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## Alexander (Leggy) Arnold, PhD

### *Curriculum Vitae*

#### PERSONAL DETAILS

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Date of Birth: 24/10/70

Nationality: German and American

#### EDUCATION

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1998-2002 Ph.D., *Organic Chemistry*, University of Groningen, Groningen, The Netherlands  
1996-1998 M.S., *Organic Chemistry*, University of Groningen, Groningen, The Netherlands  
1995 ERASMUS Scholarship for Research Projects: *Organometallic Chemistry and Biotechnology*, University of Groningen, Groningen, The Netherlands  
1991-1994 Vordiplom, *Inorganic and Organic Chemistry*, Rheinische-Westfälische Technische Hochschule Aachen, Aachen, Germany

#### WORK EXPERIENCE

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2015- Associate Professor, *Chemistry and Biochemistry*, University of Wisconsin Milwaukee, Milwaukee, WI, United States  
2009-2015 Assistant Professor, *Chemistry and Biochemistry*, University of Wisconsin Milwaukee, Milwaukee, WI, United States  
2007-2009 Staff Scientist, *Chemical Biology & Therapeutics*, St. Jude Children's Research Hospital, Memphis, TN, United States  
2006-2007 Research Laboratory Specialist, *Chemical Biology & Therapeutics*, St. Jude Children's Research Hospital, Memphis, TN, United States  
2005-2006 Senior Research Technologist, *Chemical Biology & Therapeutics*, St. Jude Children's Research Hospital, Memphis, TN, United States  
2005 Associate Specialist, *Pharmaceutical Chemistry*, UC San Francisco, CA, United States  
2002-2005 Postdoctoral Researcher, *Pharmaceutical Chemistry*, UC San Francisco, CA, United States

#### MEMBERSHIPS AND POSITIONS

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2002-present Member of the American Chemical Society  
2009-present Member of the Society for Laboratory Automation and Screening  
2010-present Founding Member of the Advisory Board of the Milwaukee Institute of Drug Discovery  
2011-present Member of the Clinical and Translational Science Institute at the Medical College of Wisconsin  
2013-present Associate Editor of Nuclear Receptor Research  
2013-present Associate Editor of Biomolecular Research & Therapeutics  
2014-present Member of the Advisory Board of Bridges and Cures  
2014-present PI Scientist of the Shimadzu Laboratory for Advanced & Applied Analytical Chemistry at UWM  
2017-present Chief Scientific Officer of Pantherics Incorporated

## HONORS AND AWARDS

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2018	Patent Award (UWM Research Foundation)
2017	Technology Licensing Award (UWM Research Foundation)
2017	Patent Award (UWM Research Foundation)
2014	UWM Foundation Research Award (UWM Office of Research)
2014	Technology Licensing Award (UWM Research Foundation)
2013	Young Investigator Award (16 <sup>th</sup> Workshop on Vitamin D)
2010	Graduate Research Fellow (GWSW/UWM)
2009	Travel award for NIH workshop "Chemical Approaches to Nuclear Receptor and Metabolism"
2006	Employee of the Quarter, St. Jude Children's Research Hospital, Memphis, TN, United States
2001	Lecture Award NCCC II Leiden, The Netherlands
1998-2002	Ubbo Emmius Ph.D. Scholarship
1998-2002	EET-Grant (Economy, Ecology, Technology) from the Dutch Ministry of Economic Affairs.
1997	Nomination for the Organon prize for undergraduate research
1996-1997	ERASMUS Scholarship

## TEACHING AND SUPERVISION

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2009-present *University of Wisconsin-Milwaukee, Milwaukee, WI, United States*

### *Teaching Spring 2018*

CHEM 691, Senior Research; 2 enrolled, 5 credit hours, Undergraduate, Independent Study.  
CHEM 692, Senior Research; 1 enrolled, 2 credit hours, Undergraduate, Independent Study.  
CHEM 744, Medicinal Chemistry II; 17 enrolled, 51.0 credit hours, Upper Division, Graduate Lecture  
CHEM 912, Graduate Seminar; 69 enrolled, 69.0 credit hours, Graduate, Seminar.  
CHEM 931, Advanced Seminar in Analytical Chemistry; 2 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 932, Advanced Seminar in Biochemical Chemistry; 2 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 934, Advanced Seminar in Organic Chemistry; 2 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 990, Research Organic Chemistry; 2 enrolled, 10.0 credit hours, Graduate, Independent Study.  
CHEM 993, Research Analytical; 2 enrolled, 10.0 credit hours, Graduate, Independent Study.  
CHEM 996, Research Biochemistry; 2 enrolled, 10.0 credit hours, Graduate, Independent Study.

### *Teaching Fall 2017*

CHEM 691, Senior Research; 2 enrolled, 6 credit hours, Undergraduate, Independent Study.  
CHEM 748, Physical Organic Chemistry; 12 enrolled, 36.0 credit hours, Upper Division, Graduate Lecture.  
CHEM 912, Graduate Seminar; 69 enrolled, 69.0 credit hours, Graduate, Seminar.  
CHEM 931, Advanced Seminar in Analytical Chemistry; 3 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 932, Advanced Seminar in Biochemical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 934, Advanced Seminar in Organic Chemistry; 2 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 990, Research Organic Chemistry; 2 enrolled, 10.0 credit hours, Graduate, Independent Study.  
CHEM 993, Research Analytical; 3 enrolled, 10.0 credit hours, Graduate, Independent Study.  
CHEM 996, Research Biochemistry; 2 enrolled, 10.0 credit hours, Graduate, Independent Study.

### *Teaching Summer 2017*

Workshop in IR spectroscopy for Senior Undergraduate students

### *Teaching Spring 2017*

CHEM 345, Organic Chemistry; 126 enrolled, 378.0 credit hours, Upper Division, Undergraduate, Lecture.  
CHEM 691, Senior Research; 2 enrolled, 6 credit hours, Undergraduate, Independent Study.  
CHEM 931, Advanced Seminar in Analytical Chemistry; 3 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 932, Advanced Seminar in Biochemical Chemistry; 2 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 934, Advanced Seminar in Organic Chemistry; 2 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 990, Research Organic Chemistry; 2 enrolled, 10.0 credit hours, Graduate, Independent Study.  
CHEM 993, Research Analytical; 3 enrolled, 10.0 credit hours, Graduate, Independent Study.

CHEM 996, Research Biochemistry; 2 enrolled, 10.0 credit hours, Graduate, Independent Study.

*Teaching Fall 2016*

CHEM 343, Organic Chemistry; 157 enrolled, 471.0 credit hours, Upper Division, Undergraduate, Lecture.

CHEM 691, Senior Research; 2 enrolled, 4 credit hours, Undergraduate, Independent Study.

CHEM 692, Senior Thesis; 1 enrolled, 3 credit hours, Undergraduate, Independent Study.

CHEM 931, Advanced Seminar in Analytical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.

CHEM 932, Advanced Seminar in Biochemical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.

CHEM 934, Advanced Seminar in Organic Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.

CHEM 990, Research Organic Chemistry; 1 enrolled, 6.0 credit hours, Graduate, Independent Study.

CHEM 993, Research Analytical; 1 enrolled, 2.0 credit hours, Graduate, Independent Study.

CHEM 996, Research Biochemistry; 2 enrolled, 6.0 credit hours, Graduate, Independent Study.

*Teaching Spring 2016*

CHEM 691, Senior Research; 3 enrolled, 4 credit hours, Undergraduate, Independent Study.

CHEM 744, Medicinal Chemistry II; 9 enrolled, 27.0 credit hours, Upper Division, Graduate Lecture.

CHEM 931, Advanced Seminar in Analytical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.

CHEM 932, Advanced Seminar in Biochemical Chemistry; 2 enrolled, 2.0 credit hours, Graduate, Seminar.

CHEM 934, Advanced Seminar in Organic Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.

CHEM 990, Research Organic Chemistry; 1 enrolled, 6.0 credit hours, Graduate, Independent Study.

CHEM 993, Research Analytical; 1 enrolled, 9.0 credit hours, Graduate, Independent Study.

CHEM 996, Research Biochemistry; 2 enrolled, 10.0 credit hours, Graduate, Independent Study.

*Teaching Fall 2015*

CHEM 541, Bioprocess Chemical Engineering; 2 enrolled, 3.0 credit hours, Undergraduate, Lecture.

CHEM 692, Senior Research; 2 enrolled, 2-5 credit hours, Undergraduate, Independent Study.

CHEM 931, Advanced Seminar in Analytical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.

CHEM 932, Advanced Seminar in Biochemical Chemistry; 2 enrolled, 2.0 credit hours, Graduate, Seminar.

CHEM 934, Advanced Seminar in Organic Chemistry; 2 enrolled, 2.0 credit hours, Graduate, Seminar.

CHEM 990, Research Organic Chemistry; 2 enrolled, 10.0 credit hours, Graduate, Independent Study.

CHEM 993, Research Analytical; 1 enrolled, 9.0 credit hours, Graduate, Independent Study.

CHEM 996, Research Biochemistry; 2 enrolled, 7.0 credit hours, Graduate, Independent Study.

*Teaching Spring 2015*

CHEM 647, Physical Methods in Organic Chemistry; 16 enrolled, 48.0 credit hours, Undergrad/Graduate, Lecture.

CHEM 691, Senior Research; 2 enrolled, 3 credit hours, Undergraduate, Independent Study.

CHEM 931, Advanced Seminar in Analytical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.

CHEM 932, Advanced Seminar in Biochemical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.

CHEM 934, Advanced Seminar in Organic Chemistry; 2 enrolled, 2.0 credit hours, Graduate, Seminar.

CHEM 990, Research Organic Chemistry; 2 enrolled, 5.0 credit hours, Graduate, Independent Study.

CHEM 993, Research Analytical; 1 enrolled, 6.0 credit hours, Graduate, Independent Study.

CHEM 996, Research Biochemistry; 1 enrolled, 2.0 credit hours, Graduate, Independent Study.

*Teaching Fall 2014*

CHEM 345, Organic Chemistry; 109 enrolled, 327.0 credit hours, Upper Division, Undergraduate, Lecture.

CHEM 691, Senior Research; 5 enrolled, 2-5 credit hours, Undergraduate, Independent Study.

CHEM 931, Advanced Seminar in Analytical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.

CHEM 932, Advanced Seminar in Biochemical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.

CHEM 934, Advanced Seminar in Organic Chemistry; 2 enrolled, 2.0 credit hours, Graduate, Seminar.

CHEM 990, Research Organic Chemistry; 2 enrolled, 5.0 credit hours, Graduate, Independent Study.

CHEM 993, Research Analytical; 1 enrolled, 6.0 credit hours, Graduate, Independent Study.

CHEM 996, Research Biochemistry; 1 enrolled, 2.0 credit hours, Graduate, Independent Study.

*Teaching Spring 2014*

CHEM 343, Organic Chemistry; 173 enrolled, 465.0 credit hours, Upper Division, Undergraduate, Lecture.

CHEM 741, Topics in Organic Chemistry; 8 enrolled, 16.0 credit hours, Graduate, Lecture  
CHEM 692, Senior Research; 1 enrolled, 2.0 credit hours, Undergraduate, Independent Study.  
CHEM 931, Advanced Seminar in Analytical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 932, Advanced Seminar in Biochemical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 934, Advanced Seminar in Organic Chemistry; 4 enrolled, 4.0 credit hours, Graduate, Seminar.  
CHEM 990, Research Organic Chemistry; 4 enrolled, 13.0 credit hours, Graduate, Independent Study.  
CHEM 993, Research Analytical; 1 enrolled, 3.0 credit hours, Graduate, Independent Study.  
CHEM 996, Research Biochemistry; 1 enrolled, 5.0 credit hours, Graduate, Independent Study.

#### *Teaching Fall 2013*

CHEM 647, Physical Methods in Organic Chemistry; 16 enrolled, 48.0 credit hours, Undergrad/Graduate, Lecture.  
CHEM 932, Advanced Seminar in Biochemical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 934, Advanced Seminar in Organic Chemistry; 2 enrolled, 2.0 credit hours, Graduate, Seminar.  
CHEM 990, Research Organic Chemistry; 2 enrolled, 8.0 credit hours, Graduate, Independent Study.  
CHEM 996, Research Biochemistry; 1 enrolled, 4.0 credit hours, Graduate, Independent Study.

#### *Teaching Spring 2013*

CHEM 691, Senior Research; 1 enrolled, 2.0 credit hours, Undergraduate, Independent Study.  
CHEM 748, Physical Organic Chemistry; 12 enrolled, 36.0 credit hours, Upper Division, Graduate Lecture.  
CHEM 931, Advanced Seminar in Analytical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 932, Advanced Seminar in Biochemical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 934, Advanced Seminar in Organic Chemistry; 2 enrolled, 2.0 credit hours, Graduate, Seminar.  
CHEM 990, Research Organic Chemistry; 2 enrolled, 10.0 credit hours, Graduate, Independent Study.  
CHEM 993, Research Analytical; 1 enrolled, 2.0 credit hours, Graduate, Independent Study.  
CHEM 996, Research Biochemistry; 2 enrolled, 6.0 credit hours, Graduate, Independent Study.

#### *Teaching Fall 2012*

CHEM 343, Organic Chemistry; 161 enrolled, 483.0 credit hours, Upper Division, Undergraduate, Lecture.  
CHEM 691, Senior Research; 2 enrolled, 7.0 credit hours, Undergraduate, Independent Study.  
CHEM 931, Advanced Seminar in Analytical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 932, Advanced Seminar in Biochemical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 934, Advanced Seminar in Organic Chemistry; 2 enrolled, 2.0 credit hours, Graduate, Seminar.  
CHEM 990, Research Organic Chemistry; 2 enrolled, 6.0 credit hours, Graduate, Independent Study.  
CHEM 993, Research Analytical; 1 enrolled, 2.0 credit hours, Graduate, Independent Study.  
CHEM 996, Research Biochemistry; 2 enrolled, 5.0 credit hours, Graduate, Independent Study.

#### *Teaching Summer 2012*

CHEM 691, Senior Research; 2 enrolled, 5.0 credit hours, Undergraduate, Independent Study.

#### *Teaching Spring 2012*

CHEM 599, Special Projects in Chemistry; 1 enrolled, 5.0 credit hours, Upper Division, Undergraduate, Independent Study.  
CHEM 691, Senior Research; 1 enrolled, 3.0 credit hours, Undergraduate, Independent Study.  
CHEM 741, Topics in Organic Chemistry; 9 enrolled, 18.0 credit hours, Graduate, Lecture  
CHEM 932, Advanced Seminar in Biochemical Chemistry; 2 enrolled, 2.0 credit hours, Graduate, Seminar.  
CHEM 934, Advanced Seminar in Organic Chemistry; 2 enrolled, 2.0 credit hours, Graduate, Seminar.  
CHEM 990, Research Organic Chemistry; 2 enrolled, 7.0 credit hours, Graduate, Independent Study.  
CHEM 993, Research Analytical; 1 enrolled, 3.0 credit hours, Graduate, Independent Study.  
CHEM 996, Research Biochemistry; 2 enrolled, 11.0 credit hours, Graduate, Independent Study.

#### *Teaching Fall 2011*

CHEM 343, Organic Chemistry; 155 enrolled, 465.0 credit hours, Upper Division, Undergraduate, Lecture.  
CHEM 647, Physical Methods in Organic Chemistry; 13 enrolled, 39.0 credit hours, Undergrad/Graduate, Lecture.  
CHEM 691, Senior Research; 1 enrolled, 4.0 credit hours, Undergraduate, Independent Study.  
CHEM 931, Advanced Seminar in Analytical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 932, Advanced Seminar in Biochemical Chemistry; 2 enrolled, 2.0 credit hours, Graduate, Seminar.

CHEM 934, Advanced Seminar in Organic Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 990, Research Organic Chemistry; 1 enrolled, 4.0 credit hours, Graduate, Independent Study.  
CHEM 993, Research Analytical; 1 enrolled, 3.0 credit hours, Graduate, Independent Study.  
CHEM 996, Research Biochemistry; 2 enrolled, 10.0 credit hours, Graduate, Independent Study.

*Teaching Summer 2011*

CHEM 993, Research Analytical; 1 enrolled, 6.0 credit hours, Graduate, Independent Study.  
CHEM 996, Research Biochemistry; 1 enrolled, 3.0 credit hours, Graduate, Independent Study.

*Teaching Spring 2011*

CHEM 748, Physical Organic Chemistry; 10 enrolled, 30.0 credit hours, Upper Division, Graduate Lecture.  
CHEM 912, Graduate Seminar; 45 enrolled, 45.0 credit hours, Graduate, Seminar.  
CHEM 931, Advanced Seminar in Analytical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 932, Advanced Seminar in Biochemical Chemistry; 2 enrolled, 2.0 credit hours, Graduate, Seminar.  
CHEM 934, Advanced Seminar in Organic Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 990, Research Organic Chemistry; 1 enrolled, 4.0 credit hours, Graduate, Independent Study.  
CHEM 993, Research Analytical; 1 enrolled, 8.0 credit hours, Graduate, Independent Study.  
CHEM 996, Research Biochemistry; 2 enrolled, 11.0 credit hours, Graduate, Independent Study.

*Teaching Fall 2010*

CHEM 691, Senior Research; 1 enrolled, 3.0 credit hours, Upper Division, Undergraduate, Independent Studies.  
CHEM 912, Graduate Seminar; 56 enrolled, 56.0 credit hours, Graduate, Seminar.  
CHEM 931, Advanced Seminar in Analytical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 932, Advanced Seminar in Biochemical Chemistry; 2 enrolled, 2.0 credit hours, Graduate, Seminar.  
CHEM 993, Research Analytical; 1 enrolled, 5.0 credit hours, Graduate, Independent Study.  
CHEM 996, Research Biochemistry; 2 enrolled, 10.0 credit hours, Graduate, Independent Study.

*Teaching Summer 2010*

CHEM 691, Senior Research; 2 enrolled, 5.0 credit hours, Upper Division, Undergraduate, Independent Studies.

*Teaching Spring 2010*

CHEM 691, Senior Research; 1 enrolled, 4.0 credit hours, Upper Division, Undergraduate, Independent Studies.  
CHEM 931, Advanced Seminar in Analytical Chemistry; 1 enrolled, 1.0 credit hours, Graduate, Seminar.  
CHEM 932, Advanced Seminar in Biochemical Chemistry; 2 enrolled, 2.0 credit hours, Graduate, Seminar.  
CHEM 993, Research Analytical; 1 enrolled, 5.0 credit hours, Graduate, Independent Study.  
CHEM 996, Research Biochemistry; 2 enrolled, 10.0 credit hours, Graduate, Independent Study.

*Teaching Fall 2009*

CHEM 647, Physical Methods of Organic Chemistry; 11 enrolled, 33.0 credit hours, Upper Division, Undergrad/Graduate, Lecture.

CHEM 691, Senior Research; 2 enrolled, 4.0 credit hours, Upper Division, Undergraduate, Independent Studies.

