

ADAM S. DUERFELDT, PH.D.

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Department of Chemistry and Biochemistry
University of Oklahoma
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EDUCATION

University of Kansas, Lawrence, KS
Ph.D. in Medicinal Chemistry 2011
Dissertation: "A New Generation of Hsp90 Inhibitors: Addressing Isoform Selectivity and Heat Shock Induction"

Central College, Pella, IA
B.A. in Chemistry 2006
Highest Distinction

PROFESSIONAL EXPERIENCE

Excitant Therapeutics, Oklahoma City, OK 2018 –
Co-Founder

University of Oklahoma, Norman, OK
Associate Professor 2020 –
Assistant Professor 2014 – 2020
Vice President of Research Distinguished Faculty Fellow 2016 – 2019

The Scripps Research Institute, La Jolla CA
American Cancer Society Postdoctoral Fellow 2012 – 2014
Mentor: Professor Dale L. Boger

The University of Kansas, Lawrence, KS
Madison and Lila Self Graduate Fellow 2006 – 2011
Mentor: Professor Brian S. J. Blagg

Central College, Pella, IA
Undergraduate Research Assistant 2005 – 2006
Advisor: James A. Shriver

HONORS & AWARDS

American Chemical Society MEDI Young Investigator Award 2020
University of Oklahoma Growth Fund Award 2017
American Chemical Society *Journal of Natural Products* Jack L. Beal Award 2017
***Awarded to the top paper published in the journal by a young investigator*
University of Oklahoma CBR Outstanding Professor of the Year (student voted) 2017
University of Oklahoma Inaugural Faculty Leadership Academy Fellow 2015
American Cancer Society Special Friend: Researcher Award 2015
Elsevier Top 10 Reviewer for Bioorganic & Medicinal Chemistry Letters 2013
University of Kansas Irsay–Dahle Award 2011
***Awarded to recognize outstanding contributions in academics, research activities and citizenship by a senior graduate student in the Medicinal Chemistry Department*
University of Kansas Cancer Symposium Excellence in Research Award 2009
ESPN the Magazine Academic All-American Player of the Year 2006
IIAC Duane Schroeder Scholar of the Year 2006
Woody Hayes Division-III National Scholar Athlete of the Year 2006
Alpha Zeta Mu 2006
ESPN the Magazine First Team Academic All-American 2006 & 2005

FELLOWSHIPS

University of Oklahoma College of Arts & Sciences Junior Faculty Fellowship	2016
University of Oklahoma Vice President of Research Junior Faculty Fellowship	2015
American Cancer Society Postdoctoral Fellowship	2012 – 2014
Institute for Advancing Medical Innovation Fellowship (KU)	2010
American Foundation for Pharmaceutical Education (AFPE) Pre-doctoral Fellowship	2010
Sanofi-Aventis AFPE Pre-doctoral Fellowship	2009
Josiah Kirby Lilly, Sr. Memorial AFPE Pre-doctoral Fellowship	2008
Madison and Lila Self Graduate Fellowship (KU)	2006 – 2010
NCAA Postgraduate Fellowship	2006

EXTERNAL COMPETITIVE GRANT ACQUISITIONS

NIH-NEI R01 (R01EY030472): \$2,162,055 (total award) – PI <i>Small Molecule PPAR-alpha Agonism as Novel Approach to Treat Eye Vascular Diseases</i>	2020 – 2025
NIH-NIAID R01 (R01AI136795): \$6,378,010 (total award) – Co-investigator <i>Predictive Models for Small-Molecule Accumulation in Gram-Negative Bacteria</i>	2018 – 2023
NIH COBRE (P20GM103640): \$10,524,241 (total award) – Project Leader <i>Structure, Function, and Therapeutic Potential of Clostridium difficile Caseinolytic Protease P</i>	2017 – 2022
NIH-NEI R43 (R43EY029910) – subcontract <i>A Novel PPARα Agonist for Treating Retinal Inflammation and Vascular Hyper-permeability</i>	2019 – 2020
NIH R21 (1R21EY028279): \$426,250 (total award) – PI <i>Hit to Lead Optimization of a Systemically Available Treatment for Diabetic Retinopathy</i>	2017 – 2019
Harold Hamm Oklahoma Diabetes Center (HHDC) COBRE Pilot Project Grant: \$50,000 – PI <i>Hit to Lead Optimization of a Novel PPARα Agonist Towards a Systemically Available Treatment for Diabetic Retinopathy (Parent: NIH 5P20GM104934)</i>	2017
Oklahoma Center for Respiratory & Infectious Disease (OCRID) Pilot Project Grant: \$25,000 – PI <i>Exploration of ClpP Activation to Treat Respiratory Infections in Cystic Fibrosis (Parent: NIH P20GM103648)</i>	2015
Oklahoma Center for the Advancement of Science (OCAST): \$135,000 – PI <i>Exploration of Bacterial ClpP as a Treatment Strategy for Hospital-Acquired Infections</i>	2015 – 2018
American Cancer Society (ACS): \$150,000 – PI <i>Design, Synthesis, and Evaluation of Novel Bleomycin Analogs</i>	2012 – 2014

