspective on Taxol Biosynthesis: Then and Now, University of Michigan, Ann Arbor, MI.
13. Walker, K. February **2013**, Historical Perspective on Taxol Biosynthesis: Then and Now, Weizmann Institute, Rehovot, Israel.
14. Walker, K. June **2012**, Dissecting the Mechanisms of Isozymic Aminomutases, Bioorganic Gordon Research Conference, Proctor Academy, Andover, NH.
15. Walker, K. August **2012**, Application of an NRP Synthetase in Paclitaxel Biosynthesis. PSNA Meeting, London. Ontario.
16. Walker, K. June **2010**, Green Approaches in Taxol Cancer Research, AOAC Pacific Northwest Section meeting
17. Walker, K. April **2010**, Freshman Green Chemistry Seminar, Michigan State University.
18. Walker, K. March **2010**, Washington State University.
19. Walker, K. September **2009**, Freshman Green Chemistry Seminar, Michigan State University.
20. Walker, K. March **2009**, Substrate Specificity and Reaction Stereochemistry of a *Taxus*-derived Catalysts, Zing Natural Products Conference, Antigua.
21. Walker, K. June **2008**, Substrate Specificity and Reaction Stereochemistry of a *Taxus*-Phenylalanine Aminomutase, UC San Diego, San Diego, CA.
22. Walker, K. May **2008**, Taxol Biosynthesis, Tianjin University, School of Chemical Engineering & Technology, PR China.
23. Walker, K. March **2008**, Institute of Biological Chemistry, Washington State University, Pullman, Washington.

24. Walker, K. **2007** In vivo Biocatalytic Approach to Second-generation Taxol Analogs, Department of Chemistry, Oakland University Oakland, Michigan.
25. Walker, K. **2007** Biocatalytic Approach to Second-generation Taxol Analogs, Chemistry and Chemical Biology Seminars and Lecture series, Cornell University, New York.
26. Walker, K. **2006** Evaluating the Biogenesis and Molecular Pathways of Bioactive Plant Products, ASPB Symposium on Medicinal Plants and Ethnobotany, Boston, Massachusetts.
27. Walker, K. **2006** Evaluating the biogenesis and molecular pathways of bioactive plant products. Phytochemical Society of North America annual meeting, Oxford, Mississippi.
28. Walker, K. **2006** Biocatalytic Approach to Second-generation Taxol Analogs using BAHD enzymes and PAM, Plant Biology seminar series, University of Amherst, Massachusetts.
29. Walker, K. **2005** Isolation, characterization, and flux analysis of genes on plant secondary product biosynthetic pathways, Gordon Conference, Tilton, Massachusetts.

Prior to Independent Career

30. Walker, K. **2003** Taxol: Acquisition, functional expression, and characterization of the acyl/aroyl transferases in Taxol biosynthesis, TERPNET, Lexington, Kentucky.
31. Walker, K. **2002** Taxol Biosynthesis: Stepping along the Pathway, Mérida, México.
32. Walker, K. and Chau, M. **2001** ARCS Foundation Inc. (Achievement Rewards for College Scientists). Presented to ARCS financial donors the strengths of the WSU Plant Physiology degree programs, quality of the faculty, number of published scientific articles and faculty belonging to the National Academy of Sciences, Washington State University, Pullman, WA.
33. Plant Biochemistry Research Training Course Lecture **2001** Washington State University, Pullman, WA.
34. Walker, K. **1999** Recent Advances in Taxol biosynthesis, Volcano Conference, Mt. Rainier, WA.
35. Guest Lecturer in Genetics/Cell Biology 450 (Introduction to Cell Biology) **1999** and **2000** Medicinal Natural Products Isolated from Plants, Washington State University, Pullman, WA.
36. Walker, K., **1998** Enzymatic Acylations in Taxol and Hyoscyamine Biosynthesis, Plant Physiology Department Spring Seminar, Washington State University, Pullman, WA.

37. Walker, K.D., Floss, H.G. **1994** Genetic Transformation of Mature *Taxus*; An Approach to Genetically Control the *in vitro* Production of the Anticancer Drug, Taxol. NOBCCHE Pacific Northwest Regional Meeting, Seattle, WA.
38. Walker, K., Hungerford, J., and Wekell, M. **1990** Investigations on the Ability of *Cancer magister* to Metabolize Crude Oil Constituents (Polyaromatic Hydrocarbons). Association of Analytical Chemist (AOAC) Pacific Northwest Regional Meeting, Olympia, WA.
39. Walker, K., Hungerford, J., and Wekell, M. **1989** Determination of TBT (tri-n-butyltin) in Oysters as TBT-hydride by Reaction-GC. Association of Analytical Chemist (AOAC) Pacific Northwest Regional Meeting, Olympia, WA.