***Arnold Group Members***

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1. Mae Stepanski, Undergraduate Student, "Effect of novel imidazobenzodiazepine to reduce airway hyperresponsiveness in ova s/c mice" **January 2017 – current.**
2. Brandon Mikulsky, Undergraduate Student, "Investigating anti-inflammatory properties of novel imidazobenzodiazepines" **January 2017- current.**
3. Nicholas Zahn, Graduate Student, "Investigation of new treatment for pain, asthma and epilepsy" **January 2018 – current.**
4. Porta Montgomery, Undergraduate Student, "Using rotarod studies to determine sedation of new drug candidates" **January 2017- May 2017.**
5. Melissa Schussman, Undergraduate Student, "Analysis of behavioral changes of imidazobenzodiazepine treated mice" **September 2017- May 2017.**

6. Anthony Garcia, Undergraduate Student, "Immunohistochemistry of GABA<sub>A</sub>R  $\alpha$ 5 subunit in mouse lung and brain" **September 2017- December 2017.**
7. Labina Petrovska "Undergraduate Student, "Development of inhibitors for ExoU- a type III secretion system of Pseudomonas aeruginosa" **June 2017- December 2017.**
8. Jon Gould, "Undergraduate Student, "Synthesis of new pepsin inhibitors" **June 2017 – December 2017.**
9. Alec Huber, Undergraduate Student, "Investigation of CNS effects of novel imidazobenzodiazepines" **January 2017- August 2018.**
10. Alessandra Ebben, Undergraduate Student, "Synthesis of calcitroic acid" **January 2017- August 2017.**
11. Ted Harris, Graduate Student, "Asthma and Inflammation" **January 2017 – September 2017.**
12. Tania Mutchie, Graduate Student, "Synthesis of VDR ligands and inhibitor of VDR-coregulator interactions" **January 2017 – current.**
13. Rashid Roni Graduate Student, "Preclinical evaluation using LCMS/MS" **January 2017 – current.**
14. Elliot DeMilo Graduate Student, "Biological investigation of calcitroic acid and its metabolites in vitro and in vivo" **January 2017 – current.**
15. Zakari Saad Agherrabi, Undergraduate Student, "Identification of Novel Pepsin Inhibitors for Target Drugs to Treat Laryngopharyngeal Reflux Disease" **January 2017 – April 2017.**
16. Erica Lutz Undergraduate Student, "Investigation of new drug candidates for asthma" **January 2017 – April 2017.**
17. Victoriia Senych, Undergraduate Student, "Synthesis of calcitroic acid" **June 2016-June 2017.**
18. Rodrigo Rafael Ramos Hernandez, Graduate Student from the University of Veracruzana, "Synthesis of a new intrinsic fluorescent VDR ligand" **January 2016- January 2017.**
19. Ramos Morales Fernando Rafael visiting scholar from the University of Veracruzana, "Synthesis of a new intrinsic fluorescent VDR ligand". **January 2016- January 2017.**
20. Ivette Bravo, graduate student for the University of Veracruzana, "Evaluation of new asthma compounds using microsomal stability studies and rotarod" **May 2016- December 2016.**
21. Rodrigo Rafael Ramos Hernandez (University of Veracruzana), "Synthesis of a new intrinsic fluorescent VDR ligand" **January 2016- January 2017.**
22. Owen Philip John Dinauer, Undergraduate Student, "Synthesis of new VDR modulators" **January 2016- April 2016.**
23. Leah Marie Radde, Undergraduate Student, "Identification of new pepsin inhibitors as new treatment for laryngopharyngeal reflux disease (LPRD)" **January 2016 – December 2016.**
24. Benjamin Hartzler, Undergraduate Student, "Determination of GABA(A) receptor subunit in the mouse lung" **September 2015 – December 2016.**
25. Dana Shannon, Undergraduate Student, "Evaluation of small molecule microsomal stability using mass spectrometry" **September 2015 – December 2016.**
26. Nicholas Zahn, Research Intern, "Evaluation of small molecule microsomal stability using mass spectrometry" **June 2015 – December 2017.**
27. Dr. Gloria Forkuo, Postdoctoral Associate, "Development of new drugs for asthma by targeting GABA(A) receptors in the lung" **March 2015- October 2017.**
28. Charles Strangl, Undergraduate Student, "Synthesis of VDR-Coregulator Inhibitors" **January 2015-December 2015.**
29. Amanda Nieman, Graduate Student, "Asthma and Inflammation" **January 2015 – current.**
30. Olivia Yu, Graduate Student, "Modulators of the vitamin D receptor and mucous production in asthma" **January 2015 – current.**
31. Nicholas Zahn, Undergraduate Student, "Pharmacokinetics of novel asthma drugs" **January 2015 – June 2015.**
32. Revathi Kodali, Research Associate, "Evaluation of small molecule microsomal stability using mass spectrometry" **January 2015- current.**
33. DeMarco Dejuan Jones, Undergraduate Student, "The most common superbug: MRSA" **January 2015 – May 2015.**
34. Marina Sidorko, Undergraduate Student, "Quantification of drug candidates in different mouse tissue" **September 2014 – May 2015.**
35. Alexandra Dzubinski, Undergraduate Student, "Development of an in vivo model for laryngopharyngeal reflux disease (LPRD)" **September 2014 – Summer 2015.**
36. Gino Scuncio, Undergraduate Student, "Development of new assays to characterize pepsin inhibitors as new treatment for laryngopharyngeal reflux disease (LPRD)" **September 2014 – May 2016**

37. Chris Goetz, Undergraduate Student, "Identification of novel therapeutics for laryngopharyngeal reflux disease (LPRD)" **May 2014 – September 2015.**
38. Skylar Gabel-Eissens, Undergraduate Student, "Synthesis of VDR-Coregulator inhibitors" May 2014 – August 2014
39. Revathi Kodali, Research Intern, "Evaluation of small molecule microsomal stability using mass spectrometry" **January 2014- December 2014.**
40. Kodjo Amedome, Undergraduate Student, "Recent examples of the Buchwald- Hartwig reactions" **January 2014 – May 2014.**
41. Nishita Yvas, Graduate Student, "Development of vitamin D receptor-corepressor inhibitors as novel vitamin D receptor agonists" **January 2013 – May 2014.**
42. Grant Fernstrum, Graduate Student, "Development of reversible vitamin D receptor-coactivator inhibitors" **January 2014 – June 2016.**
43. Luis Sanchez, Undergraduate Student, "Synthesis of non-secosteroidal vitamin D receptor antagonists" **January 2014 – May 2015.**
44. Joshua Victor Preston, Undergraduate Student, "Sequencing of nuclear receptor vectors to establish a plasmid data base" **June 2013 – January 2015.**
45. Jonathan Bogart, Undergraduate Student, "Synthesis of VDR-coactivator inhibitors based on the GW0742 scaffold" **June 2013 – June 2014.**
46. Margaret Guthrie, Graduate Student, "Development of pre-clinical high throughput screening assays" **January 2013 – December 2017.**
47. Nicholas Nassif, Undergraduate Student, "Expression and Purification of vitamin D receptor and determination of inhibitor binding modes" **September 2012 – May 2013.**
48. Dr. Preetpal Singh Sidhu, Postdoctoral Researcher, "Development of selective vitamin D receptor-coregulator inhibitors" **August 2012 – May 2014.**
49. Belaynesh Feleke, Graduate Student "Development of non-secosteroidal ligands for the vitamin D receptor" **May 2012 – August 2014.**
50. Jonathan Temmer, Undergraduate Student, "Synthesis of a fluorescent probe for the detection of promiscuous inhibitors" **May 2012 – December 2012.**
51. Nicholas Talerico, Undergraduate Student, "Synthesis of Imines for the parallel synthesis of vitamin D receptor-coactivator inhibitors" **May 2012 – August 2012.**
52. Cynthia Henderson, Undergraduate Student, "Expression and Purification of vitamin D receptor protein" **May 2012 – August 2012.**
53. Robin Goy, Undergraduate Student, "Expression and Purification of retinoid X receptor protein" **May 2012 – May 2014.**
54. Angela Zivkovic, Undergraduate Student, "Synthesis of a Novel Non-secosteroidal Vitamin D Receptor Agonist." **January 2012 –May 2012.**
55. Nina Yina Yuan, Graduate Student, "Development of a high throughput screening assay for GABA<sub>A</sub> receptor modulator" **December 2011 – August 2016.**
56. Chinedum Kevin, Undergraduate Student, "Binding mode identification of small molecule inhibitors of the vitamin D receptor-coactivator interaction" **August 2011 – May 2012.**
57. Nina Yina Yuan, Undergraduate Student, "Development of an automated patch-clamp assay for GABA<sub>A</sub> receptor subtype-selective modulators" **May 2011 – August 2011.**
58. Nicholas Talerico, Undergraduate Student, "Synthesis of Coregulator Binding Inhibitors for the Vitamin D Receptor" **May 2011 – August 2011.**
59. Nina Yina Yuan, Undergraduate Student, "An automated subtype-selective GABA<sub>A</sub> receptor patch-clamp assay using transient transfected HEK293T cells" **January 2011 –June 2011.**
60. Kelly Teske, Graduate Student, , "Development of selective vitamin D receptor-coregulator inhibitors" **December 2010 – August 2015.**
61. Dana Pearson, Undergraduate Student, "Large scale expression of the vitamin D receptor ligand binding domain". **August 2010 – December 2010.**
62. Dr. Premchendar Nandhikonda, Postdoctoral Researcher, "Development of a dual vitamin D receptor fluorescence polarization assay and the development of selective vitamin D receptor-coregulator inhibitors" **August 2010 – June 2013.**
63. Travis Russell Dove, Undergraduate Student, "Development of a fluorescently labeled ligand for the vitamin D receptor" **May 2010 – August 2010.**

64. Nina Yina Yuan, Undergraduate Student, "Identification of binding modes of vitamin D receptor-coactivator inhibitors" **May 2010 – August 2010.**
65. Travis Russell Dove, Undergraduate Student, "Determination of cytotoxicity of vitamin D receptor-coactivator inhibitors" **January 2010 – May 2010.**
66. Dr. Wen Zhang, Postdoctoral Researcher, "Development of selective vitamin D receptor-coregulator inhibitors" **January 2010 – August 2010.**
67. Tahniyath Ara, Graduate Student, "Expression, Purification and Crystallization of the vitamin D receptor ligand binding domain" **January 2010 – April 2013.**
68. Athena Baranowski, Graduate Student, "Evaluation of vitamin D receptor-coactivator inhibitors using cell based assays" **January 2010 – August 2013.**
69. Mikola Zhmendak, Undergraduate Student, "Establishment of a chemical inventory system for the Department of Chemistry and Biochemistry" **August 2009 – December 2010.**
70. Nickolas Eric Tadeo, Undergraduate Student, "Theoretical concepts of measuring toxicity in cells" **August 2009 – December 2010.**
71. Megan McCallum, Graduate Student, "Miniaturization of biophysical assays for drug candidates" **August 2009 – May 2013.**

2005-2009 *St. Jude Children's Research Hospital, Memphis, TN, United States*

### **Supervision**

1. Priya Velusamy, Research Technologist, **2008-2009**, "Synthesis of ATM kinase inhibitors as chemotherapeutic reagents".
2. Thiaz Rivera Vargas, Student, University Denis Diderot Paris, **2008**, "Identification of natural promoters for T3 regulated genes mediated by thyroid receptors"
3. Cindy Choy, Research Technologist, **2007-2009**, "Parallel synthesis of acridine based anti-malaria drugs"
4. Richard Miskimins, Student, Brigham Young University of Idaho, **2007**, "Assembly of a FDA approved drugs library for HST purpose and HTS screening for glucocorticoid receptor agonists using a specific bioactive compound library" (Second best POE 2007 Basic Science Papers)
5. Florent Ubelmann, Student, University Denis Diderot Paris, **2007**, "Development of a thyroid cancer cell line that stably expressed an T3 responsive luciferase reporter"
6. Min Lu, Senior Research Technologist, **2007-2008**, "Synthesis of small molecule libraries"
7. Patricia Ranaivo, Research Technologist, **2006-2007**, "Synthesis of BODIPY-labeled colchicine"
8. Aaron Kosinski, Research Technologist, **2006-2008**, "Expression of nuclear receptor proteins"
9. Christina Roels, PharmD Student, Wingate University NC, **2006** "Synthesis of Alpha-Helical Proteomimetics Targeting Kaposi's Sarcoma-Associated Herpes Virus (KSHV)". (Second best POE 2006 Basic Science Papers)

2002-2005 *UC San Francisco, San Francisco, CA, United States*

### **Supervision**

1. Gerlof Kruidhof, Student, University of Groningen, **2003** "Synthesis of indole derivatives as potential inhibitors of the nuclear hormone receptor coactivator binding"
2. Dave Smithson, Student, UCSF, **2004** "Synthesis of adenosine analogs as potential inhibitors of purine nucleoside phosphorylases"
3. Lillian Seu, Student, Bernard College, **2004** "Synthesis of biarylethers as ion channel modulators"
4. Andrea C. McReynolds, Research Technologist, **2004-2005** "Expression of the thyroid and androgen hormone receptor proteins"

*University of Groningen, Groningen, The Netherlands*

### **Assistant**

1. Tutorials for organic chemistry I and II for undergraduate students
2. Organic chemistry lab (I-V) for biologists, chemists, and medical undergraduate students
3. Organometallic chemistry lab for undergraduate chemists

**Supervision** (Master (Graduate) research project)



1. Hinke Malda, Student, University of Groningen, **1999-2001**, “Copper catalyzed enantioselective allylic alkylation with diorganozinc compounds using phosphoramidite ligands”.
2. Anthoni W. van Zijl, Student, University of Groningen, **2000-2002**, “Copper catalyzed enantioselective allylic alkylation with diorganozinc compounds using phosphoramidite ligands”.

## **COMMITTEE AND ADMINISTRATION**

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### PhD and MS Committee:

1. MS Thesis Chair, Kelly Pauly, “Identification of microplastics in water” **September 2018 - current.** (PI:Arnold)
2. PhD Thesis Committee Member, Alexander Vincent, “Synthesis of an artificial beta-sheet” **August 2018 – current.** (PI:Schwabacher)
3. PhD Thesis Committee Member, Vilashini Rajaratnam, “In vivo evaluation of ceramidase inhibitors” **August 2018 – current.** (PI:Mirza)
4. PhD Thesis Chair, Nicolas Zahn, **January 2017- current.** (PI:Arnold)
5. PhD Thesis Committee Member, Anahit Campbell, “Urine analysis using ICPMS” **January 2018- current.** (PI:Mirza)
6. PhD Thesis Committee Member, Md. Mohiminul Islam, “Identification of biomarkers for Glioblastoma” **January 2019- current.** (PI:Mirza)
7. PhD Thesis Committee Member, Jawad Bin Belayet, “Acid-catalyzed Reaction of Carbonyl Compounds with Ethyl Diazoacetate” **September 2017 – current.** (PI:Hossain)
8. PhD Thesis Committee Member, Prithu Mondal, “Synthesis of imidazobenzodiazepine for cancer” **January 2017 – current.** (PI:Cook)
9. PhD Thesis Committee Member, Kamal Prasad Pandey, “Synthesis of imidazobenzodiazepine for depression”. **January 2017 – current.** (PI:Cook)
10. PhD Thesis Committee Member, Md Asad Uz Zaman, “Effects of the Leaving Groups on Photo-Induced Benzyl Cation Formation and Subsequent DNA Cross-Linking” **January 2017 – current.** (PI:Peng)
11. PhD Thesis Committee Chair, Tania Mutchie, “Synthesis of VDR ligands and inhibitor of VDR-coregulator interactions” **January 2017 – current.** (PI:Arnold)
12. PhD Thesis Committee Chair, Rashid Roni, “Preclinical evaluation of drug candidates using LCMS/MS” **January 2017 – current.** (PI:Arnold)
13. PhD Thesis Committee Chair, Elliot DeMilo, “Biological investigation of calcitric acid and its metabolites in vitro and in vivo” **January 2017 – current.** (PI:Arnold)
14. PhD Thesis Committee Chair, Ted Harris, “Asthma and Inflammation” **January 2017 – Summer 2017.** (PI:Arnold)
15. PhD Thesis Committee Member, Ahmed Taukir “Development of imidazobenzodiazepine to treat cancer” **January 2016 – current.** (PI:Cook)
16. PhD Thesis Committee Member, Khorshada Jahan, “Development of novel HDAC inhibitors” **September 2016 - current.** (PI:Hossain)
17. PhD Thesis Committee Member, Kevin Wolters, “Extraction with ionic liquids” **October 2016 – current.** (PI:Dietz)
18. PhD Thesis Committee Member, Joseph Roman, “Investigations to determine structure and kinetics of bacterial Renalase” **January 2016 – August 2018.** (PI:Moran)
19. PhD Thesis Committee Member, Nemanja Vuksanovic, “Characterization of nonribosomal peptide synthetases” **September 2015 - current.** (PI:Silvaggi)
20. PhD Thesis Committee Member, Tyler Fenske, “A continuous detector of metal ions in waste water” **January 2015 – current.** (PI:Schwabacher)
21. PhD Thesis Committee Member, Charles Smith, “Determining metal ion transfer from aqueous solution into an ionic liquid” **January 2015 – current.** (PI:Dietz)
22. PhD Thesis Committee Member, Farjana Rashid, “Design and synthesis of different BZ/Gabereric subtype selective ligand to treat cancers, pain disorders and schizophrenia via a common early intermediate” **December 2016-current.** (PI:Cook)
23. PhD Thesis Committee Member, Heli Fan, “New anticancer reagents based on oxidative alkylation of DNA” **September 2014 – current.** (PI:Peng)

24. PhD Thesis Committee Member, Surajedeen, Omolabake, "The synthesis of fluorescent 3,6-dihydroxylanthones: a route to substituted fluoresceins". **January 2014 – June 2016.** (PI:Schwabacher)
25. PhD Thesis Committee Chair, Amanda Youmans, "Asthma and Inflammation" **January 2015 – current.** (PI:Arnold)
26. PhD Thesis Committee Chair, Olivia Yu, "Synthesis of calcitroic acid and its phase II metabolites" **January 2015 – current.** (PI:Arnold).
27. PhD Thesis Committee Member, Monica Thomas (MCW), "Structural and functional analysis on the human chemokine CCL28 with implication for its role in homeostasis and disease" **November 2014 – May 2018.** (PI:Brian Volkman)
28. MS Thesis Committee Chair, Grant Fernstrum, "Synthesis of non-covalent VDR-coactivator inhibitors" **January 2014 - December 2015.** (PI:Arnold)
29. PhD Thesis Committee Member, Lanlan Han, "Structure-Function Relationships in Bacterial Regulatory Proteins and an Enzyme Involved in Antibiotic Biosynthesis" **January 2013 – December 2017.** (PI:Silvaggi)
30. MS Thesis Committee Member, Sarah Oplawski, "Extraction of Indicator dyes into imidazolium-based ionic liquids" **November 2013 – May 2014.** (PI:Dietz)
31. PhD Thesis Committee Member, German Fonseca, "Enantiospecific Stereospecific Strategy for the Total Synthesis of Sarpagine and Macroline Related Oxindole Alkaloids: First Total Synthesis of Affinisine Oxindole, Isoalstonisine, Alstofoline, Macrogentine, N(1)-demethylalstonisine, Alstonoxine A and Second Generation Synthesis of Alstonisine" **November 2013 – December 2014.** (PI:Cook)
32. PhD Thesis Committee Member, Raiwana Jahan, "The Synthesis of XHE-III-74 and its analog as novel GABA(A) receptor modulators" **November 2013 – current.** (PI:Cook)
33. MS Thesis Committee Member, Kaniz Fatema, - "Reaction of Zinc Proteome with Biologically Important Metal Binding Ligands" **November 2013-April 2014.** (PI:Petering)
34. PhD Thesis Committee Member, Sarah Oehm, "Synthesis of functionalized amino acids and artificial beta-sheets". **October 2013 – April 2018.** (PI:Schwabacher)
35. PhD Thesis Committee Member, Zubair Ahmed Khan, "Towards the total synthesis of hystrixine" **October 2013 – current.** (PI:Cook/Arnold)
36. PhD Thesis Committee Member, Guanguan Li, "The Synthesis of SH-053-2'F-S-CH<sub>3</sub> and its analog as novel GABA(A) receptor modulators" **October 2013 – current.** (PI:Cook)
37. PhD Thesis Committee Member, Megan Josie Corby, "Interactions of hepatitis C with other viral and cellular proteins" **September 2013 – May 2018.** (PI:Frick)
38. PhD Thesis Committee Member, Eric Lund, "Quantification of the in vivo heavy metal proteome using laser-ablation spectroscopy" **August 2013 – current.** (PI:Petering)
39. PhD Thesis Committee Member, Xavier Sacro Udad, "Immobilizing A Single DNA Molecule In Solution With An Electrical Field" **August 2013 – current.** (PI:Wohl)
40. PhD Thesis Committee Member, Huabing Sun, "Application of Coumarin Derivatives in DNA-associated Study: Mutation Detection, Site-Specific Labeling, Photoinduced Interstrand Cross-Links and Ligation Reactions" **August 2013 – January 2015.** (PI:Peng)
41. PhD Thesis Committee Member, Veera Venkata Naga Phani Babu Tiruveedhula, "Part – I: Development of a Two-step Regiospecific Synthetic Route for Multigram Scale Synthesis of B-carboline Analogs for Studies in Primates as Anti-alcohol Agents, part – II: Design and Synthesis of Novel Antimicrobials for the Treatment of Drug Resistant Bacterial Infections Part – Iii: A Novel Synthetic Method for the Synthesis of the Key Quinine Metabolite (3S)-3-Hydroxyquinine" **July 2013 – August 2017.** (PI:Cook)
42. PhD Thesis Committee Member, Noreena Sweeney, "Discovery and Analysis of Small Molecules that Inhibit the Non-Structural 3 Helicase Enzyme of the Hepatitis C and Dengue Virus" **June 2013 – April 2015.** (PI:Frick)
43. PhD Thesis Committee Member, Lisa Mueller, "Structural and Functional Characterization of Acetoacetate Decarboxylase-Like Enzymes" **March 2013 – July 2016.** (PI:Silvaggi)
44. PhD Thesis Chair, Margaret Guthrie, "Development of Pre-Clinical Assays Based on Tandem Mass Spectrometry to Investigate GABA<sub>A</sub> Receptor Modulators" **January 2013 – December 2017.**
45. PhD Thesis Committee Member, Yibin Wang, "Arylboronates as H<sub>2</sub>O<sub>2</sub> or Photo-Inducible DNA Cross-Linking Agents: Design, Synthesis, Mechanism, and Anticancer Activity" **December 2012 – December 2015.** (PI:Peng)
46. PhD Thesis Committee Member, Mike Poe, "New Treatments for Fibromyalgia, Diabetic Neuropathy, Ghost Limb Pain and other Pain Disorders as well as Schizophrenia" **September 2012 – May 2016.** (PI:Cook)
47. PhD Thesis Committee Member, Bradley Michael Moran, "Experimental Methods in Cryogenic Spectroscopy: Stark Effect Measurements in Substituted Myoglobin" **September 2012 – November 2016.** (PI:Woehl)