INTERNAL COMPETITIVE FUNDING ACQUISITIONS

University of Oklahoma VPRPR COVID-19 Seed Grant: \$45,000 – PI <i>Identification and Development of SARS-CoV-2 Viral Replication Inhibitors</i>	2020
University of Oklahoma Growth Fund: \$75,000 – PI <i>Pre-clinical Assessment of Small Molecule Drug Leads for Ocular Microvasculature Diseases</i>	2018 – 2019
University of Oklahoma CAS Junior Faculty Fellowship: \$7,000 <i>Development of a New Natural Product Extract Screening Method: Simplifying the Search for Natural Drug Leads</i>	2016
University of Oklahoma VPR Junior Faculty Fellowship: \$7,000 <i>Identification and Validation of Natural Product ClpP: Activators Capitalizing on an Unexploited Strategy for New Antibiotic Development</i>	2015

CONTRACT RESEARCH

Excitant Therapeutics: \$10,000 (SBIR phase I- subcontract) <i>Scale-up of lead candidates for in vivo studies</i>	2019 – 2020
University of Oklahoma Health Sciences Center: \$31,404 – PI <i>Development of PPAR-alpha agonists</i>	2016 – 2018

PUBLICATIONS

Refereed Papers/Articles

20. Dou, X.; Nath, D.; Shin, Y.; Nurmammedov, E.; Bourne, P.C.; Ma, J.X.; Duerfeldt, A.S. Evolution of a 4-Benzyloxy-benzylamino Chemotype to Provide Efficacious, Potent, and Isoform Selective PPAR α Agonists as Leads for Retinal Disorders. *J. Med. Chem.*, **2020**, *63*, 2854–2876.
19. Li, Y.; Gardner, J.J.; Fortney, K.R.; Leus, I.V.; Bonifay, V.; Zgurskaya, H.I.; Pletnev, A.A.; Zhang, S.; Zhang, Z.Y.; Gribble, G.W.; Spinola, S.M.; Duerfeldt, A.S. First-Generation Structure-Activity Relationship Studies of 2,3,4,9-tetrahydro-1H-carbazol-1-amines as CpxA Phosphatase Inhibitors. *Bioorg. Med. Chem. Lett.*, **2019**, *29*, 1836–1841.
18. Lavey, N.P.; Shadid, T.; Ballard, J.D.; Duerfeldt, A.S., *Clostridium difficile* ClpP Homologs are Capable of Uncoupled Activity and Exhibit Different Levels of Susceptibility to Acyldepsipeptide Modulation, *ACS Infect. Dis.*, **2019**, *5*, 79–89.
17. Que, N.L.S.; Crowley, V.M.; Duerfeldt, A.S.; Zhao, J.; Kent, C.N.; Blagg, B.S.J.; Gewirth, D.T. Structure Based Design of a Grp94-Selective Inhibitor: Exploiting a Key Residue in Grp94 to Optimize Paralog-Selective Binding. *J. Med. Chem.*, **2018**, *61*, 2793–2805.
16. Dou, X.; Nath, D.; Shin, Y.; Ma, J.; Duerfeldt, A.S. Structure-Guided Evolution of a 2-Phenyl-4-carboxyquinoline Chemotype into PPAR α Selective Agonists: New Leads for Oculovascular Conditions. *Bioorg. Med. Chem. Lett.*, **2018**, *28*, 2717–2722.
**Highlighted by *Biomedical Advances*
15. Li, Y.; Lavey, N.P.; Coker, J.A.; Knobbe, J.E.; Truong, D.C.; Yu, H.; Lin, Y.S.; Nimmo, S.L.; Duerfeldt, A.S. Consequences of Depsipeptide Substitution on the ClpP Activation Activity of Antibacterial Acyldepsipeptides. *ACS Med. Chem. Lett.*, **2017**, *8*, 1171–1176.
14. Avila, Q.P.; Zgurskaya, H.I.; Duerfeldt, A.S. Recent Advances towards Rational Antibacterial Discovery: Addressing Permeation and Efflux. *ACS Med. Chem. Rev.* **2017**, *52*, 319–334.
