

# AMY B. DOUNAY

## COLORADO COLLEGE

Department of Chemistry and Biochemistry  
14 East Cache La Poudre Street  
Colorado Springs, CO 80903  
(719) 389-6438  
amy.dounay@coloradocollege.edu

---

### EDUCATION

- University of California**, Irvine, CA  
National Institutes of Health Postdoctoral Fellow  
Mentor: Professor Larry E. Overman 2001 – 2004
- University of Minnesota**, Minneapolis, MN  
Ph.D., Organic Chemistry  
Mentor: Professor Craig J. Forsyth 1996 – 2001
- Colorado College**, Colorado Springs, CO  
B.A., Chemistry, *magna cum laude* 1992 – 1996

### ACADEMIC & PROFESSIONAL EXPERIENCE

- Colorado College**, Colorado Springs, CO  
Associate Professor of Chemistry and Biochemistry 2018 –  
Assistant Professor of Chemistry and Biochemistry 2012 – 2018  
Visiting Instructor of Chemistry 2000, 2001
- Northeastern University**, Boston, MA  
Visiting Scholar 2018
- Pfizer Worldwide Research and Development  
Neurosciences Medicinal Chemistry**, Groton, CT  
Senior Principal Scientist 2010 – 2012  
Principal Scientist 2007 – 2010
- Pfizer Global Research and Development  
Neurosciences Medicinal Chemistry**, Ann Arbor, MI  
Principal Scientist 2004 – 2007
- University of Minnesota**, Minneapolis, MN  
Teaching Assistant, Department of Chemistry 1996 – 1997

### AWARDS & HONORS

- Boettcher Foundation Webb-Waring Early Career Investigator  
Biomedical Research Award 2014 – 2017
- Research Corporation for Science Advancement  
Cottrell College Award 2014 – 2016
- National Institutes of Health Postdoctoral Fellowship 2001 – 2003
- Stanwood Johnston Memorial Fellowship 2000 – 2001
- ACS Division of Organic Chemistry Graduate Fellowship 1999 – 2000
- ACS Division of Medicinal Chemistry Graduate Fellowship 1998 – 1999
- University of Minnesota Graduate School Fellowship 1996 – 1997
- Merck Index Award 1996

Phi Beta Kappa	1996
Boettcher Foundation Scholarship	1992 – 1996
National Merit Scholarship	1992