48. PhD Thesis Committee Member, Md. Sharif Asad, "Asymmetric Synthesis of All-Carbon  $\alpha$ -aryl Quaternary Carbonyl Compounds By Palladium-catalyzed Asymmetric Allylic Alkylation (Pd-AAA) and Their Application to the Synthesis of Biologically Important 3,3'-disubstituted Oxindole and  $\alpha$ -disubstituted Quaternary  $\beta$ -lactone Frameworks" **September 2012 – July 2015.** (PI:Hossain)
49. PhD Thesis Committee Member, Md. Mojibul Haque, "Modification of Pyrimidine and Purine Nucleotides By "Click" Chemistry: Design, Synthesis and Properties Study" **September 2012-September 2014.** (PI:Peng)
50. PhD Thesis Committee Member, Abdul Momen, "Improved extraction chromatographic materials for the separation and pre-concentration of metal ions" **September 2012 – May 2015.** (PI:Dietz)
51. PhD Thesis Committee Member, Christopher Michael Witzigmann, "Part 1: Design, Synthesis, and Evaluation of Novel Gram-positive Antibiotics Part 2: Synthesis of Dihydrobenzofurans Via a New Transition Metal Catalyzed Reaction Part 3: Design, Synthesis, and Evaluation of Bz/gabaa A6 Positive Allosteric Modulators" **September 2012 – November 2016.** (PI:Cook)
52. PhD Thesis Committee Member, Mohammad Rezaul Karim, "The Role of Proteome in Cellular Zn<sup>2+</sup> Trafficking and in the Ability of the Fluorescent Zinc Sensors to Image Intracellular Zn<sup>2+</sup>" **September 2012 – May 2015.** (PI:Petering)
53. MS Thesis Committee Chair, Belaynesh Feleke, "The Development of VDR-coactivator Inhibitors and Their Evaluation Using Biochemical and Cell-based Assays" **September 2011-April 2014.** (PI:Arnold)
54. PhD Thesis Committee Chair, Nina Yuan, "Development of Cellular High Throughput Assays to Determine the Electrophysiological Profile of GABA(A) Receptor Modulators for Neurology and Immunology" **September 2011 – September 2016.** (PI:Arnold)
55. PhD Thesis Committee Chair, Kelly Teske, "Part I. The Development of Non-secosteroidal Vitamin D Receptor Modulators Part II. The Development of a Universal GTP-ase Assay". **September 2010 – Summer 2015.** (PI:Arnold)
56. MS Thesis Committee Chair, Athena Baranowski, "Evaluation of vitamin D receptor-coactivator inhibitors using cell based assays" **September 2009 – December 2013.** (PI:Arnold)
57. MS Thesis Committee Chair, Tahniyath Ara, "Expression, Purification and Crystallization of the vitamin D receptor ligand binding domain" **September 2009 – May 2012.** (PI:Arnold)
58. PhD Thesis Committee Member, Joseph S Ulicki, "Part I: Synthesis and Biological Evaluations of Potent Class L Selective Histone Deacetylase Inhibitors Part II: Aqueous Complexes for Efficient Sizebased Separation of Americium from Curium Part III: Designing Strong Chiral Bronsted Acids and Their Application for Oxaxinanones Derivatization and the Aza-henry Reaction" **September 2009 – December 2014.** (PI:Hossain)
59. PhD Thesis Committee Chair, Megan McCallum, "High-Throughput Approaches for the Assessment of Factors Influencing Bioavailability of Small Molecules in Pre-Clinical Drug Development". **September 2009 – May 2013.** (PI:Arnold)
60. PhD Thesis Committee Member, Matthew Marcus Huisman, "Asymmetric Synthesis of Tryptophan Derivatives and Its Application to Streamlined Synthesis of Tryprostatin A and B" **September 2009 – December 2014.** (PI:Hossain)
61. PhD Thesis Committee Member, Terry Clayton, Part 1. Unified pharmacophoric protein models for the benzodiazepine receptor subtypes; Part 2 subtype selective ligand the  $\alpha 5$  GABA<sub>A</sub>/Bz receptors". **September 2009 – December 2011.** (PI:Cook)
62. PhD Thesis Committee Member, Chitra R Edwankar, "General approach toward the total synthesis of 10-methoxy indole alkaloids" **September 2009 – December 2011.** (PI:Cook)
63. PhD Thesis Committee Member, Ujala Rana, "Metallothionein: Its role in cellular zinc trafficking" **September 2009 - August 2010.** (PI:Petering)
64. MS Thesis Committee Member, Ivan Kamyshko, "Inhibitory effects of cadmium on sp1-regulated SGLT1 gene expression is independent form PKC activation" **September 2009 - August 2010.**(PI:Petering)

#### Department and University Committees

1. Faculty Recruitment Ambassador, Interaction with incoming science students in form of workshops and presentations. **July 2017 – current.**
2. Graduate Admission Committee, Committee Chair, Selection of future graduate student for the department of chemistry and biochemistry. **September 2017 – current.**
3. University Workplace Safety Policy committee, Addressing chemical safety at UWM. **May 2017- current.**

4. Mass Spectrometry Technician search and screening committee, Selection of technician for the Shimadzu Center for Analytical and Applied Chemistry. **October 2016 - February 2017.**
5. Graduate Admission Committee, Committee Chair, Selection of future graduate student for the department of chemistry and biochemistry. **September 2015 – August 2017.**
6. Graduate Subcommittee, Committee Member, Graduate Students affairs in respect to TA ship and progression. **September 2014 – August 2017.**
7. College and University Faculty Award Committee, Committee Member, Nomination of Faculty for College and University Faculty Awards. **September 2015 – current.**
8. Tenure promotion committee, Committee Member, **June 2015 - December 2015.**
9. Mass spectrometry scientist search and screening committee, Committee Member, Selection of mass spectrometry expert for the Milwaukee Institute for Drug Discovery. **June 2015 – October 2015.**
10. Graduate Admission Committee, Committee Member, Selection of future graduate student for the department of chemistry and biochemistry. **September 2009 – August 2010 and September 2014 – August 2015 and September 2017 – current.**
11. Space Subcommittee, Committee Member, Assessment and distribution of space within the Department of Chemistry and Biochemistry. **September 2013 – August 2014.**
12. Grant writer search and screening committee, Committee Member, Selection of grant writer for MIDD and the department of chemistry and biochemistry. **May 2013 – August 2013.**
13. Department manager search and screening committee, Committee Member, Selection of department manager for the department of chemistry and biochemistry. **October 2012 - January 2013.**
14. Academic Planning Committee, Committee member, Development of future initiatives for the Department of Chemistry and Biochemistry. **August 2012– current.**
15. Undergraduate and Graduate Assessment Subcommittee, Assessment of academic quality standards for chemistry majors of the Department of Chemistry and Biochemistry. **September 2011 – current.**
16. Facility manager search and screening committee, Committee member, Selection of a facility manager for the Department of Chemistry and Biochemistry. **August 2012– April 2013.**
17. Faculty advisor for the Student Affiliates of the American Chemical Society SAACS of the department of chemistry and biochemistry. **September 2010-August 2011.**
18. Director of the Milwaukee Institute of Drug Discovery (MIDD) search and screening committee, Committee member, Selection of director for the MIDD embedded in the Department of Chemistry and Biochemistry. **August 2010 – December 2010.**
19. Mass Spectroscopist search and screening committee, Committee Chair, Selection of mass spectroscopist for the department of chemistry and biochemistry. **March 2010 - August 2010.**

## **PUBLICATIONS**

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1. Brittney N. Wyatt, Leggy A. Arnold, Martin St Maurice “A high-throughput screening assay for pyruvate carboxylase” *Analytical Biochemistry* **2018**, 550, 90-98.
2. Gloria S. Forkuo, Amanda N. Nieman, Revathi Kodali, Nicolas M. Zahn, Guanguan Li, M. S. Rashid Roni, Michael Rajesh Stephen, Ted W. Harris, Rajwana Jahan, Margaret L. Guthrie, Olivia B. Yu, Janet L. Fisher, Gene T. Yocum, Charles W. Emala, Douglas A. Steeber, Douglas C. Stafford, James M. Cook , and Leggy A. Arnold “A Novel Orally Available Asthma Drug Candidate That Reduces Smooth Muscle Constriction and Inflammation by Targeting GABA(A) Receptors in the Lung” *Molecular Pharmaceutics* **2018**, 15, 1766-1777.
3. Daniel E. Knutson, Revathi Kodali, Branka Divović, Marco Treven, Michael R. Stephen , Nicolas M. Zahn, Vladimir Dobričić, Alec T. Huber, Matheus A. Meirelles, Ranjit S. Verma, Laurin Wimmer, Christopher Witzigmann, Leggy A. Arnold , Lih-Chu Chiou, Margot Ernst, Marko D. Mihovilovic, Miroslav M. Savić, Werner Sieghart, and James M. Cook ”Design and Synthesis of Novel Deuterated Ligands Functionally Selective for the  $\gamma$ -Aminobutyric Acid Type A Receptor (GABA<sub>A</sub>R)  $\alpha 6$  Subtype with Improved Metabolic Stability and Enhanced Bioavailability” *Journal of Medicinal Chemistry* **2018**, 61, 2422-2446.
4. Guanguan Li, Michael R. Stephen, Revathi Kodali, Nicolas M. Zahn, Michael M. Poe, V.V.N. Phani Babu Tiruveedhula, Alec T. Huber, Melissa K. Schussman, Krista Qualmann, Cristina M. Panhans, Nicholas J. Raddatz, David A. Baker, Thomas D. Prevot, Mounira Banasr, Etienne Sibille, Leggy A. Arnold, and James M. Cook

“Synthesis of chiral GABAA receptor subtype selective ligands as potential agents to treat schizophrenia as well as depression” *ARKIVOC* **2018**, 4, 158-183.

5. Kelly A. Teske, Jonathan W. Bogart and Leggy A. Arnold "Novel VDR antagonists based on the GW0742 scaffold" *Bioorganic & Medicinal Chemistry Letters* **2018**, 28, 351-354.
6. Katherine M. J. McMurray, Marcia J. Ramaker, A. M. Barkley-Levenson, Preetpal S. Sidhu, Pavel Elkin, K. M. Reddy, Margaret L. Guthrie, James M. Cook, Viresh H. Rawal, Leggy A. Arnold, Stephanie C. Dulawa, Abraham A. Palmer, "Identification of a novel, fast-acting GABAergic antidepressant" *Molecular Psychiatry* **2018**, 23, 384-391.
7. Kelly A. Teske, Ganesha Rai, Premchendar Nandhikonda, Preetpal Sidhu, Belaynesh D. Feleke, Anton Simeonov, Adam Yasgar, Ajit Jadhav, David J. Maloney, and Leggy A. Arnold "A parallel chemistry approach to identify novel nuclear receptor ligands based on the GW0742 scaffold" *ACS Combinatorial Chemistry* **2017**, 19, 646-656.
8. Gloria S. Forkuo, Amanda N. Nieman, Nina Y. Yuan, Revathi Kodali, Olivia B. Yu, Nicolas M. Zahn, Rajwana Jahan, Guanguan Li, Michael Rajesh Stephen, Margaret L. Guthrie, Michael M. Poe, Benjamin D. Hartzler, Ted W. Harris, Gene T. Yocum, Charles W. Emala, Douglas A. Steeber, Douglas C. Stafford, James M. Cook and Leggy A. Arnold "Alleviation of Multiple Asthmatic Pathologic Features with Orally Available and Subtype Selective GABAA Receptor Modulators" *Molecular Pharmaceutics* **2017**, 14, 2088-2098.
9. Jeffrey M. Witkin, Rok Cerne, M. Wakulchik, J. S., S.D. Gleason, Timothy M. Jones, Guanguan Li, Leggy A. Arnold, Jun-Xu Li, Jeffrey M. Schkeryantz, Kashi R. Methuku, James M. Cook, Michael M. Poe "Further evaluation of the potential anxiolytic activity of imidazo[1,5-a][1,4]diazepin agents selective for  $\alpha 2/3$ -containing GABA<sub>A</sub> receptors" *Pharmacology, Biochemistry and Behavior* **2017**, 157, 35-40.
10. Yibin Wang, Heli Fan, Kumudha Balakrishnan, Zechao Lin, Sheng Cao, Wenbing Chen, Yukai Fan, Quibria A. Guthrie, Huabing Sun, Kelly A. Teske, Varsha Gandhib, Leggy A. Arnold, Xiaohua Peng "Hydrogen Peroxide Activated Quinone Methide Precursors with Enhanced DNA Cross-Linking Capability and Cytotoxicity towards Cancer Cells" *European Journal of Medicinal Chemistry* **2017**, 133, 197-207.
11. Bradford D. Fischer, Raymond J. Schlitt, Bryan Z. Hamade, Sabah Rehman, Margot Ernst, Michael M. Poe, Guanguan Li, Revathi Kodali, Leggy A. Arnold, James M. Cook, "Pharmacological and antihyperalgesic properties of the novel  $\alpha 2/3$  preferring GABAA receptor ligand MP-III-024" *Brain Res Bull.* **2017**, 131, 62-69.
12. Katherine M. J. McMurray, Preetpal S. Sidhu, James M. Cook, Leggy A. Arnold, Abraham A. Palmer, "Genetic and pharmacological manipulation of glyoxalase 1 regulates voluntary ethanol consumption in mice" *Addiction Biology* **2017**, 22, 381-389.
13. Rajwana Jahan, Michael R. Stephen, Gloria S. Forkuo, Revathi Kodali, Margaret L. Guthrie, Amanda N. Nieman, Nina Y. Yuan, Nicolas M. Zahn, Michael M. Poe, Guanguan Li, Olivia B. Yu, Gene T. Yocum, Charles W. Emala, Douglas C. Stafford, James M. Cook, and Leggy A. Arnold "Optimization of Substituted Imidazobenzodiazepines as Novel Asthma Treatments" *European Journal of Medicinal Chemistry* **2017**, 126, 550-560.
14. Michael M. Poe, Kashi R. Methuku, Guanguan Li, Ashwini Verma, Kelly A. Teske, Douglas C. Stafford, Leggy A. Arnold, Jeffrey W. Cramer, Timothy M. Jones, Rok Cerne, Michael J. Krambis, Jeffrey M. Witkin, Enrique Jambrina, Sabah Rehman, Margot Ernst, James M. Cook and Jeffrey M. Schkeryantz "Synthesis and characterization of a novel GABA<sub>A</sub> receptor ligand that combines outstanding metabolic stability, pharmacokinetics, and anxiolytic efficacy" *Journal of Medicinal Chemistry* **2016**, 59, 10800-10806.
15. Olivia B. Yu, Leggy A. Arnold, "Calcitroic acid—a review" *ACS Chemical Biology* **2016**, 11, 2665-2672.
16. Nina Y. Yuan, Michael M. Poe, Christopher Witzigmann, James M. Cook, Douglas C. Stafford, Leggy A. Arnold "Characterization of GABA<sub>A</sub> receptor ligands with automated patch-clamp using human neurons derived from pluripotent stem cells" *Journal of Pharmacological and Toxicological Methods* **2016**, 82, 109-114.
17. Gloria S. Forkuo, Margaret L. Guthrie, Nina Y. Yuan, Amanda N. Nieman, Revathi Kodali, Rajwana Jahan, Michael R. Stephen, Gene T. Yocum, Marco Treven, Michael M. Poe, Guanguan Li, Olivia B. Yu, Benjamin D. Hartzler, Nicolas M. Zahn, Margot Ernst, Charles W. Emala, Douglas C. Stafford, James M. Cook, and Leggy A. Arnold "Development of GABA(A) Receptor Subtype-Selective Imidazobenzodiazepines as Novel Asthma treatments" *Molecular Pharmaceutics* **2016**, 13, 2026-2038.
18. Kelly A. Teske, Olivia Yu, and Leggy A. Arnold, "Inhibitors for the Vitamin D Receptor–Coregulator Interaction" *Vitamin and Hormones* **2016**, 100, 45-82.
19. Kelly A. Teske, Jonathon W. Bogart, Luis M. Sanchez, Olivia B. Yu, Joshua V. Preston, James M. Cook, Nicholas R. Silvaggi, Daniel D. Bikle, and Leggy A. Arnold, "Synthesis and Evaluation of Vitamin D Receptor-Mediated Activities of Cholesterol and Vitamin D Metabolites" *European Journal of Medicinal Chemistry* **2016**, 109, 238-246.

20. Revathi Kodali, Margaret L. Guthrie, Michael M. Poe, Michael R. Stephen, Rajwana Jahan, Charles W. Emala, James M. Cook, Douglas Stafford, and Leggy A. Arnold, "Metabolic Studies of Drug Candidates for Neurological Disorders and Asthma Based on GABA(A) Receptor Subtype Selective Ligands using Mass Spectrometry" *Shimadzu Journal* **2015**, 3(3), 64-68.
21. Terry Clayton, Michael Poe, Sundari Rallapalli, Poonam Biawat, Miroslav Savic, James K. Rowlett, George Gallos, Charles W. Emala, Catherine C. Kaczorowski, James M. Cook, Douglas C. Stafford and Leggy A. Arnold "Review of the Updated Pharmacophore for the Alpha 5 GABA(A) Benzodiazepine Receptor Model" *International Journal of Medicinal Chemistry* **2015**, ID430248.
22. Margaret L Guthrie, Preetpal S. Sidhu, Emily K. Hill, Timothy C. Horan, Premchendar Nandhikonda, Kelly Teske, Nina Y. Yuan, Marino Sidorko, Revathi Kodali, James M. Cook, Lanlan Han, Nicholas R. Silvaggi, Daniel D. Bikle, Richard G. Moore, Rakesh K. Singh, and Leggy A. Arnold "Antitumor activity of 3-Indolylmethanamines 31B and PS121912" *Anticancer Research* **2015**, 35(11), 6001-6007.
23. Preetpal S. Sidhu, Kelly Teske, Belaynesh Feleke, Nina Y. Yuan, Margaret L. Guthrie, Grant B. Fernstrum, Nishita D. Vyas, Lanlan Han, Joshua Preston, Jonathan W. Bogart, Nicholas R. Silvaggi, James M. Cook, Rakesh K. Singh, Daniel D. Bikle, Leggy A. Arnold "Anticancer Activity of VDR-Coregulator Inhibitor PS121912" *Cancer Chemotherapy and Pharmacology* **2014**, 74(4), 787-798.
24. Kelly Teske, Premchendar Nandhikonda, Jonathan W. Bogart, Belaynesh Feleke, Preetpal Sidhu, Nina Yuan, Joshua Preston, Robin Goy, Rakesh K. Singh, Daniel D. Bikle, James M. Cook, Leggy A. Arnold "Identification of VDR antagonists among nuclear receptor ligands using virtual screening" *Nuclear Receptor Research* **2014**, 1, 1-8.
25. Preetpal S. Sidhu, Nicholas Nassif, Megan M. McCallum, Kelly Teske, Belaynesh Feleke, Nina Y. Yuan, Premchendar Nandhikonda, James M. Cook, Rakesh K. Singh, Daniel D. Bikle, Leggy A. Arnold "Vitamin D Receptor-Coactivator Binding Inhibitors" *ACS Medicinal Chemistry Letters* **2014**, 5(2), 199-204.
26. Kelly Teske, Premchendar Nandhikonda, Jonathan W. Bogart, Belaynesh Feleke, Preetpal Sidhu, Nina Yuan, Joshua Preston, Robin Goy, Leggy A. Arnold "Modulation of Transcription mediated by the Vitamin D Receptor and the Peroxisome Proliferator-Activated Receptor  $\delta$  in the presence of GW0742 analogs" *Journal of Biomolecular Research and Therapeutics* **2014**, 3, e111.
27. Megan M. McCallum, Alan J. Pawlak, William R. Shadrack, Anton Simeonov, Ajit Jadhav, Adam Yasgar, David J. Maloney, Leggy A. Arnold "A Fluorescence-Based High Throughput Assay for the Determination of Small Molecule-Human Serum Albumin Protein Binding" *Anal Bioanal Chem* **2014**, 406(7), 1867-1875.
28. Katherine M.J. McMurray, Margaret G. Distler, Preetpal Sidhu, James M. Cook, Leggy A. Arnold, Abraham A. Palmer, Leigh D. Plant "Glo1 inhibitors for neuropsychiatric and anti-epileptic drug development" *Biochemical Society Transaction* **2014**, 42(2), 461-467.
29. Nada Kwar, Shannon Maclaughlan, Timothy C. Horan, Alper Uzun, Thilo S. Lange, Kyu K. Kim, Russell Hopson, Ajay P. Singh, Preetpal S. Sidhu, Kyle A. Glass, Sunil Shaw, James F. Padbury, Nicholi Vorsa, Leggy A. Arnold, Richard G. Moore, Laurent Brard, and Rakesh K. Singh "PT19c, Another Nonhypercalcemic Vitamin D2 Derivative, Demonstrates Antitumor Efficacy in Epithelial Ovarian and Endometrial Cancer Models" *Genes and Cancer* **2013**, 4(11-12), 524-534.
30. Premchendar Nandhikonda, Adam Yasgar, Athena M. Baranowski, Preetpal S. Sidhu, Megan M. McCallum, Alan J. Pawlak, Kelly Teske, Belaynesh Feleke, Nina Y. Yuan, Chinedum Kevin, Daniel D. Bikle, Steven D. Ayers, Paul Webb, Ganesha Rai, Anton Simeonov, Ajit Jadhav, David Maloney, Leggy A. Arnold "PPAR $\delta$  agonist GW0742 interacts weakly with multiple nuclear receptors including the vitamin D receptor" *Biochemistry* **2013**, 52, 4193-4203.
31. Megan M. McCallum, Premchendar Nandhikonda, Jonathan J. Temmer, Charles Eyerhmann, Anton Simeonov, Ajit Jadhav, Adam Yasgar, David Maloney, Leggy A. Arnold "High-Throughput Identification of Promiscuous Inhibitors from Screening Libraries with the Use of a Thiol-Containing Fluorescent Probe" *Journal of Biomolecular Screening* **2013**, 18(6), 705-713.
32. Sourav Mukherjee, Alicia M. Hanson, William R. Shadrack, Jean Ndjomou, Noreena L. Sweeney, John J. Hernandez, Diana Bartczak, Kevin Li, Kevin J. Frankowski, Julie A. Heck, Leggy A. Arnold, Frank J. Schoenen, David N. Frick "Identification and analysis of hepatitis C virus NS3 helicase inhibitors using nucleic acid binding assays" *Nucleic Acids Research* **2012**, 40(17), 8607-8621.
33. Premchendar Nandhikonda, Wen Z. Lynt, Megan M. McCallum, Tahniyath Ara, Athena M. Baranowski, Nina Y. Yuan, Dana Pearson, Daniel D. Bikle, R. Kiplin Guy, Leggy A. Arnold "Discovery of the First Irreversible Small Molecule Inhibitors of the Interaction between the Vitamin D Receptor and Coactivators" *Journal of Medicinal Chemistry* **2012**, 55(10), 4640-4651.