13. Di, X.J.; Wang, Y.J.; Han, D.Y.; Duerfeldt, A.S.; Blagg, B.S.J.; Mu, T.W. Grp94 Delivers γ -aminobutyric Acid Type A (GABA_A) Receptors to Hrd1-Mediated Endoplasmic Reticulum-Associated Degradation. *J. Biol. Chem.* **2016**, *291*, 9526–9539.
12. Crowley, V.M.; Khandelwal, A.; Mishra, S.; Stothert, A.R.; Huard, D.J.E.; Zhao, J.; Muth, A.; Duerfeldt, A.S.; Kizziah, J.L.; Lieberman, R.L.; Dickey, C.A.; Blagg, B.S.J. Development of Glucose Regulated Protein 94-Selective Inhibitors Based on the BnIm and Radamide Scaffold. *J. Med. Chem.* **2016**, *59*, 3471–3488.
11. Lavey, N.P.; Coker, J.A.; Ruben, E.A.; Duerfeldt, A.S. Sclerotiamide: The First Non-Peptide Based Natural Product Activator of Bacterial Caseinolytic Protease P. *J. Nat. Prod.*, **2016**, *79*, 1193–1197.
**Awarded 2017 *Jack L. Beal* Award as top paper in *J. Nat. Prod.* by a young investigator.
10. Anderson, E.D.; Duerfeldt, A.S.; Zhu, K.; Glinkerman, C.M.; Boger, D.L. Cycloadditions of Noncomplementary Substituted 1,2,3-Triazines. *Org. Lett.* **2014**, *16*, 5084–5087.
9. Duerfeldt, A.S.; Boger, D.L. Stereoselective Syntheses of (–)-Pyrimidoblaminc Acid and P-3A. *J. Am. Chem. Soc.* **2014**, *136*, 2119–2125.

8. Wolfe, A.L., Duncan, K.K., Lajiness, J.P., Zhu, K., Duerfeldt, A.S., Boger, D.L. A Fundamental Relationship between Hydrophobic Properties and Biological Activity for the Duocarmycin Class of DNA Alkylating Antitumor Drugs: Hydrophobic Binding-Driven-Bonding. *J. Med. Chem.* **2013**, *56*, 6845–6857.
7. Suntharalingam, A.; Abisambra, J.F.; O’Leary, J.C.; Koren III, J.; Zhang, B.; Kuk Joe, M.; Blair, L.J.; Hill, S.E.; Jinwal, U.K.; Cockman, M.; Duerfeldt, A.S.; Tomarev, S.; Blagg, B.S.J.; Lieberman, R.L.; Dickey, C.A. Glucose-regulated Protein 94 Triage of Mutant Myocilin through Endoplasmic Reticulum-associated Degradation Subverts a More Efficient Autophagic Clearance Mechanism. *J. Biol. Chem.* **2012**, *287*, 40661–40669.
6. Duerfeldt, A.S.; Peterson, L.B.; Maynard, J.C.; Ng, C.L.; Eletto, D.; Ostrovsky, O.; Shinogle, H.E.; Moore, D.S.; Argon, Y.; Nicchitta, C.V.; Blagg, B.S.J. Development of a Grp94 Inhibitor. *J. Am. Chem. Soc.* **2012**, *134*, 9796–9804.
5. Kusuma, B.R.; Duerfeldt, A.S.; Blagg, B.S.J. Synthesis and Biological Evaluation of Arylated Novobiocin Analogs as Hsp90 Inhibitors. *Bioorg. & Med. Chem. Lett.* **2011**, *21*, 7170–7174.
4. Duerfeldt, A.S.; Blagg, B.S.J. Hsp90 Inhibition: Elimination of Shock and Stress. *Bioorg. & Med. Chem. Lett.* **2010**, *20*, 4983–4987.
3. Jadhav, V.; Duerfeldt, A.S.; Blagg, B.S.J.; Design, Synthesis and Biological Activity of Bicyclic Radester Analogues as Hsp90 Inhibitors. *Bioorg. & Med. Chem. Lett.* **2009**, *19*, 6845–6850.
2. Duerfeldt, A.S.; Brandt, G.E.L. Blagg, B.S.J.; Design, Synthesis and Biological Evaluation of Conformationally Constrained *cis*-Amide Hsp90 Inhibitors. *Org. Lett.* **2009**, *11*, 2353–2356.
1. Duerfeldt, A.S.; Blagg, B.S.J. Hydrating for Resistance. *ACS Chem. Biol.* **2009**, *4*, 245–247.