Contributed

1. Walker, K. June **2008 Poster**, Substrate Specificity and Reaction Stereochemistry of a *Taxus*-Phenylalanine Aminomutase, UC San Diego, San Diego, CA.
2. Washington Mutatu, Karin L. Klettke, Sanjit Sanyal, Clifton Foster, and Kevin D. Walker **2007 Poster**: An examination of the substrate specificity of a phenylalanine aminomutase (PAM) and evaluation of the stereochemistry of the β -amino acid product, Midwest Enzyme Chemistry Conference, University of Illinois at Chicago, College of Pharmacy, Chicago, IL, USA (September)
3. Washington Mutatu, Karin L. Klettke, Sanjit Sanyal, Clifton Foster, and Kevin D. Walker **2007 Poster**: An examination of the substrate specificity of a phenylalanine aminomutase (PAM) and evaluation of the stereochemistry of the β -amino acid product, Gordon Research Conference, Enzymes Coenzymes and Metabolic Pathways, University of New England, Biddeford, ME, USA (July).
4. Walker, K. **2004 Poster**: Cloning, heterologous expression and characterization of a phenylalanine aminomutase involved in Taxol biosynthesis, Iowa State University, Ames, IA, USA, and at University of Washington, Seattle, WA, USA.

Posters Contributed by students

1. Thomas, S., Attanayake, G., Walter, T., and Walker, K.D. (2016) Studies of Phenylalanine Substituents Effects on the Activity of *Oryza sativa* Tyrosine Aminomutase Mutants (**poster/oral**) Michigan State University Summer Research Opportunity Program (SROP) 2016. **July 22, 2016 oral; July 27, 2016 MID-SURE poster.**
2. Polk, S., Shee, P., and Walker, K.D. (2016) Determining the Stereochemistry of Biosynthetic Phenylserine (**poster/oral**) Michigan State University Summer Research Opportunity Program (SROP) 2016. **July 22, 2016 oral; July 27, 2016 MID-SURE poster.**

3. Smith, B., Walter, T., and Walker, K.D. (2016) Large Scale Biocatalysis of Medicinally Relevant Phenylserine Analogues and (2R,3S)-Phenylisoserinyl Baccatin III (**poster/oral**) Michigan State University NSF REU Program: Cross-Disciplinary Training in Sustainable Chemistry and Chemical Processes. **July 28, 2016 oral; July 27, 2016 MID-SURE poster.**
4. King, Z., Walter, T., and Walker, K.D. (2015) The Stereochemical and Mechanistic Studies of Tyrosine Aminomutase in *Oryza Sativa* (**poster**) 48th Annual Metropolitan Association for College and University Biologists Conference at Montclair State University in New Jersey. Undergraduate Zayna King (Medgar Evers College, Brooklyn NY) won first place out of 30 participants in the Biochemistry section. **November 7th, 2015.**
5. Walter, T., King, Z., and Walker, K.D. (2015) High Enantioselectivity and Unique Substrate Specificity of a Tyrosine Aminomutase from *Oryza sativa* (**poster**) 35th Midwest Enzyme Chemistry Conference (MECC), Illinois Institute of Technology, Chicago IL, **September 12, 2015.**
6. Chelsea Thornburg, Dilini Ratnayake, Ruth Muchiri, and Kevin D. Walker (2014) Complete Biosynthesis of Taxol and Its Analogs from Baccatin III in Four Enzymatic Steps (**poster**). "Pinnavaia MSU Materials Chemistry Symposium". Michigan State University, East Lansing, MI. **May 10, 2014.**
7. Ruth Muchiri and Kevin D. Walker (2013) Tyrocidine Synthetase A Catalyzes the Production of Phenylisoserinyl CoA and Other Amino Phenylpropanoyl Thioesters (**poster**) 246th ACS National meeting in Indianapolis, IN **September 12th, 2013.**
8. Ruth Muchiri and Kevin D. Walker (2013) Tyrocidine Synthetase A Catalyzes the Production of Phenylisoserinyl CoA and Other Amino Phenylpropanoyl Thioesters (**poster**) 15th annual Wayne State Chemistry Graduate Research Symposium, Wayne State University, MI, **September 28th, 2013.**
9. Nishanka Dilini Ratnayake and Kevin D. Walker, (2013), Dissecting the enantioselectivity of two phenylalanine aminomutases (**oral**), 246th ACS national meeting, Indianapolis, IN. **September 2013.**
10. Chelsea Thornburg, Dilini Ratnayake, and Ruth Muchiri, (2013) Complete Biosynthesis of Taxol and Its Analogs from Baccatin III in Four Enzymatic Steps. 2013 Plant Biotechnology for Health and Sustainability Symposium (**poster**) Michigan State University, East Lansing, MI. **October 2013.**
11. Ondari, M. E.; Walker, K. D. Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, **March 21-25, 2010**, ORGN-416.
12. Nevarez, D. M.; Mengistu, Y. A.; Nawarathne, I. N.; Walker, K. D. Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, **March 21-25, 2010**, BIOL-117.