34. Richard G. Moore, Thilo S. Lange, Katina Robinson, Kyu K. Kim, Alper Uzun, Timothy C. Horan, Nada Kavar, Naohiro Yano, Sharon R. Chu, Quanfu Mao, Laurent Brard, Monique E. DePaepe, James F. Padbury, Leggy A. Arnold, Alexander Brodsky, Tun-Li Shen, Rakesh K. Singh "Efficacy of a Non-Hypercalcemic Vitamin-D2 Derived Anti-Cancer Agent (MT19c) and Inhibition of Fatty Acid Synthesis in an Ovarian Cancer Xenograft Model" *PLOS one*, **2012**, 7(4), e34443.
35. Qin Chen, Peter D. Yim, Nina Yuan, Juliette Johnson, James M Cook, Steve Smith, Cristian Ionescu-Zanetti, Zhi-Jian Wang, Leggy A. Arnold, Charles W. Emala "Comparison of cell expression formats for the characterization the GABA<sub>A</sub> channels using a microfluidic patch clamp system" *Assay Drug Development and Technology* **2012**, 10(4), 325-335.
36. Jennifer M. Atkinson, Anang A. Shelat, Angel Montero Carcaboso, Tanya A. Kranenburg, Leggy A. Arnold, Nidal Boulos, Karen Wright, Robert A. Johnson, Helen Poppleton, Kumarasampet M. Mohankumar, Clementine Féau, Timothy Phoenix, Paul Gibson, Liqin Zhu, Yiai Tong, Chris Eden, David W. Ellison, Waldemar Priebe, Dimpy Koul, W. K. Alfred Yung, Amar Gajjar, Clinton F. Stewart, R. Kiplin Guy, Richard J. Gilbertson "An Integrated In Vitro and In Vivo High-Throughput Screen Identifies Treatment Leads for Ependymoma" *Cancer Cell*, **2011**, 20(3), 384-399.
37. Prabodh Sadana, Jong Yeon Hwang, Ramy R. Attia, Leggy A. Arnold, Geoffrey Neale, and R. Kiplin Guy "Similarities and Differences between Two Modes of Antagonism of the Thyroid Hormone Receptor" *ACS Chemical Biology*, **2011**, 6(10), 1096-106.
38. Laurent Brard, Thilo S. Lange, Katina Robison, Kyu Kwang Kim, Tahniyath Ara, Megan Marie McCallum, Leggy A. Arnold, Richard G. Moore, Rakesh K. Singh "Evaluation of the first Ergocalciferol-derived, non hypercalcemic anti-cancer agent MT19c in ovarian cancer SKOV-3 cell lines" *Gynecologic Oncology*, **2011**, 123(2), 370-8.
39. Jong Yeon Hwang, Wenwei Huang, Leggy A. Arnold, Ruili Huang, Michele Connelly, Jennifer Wichterman, Fangyi Zhu, Indre Augustinaite, Christopher P. Austin, James Inglese, Ronald L. Johnson, R. Kiplin Guy. "Methylsulfonylnitrobenzoates (MSNBs): A new class of irreversible inhibitors of the interaction of the thyroid hormone receptor and its obligate coactivators that functionally antagonizes thyroid hormone" *Journal Biological Chemistry*, **2011**, 286(14), 11895-11908.
40. Ronald L. Johnson, Jong Yeon Hwang, Leggy A Arnold, Ruili Huang, Michele Connelly, Jennifer Wichterman, Fangyi Zhu, Indre Augustinaite, Christopher P. Austin, James Inglese, R. Kiplin Guy, Wenwei Huang. "A Quantitative High Throughput Screen Identifies Novel Inhibitors of the Interaction of Thyroid Receptor beta with a Peptide Ligand of Steroid Receptor Coactivator 2." *Journal of Biomolecular Screening*, **2011**, 16(6), 618-27.
41. Daniel D. Bikle, Arnaud Teichert, Leggy A. Arnold, Yoshikazu Uchida, Peter M. Elias, Yuko Oda. "Differential regulation of epidermal function by VDR coactivators" *Journal of Steroid Biochemistry and Molecular Biology* **2010**, 121, 308-313.
42. Damon Reed, Ying Shen, Anang Shelat, Leggy A. Arnold, Antonio M. Ferreira, Fangyi Zhu, Nicolas Mills, David C. Smithson, Catherine A. Regni, Donald Bashford, Samatha A. Cicero, Brenda A. Schulman, Aart G. Jochemsen, R. Kiplin Guy, and Dyer. "Identification and characterization of the first small molecule inhibitor of MDMX" *Journal of Biological Chemistry* **2010**, 285(14), 10786-96.
43. Clémentine Féau, Leggy A. Arnold, Aaron Kosinski, Fangyi Zhu, Michele Connelly and R. Kiplin Guy "Novel Flufenamic Acid Analogs as Inhibitors of Androgen Receptor Mediated Transcription" *ACS Chem Biol.* **2009**, 4(10), 834-43.
44. Tina Shahian, Gregory M. Lee, Ana Lazic, Leggy A. Arnold, Priya Velusamy, Christina M. Roels, R. Kiplin Guy, and Charles S. Craik "Inhibition of a viral enzyme by a small-molecule dimer disruptor" *Nat Chem Biol.* **2009**, 5(9), 640-6.
45. Jong Yeon Hwang, Leggy A. Arnold, Fangyi Zhu, Aaron Kosinski, Thomas J. Mangano, Vincent Setola, Bryan L. Roth and R. Kiplin Guy "Improvement of Pharmacological Properties of Irreversible Thyroid Receptor Coactivator Binding Inhibitors" *J. Med. Chem.* **2009**, 52(13), 3892-901.
46. Arnaud Teichert, Leggy A. Arnold, Steve Otieno, Yuko Oda, Indre Augustinaite, Tim R. Geistlinger, Richard W. Kriwacki, R. Kiplin Guy, and Daniel D. Bikle "Quantification of the Vitamin D Receptor-Coregulator Interaction" *Biochemistry* **2009**, 48(7), 1454-1461.
47. Clémentine Féau, Leggy A. Arnold, Aaron Kosinski, and R. Kiplin Guy "A High-Throughput Ligand Competition Binding Assay for the Androgen Receptor" *Journal of Biomolecular Screening* **2009**, 14(1), 43-8.
48. Leggy A. Arnold, Patricia Ranaivo, R. Kiplin Guy, "Synthesis and characterization of BODIPY-labeled colchicine" *Bioorganic and Medicinal Chemistry Letters* **2008**, 18(22), 5867-70.

49. Natalia Jouravel, Elena Sablin, Leggy A. Arnold, R. Kiplin Guy and Robert J. Fletterick "Interaction between the androgen receptor and a segment of its corepressor SHP" *Acta Crystallographica D, Biological Crystallography* **2007**, 63 (Pt 11), 1198-2000.
50. Eva Estébanez-Perpiñá, Leggy A. Arnold, Phuong Nguyen, Edson Delgado Rodrigues, Ellena Mar, Raynard Bateman, Peter Pallai, Kevan M. Shokat, John D. Baxter, R. Kiplin Guy, Paul Webb, and Robert J. Fletterick "A surface on the androgen receptor that allosterically regulates coactivator binding" *Proceedings of the National Academy of Sciences of the United States of America* **2007**, 104, (41)16074-9.
51. Leggy A. Arnold, Eva Estébanez-Perpiñá, Natalia Jouravel, Marie Togashi, Justin Blethrow, Ellena Mara, Phuong Nguyen, Kevin J. Phillips, John D. Baxter, Paul Webb, R. Kiplin Guy, Robert J. Fletterick "Structural Insight into the Mode of Action of a Direct Inhibitor of Coregulator Binding to the Thyroid Hormone Receptor" *Molecular Endocrinology* **2007**, 21(12), 2919-28.
52. Leggy A. Arnold, Aaron Kosinski, Eva Estébanez-Perpiñá, R. Kiplin Guy "Inhibitors of the Interaction of Thyroid Hormone Receptor and Coactivators: Preliminary Structure-Activity Relationships" *Journal of Medicinal Chemistry* **2007**, 50(22), 5269-80.
53. Leggy A. Arnold and R. Kiplin Guy "Synthesis of highly substituted dibenzo[b,f]azocines and their evaluation as protein kinase inhibitors" *Bioorganic and Medicinal Chemistry Letters* **2006**, 16(20), 5360-63.
54. Leggy A. Arnold, Eva Estébanez-Perpiñá, Marie Togashi, Anang Shelat, Cory A. Ocasio, Andrea C. McReynolds, Phuong Nguyen, John D. Baxter, Robert J. Fletterick, Paul Webb, and R. Kiplin Guy "A High-Throughput Screening Method to Identify Small Molecule Inhibitors of Thyroid Hormone Receptor Coactivator Binding" *Science STKE* **2006**, 341, p13.
55. Leggy A. Arnold, Eva Estébanez-Perpiñá, Marie Togashi, Natalia Jouravel, Anang Shelat, Andrea C. McReynolds, Ellena Mar, Phuong Nguyen, John D. Baxter, Robert J. Fletterick, Paul Webb, and R. Kiplin Guy "Discovery of Small Molecule Inhibitors of the Interaction of the Thyroid Hormone Receptor with Transcriptional Coregulators" *Journal of Biological Chemistry* **2005**, 280(52), 43048-55.
56. Leggy A. Arnold, Wenchen Luo, R. Kiplin Guy, "Synthesis of Medium Ring Heterocycles Using an Intramolecular Heck Reaction" *Organic Letters* **2004**, 6(17), 3005-7.
57. Anthoni W. Van Zijl; Leggy A. Arnold, Adriaan J. Minnaard, Ben L. Feringa, "Highly enantioselective copper-catalyzed allylic alkylation with phosphoramidite ligands" *Advanced Synthesis & Catalysis* **2004**, 346, 413-20.
58. Leggy A. Arnold, Robert Naasz, Adriaan J. Minnaard and Ben L. Feringa "Catalytic Enantioselective Synthesis of (-)-Prostaglandin E<sub>1</sub> Methyl Ester Based on a Tandem 1,4-Addition-Aldol Reaction" *Journal Organic Chemistry* **2002**, 67, 7244-54.
59. Fabio Bertozzi, Mauro Pineschi, Franco Macchia, Leggy A. Arnold, Adriaan J. Minnaard, and Ben L. Feringa "Copper Phosphoramidite Catalyzed Enantioselective Ring-Opening of Oxabicyclic Alkenes: Remarkable Reversal of Stereocontrol" *Organic Letters* **2002**, 4(16), 2703-5.
60. Leggy A. Arnold, Robert Naasz, Adriaan J. Minnaard, Ben L. Feringa "Catalytic enantioselective synthesis of prostaglandin E<sub>1</sub> methyl ester using a tandem 1,4-addition-aldol reaction to a cyclopenten-3,5-dione monoacetal" *Journal of American Chemical Society* **2001**, 123, 5841-2.
61. Alessandro Mandoli, Leggy A. Arnold, André H. M. deVries, Piero Salvadori, Ben L. Feringa "New bidentate chiral phosphoramidites in copper catalyzed asymmetric 1,4-addition of diethylzinc to cyclic  $\alpha,\beta$ -enones: Enantioselective tandem 1,4-addition-aldol reactions with 2-cyclopentenone" *Tetrahedron: Asymmetry* **2001**, 12, 1929-37.
62. Robert Naasz, Leggy A. Arnold, Adriaan J. Minnaard, Ben L. Feringa "Enantioselective copper-phosphoramidite catalyzed kinetic resolution of chiral 2-cyclohexenones" *Angewandte Chemie, International Edition* **2001**, 40(5), 927-9.
63. Robert Naasz, Leggy A. Arnold, Adriaan J. Minnaard, Ben L. Feringa "Enantioselective synthesis of bicyclic compounds via catalytic 1,4-addition-ring closing metathesis" *Chemical Communication* **2001**, 735-6.
64. Hinke Malda, Anthoni W. van-Zijl, Leggy A. Arnold, Ben L. Feringa "Enantioselective copper-catalyzed allylic alkylation with dialkylzincs using phosphoramidite ligands" *Organic Letters* **2001**, 3, 1169-71.
65. Leggy A. Arnold, Rosaline Imbos, Alessandro Mandoli, André H. M. de-Vries, R. Naasz, B. L. Feringa "Enantioselective catalytic conjugate addition of dialkylzinc reagents using copper-phosphoramidite complexes; Ligand variation and non-linear effects" *Tetrahedron* **2000**, 56, 2865-78.
66. Fabio Bertozzi, Paolo Crotti, Franco Macchia, Mauro Pineschi, Leggy A. Arnold, Ben L. Feringa "A new catalytic and enantioselective desymmetrization of symmetrical methylenedioxy cycloalkene oxides" *Organic Letters* **2000**, 2, 933-6.



67. Fabio Bertozzi, Paolo Crotti, Franco Macchia, Mauro Pineschi, Leggy A. Arnold, Ben L. Feringa "A new diastereo- and enantioselective copper-catalyzed conversion of alkynyl epoxides into alpha-allenic alcohols," *Tetrahedron Letters* **1999**, 40, 4893-6.
68. Robert Naasz, Leggy A. Arnold, Mauro Pineschi, Erik Keller, Ben L. Feringa "Catalytic enantioselective annulations via 1,4-addition-aldol cyclization of functionalized organozinc reagents" *Journal of American Chemical Society* **1999**, 121, 1104-5.
69. Fabrizio Badalassi, Paolo Crotti, Franco Macchia, Mauro Pineschi, Leggy A. Arnold, Ben L. Feringa "Catalytic enantioselective carbon-carbon bond formation by addition of dialkylzinc reagents to cyclic 1,3-diene monoepoxides" *Tetrahedron Letters* **1998**, 39, 7795-8.
70. Ben L. Feringa, Mauro Pineschi, Leggy A. Arnold, Rosaline Imbos, André H. M. de Vries "Highly enantioselective catalytic conjugate addition and tandem conjugate addition-aldol reactions of organozinc reagents" *Angewandte Chemie, International Edition* **1997**, 36, 2620-3.

## BOOK CHAPTERS

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1. Olivia Yu, Leggy A. Arnold "Modulating Vitamin D Receptor–Coregulator Binding with Small Molecules" in *Vitamin D, Volume 2: Health, Disease and Therapeutics*, David Feldman, Ed.; Academic Press, Fourth Edition, **2018**, 657-666.
2. Kelly Teske, Olivia Yu, and Leggy A. Arnold "Inhibitors for the Vitamin D Receptor-Coregulator Interaction" in *Vitamins and Hormones*, Gerald Litwack, Ed.; Elsevier, Elsevier, Oxford UK, **2016**, 100, 45-82.
3. Clémentine Féau, Leggy A. Arnold, Aaron Kosinski, and R. Kiplin Guy "Ligand competition binding assay the androgen receptor" in *Androgen Action*, Fahri Saatcioglu, *Methods in Molecular Biology* **2011**, 776, 59-68
4. Ben L. Feringa, Robert Naasz, Rosalinde Imbos, Leggy A. Arnold "Enantioselective Catalytic Conjugate Addition of Organozinc Reagents" in *Modern Organocopper Chemistry*, Norbert Krause, Ed.; Wiley, VCH Weinheim, **2002**, 59-68.

## INVITED PRESENTATIONS

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1. Leggy A. Arnold and Douglas Stafford "Introduction of a UWM startup company Pantherics, Incorporated to marked first-in-class drug for asthma", *Board of Regents Meeting*, UWM, June 8<sup>th</sup> **2018**.
2. Leggy A. Arnold, Gloria Forkuo, Amanda Nieman, Guanguan Li, Charles W. Emala, James Cook, Douglas Stafford "MIDD0301: A first-in-class drug for asthma" *Allegropharm*, Hamburg Germany, May 29<sup>th</sup>, **2018**.
3. Leggy A. Arnold, Olivia Yu, Elliot DeMilo, Revathi Kodali "Calcitroic acid and its phase II metabolites" *Vitamin D Workshop*, Barcelona Spain, May 24<sup>th</sup>, **2018**.
4. Leggy A. Arnold, Gloria Forkuo, Amanda Nieman, Olivia Yu, Margaret Guthrie, Revathi Kodali, Michael Stephen, Charles W. Emala, Gene Yocum, James Cook, Douglas Stafford, Mitchell H. Grayson "Clinical Drug Candidate MIDD0301 is a Novel Oral Asthma Treatment combating Inflammation and Muscle Constriction in the Lung" *AAAAI meeting*, Orlando, Florida, March **2018**.
5. Leggy A. Arnold, Gloria Forkuo, Amanda Nieman, Olivia Yu, Margaret Guthrie, Revathi Kodali, Michael Stephen, Charles W. Emala, Gene Yocum, James Cook, Douglas Stafford, Mitchell H. Grayson, Leggy A. Arnold "Drug Discovery at UWM" *UWM Research Foundation meeting*, Milwaukee, September 20<sup>th</sup>, 2017.
6. Leggy A. Arnold "Development of new therapies for asthma based on compounds that specifically target GABA<sub>A</sub> receptors in the lung" *Feringa Academic Alumni Symposium*, Groningen, The Netherlands, September 14-15 September, **2017**.
7. Leggy A. Arnold "Vitamin D research- From the past today" *UWM, Science Olympiad*, Milwaukee, April, 8<sup>th</sup> **2017**.
8. Leggy A. Arnold "Development of a new therapies for asthma based on compounds that specifically target GABA<sub>A</sub> receptors in the lung" *253rd ACS National Meeting*, San Francisco, April 2<sup>nd</sup>, **2017**.
9. Leggy A. Arnold "Cancer and Immunology" *Venture Investor Meeting*, February 24<sup>th</sup>, **2017**.
10. Leggy A. Arnold "All about vitamin D", *Lecture Series at UWM*, February **2017**.
11. Leggy A. Arnold "Application of mass spectrometry in vitamin D receptor research" *Shimadzu Journal* Volume 3, Issue 3, September **2015**.
12. Leggy A. Arnold "Small molecule-mediated gene regulation caused by vitamin D receptor–coactivator binding inhibition" *Symposium, Medical College of Wisconsin*, Department of Biochemistry, Oct 8<sup>th</sup>, **2014**.
13. Leggy A. Arnold "Novel Modulators for the Vitamin D Receptor As Drug Candidate" *Symposium, University of Groningen*, Groningen, Netherlands, July 31<sup>th</sup>, **2014**.

14. Leggy A. Arnold "The workings of Drug Discovery in Academia" *Symposium at the Blood Center of Wisconsin*, Milwaukee, July 8<sup>th</sup>, **2014**.
15. Leggy A. Arnold "Vitamin D Receptor-Coregulator Inhibitors as Anticancer Agents" *Vitamin D Workshop*, Chicago, June 16th-20th, **2014**.
16. Leggy A. Arnold "High-Throughput Screening and Assay Development" *Medical College of Wisconsin*, Milwaukee, April 10th, **2014**.
17. Leggy A. Arnold "Molecules" *UWM, recruitment event*, Milwaukee, March, **2014**.
18. Leggy A. Arnold "Discovery of transcriptional modulators that target the vitamin D receptor" *247nd ACS National Meeting*, Dallas, March 16<sup>th</sup>, **2014**.
19. Leggy A. Arnold "Novel Vitamin D receptor Modulators as Drug Candidates" *University of Illinois at Chicago*, February 21th, **2014**.
20. Leggy A. Arnold "Discovery and Development of non-steroid vitamin D receptor antagonists." *University of Wisconsin Whitewater*, October 10th, **2013**.
21. Leggy A. Arnold "Identification and Development of Three Different Classes of Vitamin D Receptor-Coactivator Inhibitors" *Medical College of Wisconsin*, May 30th, **2013**.
22. Leggy A. Arnold "Small molecule inhibitors of the vitamin D receptor-coactivator interaction: An HTS approach" *Concordia University Wisconsin*, October 10th, **2012**.
23. Leggy A. Arnold "High throughput screening and assay development" *Medical College of Wisconsin*, May 31th, **2012**.
24. Leggy A. Arnold "Discovery of small molecule inhibitors of the vitamin D receptor-coregulator interaction" *Northeast Ohio Medical University*, March 23th, **2012**.
25. Leggy A. Arnold and Nina Yuan "Automated patch clamp to determine GABA<sub>A</sub> receptor subtype selectivity of novel benzodiazepines" *Webinar* hosted by WebEx, December 12<sup>th</sup>, **2011**.
26. Leggy A. Arnold and Nina Yuan "Automated patch clamp to determine GABA<sub>A</sub> receptor subtype selectivity of novel benzodiazepines" *Automated Patch Clamp Systems & Ion Channel Expressing Cells*, Akihabara UDX, Tokyo, Japan, November 8, **2011**.
27. Leggy A. Arnold "First Identification of Irreversible Inhibitors of the Vitamin D Receptor-Coregulator Interaction" *Northern Illinois University*, DeKalb, IL, United States, October 3, **2011**.
28. Leggy A. Arnold "Discovery of small molecule inhibitors of the vitamin D receptor-coregulator interactions as transcriptional regulators for the 24-hydroxylase gene CYP24A1" *242nd ACS National Meeting*, Denver, Colorado, August 29, **2011**.
29. Leggy A. Arnold, Jong Y. Hwang, Prabodh Sadana, Fangyi Zhu, R. Kiplin Guy "Thyroid Receptor-Coregulator Inhibitors as potential regulators for metabolic diseases" *Gordon-Kenan Research Conference - High Throughput Chemistry & Chemical Biology*, New London, NH, United States, **2009**.
30. Leggy A. Arnold and R. Kiplin Guy "Nuclear Hormone Receptor-Coregulator Interactions as Novel Targets in Drug Discovery" *University of Memphis*, United States, **2009**.
31. Leggy A. Arnold and R. Kiplin Guy "Phosphoramidites, superior ligands in asymmetric catalytic transformations and the discovery of a small molecule inhibitor of the thyroid receptor-coregulator binding" *North Carolina State University*, United States, **2009**.
32. Leggy A. Arnold and R. Kiplin Guy "Phosphoramidites, superior ligands in asymmetric catalytic transformations and the discovery of a small molecule inhibitor of the thyroid receptor-coregulator binding" *University of Wisconsin*, Milwaukee, United States, **2009**.
33. Leggy A. Arnold, Clémentine Féau, JongYeon Hwang, Prabodh Sadana and R. Kiplin Guy "Nuclear Hormone Receptor-Coregulator interactions as novel targets in drug discovery" *St Jude Children's Research Hospital*, United States, **2008**.
34. Leggy A. Arnold, Eva Estébanez-Perpiñá, Paul Webb, Robert J. Fletterick, John D. Baxter, R. Kiplin Guy "New Small Molecule Inhibitors of the Thyroid Hormone Receptor-Coactivator interaction" *SBS 13<sup>th</sup> Annual Meeting*, Montréal, Canada, **2007**.
35. Leggy A. Arnold, Eva Estébanez-Perpiñá, Clementine Feau, Paul Webb, Robert J. Fletterick, R. Kiplin Guy "Nuclear Hormone Receptor-Coregulator Interactions as Novel Targets in Drug Discovery" *University of Tennessee Memphis*, TN, United States **2006**.
36. Leggy A. Arnold, Eva Estébanez-Perpiñá, Robert J. Fletterick, R. Kiplin Guy "Nuclear Receptor Rational Drug Design; Androgen Receptor and Thyroid Receptor Hand-in-Hand" *Nuclear Receptor Seminar*, UC San Francisco, CA, United States **2005**.