Patents/Disclosures

4. Duerfeldt, A.S.; Ma, J.X.; Sinh, Y.; Nath, D.; Dou, X.; Agonists of Peroxisome Proliferator-Activated Receptor-Alpha (PPAR α) and Methods of Use, filed PCT/US19/22400 on Mar. 16, 2019.
3. Ma, J.X.; Duerfeldt, A.S.; Moran, E.; Deng, G.; Phenylquinoline Compositions for Treatment of Ocular Disorders and Conditions, filed PCT/US2017/030053 on Apr. 28, 2017.
2. Levine, M.; Duerfeldt, A.S.; Wallace, J. FDA-Approved Drugs for the Control of Periodontal Disease, Invention disclosure No. 16HSC025 filed Dec. 15, 2015. (expired - not converted)
1. Blagg, B.S.J.; Duerfeldt, A.S.; Grp94 Inhibitors, U.S. Patent 8,685,966, April 1, 2014.

SEMINARS AND PAPERS PRESENTED (Independent Career)

Invited Presentations (ASD)

American Society of Pharmacognosy Natural Product Sciences Webinar Series	July 09, 2020
University of Minnesota (<i>Minneapolis, MN</i>) Department of Medicinal Chemistry	Mar. 09, 2020
Oklahoma State University (<i>Stillwater, OK</i>) Department of Chemistry	Nov. 07, 2019
University of Notre Dame (<i>South Bend, IN</i>) Department of Chemistry & Biochemistry	Sept. 12, 2019
Creighton University (<i>Omaha, NE</i>) School of Medicine	June 24, 2019

Concordia University (<i>Concordia, WI</i>) School of Pharmacy	Apr. 26, 2019
University of North Carolina Greensboro (<i>Greensboro, NC</i>) Department of Chemistry and Biochemistry	Mar. 01, 2019
The University of Ohio State (<i>Columbus, OH</i>) Department of Medicinal Chemistry and Pharmacognosy	Feb. 12, 2019
University of Connecticut (<i>Storrs, CT</i>) Department of Medicinal Chemistry	Mar. 05, 2018
American Chemical Society Midwest Regional Meeting (<i>Lawrence, KS</i>) Session: Chemical Biology of Infectious Disease	Oct. 19, 2017
Oklahoma State University (<i>Stillwater, OK</i>) Oklahoma Center for Respiratory and Infectious Diseases	Apr. 19, 2016
University of Oklahoma Health Sciences Center (<i>Oklahoma City, OK</i>) Department of Microbiology & Immunology	Nov. 10, 2015
Central College (<i>Pella, IA</i>) Department of Chemistry	Nov. 05, 2015
American Chemical Society Midwest Regional Meeting (<i>St. Joseph, MO</i>) Session: Advances in Drug Discovery	Oct. 22, 2015
University of Oklahoma Health Sciences Center (<i>Oklahoma City, OK</i>) Department of Pharmaceutical Sciences	June 05, 2015

Accepted Abstracts – Oral Presentations (ASD)

Duerfeldt, A.S. Development of PPAR α Agonists as Systemically Available Drug Leads for Diabetic Retinopathy, Harold Hamm Diabetes Symposium, Oklahoma City, OK, November 15, 2019.