13. Nawarathne, I. N.; Walker, K. D. Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, United States, **March 21-25, 2010**, BIOT-454.
14. Nawarathne, I.N. **July 22-30, 2009 Poster** "The Biocatalysis of Paclitaxel (Taxol™) Analogues using Two Benzoyltransferases and Various Synthetically-derived Acyl Coenzyme A Compounds." ACS Summer School on Green Chemistry and Sustainable Energy, Colorado School of Mines, Golden, Colorado, USA.
15. Ondari, M.E. **July 22-30, 2009 Poster** "Biocatalysis of Second-generation Taxol Analogues using Enzyme Promiscuity." ACS Summer School on Green Chemistry and Sustainable Energy, Colorado School of Mines, Golden, Colorado, USA.
16. Mutatu, W. **July 9-17, 2008 Poster** "Biosynthesis of Unnatural β -Amino Acids Using Phenylalanine aminomutase." ACS Summer School on Green Chemistry and Sustainable Energy, Colorado School of Mines, Golden, CO, USA.
17. Mutatu, W. **October 4, 2008 Poster** "Biocatalytic synthesis of β -amino acids using phenylalanine aminomutase" XXVIII Midwest Enzyme Chemistry Conference (MECC), University of Chicago, Biological Sciences Learning Center, Chicago, IL, USA.

Publications and Patents

1. Sa, N., Rawat, R., Thornburg, C., Walker, K.D., and Roje, S. **2016 (Featured Article)** Identification and characterization of the missing phosphatase on the riboflavin biosynthesis pathway in *Arabidopsis thaliana*, *Plant J.* 88 (5), 705-716. doi: 10.1111/tpj.13291.
2. Walter, T., Wijewardena, D., and Walker, K.D. **2016** Mutation of aryl binding-pocket residues results in an unexpected activity switch in an *Oryza sativa* tyrosine aminomutase, *ACS Biochemistry* 55 (25), 3497–3503, doi: 10.1021/acs.biochem.6b00331.
3. Wijeratne, S., Liu, W., Dong, J., Ning, W., Ratnayake, N.D., Walker, K.D., Bruening, M.L., **2016** Layer-by-layer deposition with polymers containing nitrilotriacetate, a convenient route to fabricate metal- and protein-binding films, *ACS Appl. Mater. Interfaces* 8, 10164–10173.
4. Walter, T., King, Z., and Walker, K. D., **2016** A Tyrosine Aminomutase from Rice (*Oryza sativa*) Isomerizes (S)- α - to (R)- β -Tyrosine with Unique High Enantioselectivity and Retention of Configuration, *ACS Biochemistry*, 55 (1), 1–4.
5. Ratnayake, N. D., Theisen, C., Walter, T., and Walker, K. D., **2016** Whole-Cell Biocatalytic Production of Variously Substituted β -Aryl- and β -Heteroaryl- β -Amino Acids, *J. Biotechnol.*, 217, 12–21.
6. Thornburg, C.K., Wortas-Strom, S., Nosrati, M., Geiger, J.H., Walker, K.D., **2015** Kinetically and Crystallographically Guided Mutations of a Benzoate CoA Ligase (BadA)

- Elucidate Mechanism and Expand Substrate Permissivity. *ACS Biochemistry*. 50(40), 6230–6242.
7. Ratnayake, N. D.; Liu, N.; Kuhn, L. A.; Walker, K. D., **2014** Ring-Substituted α -Arylalanines for Probing Substituent Effects on the Isomerization Reaction Catalyzed by an Aminomutase. *ACS Catalysis*, 4 (9), 3077-3090.
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