37. Leggy A. Arnold and R. Kiplin Guy “Non-peptide Nuclear Receptor Coregulators” *California State University Chico, United States, 2003.*
38. Leggy A. Arnold and Ben L. Feringa “Catalytic Asymmetric Total Synthesis of Prostaglandin E<sub>1</sub> Methyl Ester” *223rd ACS National Meeting, Orlando (FL), United States, 2002.*
39. Leggy A. Arnold and Ben L. Feringa “Prostaglandins and Phosphoramidites” *University of California, San Francisco, United States, 2002.*
40. Leggy A. Arnold and Ben Feringa “Total Synthesis of Prostaglandin E<sub>1</sub> (PGE<sub>1</sub>)” *Thesis Defense, University of Groningen, 2002.*
41. Leggy A. Arnold and Ben L. Feringa “Enantioselective Copper-Catalyzed Allylic Alkylation with Organozinc Compounds Using Phosphoramidite Ligands” *EET-Meeting (Economy, Ecology, Technology) by the Dutch Ministry of Economic Affairs and DSM, Groningen, 2001.*
42. Leggy A. Arnold and Ben L. Feringa “New Phosphoramidite Ligands for the Enantioselective Copper-Catalyzed 1,4-Addition of Diethylzinc to Enones” *NCCC Conference, Noordwijkerhout, The Netherlands 2001.*
43. Leggy A. Arnold and Ben L. Feringa “Catalytic conjugate addition reaction” *EET-Meeting (Economy, Ecology, Technology) by the Dutch Ministry of Economic Affairs and DSM, Amsterdam, 2000.*
44. Leggy A. Arnold and Ben L. Feringa “Highly Enantioselective Catalytic Conjugate Addition Reaction and Applications of Phosphoramidite Ligands” *NWO-CW Conference, Lunteren, The Netherlands 1999.*
45. Leggy A. Arnold and Ben L. Feringa “New Catalysts Based on Phosphoramidites” *EET-Meeting (Economy, Ecology, Technology) by the Dutch Ministry of Economic Affairs and DSM, Maastricht, 1999.*
46. Leggy A. Arnold and Ben L. Feringa “Phosphoramidites - The Next Generation of Highly Enantioselective Copper Catalyzed 1,4-Addition to enones” *Thesis Defense, University of Groningen, 1998.*

## POSTER PRESENTATIONS

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1. Leggy A. Arnold, Gloria S. Forkuo, Margaret L. Guthrie, Nina Y. Yuan, Amanda N. Nieman, Revathi Kodali, Rajwana Jahan, Ted W. Harris, Gene Yocum, Michael Stephen, Michael Poe, Guanguan Li, Olivia B. Yu, Benjamin Hartzler, Nicholas Zahn, Charles W Emala, Douglas C. Stafford, James M. Cook, Mitchell H. Grayson, “New Oral Treatments for Asthma through Tissue-Specific Modulation of the GABA<sub>A</sub> Receptor” *AAAAI meeting, Atlanta, Georgia, March 2017.*
2. Leggy A. Arnold, PhD, Gloria S. Forkuo, PhD, Amanda N. Nieman, Olivia B. Yu, Margaret L. Guthrie, Nina Y. Yuan, Revathi Kodali, Rajwana Jahan, Charles W Emala, James M. Cook, PhD, Douglas C. Stafford, PhD, Mitchell H. Grayson, “A New Pharmacological Approach for Asthma through Tissue-Specific Modulation of the GABA(A) Receptor” *AAAAI meeting, Los Angeles, March 2016.*
3. Leggy A. Arnold, Premchendar Nandhikonda, Adam Yasgar, Preetpal S. Sidhu, Kelly Teske, Belaynesh Dejene Feleke Ganesha Rai, Robert Smith, William Leister, Frank Schoenen, Daniel D. Bikle, “Identification and development of three new distinct classes of non-secosteroidal VDR modulators for metabolic diseases and cancer” *Vitamin D workshop, San Francisco, 2013.*
4. Leggy A. Arnold, Premchendar Nandhikonda, Adam Yasgar, Preetpal S. Sidhu, Kelly Teske, Belaynesh Dejene Feleke Ganesha Rai, Robert Smith, William Leister, Frank Schoenen, Daniel D. Bikle, “Identification and development of three new distinct classes of non-secosteroidal VDR modulators” *Gordon Research Conference - High Throughput Chemistry & Chemical Biology, June 2-7, New London, NH 2013.*
5. Leggy A. Arnold, Premchendar Nandhikonda, Adam Yasgar, Kelly Teske, Athena M. Baranowski, Megan McCallum, Daniel D. Bikle, Steven D. Ayers, Paul Webb, Ganesha Bantukallu, Anton Simeonov, Ajit Jadhav, David Maloney “Development of the first non-secosteroid antagonists to modulate Vitamin D Receptor function” *2<sup>nd</sup> Congress on Steroid Research, Chicago, 2013.*
6. Leggy A. Arnold, Premchendar Nandhikonda, Megan M. McCallum, Athena Baranowski, Kelly Teske, Tahniyath Ara, Nina Yuan, Jonathan James Temmer, Belaynesh Dejene Feleke, Nicholas A Talerico, Cynthia Catherine Henderson, Westley Goy Robin “Assay Development and High Throughput Screening” *CTSI Drug Development Collaborative Workshop, Medical College of Wisconsin, 2012.*
7. Leggy A. Arnold. Premchendar Nandhikonda, Wen Z. Lynt, Megan M. McCallum, Tahniyath Ara, Athena M. Baranowski, Nina Y. Yuan, Kelly Teske, Belaynesh D. Feleke, Diana Pearson, Daniel D. Bikle, R. Kip Guy “Identification of small molecule VDR-coregulator inhibitors using high throughput screening” *Vitamin D workshop, Houston, 2012.*

8. Leggy A. Arnold, Jong Y. Hwang, Prabodh Sadana, Fangyi Zhu, R. Kiplin Guy "Irreversible Thyroid Receptor Coactivator Modulators: Structure-activity relationship study and their application for chemical biology *NIH workshop: Chemical Approaches to Nuclear Receptor and Metabolism*, Bethesda, **2009**.
9. Leggy A. Arnold, Jong Y. Hwang, Aaron Kosinski, R. Kiplin Guy "Development of a WRO cell line that stably expresses a thyroid responsive luciferase reporter for high throughput detection of transcriptional thyroid receptor modulators *Keystone Symposia: Nuclear Receptor: Orphan Brothers and Steroid Sisters*, Whistler, Canada, **2008**.
10. Leggy A. Arnold, Eva Estébanez-Perpiñá, Jong Y. Hwang, Aaron Kosinski, Paul Webb, John D. Baxter, Robert J. Fletterick, R. Kiplin Guy "Small Molecule Inhibitors of the Thyroid Hormone Receptor-Coregulator Interaction" *Keystone Symposia: Nuclear Receptor Pathways to Metabolic Regulation & Metabolic Syndrome and Cardiovascular Risk*, Steamboat Springs, CO, **2007**.
11. Leggy A. Arnold, Eva Estébanez-Perpiñá, Robert J. Fletterick, R. Kiplin Guy "Discovery of Small Discovery of Small Molecule Inhibitors of Thyroid Hormone Receptor" *Drug Discovery Technology & Development*, Boston, MA, United States **2005**.
12. Leggy A. Arnold, Wenchen Luo, R. Kip Guy "Towards the synthesis of a selective non-peptide hormone receptor modulator" *CCB/Biophysics Retreat*, Pacific Grove, CA, United States **2003**.
13. Leggy A. Arnold, Anthoni W. van Zijl, Hinke Malda, Ben L. Feringa "Enantioselective Copper-Catalyzed Allylic Alkylation with Diorganozinc Compounds using Phosphoramidite Ligands" *223rd ACS National Meeting*, Orlando, FL, United States **2002**.
14. Leggy A. Arnold, Robert Naasz, Adri J. Minnaard, Ben L. Feringa "Catalytic Enantioselective Synthesis of Prostaglandin E1 Methyl Ester using a Tandem 1,4-Addition-Aldol Reaction to a Cyclopenten-3,5-dione Monoacetal" *ESOC-12 "12th European Symposium on Organic Chemistry"* Groningen, Netherlands **2001**.
15. Leggy A. Arnold, Robert Naasz, Adri J. Minnaard, Ben L. Feringa "New Phosphoramidite Ligands for the Enantioselective Copper-Catalyzed 1,4-Addition of Diethylzinc to Enones" *NWO-CW Conference*, Lunteren, The Netherlands **2000**.

## STUDENT PRESENTATIONS

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1. Alec Huber, Mae Stepanski, Nicolas M. Zahn, Melissa Schussman, Guanguan Li, James M. Cook, Leggy A. Arnold "Continued Study of the Immunotoxicology of Asthma Drug Candidate MIDD0301" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August 15<sup>th</sup>, **2018**.
2. Mae E. Stepanski, Nicholas M. Zahn, Alec T. Huber, Melissa K. Schussman, Guanguan Li, Douglas C. Stafford, James M. Cook, Leggy A. Arnold "The application of non-invasive airway mechanics to determine airway hyperresponsiveness for a steroid-resistance mouse model for asthma" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August 15<sup>th</sup>, **2018**.
3. Brandon N. Mikulsky, Amanda N. Nieman, Guanguan Li, Douglas C. Stafford, James M. Cook and Leggy A. Arnold "Finding a new treatment for Neuropathic Pain: Targeting the GABAA Receptor in Microglia" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August 15<sup>th</sup>, **2018**. (Poster Award: 3<sup>rd</sup> place).
4. Amanda N. Nieman, Gloria S. Forkuo, Nicolas M. Zahn, Revathi Kodali, Guanguan Li, M. S. Rashid Roni, Michael R. Stephen, Ted W. Harris, Rajwana Jahan, Margaret L. Guthrie, Olivia B. Yu, Janet L. Fisher, Gene T. Yocum, Charles W. Emala, Douglas A. Steeber, Douglas C. Stafford, James M. Cook, and Leggy A. Arnold "Reducing airway constriction and inflammation through GABA<sub>A</sub> receptors in the lung with a novel, orally available drug candidate" *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May 22<sup>nd</sup> **2018**.
5. Tania Mutchie, Rodrigo Ramos Morales, Fernando Ramos Morales, and Leggy A. Arnold "Synthesis of novel compounds to study expression and localization of the vitamin D receptor" *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May 22<sup>nd</sup> **2018**.
6. Revathi Kodali, Nicolas M. Zahn, Gloria S. Forkuo, M. S. Rashid Roni, Margaret L. Guthrie, Rajwana Jahan, Guanguan Li, Charles W. Emala, James M. Cook, Douglas Stafford, Leggy A. Arnold "Revathi Pharmacokinetic Studies of Drug Candidates for Neurological Disorders and Asthma Based on GABAA Receptor Subtype Selective Ligands" *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May 22<sup>nd</sup> **2018**.
7. M S Rashid Roni, Amanda Nieman, Nicolas Zahn, Gloria S Forkuo, Revathi Kodali, Margaret Guthrie, Guanguan Li, James M Cook, Douglas C Stafford, Leggy A Arnold "Development of a protein binding assay for drug discovery" *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May 22<sup>nd</sup> **2018**.

8. Elliot Di Milo, Revathi Kodali, Olivia Yu, Leggy A. Arnold "Liquid Chromatography Tandem Mass Spectrometry for Quantification of Calcitroic Acid in Tissue and Microsomal Stability Assays" *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May 22<sup>nd</sup> **2018**.
9. Nicolas Zahn, Revathi Kodali, Margaret Guthrie, Rajwana Jahan, Michael Rajesh Stephen, Michael M Poe, Jim Cook, Douglas Stafford, Leggy Arnold "Nervous System Effects of Metabolic Analysis of Imidazobenzodiazepines in Human and Mouse Liver Microsomes" *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May 22<sup>nd</sup> **2018**.
10. Olivia Yu, Elliot DeMilo, and Leggy A. Arnold "Investigating Calcitroic Acid, Its Phase Two Metabolites, and Their Biological Function" *Vitamin D workshop*, Barcelona (Spain), May 17<sup>th</sup>, **2018**.
11. Amanda N. Nieman, Gloria S. Forkuo, Nicolas M. Zahn, Revathi Kodali, Guanguan Li, M. S. Rashid Roni, Michael R. Stephen, Ted W. Harris, Rajwana Jahan, Margaret L. Guthrie, Olivia B. Yu, Janet L. Fisher, Gene T. Yocum, Charles W. Emala, Douglas A. Steeber, Douglas C. Stafford, James M. Cook, and Leggy A. Arnold "Reducing airway constriction and inflammation through GABAA receptors in the lung with a novel, orally available drug candidate" *Immunology*, Austin Tx, May 8<sup>th</sup>, **2018**.
12. Amanda N. Nieman, Gloria S. Forkuo, Nicolas M. Zahn, Revathi Kodali, Guanguan Li, Md. S. Rashid Roni, Michael R. Stephen, Ted W. Harris, Rajwana Jahan, Margaret L. Guthrie, Olivia B. Yu, Janet L. Fisher, Gene T. Yocum, Charles W. Emala, Douglas A. Steeber, Douglas C. Stafford, James M. Cook, and Leggy A. Arnold "Reducing airway constriction and inflammation through GABAA receptors in the lung with a novel, orally available drug candidate" *Immunology*, Austin Tx, May 8<sup>th</sup>, **2018**. (oral presentation)
13. Alec Huber, Nicolas M. Zahn, Guanguan Li, M. S. Rashid Roni, Ted W. Harris, Revathi Kodali, Gloria S. Forkuo, James M. Cook, Leggy A. Arnold "An Immunotoxicity Safety Study of MIDD0301", *10th annual UWM Undergraduate Research Symposium*, UWM, Milwaukee, April 27<sup>th</sup>, **2018**.
14. Brandon Mikulsky, Amanda Nieman, Leggy A. Arnold "Finding a New Treatment for Neuropathic Pain: Targeting the GABA(A) Receptor on Microglia" *10th annual UWM Undergraduate Research Symposium*, UWM, Milwaukee, April 27<sup>th</sup>, **2018**.
15. Jon Gould and Leggy A. Arnold "Identification of Novel Pepsin Inhibitors for Target Drugs to Treat Laryngopharyngeal Reflux Disease" *10th annual UWM Undergraduate Research Symposium*, UWM, Milwaukee, April 27<sup>th</sup>, **2018**. (oral presentation)
16. Amanda N. Nieman, Gloria S. Forkuo, Nina Y. Yuan, Ted W. Harris, Md. S. Rashid Roni, Rajwana Jahan, Guanguan Li, Michael Rajesh Stephen, Douglas A. Steeber, Douglas C. Stafford, James M. Cook, and Leggy A. Arnold "Automated Patch Clamp to Determine the Pharmacology and GABA<sub>A</sub> receptor Subtype Selectivity of Imidazobenzodiazepines", *UW System Faculty Meeting*, UWM, Milwaukee, September 29<sup>th</sup> **2017**.
17. Olivia Yu, Elliot DiMilo, Viktoriia Senych, Kelly A. Teske, and Leggy A. Arnold "Investigation of the Biological Function of Calcitroic Acid and Its Phase Two Metabolites", *UW System Faculty Meeting*, UWM, Milwaukee, September 29<sup>th</sup> **2017**.
18. Margaret L. Guthrie, Nicolas Zahn, Guanguan Li, Revathi Kodali, Glorio Forkuo, Morgan E. Stevenson, Shama Mirza, James M. Cook, Douglas C. Stafford, Leggy A. Arnold "Localization of novel imidobenzodiazepines in asthmatic mouse lung tissue by MALDI imaging mass spectrometry", *UW System Faculty Meeting*, UWM, Milwaukee, September 29<sup>th</sup> **2017**.
19. Tania Mutchie, Rodrigo Ramos Morales, Fernando Ramos Morales, and Leggy A. Arnold "Synthesis of novel compounds to study expression and localization of the vitamin D receptor", *UW System Faculty Meeting*, UWM, Milwaukee, September 29<sup>th</sup> **2017**.
20. Md Shadiqur Rashid Roni and Leggy A. Arnold "Microsomal stability determination of novel Imidazobenzodiazepines", *UW System Faculty Meeting*, UWM, Milwaukee, September 29<sup>th</sup> **2017**.
21. Revathi Kodali, Nicolas M. Zahn, Gloria S. Forkuo, Rashid Roni, Margaret L. Guthrie, Rajwana Jahan, Guanguan Li, Charles W. Emala, James M. Cook, Douglas Stafford, Leggy A. Arnold "Pharmacokinetic Studies of Drug Candidates for Neurological Disorders and Asthma Based on GABAA Receptor Subtype Selective Ligands", *UW System Faculty Meeting*, UWM, Milwaukee, September 29<sup>th</sup> **2017**.
22. Gloria S. Forkuo, Ted Harris William Amanda N. Nieman, Olivia B. Yu, Margaret L. Guthrie, Revathi Kodali, Guanguan Li, Rajwana Jahan, Michael R. Stephen, Charles W. Emala, James M. Cook<sup>1</sup>, Douglas Stafford, Leggy A. Arnold, "Novel orally bioavailable GABA A receptor positive allosteric modulator for alleviating multiple asthma symptoms", *UW System Faculty Meeting*, UWM, Milwaukee, September 29<sup>th</sup> **2017**.
23. Alec Huber, Nicolas M. Zahn, Guanguan Li, Md S.R. Roni, Leggy A. Arnold "An Immunotoxicity Safety Study of GL-II-93", *UW System Faculty Meeting*, UWM, Milwaukee, September 29<sup>th</sup> **2017**.

24. Elliot Di Milo, Margaret Guthrie, Revathi Kodali, Olivia Yu, Leggy A. Arnold "Quantification of Calcitroic Acid using Liquid Chromatography Tandem Mass Spectrometry", *UW System Faculty Meeting*, UWM, Milwaukee, September 29<sup>th</sup> **2017**.
25. Labina Petrovska, Dara Frank, Leggy A Arnold "Identification of ExoU Inhibitors for the Suppression of Pseudomonas aeruginosa" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August 23<sup>th</sup>, **2017**.
26. Alec Huber, Nicolas M. Zahn, Douglas C. Stafford, James M. Cook, Leggy A. Arnold "An Immunotoxicity Safety Study of GL-II-93" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August 23<sup>th</sup>, **2017**.
27. Jon Gould, Nikki Johnston and Leggy A. Arnold "Development of Novel Pepsin Inhibitors to Treat Laryngopharyngeal Reflux Disease" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August 23<sup>th</sup>, **2017**.
28. Alessandra Ebben, Olivia B. Yu, Viktoriia Senych, Leggy A. Arnold "Calcitroic Acid as a Potential Key Element in Colon Cancer Prevention" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August 23<sup>th</sup>, **2017**.
29. Margaret L. Guthrie and Leggy A Arnold "MALDI-IMS for Asthma Drugs that Target the GABA<sub>A</sub> Receptor" *ASMS Conference on Mass Spectrometry and Allied Topics*, Indianapolis, June 3-4, **2017**. (oral presentation)
30. Margaret L. Guthrie, Nicolas Zahn, Gloria Forkuo, Guanguan Li, Revathi Kodali, Rajwana Jahan, Morgan E. Stevenson, Jim M. Cook, Douglas Stafford, Leggy A. Arnold "Imaging the distribution of selective GABA<sub>A</sub> receptor modulators in the asthmatic lung using MALDI mass spectrometry", *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2017**.
31. Amanda N. Nieman, Gloria S. Forkuo, Nina Y. Yuan, Ted W. Harris, Md. S. R. Roni, Rajwana Jahan, Guanguan Li, Michael Rajesh Stephen, Douglas A. Steeber, Douglas C. Stafford, James M. Cook, and Leggy A. Arnold "Automated Patch Clamp for Determining the Pharmacology and GABA<sub>A</sub> Receptor Subtype Selectivity of Imidazobenzodiazepines", *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2017**.
32. Nicolas Zahn, Revathi Kodali, Margaret L. Guthrie, Rajwana Jahan, Michael R. Stephen, Michael M. Poe, Jim M. Cook, Douglas Stafford, Leggy A. Arnold "Nervous System Effects & Metabolic Analysis of Benzodiazepines in Human and Mouse Liver Microsomes", *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2017**.
33. Elliot Di Milo, Margaret Guthrie, Revathi Kodali, Olivia Yu, Leggy A. Arnold "Quantification of calcitroic Acid using Liquid Chromatography Tandem Mass Spectrometry", *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2017**.
34. Md Rashid Roni, Revathi Kodali, Nicolas M. Zahn, James C Cook, Leggy A. Arnold "Microsomal Stability Determination of Novel Imidazobenzodiazepines", *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2017**.
36. Revathi Kodali, Nicolas M. Zahn, Gloria S. Forkuo, Rashid Roni, Margaret L. Guthrie, Rajwana Jahan, Guanguan Li, Charles W. Emala, James M. Cook, Douglas Stafford, Leggy A. Arnold "Pharmacokinetic Studies of Drug Candidates for Neurological Disorders and Asthma Based on GABA<sub>A</sub> Receptor Subtype Selective Ligands", *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2017**.
37. Alec Huber, Nicolas M. Zahn, Douglas C. Stafford, James M. Cook, Leggy A. Arnold," Application of rotarod studies to the investigation possible adverse side effects of imidazobenzodiazepines", *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2017**.
38. Olivia Yu, Elliot DeMilo, Viktoriia Seynch, Kelly A. Teske, Leggy A. Arnold "Investigation of the Biological Function of Calcitroic Acid", *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2017**.
39. Alessandra Ebben, Olivia B. Yu, Viktoriia Senych, Leggy A. Arnold "Calcitroic Acid as a Potential Key Element in Colon Cancer Prevention" *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2017**.
40. Viktoriia Senych, Olivia B. Yu, Alessandra A. Ebben and Dr. Leggy A. Arnold "Synthesis of Calcitroic Acid to Determine its Potential for Prevention of Colon Cancer", *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2017**.
41. Tania Mutchie, Rodrigo Ramos Morales, Fernando Ramos Morales, and Leggy A. Arnold "Synthesis of Novel Compounds to Study Expression and Localization of the Vitamin D Receptor", *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2017**.
42. Ted Harris, Gloria Forkuo, Guanguan Li, James M Cook, Douglas Stafford, Leggy A. Arnold "A murine asthma model to determine the attenuation of airway hyper-responsiveness of novel imidazobenzodiazepines", *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2017**.