Duerfeldt, A.S. Hit to Lead Evolution of Small Molecule PPAR α Agonists: Working Towards Non-Invasive Options for Retinal Diseases” American Chemical Society National Meeting, Orlando, FL, March 31, 2019.

Duerfeldt, A.S. Chemical and Macromolecular Insights into ClpP Modulation as an Antibacterial Strategy, American Chemical Society Midwest Regional Meeting, Lawrence, KS, October 19, 2017.

Duerfeldt, A.S. A Multifaceted Approach Towards the Identification of Novel Bacterial Caseinolytic Protease P Activators, American Chemical Society Midwest Regional Meeting, St. Joseph MO, October 22, 2015.

Posters (ASD)

Lavey, N.P.; Shadid, T.; Ballard, J.D.; Duerfeldt, A.S. The Caseinolytic Protease P System in *Clostridioides difficile*, 2019 IDeA Central Region Conference, Oklahoma City, OK, June 13–14, 2019.

Duerfeldt, A.S. Chemoactivation of a Bacterial Protease: Expanding the Molecular Arsenal and Exploring Therapeutic Potential, *American Society of Pharmacognosy National Conference*, Copper Mountain, CO, July 25–29, 2015.

Oral Presentations (Students)

University of Oklahoma, COBRE 7 th Annual Structural Biology Symposium, Norman, OK <i>Structure-Based Evolution of a 4-Benzoyloxy-benzylamino Chemotype to Provide Potent and Selective Peroxisome Proliferator-Activated Receptor Alpha Agonists</i>	June 09, 2019
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Presenter: Xiaozheng Dou

American Chemical Society Southwest Regional Meeting, Little Rock, AR Nov. 08, 2018
Development of Novel PPAR α Small-Molecule Agonists: A Promising Approach to Treating Retinal Diseases
Presenter: Xiaozheng Dou

3rd National Symposium for Undergraduate Research, St. Jude's Children's Research Hospital June 13, 2018
Identification and Biological Evaluation of New PPAR α Agonistic Chemotypes
Presenter: Dat Truong

University of Oklahoma, COBRE 5th Annual Structural Biology Symposium, Norman, OK June 15, 2017
Structural Insights into the ClpP System of Clostridium difficile: SAXS Analysis of ClpP1
Presenter: Nathan Lavey

University of Oklahoma Undergraduate Research Day, Norman, OK Apr. 08, 2017
Screening Marine Extracts for Novel ClpP Activators: A Search for New Antibacterial Leads
Presenters: Jessie Knobbe and Dat Truong

University of Oklahoma Undergraduate Research Day, Norman, OK Apr. 18, 2015
A Rude Awakening: Antibiotics by ClpP Activation
Presenter: Jesse Coker
**Highlighted by Sooner Magazine (Summer 2015)

Poster Presentations (Students/postdocs, presenter underlined, * = undergraduate)

Li, Y.; Gardner, J.J.; Fortney, K.R.; Leus, I.V.; Bonifay, V.; Zgurskaya, H.I.; Pletnev, A.; Zheng, S.; Zhang, Z.Y.; Gribble, G.W.; Spinola, S.M.; Duerfeldt, A.S. Virulence Modulation in Gram-Negative Bacteria via Small Molecule Activation of CpxRA: A First-Generation Structure-Activity relationship Study, AAAS National Meeting, Seattle, WA, February 14, 2020.

Dou, X.; Nath, D.; Shim, Y.-H., Ma, J.-X., Duerfeldt, A.S. Small-Molecule Activation of PPAR α : A New Avenue for Treating Diabetic Retinopathy, 16th Harold Hamm Diabetes Center Research Symposium, Oklahoma City, OK, November 15, 2019.

Shadid, T.M.; Lavey, N.P.; Duerfeldt, A.S.; Ballard, J.D. "Utilization of Cas9 Nickase (Cas9n) to Investigate the ClpP Proteases of *Clostridioides difficile*" Clostpath 11, Leiden, Netherlands, August 19-22, 2019.

Dou, X.; Nath, D.; Shin, Y.; Ma, J.X.; Duerfeldt, A.S. "Structure-Based Evolution of a 4-Benzyloxy-benzylamino Chemotype to Provide Potent and Selective Peroxisome Proliferator-Activated Receptor Alpha Agonists" 7th Annual Symposium on Structural Biology, Norman, OK, June 6, 2019.