**PUBLICATIONS**  
(\*undergraduate)

- 33. Dounay, A. B.;** O'Donnell, M. J.; Samaritoni, J. G.; Popiolek, L.; Schirch, D.; Biernasiuk, A.; Malm, A.; Lamb, I. W.; Mudrack, K.; Rivera, D. G.; Ojeda, G. M.; Scott, W. L. "Globally Distributed Drug Discovery of New Antibiotics: Design and Combinatorial Synthesis of Amino Acid Derivatives in the Organic Chemistry Laboratory." *J. Chem. Educ.* **2019**, *96* (8), 1731–1737.
- 32.** Chang, C.; Fonseca, K. R.; Li, C.; Horner, W.; Zawadzke, L. E.; Salafia, M. A.; Welch, K. A.; Strick, C. A.; Campbell, B. M.; Gernhardt, S. S.; Rong, H.; Sawant-Basak, A.; Liras, J.; **Dounay, A.**; Tuttle, J. B.; Verhoest, P.; Maurer, T. S. "Quantitative translational analysis of brain kynurenic acid modulation via irreversible kynurenine aminotransferase II inhibition," *Molecular Pharmacology*, **2018**, *94*, 823-833.
- 31.** Scott, W.L.; Samaritoni, J.G.; O'Donnell, M. J.; **Dounay, A. B.**; Fuller, A.A.; Dave, P.S.\*; Sanchez, J.M.\*; Tiano, D.G.\*; Rivera, D.G. "Ernest Eliel Workshop – US and Cuba Collaboration in Chemistry Education and Neglected Disease Drug Discovery" in *Stereochemistry and Global Connectivity: The Legacy of Ernest Eliel*, Schmid, D. G.; Maryanoff, C.; Miller, B.; Cheng, H. N., Eds. ACS Publications, 2017.
- 30.** Pham, T.\*; Walden, M.\*; Butler, C.; Diaz-Gonzalez, R.; Pérez-Moreno, G.; Ceballos-Pérez, G.; Gomez-Pérez, V.; García-Hernández, R.; Zecca, H.\*; Krakoff, E.\*; Kopec, B.\*; Ichire, O.; Mackenzie, C.\*; Pitot, M.\*; Ruiz, L.M.; Gamarro, F.; González-Pacanowska, D.; Navarro, M.; **Dounay, A. B.** "Novel 1,2-dihydroquinazolin-2-ones: Design, synthesis, and biological evaluation against *Trypanosoma brucei*," *Bioorg. Med. Chem. Lett.* **2017**, *27*, 3629-3635.
- 29.** Ichire, O.; Jans, P.\*; Parfenov, G.\*; **Dounay, A. B.** "A Safe and Selective Method for Reduction of 2-Nitrophenylacetic Acid Systems to N-Aryl Hydroxamic Acids Using Continuous Flow Hydrogenation," *Tetrahedron Lett.* **2017**, *58*, 582-585.
- 28. Dounay, A. B.;** Driscoll, L. L.; Blessing, P. M.\*; Comfort, H. M.\*; Mares, J. M.\* "Agony and Ecstasy: Party Drug or Breakthrough Treatment for PTSD," National Center for Case Study Teaching in Science, [Online] **2017**, <http://sciencecases.lib.buffalo.edu/cs/files/mdma.pdf>.
- 27. Dounay, A. B.;** Tuttle, J. B.; Verhoest, P. R. "Challenges and Opportunities in the Discovery of New Therapeutics Targeting the Kynurenine Pathway" *J. Med. Chem.* **2015**, *58*, 8762-8782.
- 26. Dounay, A. B.** "Telaprevir (Incivek) and Boceprevir (Victrelis): NS3/4A Inhibitors for Treatment for Hepatitis C Virus (HCV)." in *Innovative Drug Synthesis*, Li, J. J.; Johnson, D. S., Eds.: Wiley, New York, 2015.