43. Alessandra Ebben, Olivia B. Yu, Viktoriia Senych, Leggy A. Arnold "Calcitroic Acid as a Potential Key Element in Colon Cancer Prevention" *9<sup>th</sup> annual UWM Undergraduate Research Symposium*, April 28<sup>th</sup> **2017**.
44. Viktoriia Senych, Olivia B. Yu, Alessandra A. Ebben and Dr. Leggy A. Arnold "Synthesis of Calcitroic Acid to Determine its Potential for Prevention of Colon Cancer", *9<sup>th</sup> annual UWM Undergraduate Research Symposium*, April 28<sup>th</sup> **2017**.
45. Margaret L. Guthrie, Nicolas Zahn, Gloria Forkuo, Guanguan Li, Revathi Kodali, Rajwana Jahan, Morgan E. Stevenson, Jim M. Cook, Douglas Stafford, Leggy A. Arnold "Imaging the distribution of selective GABA<sub>A</sub> receptor modulators in the asthmatic lung using MALDI mass spectrometry", *253rd ACS National Meeting*, San Francisco, April 2<sup>nd</sup>, **2017**.
46. Olivia Yu, Elliot DeMilo, Viktoriia Seynch, Kelly A. Teske, Leggy A. Arnold "Investigation of the Biological Function of Calcitroic Acid", *Vitamin D workshop*, Orlando, Florida, March 31<sup>st</sup>, **2017**.
47. Viktoriia Senych, Olivia Yu, Alessandra A. Ebben and Dr. Leggy A. Arnold "Initial Steps Towards Synthesizing Calcitroic Acid to Determine its Biological Function", *253rd ACS National Meeting*, San Francisco, April 2<sup>nd</sup>, **2017**.
48. Gloria Forkuo, Amanda N. Nieman, Olivia B. Yu, Margaret L. Guthrie, Nina Y. Yuan, Revathi Kodali, Rajwana Jahan, Michael R. Stephen, Michael M. Poe, Benjamin D. Hartzler, Charles W. Emala, James M. Cook, Douglas Stafford, Leggy A. Arnold "Alpha 4&5-selective GABAA receptor positive allosteric modulators attenuates the asthma-like phenotype", *International Chemical Biology Society meeting*, Madison, WI, October **2016**.
49. Nicolas Zahn, Revathi Kodali, Margaret L. Guthrie, Rajwana Jahan, Michael R. Stephen, Michael M. Poe1, Jim M. Cook, Douglas Stafford, Leggy A. Arnold "Nervous System Effects & Metabolic Analysis of Benzodiazepines in Human and Mouse Liver Microsomes", *International Chemical Biology Society meeting*, Madison, WI, October **2016**.
50. Olivia Yu and Leggy A. Arnold "Synthesis of Calcitroic Acid to Determine Its Potential for Prevention of Colon Cancer", *International Chemical Biology Society meeting*, Madison, WI, October **2016**.
51. Amanda Nieman, Gloria S. Forkuo, Margaret L. Guthrie, Nina Y. Yuan, Olivia B. Yu, Revathi Kodali, Rajwana Jahan, Michael R. Stephen, Michael M. Poe, Benjamin Hartzler, Charles W. Emala, James M. Cook, Douglas C. Stafford, Leggy A. Arnold "Targeting the immune system with subtype-selective GABA(A) receptor modulators to alleviate asthma symptoms", *International Chemical Biology Society meeting*, Madison, WI, October **2016**.
52. Leah Radde, Nikki Johnston, Nicholas R. Silvaggi, Leggy A. Arnold "Identification of Novel Pepsin Inhibitors for Target Drugs to Treat Laryngopharyngeal Reflux Disease" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August 24<sup>th</sup>, **2016**. (Second best poster award).
53. Viktoriia Senych, Olivia Yu and Leggy A. Arnold "Ozonolysis of Calciferol as a First Step of a Novel Synthesis of Calcitroic Acid" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August 24<sup>th</sup>, **2016**.
54. Margaret L. Guthrie, Rajwana Jahan, Michael R. Stephen, Jim M. Cook, Douglas Stafford, Leggy A. Arnold "Comparison of in-line HPLC SPE extraction and liquid/liquid extraction for the pharmacokinetic profiling using LC-MS/MS, *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2016**.
55. Revathi Kodali, Margaret L. Guthrie, Michael R. Stephen, Rajwana Jahan, Charles W. Emala, James M. Cook, Douglas Stafford and Leggy A. Arnold; "Metabolic Studies of Drug Candidates for Neurological Disorders and Asthma based on GABAA receptor subtype selective ligands using Mass Spectrometry, *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2016**.
56. Olivia Yu and Leggy A. Arnold "Synthesis of Calcitroic Acid to Determine its Potential of Prevention of Colon Cancer, *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2016**.
57. Nicolas Zahn, Revathi Kodali, Margaret L. Guthrie, Rajwana Jahan, Michael R. Stephen, Daniel E Knutson, Michael M. Poe, Jim M. Cook, Douglas Stafford, Leggy A. Arnold" Determine of CNS effects of  $\alpha$ 4 and  $\alpha$ 6 selective GABA<sub>A</sub> receptor ligands using a rotarod study *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2016**.
58. Gloria S. Forkuo, Amanda N. Nieman, Olivia B. Yu, Margaret L. Guthrie, Nina Y. Yuan, Revathi Kodali, Rajwana Jahan, Michael R. Stephen, Michael M. Poe, Benjamin D. Hartzler, Charles W. Emala, James M. Cook, Douglas Stafford, Leggy A. Arnold " $\alpha$ 4-selective GABA<sub>A</sub> receptor positive modulator attenuates the "asthma-like phenotype" in a murine asthma model" *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2016**.
59. Benjamin D. Hartzler, Gloria S. Forkuo, Amanda N. Nieman, Olivia B. Yu, Margaret L. Guthrie, Nina Y. Yuan, Revathi Kodali, Rajwana Jahan, Michael R. Stephen, Michael M. Poe, Charles W. Emala, James M. Cook, Douglas Stafford, Leggy A. Arnold "Characterization of the GABAA Receptor Subunits in a Murine Model of Asthma" *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2016**.

60. Gino Scuncio, Nikki Johnston, Leggy A. Arnold "Identification of Novel Pepsin Inhibitors for Target Drugs to Treat Laryngopharyngeal Reflux Disease" *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2016**.
61. Nina Y. Yuan, James M. Cook, Leggy A. Arnold "Cross-Talk: The Brain and The Immune System – Functional GABA<sub>A</sub> Receptor on Leukocytes", *Chemistry and Biochemistry Research Symposium*, UWM, Milwaukee, May **2016**.
62. Revathi Kodali, Margaret L. Guthrie, Michael R. Stephen, Rajwana Jahan, Charles W. Emala, James M. Cook, Douglas Stafford and Leggy A. Arnold "Metabolic Studies of Drug Candidates for Neurological Disorders and Asthma based on GABA<sub>A</sub> receptor subtype selective ligands using Mass Spectrometry", *252th ACS National Meeting*, Philadelphia, PA **2016**.
63. Revathi Kodali, Margaret L. Guthrie, Michael R. Stephen, Rajwana Jahan, Charles W. Emala, James M. Cook, Douglas Stafford and Leggy A. Arnold "Metabolic Studies of Drug Candidates for Neurological Disorders and Asthma based on GABA<sub>A</sub> receptor subtype selective ligands using Mass Spectrometry", *8th Yao Yuan Biotech-Pharma Symposium*, Chicago, IL, **2016**.
64. Benjamin D. Hartzler, Gloria S. Forkuo, Amanda N. Nieman, Olivia B. Yu, Margaret L. Guthrie, Nina Y. Yuan, Revathi Kodali, Rajwana Jahan, Michael R. Stephen, Michael M. Poe, Charles W. Emala, James M. Cook, Douglas Stafford, Leggy A. Arnold "Characterization of the GABA<sub>A</sub> Receptor Subunits in a Murine Model of Asthma" *UW System Symposium for Undergraduate Research and Creative Activity*, UW Steven's Point, April **2016**.
65. Gloria S. Forkuo, Amanda N. Nieman, Olivia B. Yu, Margaret L. Guthrie, Nina Y. Yuan, Revathi Kodali, Rajwana Jahan, Michael R. Stephen, Michael M. Poe, Benjamin D. Hartzler, Charles W. Emala, James M. Cook, Douglas Stafford, Leggy A. Arnold "α4-selective GABA<sub>A</sub> receptor positive modulator attenuates the "asthma-like phenotype" in a murine asthma model" *Experimental Biology*, San Diego, April **2016**.
66. Benjamin D. Hartzler, Gloria S. Forkuo, Amanda N. Nieman, Olivia B. Yu, Margaret L. Guthrie, Nina Y. Yuan, Revathi Kodali, Rajwana Jahan, Michael R. Stephen, Michael M. Poe, Charles W. Emala, James M. Cook, Douglas Stafford, Leggy A. Arnold "Characterization of the GABA<sub>A</sub> Receptor Subunits in a Murine Model of Asthma" *UWM Undergraduate Research Symposium*, UWM, April **2016**.
67. Owen Dinauer, Olivia Yu, and Leggy A. Arnold "Optimization of Intermediate Compounds for a Direct VDR Binding Assay", *UWM Undergraduate Research Symposium*, UWM, April **2016**.
68. Gino Scuncio, Nikki Johnston, Leggy A. Arnold "Identification of Novel Pepsin Inhibitors for Target Drugs to Treat Laryngopharyngeal Reflux Disease" *UWM Undergraduate Research Symposium*, UWM, April **2016**.
69. Amanda Nieman, Gloria S. Forkuo, Margaret L. Guthrie, Nina Y. Yuan, Olivia B. Yu, Revathi Kodali, Rajwana Jahan, Michael R. Stephen, Michael M. Poe, Benjamin Hartzler, Charles W. Emala, James M. Cook, Douglas C. Stafford, Leggy A. Arnold "Targeting the Immune System with Subtype-Selective GABA<sub>A</sub> Receptor Modulators to Alleviate Asthma Symptoms" *Immunology 2016*, Seattle, May **2016**.
70. Nina, Y. Yuan, James M. Cook, Leggy A. Arnold "Electrophysiological Assay of GABA<sub>A</sub> Receptor: Roles in Neuropharmacology & Immunology" *Northwestern Feinberg School of Medicine*, Chicago, April **2016** (Oral presentation)
71. Nicolas Zahn, Revathi Kodali, Margaret L. Guthrie, Rajwana Jahan, Michael R. Stephen, Michael M. Poe, Jim M. Cook, Douglas Stafford, Leggy A. Arnold "Metabolic Analysis of Imidazobenzodiazepines in Human and Mouse Liver Microsomes" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August 19<sup>th</sup>, **2015**. (Poster Award: 3<sup>rd</sup> place).
72. Gino Scuncio, Chris Goetz, Nikki Johnston\*, and Leggy A. Arnold "Identification of novel pepsin inhibitors for target drugs to treat laryngopharyngeal reflux disease" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August 19<sup>th</sup>, **2015**.
73. Charles Stangl, Kelly Teske, Olivia Yu, Leggy A. Arnold "Synthesis of New Vitamin D Receptor- Coactivator Inhibitors" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August 19<sup>th</sup>, **2015**.
74. Chris Goetz, Tina Samuels, Nikki Johnston, Leggy A. Arnold "New high throughput screening assay for the identification of new pepsin inhibitors" *Chemistry and Biochemistry Research Symposium*, UWM, April **2015** (Chemistry Alumni Award for the Undergraduate Research for the best poster presentation).
75. Chris Goetz, Tina Samuels, Nikki Johnston, Leggy A. Arnold "New high throughput screening assay for the identification of new pepsin inhibitors" *Chemistry and Biochemistry Research Symposium*, UWM, April **2015** (Chemistry Alumni Award for the Undergraduate Research for the best poster presentation).
76. Kelly A. Teske, Jon W. Bogart, Luis Sanchez, Leggy A. Arnold "Synthesis of natural VDR ligand metabolites and their interaction with the vitamin D receptor" *250th ACS National Meeting*, Boston, MA, August 16<sup>th</sup>, **2015**.



77. Margaret L. Guthrie, Nicolas Zahn, Revathi Kodali, Glorio Forkuo, Rajwana Jahan, Michael R. Stephen, Michael M. Poe, Jim M. Cook, Douglas Stafford, Leggy A. Arnold "Development of a liquid chromatography tandem mass spectrometry (LC-MS/MS) method for quantification of imidazobenzodiazepines following liquid-liquid extraction (LLE) and on-line solid-phase extraction (SPE)." *250nd ACS National Meeting*, Boston, MA, August 16<sup>th</sup>, **2015**.
78. Revathi Kodali, Margaret L. Guthrie, Michael M. Poe, Michael R. Stephen, Rajwana Jahan, Charles W. Emala, James M. Cook, Douglas Stafford, and Leggy A. Arnold "Metabolic Studies of Drug Candidates for Neurological Disorders and Asthma Based on GABA<sub>A</sub> Receptor Subtype Selective Ligands using Mass Spectrometry." *250nd ACS National Meeting*, Boston, MA, August 16<sup>th</sup>, **2015**.
79. Nina Yuan, Mike Poe, James M. Cook, Leggy A. Arnold "Electrophysiological Assay of GABA<sub>A</sub> Receptor: Roles in Neuropharmacology & Immunology" Great Lakes Chapter Chinese American Chemical Society (GLCACS), Abbott Auditorium, Northwestern University, Chicago **2015**. (Third best presentation)
80. Gino Scuncio, Christopher Goetz, Nikki Johnston, Leggy A. Arnold, "Development of a High Throughput Screening Campaign to Identify Novel Pepsin Inhibitors to treat Laryngopharyngeal Reflux Disease", *7<sup>th</sup> Yao Yuan Biotech-Pharma Symposium, Illinois Institute of Technology, Chicago* **2015**.
81. Gloria Forkuo, Amanda Youmans, Olivia Yu, Margaret L. Guthrie, Nina Yuan, Revathi Kodali, Rajwana Jahan, Michael R. Stephen, Michael M. Poe, Charles W. Emala, James M. Cook, Douglas Stafford, Leggy A. Arnold "Characterization of airway hyper-responsiveness in a murine model of asthma with the Buxco® FinePointe Non-Invasive Airway Mechanics instrumentation" *Chemistry and Biochemistry Research Symposium*, UWM, April **2015**.
82. Amanda Youmans, Gloria Forkuo, Olivia Yu, Margaret L. Guthrie, Nina Yuan, Revathi Kodali, Rajwana Jahan, Michael R. Stephen, Michael M. Michael, Charles W. Emala, James M. Cook, Douglas Stafford, Leggy A. Arnold, "The Effect of  $\gamma$ -Aminobutyric Acid on IL-2 Production in Jurkat Cell Line" *Chemistry and Biochemistry Research Symposium*, UWM, April **2015**.
83. Margaret L. Guthrie, Marina Sidorko, Nicolas Zahn, Rajwana Jahan, Michael R. Stephen, Michael M. Poe, Charles W. Emala, Jim M. Cook, Douglas Stafford, Leggy A. Arnold "Development of a liquid chromatography-tandem mass spectrometry (LC-MS/MS) method for the quantitation of benzodiazepines in mouse tissue homogenates " *Chemistry and Biochemistry Research Symposium*, UWM, April **2015**.
84. Kelly A. Teske, Adam Yasgar, Ganesha Bantukallu, Jon Bogart, Anton Simeonov, Ajit Jadhav, David Maloney and Leggy A. Arnold, "Further Investigation of the First Non-Secosteroidal Antagonist for the Vitamin D Receptor" *Chemistry and Biochemistry Research Symposium*, UWM, April **2015** (Sosnovsky Award for Excellence in Graduate Research).
85. Olivia Yu, Kelly A. Teske, Charlie Stangl, James M. Cook, and Leggy A. Arnold, "Development of a Direct VDR Binding Assay Based on Fluorescence Polarization" *Chemistry and Biochemistry Research Symposium*, UWM, April **2015**.
86. Nina Yuan, James M. Cook, Leggy A. Arnold "Electrophysiological Assay of GABA(A) Receptor Roles in Neuropharmacology & Immunology" *Chemistry and Biochemistry Research Symposium*, UWM, April **2015** (Chemistry Alumni Award for Graduate Research for the 1st best poster presentation).
87. Revathi Kodali, Margaret L. Guthrie, Michael M. Poe, Michael R. Stephen, Rajwana Jahan, Charles W. Emala, James M. Cook, Douglas Stafford, and Leggy A. Arnold "In Vitro Metabolic Stability Studies of GABA<sub>A</sub> Receptor Subtype Selective Ligands in Liver Sub-Cellular Fractions" *Chemistry and Biochemistry Research Symposium*, UWM, April **2015**.
88. Chris Goetz, Tina Samuels, Nikki Johnston, Leggy A. Arnold "New high throughput screening assay for the identification of new pepsin inhibitors" *Chemistry and Biochemistry Research Symposium*, UWM, April **2015** (Chemistry Alumni Award for the Undergraduate Research for the best poster presentation).
89. Christopher Goetz, Tina Samuels, Nikki Johnston, Leggy A. Arnold "Development of a high throughput screening campaign for the identification of new pepsin inhibitors" *24<sup>th</sup> Annual Graduate School of Biomedical Science Research Poster Session*, Medical College of Wisconsin, Milwaukee, WI, October 9<sup>th</sup>, **2014**.
90. Christopher Goetz, Tina Samuels, Nikki Johnston, Leggy A. Arnold "Development of a high throughput screening campaign for the identification of new pepsin inhibitors" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August 30<sup>th</sup>, **2014**.
91. Joshua Preston, Nina Yuan, Leggy A. Arnold "Development of a stable cell line for nuclear receptor research" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August 30<sup>th</sup>, **2014**.
92. Skylar J. Gabel-Eissens, Jonathan W. Bogart, Grant B. Fernstrum, Kelly Teske, Joshua Preston, Nina Yuan, Leggy A. Arnold "Synthesis of VDR-Coregulator Inhibitor SG72914" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August 30<sup>th</sup>, **2014**.

93. Kelly A Teske, Jon W Bogart, Luis Sanchez, Ganesha Bantukallu, Anton Simeonov, Ajit Jadhav, Adam Yasgar, David Maloney, and Leggy A Arnold "Development of selective non-secosteroidal vitamin D receptor inhibitors" *248th ACS National Meeting*, San Francisco, CA, August 13<sup>th</sup>, **2014**. (oral presentation)
94. Kelly A Teske, Jon W Bogart, Luis Sanchez, and Leggy A Arnold "Identification of New Vitamin D Receptor-Coregulator Inhibitors among Nuclear Receptor Ligands", *248th ACS National Meeting*, San Francisco, CA, August 10<sup>th</sup>, **2014**.
95. Nina Y. Yuan, James M. Cook, and Leggy A. Arnold "Development of high throughput assays to identify new alpha subtype-selective GABAA receptor modulators to treat anxiety and depression disorders" *Experimental Instrumentation and Models in Interdisciplinary Neuroscience Research*, UWM, Milwaukee, WI, July 30<sup>th</sup>, **2014**. (oral presentation)
96. Nina Yuan, Mike M. Poe, Christopher M. Witzigmann, Werner Sieghart, James M. Cook, and Leggy A. Arnold "Identifying New Treatments for the Brain: Electrophysiological Assay and Generation of a Stable Recombinant Cell Line" *Gordon Research Conference – Ion Channels*, South Hadley, MA, July 8<sup>th</sup>, **2014**.
97. Nina Y. Yuan, James M. Cook, and Leggy A. Arnold "Development of high throughput assays to identify new alpha subtype-selective GABAA receptor modulators to treat anxiety and depression disorders" *Gordon Research Seminar – Ion Channels*, South Hadley, MA, July 6<sup>th</sup>, **2014**. (oral presentation)
98. Kelly Teske and Leggy A. Arnold "Novel Modulators for the Vitamin D Receptor as Drug Candidates", *MIDD retreat 2014*, UWM, May 22<sup>nd</sup>, **2014**. (oral presentation)
99. Kelly Teske, Jonathan Bogart, Adam Yasgar, Ganesha Bantukallu, Jon Bogart, Anton Simeonov, Ajit Jadhav, David Maloney and Leggy A. Arnold "Development of Selective Non-Secosteroid Vitamin D Receptor Inhibitors", *Chemistry and Biochemistry Research Symposium*, UWM, April **2014**, received the Chemistry Alumni Award for Graduate Research.
100. Jonathan W. Bogart, Kelly A. Teske, Leggy A. Arnold "The Synthesis and Evaluation of Potential Non-Secosteroid VDR-coactivator Inhibitors", *Chemistry and Biochemistry Research Symposium*, UWM, April **2014**.
101. Margaret L. Guthrie, Preetpal Sidhu, Michael Poe, Michael Rajesh Stephen, V.V.N. Phani Babu Tiruveedhula, Rakesh K. Singh, James Cook and Leggy A. Arnold "Development of a Metabolic Stability Assay to Determine Drug-like Properties of Small Molecules" *Chemistry and Biochemistry Research Symposium*, UWM, April **2014**.
102. Joshua Preston, Preetpal S. Sidhu, and Leggy A. Arnold "Sequence Verification of Nuclear Receptor Plasmids for Ligand-mediated Transcription Assays" *Chemistry and Biochemistry Research Symposium*, UWM, April **2014**.
103. Belaynesh Feleke, Kelly Teske, Preetpal S. Sidhu, Nina Y. Yuan, Leggy A. Arnold "Novel VDR-Coregulator Inhibitors" *Chemistry and Biochemistry Research Symposium*, UWM, April **2014**.
104. Nina Yuan, Mike M. Poe, Christopher M. Witzigmann, Werner Sieghart, James M. Cook, Leggy A. Arnold, "Identifying New Treatments for the Brain: Electrophysiological Assay and Generation of a Stable Recombinant Cell Line" *Chemistry and Biochemistry Research Symposium*, UWM, April **2014**.
105. Jonathan W. Bogart, Kelly A. Teske, Leggy A. Arnold "The Synthesis and evaluation of potential non-secosteroid VDR-coactivator inhibitors", *UWM System Symposium*, UWM, April **2014**. Award for Outstanding Presentation.
106. Joshua Preston, Preetpal S. Sidhu, and Leggy A. Arnold "Sequence Verification of Nuclear Receptor Plasmids for Ligand-mediated Transcription Assays", *UWM System Symposium*, UWM, April **2014**.
107. Kelly Teske, Adam Yasgar, Ganesha Bantukallu, Jon Bogart, Anton Simeonov, Ajit Jadhav, David Maloney and Leggy A. Arnold "Further Investigation of the First Non-Secosteroidal Antagonist for the Vitamin D Receptor" *6<sup>th</sup> Yao Yuan Biotech-Pharma Symposium*, Illinois Institute of Technology, Chicago **2014**.
108. Nina Yuan, James M. Cook, Leggy A. Arnold "Identifying New Treatments for the Brain: Anxiolytic Neurochemistry and Electrophysiology" *6<sup>th</sup> Yao Yuan Biotech-Pharma Symposium*, Illinois Institute of Technology, Chicago **2014**.
109. Belaynesh Feleke, Kelly Teske, Preetpal S. Sidhu, Nina Y. Yuan, Leggy A. Arnold "Novel VDR-Coregulator Inhibitors" *6<sup>th</sup> Yao Yuan Biotech-Pharma Symposium*, Illinois Institute of Technology, Chicago **2014**.
110. Preetpal S. Sidhu, Premchendar Nandhikonda, Kelly Teske, Belaynesh Feleke, Nina Y. Yuan, Rakesh K. Singh, Daniel D. Bikle, Leggy A. Arnold "Novel VDR-Coactivator Inhibitors and Their Anti-Cancer Effects" *6<sup>th</sup> Yao Yuan Biotech-Pharma Symposium*, Illinois Institute of Technology, Chicago **2014**.
111. Joshua Preston, Preetpal S. Sidhu, and Leggy A. Arnold "Sequence Verification of Nuclear Receptor Plasmids for Ligand-mediated Transcription Assays" *6<sup>th</sup> Yao Yuan Biotech-Pharma Symposium*, Illinois Institute of Technology, Chicago **2014**.
112. Jonathan W. Bogart, Kelly A. Teske, Leggy A. Arnold "The Synthesis and evaluation of potential non-secosteroid VDR-coactivator inhibitors" *6<sup>th</sup> Yao Yuan Biotech-Pharma Symposium*, Illinois Institute of Technology, Chicago **2014**.