Dou, X.; Nath, D.; Shin, Y.; Ma, J.X.; Duerfeldt, A.S. "Structure-Based Evolution of a 4-Benzyloxy-benzylamino Chemotype to Provide Potent and Selective Peroxisome Proliferator-Activated Receptor Alpha Agonists" TexSyn IV, Waco, TX, May 24, 2019.

*Knobbe, J.E.; Duerfeldt, A.S. "Structure-Guided Optimization of PPAR α Agonists" 2019 Senior Thesis Poster Symposium, University of Oklahoma, Norman, OK, May 1, 2019.

*Hoang, A.; Nath, D.; Duerfeldt, A.S. "Design, Synthesis, and Bioactivity of Novel Subtype-selective PPAR α Agonists" 2019 FYRE Poster Symposium, University of Oklahoma, Norman, OK, May 1, 2019.

Li, Y.; Gardner, J.J.; Fortney, K.R.; Leus, I.V.; Bonifay, V.; Zgurskaya, H.I.; Pletnev, A.A.; Zhang, S.; Zhang, Z.Y.; Gribble, G.W.; Spinola, S.M.; Duerfeldt, A.S. First-generation structure-activity relationship studies of 2,3,4,9-tetrahydro-1H-carbazol-1-amines as CpxRA modulators, ACS 64th Annual Pentasectional Meeting, Norman, OK, April 13, 2019.

Avila, Q.P.; Duerfeldt, A.S. A Multi-Approach Strategy to Improve the Spectrum of ClpP Activators, ACS National Meeting, Orlando, FL, March 31, 2019.

Li, Y.; Gardner, J.J.; Fortney, K.R.; Leus, I.V.; Bonifay, V.; Zgurskaya, H.I.; Pletnev, A.; Zhang, S.; Zhang, Z.Y.; Gribble, G.W.; Spinola, S.M.; Duerfeldt, A.S. First-Generation Structure-Activity Relationship Studies of 2,3,4,9-tetrahydro-1*H*-carbazol-1-amines as CpxRA Modulators, ACS National Meeting, Orlando, FL, March 31, 2019.

Dou, X.; Nath, D.; Shin, Y.; Ma, J.X.; Duerfeldt, A.S. Design, Synthesis, and Bioactivity of Small Molecule Leads for the Treatment of Oculovascular Diseases, ACS National Meeting, New Orleans, LA, March 18–22, 2018.

Lavey, N.P.; Duerfeldt, A.S. Behavior and Biological Significance of Caseinolytic Protease P in *Clostridium difficile*, ACS National Meeting, New Orleans, LA, March 18–22, 2018.

*Truong, D., Dou, X., Nath, D., Duerfeldt, A.S. Identification and Biological Evaluation of New PPAR α Agonistic Chemotypes, 32nd National Conference for Undergraduate Research, Edmond, OK, April 4–7, 2018.

Lavey, N.P., Duerfeldt, A.S. Structural and Functional Nuances between *C. difficile* ClpP1 and ClpP2, 6th Annual Symposium on Structural Biology, Norman, OK, June 14, 2018.

Lavey, N.P.; Duerfeldt, A.S. Towards the Structure-Function Elucidation of Caseinolytic Protease P in *Clostridium difficile*, University of Oklahoma 5th Annual Symposium on Structural Biology, Norman, OK, June 15, 2017.

Lavey, N.P.; Duerfeldt, A.S. Towards the Structure-Function Characterization of Caseinolytic Protease P in *Clostridium difficile* 630, ACS Midwest Regional Meeting, Manhattan, KS, October 26–28, 2016.

Lavey, N.P.; Duerfeldt, A.S. Towards the Structural and Functional Characterization of Caseinolytic Protease P in *Clostridium difficile*, University of Oklahoma 4th Annual Symposium on Structural Biology, Norman, OK, June 14, 2016.

*Truong, D.; *Knobbe, J.; Duerfeldt, A.S. Screening Marine Extracts for Novel ClpP Activators: A Search for New Antibacterial Leads, University of Oklahoma First Year Research Experience (FYRE) Symposium, Norman, OK, May 4, 2016.