25. Kozak, R.; Campbell, B.; Strick, C.; Horner, W.; Hoffmann, W.; Kiss, T.; Chapin, D.; McGinnis, D. Abbott, A.; Roberts, B.; Fonseca, K.; Guanowsky, V.; Young, D.; Seymour, P.; **Dounay, A.**; Hajos, M.; William, G.; Castner, S. A. "Reduction of Kynurenic Acid Improves Cognitive Function," *J. Neurosci.* **2014**, *34*, 10592-10602.
24. **Dounay, A. B.**; Anderson, M.; Bechle, B. M.; Evrard, E.; Gan, X.; Kim, J.-Y.; McAllister, L. A.; Pandit, J.; Rong, S.; Salafia, M. A.; Tuttle, J. B.; Zawadzke, L. E.; Verhoest, P. R. "PF-04859989 as a template for structure-based drug design: Identification of new pyrazole series of irreversible KAT II inhibitors with improved lipophilic efficiency" *Bioorg. Med. Chem. Lett.* **2013**, *23*, 1961.
23. **Dounay, A. B.**; Curran, T. "Imidazoles and Benzimidazoles." In *Heterocyclic Chemistry in Drug Discovery*, Li, J. J., Ed.; Wiley, New York, 2013.
22. Henderson, J. L.; Sawant-Basak, A.; Tuttle, J. B.; **Dounay, A. B.**; McAllister, L. A.; Pandit, J.; Rong, S.; Hou, X.; Bechle, B. M.; Kim, J. -Y.; Parikh, V.; Ghosh, S.; Evrard, E.; Zawadzke, L. E.; Salafia, M. A.; Rago, B.; Obach, R. S.; Clark, A.; Fonseca, K. R.; Cheng, C.; Verhoest, P. R.; "Discovery of Hydroxamate Bioisosteres as KAT II Inhibitors with Improved Bioavailability and Pharmacokinetics," *MedChemComm* **2013**, *4*, 125.
21. Tuttle, J. B.; Anderson, M.; Bechle, B. M.; Campbell, B. M.; Chang, C.; **Dounay, A. B.**; Evrard, E.; Fonseca, K. R.; Gan, X.; Ghosh, S.; Horner, W.; James, L. C.; Kim, J. -Y.; McAllister, L. A.; Pandit, J.; Parikh, V. D.; Rago, B. J.; Salafia, M. A.; Strick, C. A.; Zawadzke, L. E.; Verhoest, P. R. "Structure-Based Design of Irreversible Human KAT II Inhibitors: Discovery of New Potency-Enhancing Interactions" *ACS Med. Chem. Lett.* **2013**, *4*, 37.
20. Li, C. S. -W.; Zhang, L.; Haske, T.; **Dounay, A.**; Gray, D.; Barta, N.; Brodfuehrer, J.; Lepsy, C.; Campbell, B. "Mechanism-Based Pharmacokinetic/Pharmacodynamic Modeling of Rat Prefrontal Cortical Dopamine Response to Dual Acting Norepinephrine Reuptake Inhibitor and 5-HT<sub>1A</sub> Partial Agonist" *Am. Assoc. Pharm. Sci. J.* **2012**, *14*, 365.
19. **Dounay, A. B.**; Bechle, B. M.; Campbell, B. M.; Claffey, M. M.; Gan, X.; Hayward, M. M.; Kim, J. -Y.; Rong, S.; Salafia, M.; Tuttle, J. B.; Verhoest, P. R. "Discovery of brain-penetrant, irreversible kynurenine aminotransferase II inhibitors for schizophrenia" *ACS Med. Chem. Lett.* **2012**, *3*, 187.
18. Tuttle, J. B.; Azzarelli, J. M.; Bechle, B. M.; **Dounay, A. B.**; Evrard, E.; Gan, X.; Ghosh, S.; Henderson, J.; Kim, J. -Y.; Parikh, V. D.; Verhoest, P. R. "Synthesis of Ortho-Substituted Nitroaromatics via Improved Negishi Coupling Conditions" *Tetrahedron Lett.* **2011**, *52*, 5211.
17. McAllister, L. A.; Bechle, B. M.; **Dounay, A. B.**; Evrard, E.; Gan, X.; Ghosh, S.; Kim, J. -Y.; Parikh, V. D.; Tuttle, J. B.; Verhoest, P. R. "A Generalized Strategy for the Synthesis of Cyclic Aryl Hydroxamic Acids via Selective Nitro-Group Reduction" *J. Org. Chem.* **2011**, *76*, 3484.