113. Kelly Teske, Jonathan Bogart, and Leggy A. Arnold "Identification of the first non-secosteroid antagonist for the vitamin D receptor" *American Chemical Society Section Meeting (Younger Chemist Committee)*, UWM, Milwaukee **2013**.
114. Joshua Preston, Preetpal S. Sidhu, Leggy A. Arnold "Sequence Verification of Nuclear Receptor Plasmids for Ligand-mediated Transcription Assays" *American Chemical Society Section Meeting (Younger Chemist Committee)*, UWM, Milwaukee **2013**.
115. Jonathan Bogart, Kelly Teske, Leggy A. Arnold "The Synthesis and Evaluation of Potential Non-Secosteroid VDR-Coactivator Inhibitors" *American Chemical Society Section Meeting (Younger Chemist Committee)*, UWM, Milwaukee **2013**.
116. Belaynesh Feleke, Kelly Teske, Preetpal S. Sidhu, Nina Y. Yuan, Leggy A. Arnold "Novel VDR-Coregulator inhibitors" *American Chemical Society Section Meeting (Younger Chemist Committee)*, UWM, Milwaukee **2013**.
117. Jonathan Bogart, Kelly Teske, Leggy A. Arnold "The synthesis of non-secosteroid VDR-coactivator inhibitors using the Hantzsch reaction" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, August **2013**. (Second Best Poster)
118. Robin Goy, Nina Yuan, Lanlan Han, Lisa Mueller, Leggy A. Arnold "Expression and Purification of the Retinoic X Receptor Gamma" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, August **2013**.
119. Joshua Preston, Leggy A. Arnold "Gene sequencing of the Peroxisome Proliferator-Activated Receptor Alpha in pBind" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, August 2013.
120. Preetpal S. Sidhu, Leggy A. Arnold "Selective, Irreversible VDR-coactivator Inhibitors and Their Evaluation In Vivo Using an Ovarian Cancer Animal Model", *Gordon Research Seminar*, London, NH, August **2013**.
121. Nicholas D. Nassif, Kelly Teske, Ganesha Bantukallu, Adam Yasgar, David Maloney, Ajit Jadhav, Leggy A. Arnold "Expression and Purification of the Vitamin D Receptor Ligand Binding Domain for the Identification of Vitamin D Receptor Coactivator Inhibitors", *NCUR*, LaCrosse, WI, March **2013**.
122. Nicholas D. Nassif, Kelly Teske, Ganesha Bantukallu, Adam Yasgar, David Maloney, Ajit Jadhav, Leggy A. Arnold "Expression and Purification of the Vitamin D Receptor Ligand Binding Domain for the Identification of Vitamin D Receptor Coactivator Inhibitors", *UWM Chemistry and Biochemistry Research Symposium*, Milwaukee, WI, April **2013**.
123. Kelly Teske, Leggy A. Arnold "Identification of the first non-secosteroid antagonist for the vitamin D receptor" *245th ACS National Meeting and Exposition*, New Orleans, LA, April **2013**.
124. Preetpal S. Sidhu, Leggy A. Arnold "Chemical improvement of pharmacological properties of irreversible VDR-coactivator inhibitors", *245th ACS National Meeting and Exposition*, New Orleans, LA, April **2013**.
125. Nina Yuan, James Cook, Leggy A. Arnold "Identifying New Treatments for the Brain: Anxiolytic Neurochemistry and Electrophysiology", *UWM Chemistry and Biochemistry Research Symposium*, Milwaukee, WI, April **2013**.
126. Nina Yuan "Uppers, Downers, All Arounders: Identifying New Treatments for the Human Brain", *UWM Chemistry and Biochemistry Research Symposium and Recruiting Event*, Milwaukee, WI, April **2013**.
127. M. M. McCallum, Alan J. Pawlak, Anton Simeonov, Ajit Jadhav, Adam Yasgar, David Maloney, L. A. Arnold, "A new fluorescent-based high throughput method for the quantification of drug-protein binding" *Student Awards Day*, UWM, Milwaukee, WI, April **2013**.
128. M. M. McCallum, L. A. Arnold, "A new fluorescent-based high throughput method for the quantification of drug-protein binding" *245th ACS National Meeting & Exposition*, New Orleans, LA, April, **2013**.
129. M. M. McCallum, P. Nandhikonda, J. J. Temmer, L. A. Arnold, "A high throughput approach for the identification of promiscuous inhibitors among screening libraries with the use of a nucleophilic fluorescent probe" *245th ACS National Meeting & Exposition*, New Orleans, LA, April, **2013**.
130. Premchendar Nandhikonda, Megan M. Callum, Leggy A. Arnold "Identification of Promiscuous Inhibitors in Screening Libraries with the use of an Intrinsically Fluorescent Probe: High Throughput Screening Approach", *SLAS 2013, 2<sup>nd</sup> Annual Conference*, Orlando, FL, January **2013**.
131. Jonathan Temmer, Megan M. Callum, Premchendar Nandhikonda, Leggy A. Arnold "A fluorescence-based high throughput assay for the identification of promiscuous inhibitors", *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August **2012**.
132. Robin Goy, Nina Yuan, Leggy A. Arnold "Expression and Purification of VDR-LBD" *Summer Undergraduate Research Symposium*, UWM, Milwaukee, WI, August **2012**.
133. Kelly Teske, Angela Zivkovic and Leggy A. Arnold "Rational Development of Reversible Inhibitors of the Vitamin D Receptor-Coregulator Interactions" *Student Awards Day*, UWM, Milwaukee, WI, May **2012**.

134. Kelly Teske, Angela Zivkovic and Leggy A. Arnold “Rational Development of Reversible Inhibitors of the Vitamin D Receptor-Coregulator Interactions *243rd ACS National Meeting & Exposition*, San Diego, CA, March 25-29, **2012**.
135. Megan M. McCallum, Premchendar Nandhikonda, Leggy A. Arnold “High throughput determination of glutathione binding ability of small molecules with the use of intrinsically fluorescent probes” *Student Awards Day*, University of Wisconsin-Milwaukee, May **2012**.
136. Megan M. McCallum, Premchendar Nandhikonda, Leggy A. Arnold “High throughput determination of glutathione binding ability of small molecules with the use of intrinsically fluorescent probes” *243rd ACS National Meeting & Exposition*, San Diego, CA, March 25-29, **2012**.
137. Chinedum K. Kevin, Premchendar Nandhikonda, and Leggy A. Arnold “Quantification of Small Molecule Vitamin D Receptor–Coregulator inhibition” *Spring Undergraduate Research Symposium*, University of Wisconsin Milwaukee **2012**.
138. Chinedum K. Kevin, Premchendar Nandhikonda, and Leggy A. Arnold “Quantification of Small Molecule Vitamin D Receptor–Coregulator inhibition” *Student Awards Day*, University of Wisconsin-Milwaukee, May **2012**.
139. Angela Zivkovic, Kelly Teske and Leggy A. Arnold “Synthesis of a Novel Non-secosteroidal Vitamin D Receptor Agonist” *Spring Undergraduate Research Symposium*, University of Wisconsin Milwaukee **2012**.
140. Angela Zivkovic, Kelly Teske and Leggy A. Arnold “Synthesis of a Novel Non-secosteroidal Vitamin D Receptor Agonist” *Student Awards Day*, University of Wisconsin-Milwaukee, May **2012**.
141. Nina Y. Yuan, Leggy A. Arnold, "Benzodiazepine Specificity of GABA<sub>A</sub> Receptor Subtypes: High-Throughput Electrophysiological Assay with Transiently Transfected Cells", *ACS National Conference San Diego* **2012**.
142. Nina Y. Yuan, Leggy A. Arnold, "Benzodiazepine Specificity of GABA<sub>A</sub> Receptor Subtypes: High-Throughput Electrophysiological Assay with Transiently Transfected Cells", *UWM Chemistry Department Awards Day* **2012**.
143. Megan M. McCallum, Leggy A. Arnold “Miniaturizing Solubility and Permeability Assays for Small Molecules” *3rd Annual Chemistry in Southeastern Wisconsin Symposium, ACS Milwaukee Section – ACS Younger Chemists Committee*, Milwaukee, WI, November **2011**.
144. Nicholas Talerico, Premchendar Nandhikonda, Leggy A. Arnold , “Synthesis of Coregulator Binding Inhibitors for the Vitamin D Receptor”, *Summer Undergraduate Research Symposium*, University of Wisconsin Milwaukee **2011**.
145. Nina Yina Yuan, James M. Cook, Leggy A. Arnold, “Benzodiazepine Specificity of GABA<sub>A</sub> Receptor Subtypes” *Summer Undergraduate Research Symposium*, University of Wisconsin Milwaukee **2011**.
146. Megan M. McCallum, Leggy A. Arnold, “Miniaturizing Solubility and Permeability Assays for Small Molecules”, *Awards Day*, University of Wisconsin Milwaukee **2011**.
147. Athena Baranowski, Leggy A. Arnold. "Cell-Based Assays Used to Study the Affects of Small Molecule Modulators of the Vitamin D Receptor-Coactivator Interactions," *Awards Day*, University of Wisconsin Milwaukee **2011**.
148. Tahniyath Ara, Leggy A. Arnold, “Temperature Dependency of VDR-LBD during Protein Purification” *Awards Day*, University of Wisconsin Milwaukee **2011**.
149. Nina Yuan, James M. Cook, Leggy A. Arnold, "Electrophysiological Response of Benzodiazepines to GABA<sub>A</sub> Receptor in Transiently Transfected Mammalian Cells", *Spring Undergraduate Research Symposium*, University of Wisconsin Milwaukee **2011**.
150. Megan M. McCallum, Leggy A. Arnold, “Miniaturizing Solubility and Permeability Assays for Small Molecules”, *International ACS Conference, Anaheim* **2011**.
151. Nina Yina Yuan, Leggy A. Arnold, “Determination of binding modes for small molecule vitamin D receptor-coregulator inhibitors”, *Summer Undergraduate Research Symposium*, University of Wisconsin Milwaukee **2010**.
152. Tahniyath Ara, Nina Yuan, Leggy A. Arnold, “Characterization of Small Molecule Vitamin D Receptor-Coregulator Inhibitors”, *The Open House*, University of Wisconsin Milwaukee **2010**.
153. Travis R. Dove, Leggy A. Arnold, “Synthesis of vitamin D mimic LG190178”, *Summer Undergraduate Research Symposium*, University of Wisconsin Milwaukee **2010**.

## **LICENSURES AND CERTIFICATIONS**

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1. Arnold LA, Stafford DC, Cook JM, Emala CW, Forkuo GS, Jahan R, Kodali R, Li G, Stephen MR “GABA<sub>A</sub> receptor modulators and methods to control airway hyperresponsiveness and inflammation in asthma” WO 2018/035246 A1, filed August 2017.

2. Provisional Patent OTT 1519, Alexander E. Arnold, James M. Cook, Charles W. Emala, Gloria Forkuo, Rajwana Jahan, Michael Poe, Douglas C. Stafford “*New oral small molecule treatments to control airway hyperresponsiveness and inflammation in asthma based on GABA(A) receptor modulators*” filed November 2016.
3. Provisional Patent OTT 1516, Douglas C. Stafford, James M. Cook, Alexander E. Arnold, Charles W. Emala, Sr “*Novel GABA(A) Receptor Modulators and methods to control airway hyperresponsiveness and inflammation in asthma*” filed September 2016.
4. Exclusive Licensing Agreement of US9416104 B2 to Systems Oncology on March 2017.
5. Patent US9416104 B2 “*Vitamin D receptor-coregulator inhibitors*” Alexander E. Arnold, Preetpal Singh Sidhu, Premchendar Nandhikonda, Rakesh K. Singh, filed August 2012, allowed August 2016.
6. License with KeraFAST (Boston, USA) that include the commercialization of the MSTI probe, January 2014.
7. Provisional patent OTT1368 “*High throughput identification of promiscuous inhibitors among screening libraries with the use of an intrinsically fluorescent probe*” Alexander E. Arnold, Megan McCallum, Premchendar Nandhikonda filed November 2013.
8. Patent US0232473 A1 “*Novel GABA<sub>A</sub> agonists and methods of using to control airway hyperresponsiveness and inflammation in asthma*” Douglas C. Stafford, James M. Cook, Alexander E. Arnold, Charles W. Emala, Sr.; filed September 2013, allowed October 2017.
9. Provisional patent OTT1319 “*Development of a GABA<sub>A</sub> agonist to control airway hyperresponsiveness and inflammation in asthma*” Douglas C. Stafford, James M. Cook, Alexander E. Arnold, Charles W. Emala, Sr.; filed September 2012.
10. Provisional patent OTT 1250 “*New Treatments for Cancer and Metabolic Diseases: Vitamin D Receptor-Coregulator Inhibitors*”, Alexander Arnold, filed August 2011.

## **GRANTS AND FELLOWSHIPS** (Total Funding at UWM: \$12,147,008.00)

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### **2018** (Total funding: \$46,043.00)

1. Fellowships for two graduate students were negotiated with Eurofins for fall 2018. The support includes salary and fringes at \$31,390.00. (September 2018 – January 2019).
2. Arnold, A (PI), Cook, J (Co-PI) “*Novel asthma drug discovery by defining the GABAergic system in lung inflammation*” sponsored by NIH (R01), renewal, Research, awarding organization is national, **under review**, \$2,640,377.00 (February 2019 – January 2024).
3. Sengupta J, Cunningham C, Arnold A “*Analgesic Effects of Biased Opioid Agonists in Pelvic Pain; a non-addictive pain therapy*” CTSI Pilot Start-up Award Proposal, **not funded** \$50,000.00 (October 2018 – September 2019).
4. Arnold, A (PI), Cook, J (Co-PI) “*Selectively Targeting GABA<sub>A</sub> Receptors to Treat Neuropathic Pain*” sponsored by NIH (R01), Research, awarding organization is national, **not funded**, \$2,568,397.00 (October 2018 – September 2023).
5. Jed Hubbs (PI), Arnold A. (Co-PI) “*Subtype selective GABA<sub>A</sub> receptor modulators for the treatment of neuropathic pain*” sponsored by NIH (SBIR) resubmission, Research, awarding organization is national, **not funded**, \$2,251,624.00, (October 2018 – September 2021).
6. Arnold, A. (PI), Johnson N. (Co-PI) “*Development of new inhibitors for pepsin*”, sponsored by MCW, \$14,653.00, funded (May 2018- July 2018).
7. Jed Hubbs (PI), Arnold A. (Co-PI) “*Subtype-Selective GABA<sub>A</sub> Receptor Modulators as Improved Anticonvulsants*” sponsored by Epilepsy Foundation, resubmission, Research, awarding organization is national, \$ 328,600.00, **under review**. (October 2018 – September 2019).
8. Jed Hubbs (PI), Arnold A. (Co-PI) “*Subtype Selective GABA<sub>A</sub> Receptor Modulators for the Treatment of Drave syndrome*” sponsored by NIH (SBIR), resubmission, Research, awarding organization is national, **under review**, \$466,867.00, (October 2018 – September 2019).

### **2017** (Total funding: \$60,426.00)

1. Jed Hubbs (PI), Arnold A. (Co-PI) “*Development of a fixed-dose combination therapy for the treatment of arthritic pain*” sponsored by NIH (SBIR), Research, awarding organization is national, **not funded** \$230,000.00 (July 2018 – June 2019).

2. Arnold, A. (PI), Grant (Catalyst) “*Evaluation of calcitroic acid and its phase II metabolites*” sponsored by Graduate School at UWM, RGI Funding, \$108,244.00, **not funded**. (July 2018-June 2019).
3. Jed Hubbs (PI), Arnold A. (Co-PI) “*Subtype-Selective GABA<sub>A</sub> Receptor Modulators as Improved Anticonvulsants*” sponsored by Epilepsy Foundation, Research, awarding organization is national, \$ 328,600.00, **not funded**. (October 2017 – September 2018).
4. Jed Hubbs (PI), Arnold A. (Co-PI) “*Subtype selective GABA<sub>A</sub> receptor modulators for the treatment of neuropathic pain*” sponsored by NIH (SBIR), Research, awarding organization is national, **not funded**, \$1,929,376.00, (January 2018 – December 2020).
5. Jed Hubbs (PI), Arnold A. (Co-PI) “*Subtype Selective GABA<sub>A</sub> Receptor Modulators for the Treatment of Drave syndrome*” sponsored by NIH (SBIR), Research, awarding organization is national, **not funded**, \$466.867.00, (April 2018 – March 2019).
6. Arnold, A (PI), “*Evaluation of 31B as new cancer agent*”, sponsored by Systems Oncology, \$3078.00, **funded**, (September 2017-January 2018)
7. Peng, X (PI), Arnold, A (Co-PI) “*The pharmacokinetics and In vivo efficacy of ROS-activated anticancer prodrugs*”, sponsored by NIH R21, resubmission, \$144,954.00, **not funded**. (June 2017-May 2019).
8. Arnold, A (PI), Stafford, D (Co-PI)., Cook, J.(Co-PI), grant (Catalyst), “*Targeting Microglia in Neuropathic Pain Drug Discovery*”, sponsored by UWM Research Foundation, awarding organization is local, \$50,000.00, **funded**. (July 2017-June 2018)
9. Arnold, A (PI), “*Evaluation of 31B as new cancer agent*”, sponsored by Systems Oncology, \$7,348.00, **funded**, (May 2017 - October 2017)

**2016** (Total funding: \$0)

1. Arnold, A. (PI) “*Investigations of calcitroic acid and its metabolites*”, sponsored by Graduate School UWM, **not funded**, \$102,444.00, (June 2017-May 2018).
2. Arnold, A. (PI), Cook (Co-PI) Hubbs (Co-PI), Stafford (Co-PI) “*Subtype Selective GABA<sub>A</sub> Receptor Modulators for the Treatment of Neuropathic Pain*”, sponsored by the NIH (BPN grant), \$1,929,376.00, **not funded** (May 2017-April 2020).
3. Arnold, A. (PI), Grant (Catalyst) “*Investigations of calcitroic acid and its metabolites*” sponsored by Graduate School at UWM, RGI Funding, \$102,444.00, **not funded**. (July 2017-June 2018).
4. St. Maurice, M. (PI) Arnold, A. (Co-PI), Grant “*High-throughput assay development for novel probes targeting pyruvate carboxylase*” sponsored by NIH, \$868,250.00, **not funded**. (July 2016-June 2019).
5. Peng, X (PI), Arnold, A (Co-PI) “*The pharmacokinetics and In vivo efficacy of ROS-activated anticancer prodrugs*”, sponsored by NIH, \$144,954.00, **not funded**. (June 2016-May 2018).

**2015** (Total funding: \$2,725,763.00)

1. Peng, X (PI), Arnold, A (Co-PI) “*The pharmacokinetics and In vivo efficacy of ROS-activated anticancer prodrugs*”, sponsored by Falk Medical Research Trust, \$396,063.00, **not Funded**. (January 2016-December 2017).
2. Widlansky, M (PI), Arnold, A (Co-PI), Hill, B “*Endothelial function in human diabetes: role of mitochondrial fission proteins*” sponsored by NIH/HLB, R01HL125409, \$2,665,763.00 **funded** (March 2016 - February 2021).
3. Hill, Blake (PI), Brian Volkman (Co-PI) Arnold, A (Collaborator) “*A Structure-Based Drug Discovery Resource for Clinical and Basic Scientists*” sponsored by MCW, \$60,000, **funded** (June 2015- May 2016)
4. Johnston, N. (PI) Arnold, A. (Co-PI), Grant “*Novel Pepsin Inhibitors for the Treatment of Laryngopharyngeal Reflux Disease*” sponsored by Falk Medical Research Trust, \$355,035.00, **not Funded**. (April 2015-March 2016).
5. Dockendorff, C. (PI), Arnold, A (Co-PI), Donaldson, B. (Co-PI), Kovriguine, E. (Co-PI), St. Maurice, M. (Co-PI), Yang, P. (Co-PI), Ghasemzadeh, B. (Co-PI) Innovation Fund “*Milwaukee Institute for Drug Discovery Chemistry Core Facility*” sponsored by Marquette University 250,000.00, **not Funded** (September 2015-August 2017).
6. St. Maurice, M. (PI) Arnold, A. (Co-PI), Grant “*High-throughput assay development for novel probes targeting pyruvate carboxylase*” sponsored by NIH, \$868,250.00, **not Funded**. (July 2015-June 2018).