Lavey, N.P.; Coker, J.A.; Ruben, E.A.; Duerfeldt, A.S. Sclerotiamide: The First Non-Peptide-Based Natural Product Activator of Bacterial Caseinolytic Protease P, University of Oklahoma Research and Creativity Day 2016, Norman, OK, March 4, 2016.

***Recipient of Second Place Award for Science A Division*

*Johnston, R.A.; Duerfeldt, A.S. Natural Product Inspired Small Molecule Activators of ClpP, University of Oklahoma First Year Research (FYRE) Symposium, Norman, OK, April 29, 2015.

***Recipient of Best FYRE Project Award*

*Zhou, Y.; Duerfeldt, A.S. Trojan Horse Antibiotics: Small Molecule and Natural Product Activation of Bacterial Protease ClpP, University of Oklahoma Undergraduate Research Day, Norman, OK, April 18, 2015.

*Nguyen, S.M.; *Johnston, R.A.; Duerfeldt, A.S. Synthesis of Novel Antibacterial Agents, University of Oklahoma Undergraduate Research Day, Norman, OK, April 18, 2015.

MEMBERSHIPS (Organizations and Research Centers)

American Society of Microbiology

Harold Hamm Diabetes Center

American Society of Pharmacognosy

Stephenson Cancer Center, Experimental Therapeutic Research Program

American Association for the Advancement of Science

PROFESSIONAL DEVELOPMENT WORKSHOPS/SEMINARS (Independent Career)

Mentoring Graduate Students and Postdocs Workshop (OU)	2019
Teaching Efficiency (OU)	2019
Academic Placement for Postdocs and Students (OU)	2019
Small Teaching Strategies: Large Classes Workshop (OU)	2018
NSF CAREER CRPDE Workshop (OU)	2016
University of Oklahoma Faculty Leadership Academy	2015 – 2016
New Faculty in Organic and Biological Chemistry Mentoring Workshop (NIH-NIGMS)	2015
NSF CAREER: Resources, Templates and Tools Workshop (OU)	2015
Tenure and Promotion Workshop (OU)	2015
CRPDE Individual Research Plan (iRep) Workshop (OU)	2014

MANUSCRIPT REVIEW

ACS Chemical Biology, ACS Infectious Diseases, ACS Medicinal Chemistry Letters, ACS Omega, Beilstein Journal of Organic Chemistry, Bentham Medicinal Chemistry, Bioorganic & Medicinal Chemistry, Bioorganic & Medicinal Chemistry Letters, ChemBioChem, Journal of Chemical Education, Journal of Chemical Information and Modeling, Journal of Medicinal Chemistry, MedChemComm, Oklahoma Journal of Undergraduate Research, Organic Letters, Pharmaceuticals RSC Medicinal Chemistry

CURRENT RESEARCH TEAM

Research Staff

Catherine Bishop, Ph.D. – Research Scientist
Ziwei Hu, Ph.D. – Research Scientist

Graduate Students

Quentin Avila, M.S.
Jessica Gardner
2019 Robberson Travel Grant recipient
April Aloway, M.S.
Julia Lee
Katelyn Stevens
2019 Kenneth M. Nicholas Graduate Summer Fellowship

RESEARCH GROUP ALUMNI

Postdoctoral Research Associates

Dinesh Nath, Ph.D.
Hired as a Research Specialist III at Moffit Cancer Center, current position unknown
Yangxiong Li, Ph.D. – postdoctoral researcher
Now a Postdoc at OUSHC
Gopal Peddabuddi – postdoctoral researcher
Hired as a Research Scientist at Accele BioPharma, current position unknown

Graduate Students

Xiaozheng Dou, Ph.D.
Now a postdoc at Notre Dame
2018 Robberson Travel Grant recipient
2015 Kenneth M. Nicholas Graduate Summer Fellowship
Nathan P. Lavey – Ph.D.
Now a postdoc at the National Cancer Institute (NCI-NIH)
2019 Lloyd E. Swearingen Award – selected on the basis of outstanding performance in research
2016 Robberson Travel Grant recipient
Quentin Gibaut (SIGMA-Clermont exchange student) – Thesis Masters