16. Pettersson, M.; Campbell, B. M.; **Dounay, A. B.**; Gray, D. L.; Xie, L.; O'Donnell, C. J.; Stratman, N. C.; Zoski, K.; Drummond, E.; Bora, G.; Probert, A.; Whisman, T. "Design, Synthesis, and Pharmacological Evaluation of Azetidine and Pyrrolidine Derivatives as Dual Norepinephrine Reuptake Inhibitors and 5-HT<sub>1A</sub> Partial Agonists," *Bioorg. Med. Chem. Lett.* **2011**, *21*, 865.
15. **Dounay, A. B.**; Barta, N. S.; Campbell, B. M.; Coleman, C.; Collantes, E. M.; Denny, L.; Dutta, S.; Gray, D. L.; Hou, D.; Iyer, R.; Maiti, S. N.; Ortwine, D. F.; Probert, A.; Stratman, N. C.; Subedi, R.; Whisman, T.; Xu, W.; Zoski, K. "Design, Synthesis, and Pharmacological Evaluation of Phenoxy Pyridyl Derivatives as Dual Norepinephrine Reuptake Inhibitors and 5-HT<sub>1A</sub> Partial Agonists," *Bioorg. Med. Chem. Lett.* **2010**, *20*, 1114.
14. Gray, D. L.; Xu, W., Campbell, B. M.; **Dounay, A. B.**; Barta, N.; Boroski, S.; Denny, L.; Evans, L.; Stratman, N.; Probert, A. "Discovery and Pharmacological Characterization of Aryl Piperazine and Piperidine Ethers as Dual Acting Norepinephrine Reuptake Inhibitors and 5-HT<sub>1A</sub> Partial Agonists," *Bioorg. Med. Chem. Lett.*, **2009**, *19*, 6604.
13. **Dounay, A. B.**; Barta, N. S.; Bikker, J. A.; Borosky, S. A.; Campbell, B. A.; Crawford, T.; Denny, L.; Evans, L. M.; Gray, D. L.; Lee, P.; Lenoir, E. A.; Xu, W. "Synthesis and Pharmacological Evaluation of Aminopyrimidine Series of 5-HT<sub>1A</sub> Partial Agonists," *Bioorg. Med. Chem. Lett.*, **2009**, *19*, 1159.
12. **Dounay, A. B.**; Overman, L. E. "The Asymmetric Intramolecular Heck Reaction in Natural Product Total Synthesis" in *The Heck Reaction*, Oestreich, M., Ed.; Wiley: New York, 2009.
11. **Dounay, A. B.**; Humphreys, P. G.; Overman, L. E.; Wroblewski, A. D. "Total Synthesis of the Strychnos Alkaloid (+)-Minfiensine: Tandem Enantioselective Intramolecular Heck-Iminium Ion Cyclization," *J. Am. Chem. Soc.* **2008**, *130*, 5368.
10. **Dounay, A. B.**; Overman, L. E.; Wroblewski, A. D. "Sequential Catalytic Asymmetric Heck-Iminium Ion Cyclization: Enantioselective Total Synthesis of the *Strychnos* Alkaloid Minfiensine" *J. Am. Chem. Soc.* **2005**, *127*, 10186.
9. **Dounay, A. B.**; Overman, L. E. "The Asymmetric Intramolecular Heck Reaction in Natural Product Total Synthesis," *Chem. Rev.* **2003**, *103*, 2945.
8. **Dounay, A. B.**; Hatanaka, K.; Kodanko, J. J.; Oestreich, M.; Overman, L. E.; Pfeifer, L. A.; Weiss, M. M. "Enantioselective Synthesis of 3-Alkyl-3-Aryl Oxindoles by Catalytic Asymmetric Heck Reactions," *J. Am. Chem. Soc.* **2003**, *125*, 6261.
7. **Dounay, A. B.**; Forsyth, C. J. "Okadaic Acid: The Archetypal Serine/Threonine Protein Phosphatase Inhibitor," *Current Medicinal Chemistry* **2002**, *9*, 1939.
6. **Dounay, A. B.**; Florence, G. J.; Saito, A.; Forsyth, C. J. "Direct Synthesis of Substituted Tetrahydropyrans via Regioselective Dehydrative Polyol Cyclization Cascades," *Tetrahedron* **2002**, *58*, 1865.
5. **Dounay, A. B.**; Forsyth, C. J. "Synthetic Studies Toward the C<sub>5</sub>-C<sub>20</sub> Domain of the Azaspiracids," *Org. Lett.* **2001**, *3*, 975.

4. Frydrychowski, V. A.; Urbanek, R. A.; **Dounay, A. B.**; Forsyth, C. J. "Importance of the C28-C38 Hydrophobic Domain of Okadaic Acid for Potent Inhibition of Protein Serine-Threonine Phosphatases 1 and 2A," *Bioorg. Med. Chem. Lett.* **2001**, *11*, 647.
3. **Dounay, A. B.**; Urbanek, R. A.; Frydrychowski, V. A.; Forsyth, C. J. "Expedient Access to the Okadaic Acid Architecture: A Novel Synthesis of the C1-C27 Domain," *J. Org. Chem.* **2001**, *66*, 925.
2. **Dounay, A. B.**; Urbanek, R. A.; Sabes, S. F.; Forsyth, C. J. "Total Synthesis of the Marine Natural Product 7-Deoxy-Okadaic Acid: A Potent Inhibitor of Serine/Threonine-Specific Protein Phosphatases," *Angew. Chem. Int. Ed.* **1999**, *38*, 2258.
1. **Dounay, A. B.**; Forsyth, C. J. "Abbreviated Synthesis of the C3-C14 Substituted 1,7-Dioxaspiro[5.5]undec-3-ene System of Okadaic Acid," *Org. Lett.* **1999**, *1*, 451.