**2014** (Total funding: \$2,244,109.00)

1. Peng, X. (PI), Arnold, A. (Co-PI), Grant (RGI) “*The pharmacokinetics and In vivo efficacy of ROS-activated anticancer prodrugs*”, sponsored by Graduate School at UWM, RGI Funding, \$84,000.00, **Funded**. (July 2015-June 2016).
2. Arnold, A. (PI), Grant (Catalyst) “*Development of pre-clinical assays to characterize drug candidates prior to in vivo studies*”, sponsored by Graduate School at UWM, RGI Funding, \$62,000.00, **not funded**. (July 2015-June 2016).
3. Cook J.M. (PI), Arnold, A. (Co-PI), Grant R01 resubmission, “*Development of new drugs for asthma by targeting GABA(A) receptors in the lung*”, sponsored by NIH/NIHLB R01HL118561, awarding organization is Federal, \$1,965,763.00 **funded** (September 2014 - June 2018).
4. Cook J. (PI), Arnold A. (Co-Investigator), Stafford (Co-Investigator), Grant (Catalyst), “*New Treatments for asthma that target GABA(A) receptors in the lung*”, sponsored by UWM Research Foundation, awarding organization is local, \$50,000.00, **funded**. (July 2014-June 2015)
5. Arnold, A. (PI), Grant (Catalyst), “*Development of pre-clinical assays to characterize drug candidates prior to in vivo studies*”, sponsored by UWM Research Foundation, awarding organization is local, \$50,000.00, **not funded**. (July 2014-June 2015).
6. Arnold, A. (Co-Investigator), Peng, X. (PI), Grant (Catalyst), “*The pharmacokinetics and In vivo efficacy of ROS-activated anticancer prodrugs*”, sponsored by UWM Research Foundation, awarding organization is local, \$60,000.00, **funded**. (July 2014-June 2015).
7. Arnold, A. (PI), Daniel Sem (PI), Grant, “*Commercialization of a Universal Kinase and GTPase Assay*”, sponsored by the State of Wisconsin, awarding organization is the UWM Applied Chemistry Center, \$84,346.00, **funded** (April 2014 - June 2015).

**2013** (Total funding: \$3,154,200.00)

1. Arnold, A. (PI Scientist), Stafford, D. (PI), Geissinger P. (Co-PI), Grant, “Grant, “Equipment Grant for Teaching & Research” sponsored by Shimadzu, \$1,300,000.00, **funded** (January 2014-December 2018).
2. Arnold, A. (PI), Silvaggi, N. (Co-Investigator), Grant R01, “*Vitamin D receptor-Coregulator Interaction as Anticancer Targets*”, sponsored by NIH/NCI awarding organization is Federal, \$1,102,410.00, **not funded** (April 2014 - March 2017).
3. Arnold A./Palmer A. (PI), Grant R01, “*Glo1 inhibitors: A novel class of GABAergic anxiolytic and antidepressant drugs*”, sponsored by NIH/NIMH, awarding organization is Federal, \$2,789,230.00, **not funded** (December 2013 – November 2018).
4. Cook J.M. (PI), Arnold, A. (Co-PI), Grant R01, “*Development of new drugs for asthma by targeting GABA (A) receptors in the lung*”, sponsored by NIH/NIHLB, awarding organization is Federal, \$1,861,161.00, **not funded**. (June 2013 – May (2018).
5. Cook J.M. (PI), Arnold, A. (Co-PI), Grant R01 resubmission, “*Design of New Therapeutic Agents to Treat Schizophrenia*”, sponsored by NIH/NIMH, awarding organization is Federal, \$1,850,690.00, **funded** (June 2013 - May 2018).
6. Arnold, A. (PI), Grant, “*Quantification of different GABA(A) receptor alpha subunits in icell neurons*”, sponsored by Cellular Dynamics International, awarding organization is national, \$3,510.00, **funded**. (February 2013 – July 2013).

**2012** (Total funding: \$1,863,169.00)

1. Arnold, A. (PI), Grant, “*New Treatments for asthma that target GABA(A) receptors in the lung*”, sponsored by Research Growth Initiative/Graduate School UWM, awarding organization is University of Wisconsin-Milwaukee, \$113,848.00, **not funded**. (July 2013 – December 2014).
2. Arnold, A. (PI), Grant, “*Determination of alpha subtype selective of GABA(A) receptor ligands*”, sponsored by ConcertPharma, awarding is national, \$2,895.44, **funded**. (October 2012 – September 2013).
3. Arnold, A. (PI), Grant (Catalyst), “*In vivo evaluation of selective inhibitors of the vitamin D receptor-Coregulator interactions*”, sponsored by UWM Research Foundation, awarding organization is local, \$35,000.00, **funded**. (July 2012-June 2013).

4. Cook J.M. (PI), Arnold, A. (Co-PI), Grant R01 resubmission, "*Synthesis of Alpha2/Alpha3 GABA Agonists to Treat Neuropathic Pain*", sponsored by NIH/NINDS, awarding organization is Federal, \$1,825,274.00, **funded**. (January 2013 – December (2017)).
5. Cook J.M., (PI), Arnold, A. (Co-PI), "*Development and validation of a GABA<sub>A</sub> agonist to control airway hyperresponsiveness and inflammation in asthma*" sponsored by American Asthma Foundation, awarding organization is national, \$750,000.00, **not funded**. (July 2012 – June 2015).
6. Arnold, A. (PI), Target Development Grant, "*Vitamin D receptor-coregulator inhibitors as novel chemotherapeutics for highly resistance ovarian and prostate cancer*" TPP global development, awarding organization is international, coverage of commercialization with shared revenue, **not funded**. (May 2012).
7. Arnold, A. (PI), Grant (Shaw Award), "*3-Indolyl methanamines as new cancer treatments*" sponsored by Greater Milwaukee Foundation, awarding organization is local, \$200,000.00, **not funded**. (May 2012-May 2017).
8. Cook J.M., (PI), Arnold, A. (Co-PI), "*Sub-type Selective GABA<sub>A</sub> Agonists for PTSD*", sponsored by US Army Medical Research and Material Command (USAMRMC), awarding organization is University of Wisconsin-Milwaukee, \$1,000,000.00, **not funded**. (July 2012 – June 2014).
9. Arnold, A. (PI), Grant, "*Vitamin D Receptor–Coregulator interactions: A new pharmaceutical target for colorectal cancer*", sponsored by Department of Defense, awarding organization is University of Wisconsin-Milwaukee, \$293,013.00, **not funded**. (September 2012 – August 2014).

**2011** (Total funding: \$110,140.00)

1. Arnold, A. (PI), Grant, "*Vitamin D Receptor-Coregulator Interactions as Anticancer Targets*", sponsored by Research Growth Initiative/Graduate School UWM, awarding organization is University of Wisconsin-Milwaukee, \$90,140.00, **Funded**. (July 2012 - June 2013).
2. Cook J.M. (PI), Arnold, A. (Co-PI), Grant R01, "*Design of New Therapeutic Agents to Treat Schizophrenia*", sponsored by NIH/NIMH, awarding organization is Federal, \$1,838,816.00, **not funded** (June 2011 - May 2016).
3. Arnold Cook J.M. (PI), Arnold, A. (Co-PI), Grant R01, "*Synthesis of Alpha2/Alpha3 GABA Agonists to Treat Neuropathic Pain*", sponsored by NIH/NIMH, awarding organization is Federal, \$ 1,838,816.00, **not Funded**. (June 2011 - May 2016).
4. Arnold, A. (PI), Sponsored Research, "*Special RFP for new or enhanced Undergraduate Research*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$20,000.00, **Funded**. (July 2011 - August 2011).
5. Arnold, A. (PI), Grant (Shaw Award), "*Transcriptional inhibitors of 24-hydroxylase as new treatments for cancer*" sponsored by Greater Milwaukee Foundation, awarding organization is local, \$200,000.00, **not Funded**. (May 2011-May 2016).
6. Arnold, A. (PI), Grant R01, "*Vitamin D Receptor–Coregulator Interactions as Targets for New Therapeutics*", sponsored by NIH, awarding organization is Federal, \$364,294.00, **not Funded**. (July 2011 - June 2013).

**2010** (Total funding: \$114,418.00)

1. Cook J.M. (PI), Arnold, A. (Co-PI), Subcontract for R01, "*Design and Synthesis of Anxiolytic Agents*", sponsored by NIH/NIMH, awarding organization is Federal, \$106,918.00, **Funded**. (June 2010 - May 2011).
2. Sem D.S. (PI), Arnold, A. (Supporting), Instrumentation Grant, "*Acquisition of an LC-MS/MS system for chemical and proteomic studies*", sponsored by NSF, awarding organization is Federal, \$279,818.00, **not Funded**. (December 2010 - November 2011).
3. Arnold, A. (PI), Sponsored Research, "*Research Fellows Program*", sponsored by UWM Foundation, awarding organization is University of Wisconsin-Milwaukee, \$7,500.00, **Funded**. (February 2011 - January 2012).
4. Arnold, A. (PI), Grant RGI, "*New Treatments for Sarcoidosis based on Vitamin D Receptor-Coactivator Inhibition*", sponsored by Research Growth Initiative/Graduate School, awarding organization is University of Wisconsin-Milwaukee, \$84,395.00, **not Funded**. (July 2011 - June 2012).

**2009** (Total funding: \$1,761,100.00)

1. Arnold, A. (PI), Grant R03, "*Small molecule inhibitors of the vitamin D receptor-coactivator interaction*", sponsored by NIH/NIDA, awarding organization is Federal, \$73,850.00, **Funded** (July 2010 - June 2012).



2. Bikle, D.D. (PI), Arnold, A. (Supporting); Grant R01, renewal, "*Vitamin D Receptor Coactivators in Keratinocytes*", sponsored by NIH/NIAMS, awarding organization is Federal, \$1,667,250.00, **Funded** (July 2010 - May 2015).
3. Arnold, A. (PI), Grant RGI, "*Small Molecule Inhibitors of Vitamin D Receptor-Coregulator Interactions*", sponsored by Research Growth Initiative/Graduate School UWM, awarding organization is University of Wisconsin-Milwaukee, \$192,482.00, **not Funded**. (July 2010 - June 2011).
4. Arnold, A. (PI), Sponsored Research, "*Special RFP for new or enhanced Undergraduate Research*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$20,000.00, **Funded**. (October 2009 - August 2010).

**Before UWM:** (Total funding: \$5,922,092.00)

1. Feau C. (PI), Arnold A. (Supporting), Grant "*Novel Small Molecule Antagonists of the Interaction of the Androgen Receptor and Transcriptional Co-regulators*", sponsored by the Department of Defense, awarding organization is Federal, \$113,797.00, **Funded**. (January 2007-Dec 2008).
2. Arnold A. (PI), Grant, "*Development of a new class of drugs against cancer*", sponsored by the Cancer Research Fund of the Damon Runyon Walter Winchell Foundation, awarding organization is private, 128,500.00, **not Funded**. (August 2003 – July 2006)
3. Guy, R.K. (PI), Arnold, A. (Supporting), Grant, "*Novel inhibitors of nuclear receptor function*", sponsored by NIH/NIDDK, awarding organization is Federal, \$3,152,295.00, **Funded**. (January 2000 – December 2011).
4. Arnold, A. (Supporting), Grant, "*Economy-Ecology-Technology*", sponsored by Dutch Ministry of Economic Affairs, awarding organization is Federal, \$2,500,000.00, **Funded**. (June 2000 – May 2004).
5. Arnold, A. (PI), Fellowship, "*Ubbo Emmius Ph.D. Scholarship*", sponsored by University of Groningen, awarding organization is national, \$150,000.00, **Funded**. (August 1998 – July 2002).
6. Arnold, A. (PI), Fellowship, "*ERASMUS fellowship*", sponsored by Deutscher Akademische Austausch Dienst, awarding organization is Federal, \$6,000.00, **Funded**. (May 1995- April 1996).

Student SURF awards: (total funding: \$99,030.00)

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**2018** (Total funding: \$11,330.00)

1. Arnold, A. (PI), Mikulsky, B. (Undergraduate Student) Sponsored Research, "*Determining the Mechanisms of Neuropathic Pain*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$3,300.00, Funded. (June 2018 – August 2018).
2. Arnold, A. (PI), Stepanski, M. (Undergraduate Student) Sponsored Research, "*Safety studies with MIDD0301 in vivo*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,750.00, Funded. (June 2018 – August 2018).
3. Arnold, A. (PI), Huber, A. (Undergraduate Student) Sponsored Research, "*Investigation of CNS effects of novel imidazobenzodiazepines*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,640.00, Funded. (June 2018 – August 2018).
4. Arnold, A. (PI), Schussman, M. (Undergraduate Student) Sponsored Research, "*Characterization of novel imidazobenzodiazepines in respect to CNS effects*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,640.00, Funded. (January 2018 – May 2018).

**2017** (Total funding: \$11,800.00)

1. Arnold, A. (PI), Huber, A. (Undergraduate Student) Sponsored Research, "*Investigation of CNS effects of novel imidazobenzodiazepines*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,600.00, Funded. (June 2017 – August 2017).
2. Arnold, A. (PI), Gould, J. (Undergraduate Student) Sponsored Research, "*Synthesis of new pepsin inhibitors*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,600.00, Funded. (June 2017 – August 2017).

3. Arnold, A. (PI), Ebben, A. (Undergraduate Student) Sponsored Research, “*Synthesis of calcitroic acid and its metabolic products*”, sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,600.00, Funded. (June 2017 – August 2017).
4. Arnold, A. (PI), Ebben, A. (Undergraduate Student) Sponsored Research, “*Synthesis of calcitroic acid analogs*”, sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,000.00, Funded. (January 2017 – May 2017).
5. Arnold, A. (PI), Senych, V. (Undergraduate Student) Sponsored Research, “*Cell-based analysis of calcitroic acid*”, sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,000.00, Funded. (January 2017 – May 2017).

**2016** (Total funding: \$8,700.00)

1. Arnold, A. (PI), Benjamin Hartzler (undergraduate student), Sponsored Research, “*Expression of GABA<sub>A</sub>R subunits on stable cells using flow cytometry*” awarding organization is University of Wisconsin-Milwaukee, \$2,400.00, Funded. (September 2016 – December 2016).
2. Arnold, A. (PI), Senych, V. (Undergraduate Student) Sponsored Research, “*Synthesis of calcitriol and analogs*”, sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$3,600.00, Funded. (June 2016 – August 2016).
3. Arnold, A. (PI), Radde, L. (Undergraduate Student) Sponsored Research, “*Development of new protease assays to detect novel pepsin inhibitors*”, sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,700.00, Funded. (June 2016 – August 2016).

**2015** (Total funding: \$16,600.00)

1. Arnold, A. (PI), Stangl, C. (Undergraduate Student) Sponsored Research, “*Synthesis of new vitamin D receptor–SRC2 inhibitors*”, sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$1,500.00, Funded. (September 2015 – December 2015).
2. Arnold, A. (PI), Scuncio, G. (Undergraduate Student) Sponsored Research, “*Development of new protease assays to detect novel pepsin inhibitors*”, sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$1,500.00, Funded. (September 2015 – December 2015).
3. Arnold, A. (PI), Stangl, C. (Undergraduate Student) Sponsored Research, “*Synthesis of new vitamin D receptor–SRC2 inhibitors*”, sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$3,000.00, Funded. (June 2015 – August 2015).
4. Arnold, A. (PI), Scuncio, G. (Undergraduate Student) Sponsored Research, “*Development of new protease assays to detect novel pepsin inhibitors*”, sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$1,600.00, Funded. (June 2015 – August 2015).
5. Arnold, A. (PI), Sanchez, L. (Undergraduate Student) Sponsored Research, “*The Synthesis of metabolic lithocholic acid derivatives and evaluation of their Vitamin D Receptor binding*”, sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$3,000.00, Funded. (January 2015 – May 2015).
6. Arnold, A. (PI), Goetz, C. (Undergraduate Student) Sponsored Research, “*A high throughput assay to identify novel therapeutics for laryngopharyngeal reflux disease (LPRD)*”, sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$3,000.00, Funded. (January 2015 – May 2015).
7. Arnold, A. (PI), Scuncio, G. (Undergraduate Student) Sponsored Research, “*Development of new protease assays to detect novel pepsin inhibitors.*”, sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$3,000.00, Funded. (January 2015 – May 2015).

**2014** (Total funding: \$23,600.00)

1. Arnold, A. (PI), Sanchez, L. (Undergraduate Student) Sponsored Research “*Synthesis of VDR-coregulator Inhibitors*”, sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$3,000.00, Funded. (September 2014 – December 2014).
2. Arnold, A. (PI), Preston J. (Undergraduate Student) Sponsored Research, “*Development of a stable cell line for nuclear receptor research*”, sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$3,000.00, Funded. (May 2014 – August 2014).

3. Arnold, A. (PI), Chris Goetz (Undergraduate Student) Sponsored Research, "*Identification of novel therapeutics for laryngopharyngeal reflux disease (LPRD)*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$3,000.00, Funded. (May 2014 – August 2014).
4. Arnold, A. (PI), Skylar Gabel-Eissens (Undergraduate Student) Sponsored Research, "*Synthesis of VDR-Coregulator inhibitors*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Whitewater \$3,600.00, Funded. (May 2014 – August 2014).
5. Arnold, A. (PI), Sanchez, L. (Undergraduate Student) Sponsored Research, "*Synthesis of VDR-coregulator Inhibitors*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$3,000.00, Funded. (May 2014 – August 2014).
6. Arnold, A. (PI), Preston J. (Undergraduate Student) Sponsored Research, "*Sequence Verification of Nuclear Receptor Plasmids for Ligand-mediated Transcription Assays*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,000.00, Funded. (January 2014 – May 2014).
7. Arnold, A. (PI), Bogart J. (Undergraduate Student) Sponsored Research, "*Synthesis and characterization of VDR-coregulator inhibitors*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,000.00, Funded. (January 2014 – May 2014).
8. Arnold, A. (PI), Goy R. (Undergraduate Student) Sponsored Research, "*Expression and Purification of the ER receptor to validate vitamin D receptor coregulator binding inhibitors*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,000.00, Funded. (January 2014 – May 2014).
9. Arnold, A. (PI), Sanchez, L. (Undergraduate Student) Sponsored Research, "*Synthesis of VDR-coregulator Inhibitors*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,000.00, Funded. (January 2014 – May 2014).

**2013** (Total funding: \$17,000.00)

1. Arnold, A. (PI), Preston J. (Undergraduate Student) Sponsored Research, "*Gene Sequencing of Nuclear Receptors in pBind Plasmids*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,000.00, Funded. (September 2013 – December 2013).
2. Arnold, A. (PI), Bogart J. (Undergraduate Student) Sponsored Research, "*Synthesis of VDR-coactivator inhibitors based on the GW0742 scaffold*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,000.00, Funded. (September 2013 – December 2013).
3. Arnold, A. (PI), Goy R. (Undergraduate Student) Sponsored Research, "*Expression and Purification of the ER receptor to validate vitamin D receptor coregulator binding inhibitors*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,000.00, Funded. (September 2013 – December 2013).
4. Arnold, A. (PI), Preston J. (Undergraduate Student) Sponsored Research, "*Sequencing of nuclear receptor vectors to establish a plasmid data base*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$3,000.00, Funded. (June 2013 – August 2013).
5. Arnold, A. (PI), Bogart J. (Undergraduate Student) Sponsored Research, "*Synthesis of VDR-coactivator inhibitors based on the GW0742 scaffold*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$3,000.00, Funded. (June 2013 – August 2013).
6. Arnold, A. (PI), Goy R. (Undergraduate Student) Sponsored Research, "*Expression and purification of RXR protein*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$3,000.00, Funded. (June 2013 – August 2013).
7. Arnold, A. (PI), Nassif N. (Undergraduate Student) Sponsored Research, "*Evaluation of novel small molecule modulators of nuclear receptor mediated transcription*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,000.00, Funded. (January 2013 - May 2013).

**2012** (Total funding: \$4,000.00)

1. Arnold, A. (PI), Goy R. (Undergraduate Student) Sponsored Research, "*Expression and purification of RXR protein*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,000.00, Funded. (June 2012 - August 2012).

2. Arnold, A. (PI), Temmer J. (Undergraduate Student) Sponsored Research, "*Synthesis of a fluorescent probe to identify promiscuous inhibitors*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,000.00, Funded. (June 2012 - August 2012).

**2011** (Total funding: \$4,000.00)

1. Arnold, A. (PI), Yuan N. (Undergraduate Student) Sponsored Research, "*Development of an automated patch-clamp assay for GABA<sub>A</sub> receptor subtype-selective modulators*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,000.00, Funded. (July 2011 – August 2011).
2. Arnold, A. (PI), Yuan N. (Undergraduate Student) Sponsored Research, "*An automated subtype-selective GABA<sub>A</sub> receptor patch-clamp assay using transiently transfected HEK293T cells*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,000.00, Funded. (February 2011 - May 2011).

**2010** (Total funding: \$2,000.00)

1. Arnold, A. (PI), Yuan N. (Undergraduate Student) Sponsored Research, "*Binding Studies on Vitamin D Receptor—Coregulator Binding Inhibitors*", sponsored by Office of Undergraduate Research, awarding organization is University of Wisconsin-Milwaukee, \$2,000.00, Funded. (May 2010 - August 2010).