Now a graduate student at Scripps Florida

Hailee Rau – Non-thesis Masters

Now an adjunct Instructor at Oklahoma State

Apryl Saunders – Non-thesis Masters

Now a Research Assistant II at the Dean McGee Eye Institute

2016 Kenneth M. Nicholas Graduate Summer Fellowship

Undergraduates

Jessica Knobbe

2016 FYRE student

2016 UROP grant recipient

Karla Bonic

Anh Hoang

2019 FYRE student

Dat Truong

Medical student at UT Southwestern

2016 UROP grant recipient

2016 Outstanding FYRE Student of the Year Awardee

2016 Best FYRE Project Awardee

Jesse A. Coker

Graduate student at University of Oxford

2014 & 2015 summer internship at Vanderbilt University with Stephen Fesik Group

2015 UROP grant recipient

2015 Astellas Pharma Scholarship

2016 HRAP Awardee

2016 Goldwater Scholarship Recipient

2016 Rhodes Scholar Finalist

Yanjia (Cici) Zhou

Medical student at University of Oklahoma Health Sciences Center

Accepted to Scripps (La Jolla, CA) and Stephenson Cancer Center (Oklahoma City, OK) summer research programs

Joshua Lujan

Medical student at University of Incarnate Word School of Osteopathic Medicine

Ryan Johnston

FYRE Symposium 2015 – Best FYRE Project Awardee

Sean Nguyen

2015 FYRE student

Tristan Lilley

Delaney Finn

Josie Smith

TEACHING RECORD

CHEM 3053	Organic Chemistry I: Biological Emphasis (204 students)	Sp. 2020
CHEM 5470	Intro to Medicinal Chemistry (12 students)	Fa. 2019
CHEM 3053	Organic Chemistry I: Biological Emphasis (164 students)	Sp. 2019
CHEM 3053	Organic Chemistry I: Biological Emphasis (218 students)	Fa. 2018
CHEM 5450	Organic Characterization (3 students)	Sp. 2018
CHEM 3053	Organic Chemistry I: Biological Emphasis HONORS (19 students)	Fa. 2017
CHEM 5450	Organic Characterization (9 students)	Sp. 2017
CHEM 5470	Intro to Medicinal Chemistry (8 students)	Fa. 2016
CHEM 5450	Organic Characterization (10 students)	Sp. 2016
CHEM 5470	Intro to Medicinal Chemistry (7 students) – <i>developed course</i>	Fa. 2015
CHEM 6680	Organic Spectroscopy (10 students)	Fa. 2014

SERVICE (OU)

Faculty Coordinator, OU-SIGMA Dual Masters Program	2019 –
Chair, Seminar Committee	2017 – 2019
Poster Judge, COBRE Symposium	2017
Poster Judge, FYRE Symposium	2017
Faculty Marshall, CAS Commencement	2017
OU Innovation Prize Task Force	2016
Research Mentor, NSF REU in Structural Biology	2016
Guest Speaker, CAS Leadership Scholar's Dinner	2016
VPR Distinguished Research Faculty Fellow	2016 – 2019
Seminar Committee, Department of Chemistry & Biochemistry	2015 – 2019
Guest Pitch Competition Judge for New Venture Development II (ENT 4113)	2015 –
Faculty Mentor for OU Entrepreneurial Activities	2015 –
<i>2015 Governor's Cup High Growth Undergraduate Champion (Raw)</i>	
<i>2015 Tri-state Runner-up (Raw)</i>	
Faculty Marshall, CAS Commencement	2015
Research Mentor, First-Year Research Experience (FYRE)	2014 –

EXTRACURRICULAR SERVICE

SBIR Consultant	2018 –
University of Kansas Delegate, Gallogly Inauguration	2018
Participant, Skype a Scientist	2017 –
<i>Ad hoc</i> Scientific Consultant, i2E	2016
Full Faculty Member, F1000	2016 –
Review Panelist, National Science Foundation (GRFP)	2016 –
Co-Chair, ACS National Meeting 2016 MEDI Symposium	2015 – 2016
Central College National Advisory Committee	2015 – 2017
Biotechnology Advisory Committee, Moore Norman Technology Center	2015 –
Organizing Committee, 2015 American Society of Pharmacognosy National Meeting	2014 – 2015
Board Member, Timothy Yates Heggen Foundation	2002 – 2015