## CONFERENCE PRESENTATIONS

(presenter)

16. Pham, T.\*; Walden, M.\*; Butler, C.; Orellana, N.\*; Zecca, H.\*; Pitot, M.\*; Krakoff, E.\*; Kopec, B.\*; Ceballos-Pérez, G.; Diaz Gonzalez, R.; Navarro, M.; **Dounay, A. B.** "Hit-to-Lead Optimization of 1,2-dihydroquinazolin-2-ones for Human African Trypanosomiasis" (poster) Gordon Research Conference on Medicinal Chemistry, New London, NH, August, 2017.
15. Pham, T.\*; Walden, M.\*; Zecca, H.\*; Pitot, M.\*; Krakoff, E.\*; Kopec, B.\*; Diaz Gonzalez, R.; Navarro, M.; Pollastri, M.; **Dounay, A. B.** "Design and Synthesis of Novel 1,2-Dihydroquinazolin-2-one Derivatives for the Treatment of Human African Trypanosomiasis" (oral, selected for short oral presentation as winning poster in academic division) Gordon Research Conference on Medicinal Chemistry, New London, NH, August, 2016.
14. Pham, T.\*; Walden, M.\*; Zecca, H.\*; Pitot, M.\*; Krakoff, E.\*; Kopec, B.\*; Diaz Gonzalez, R.; Navarro, M.; Pollastri, M.; **Dounay, A. B.** "Design and Synthesis of Novel 1,2-Dihydroquinazolin-2-one Derivatives for the Treatment of Human African Trypanosomiasis" (poster) Gordon Research Conference on Medicinal Chemistry, New London, NH, August, 2016.
13. **Dounay, A. B.** "Finding the perfect job: Careers for organic chemists in pharma and industry" (oral) 251<sup>st</sup> ACS National Meeting & Exposition, San Diego, CA, March 13-17, 2016.
12. **Dounay, A. B.** "Building a new research program in medicinal chemistry at a small liberal arts college" (oral) 251<sup>st</sup> ACS National Meeting & Exposition, San Diego, CA, March 13-17, 2016.
11. **Dounay, A. B.** "Novel Tactics for Synthesis of Functionalized Aryl Hydroxamic acids," (Oral) 2015 International Chemical Congress of Pacific Basin Societies, Honolulu, HI, December, 2015.

10. **Dounay, A. B.** "Discovery of a Series Irreversible Inhibitors of KAT II for Schizophrenia" (oral) Gordon Research Conference on Medicinal Chemistry, New London, NH, August 2012.
9. **Dounay, A. B.** "Discovery of a Series of 3-Amino-1-Hydroxy-3,4-Dihydroquinolin-2(1*H*)-one Kynurenine Aminotransferase II Inhibitors for the Treatment of Schizophrenia" (oral) Division of Medicinal Chemistry, 242<sup>nd</sup> American Chemical Society National Meeting, Denver, CO, August 2011.
8. **Dounay, A. B.**; Barta, N.; Bora, G.; Campbell, B. M.; Collantes, E.; Denny, L.; Favor, D.; Gray, D. L.; Ortwine, D.; Probert, A.; Stratman, N.; Whisman, T.; Xu, W.; Zoski, K. "Design, Synthesis, and Pharmacological Evaluation of Phenoxy Pyridyl Derivatives as Dual Norepinephrine Reuptake Inhibitors and 5-HT<sub>1A</sub> Partial Agonists," (oral) Gordon Research Conference on Heterocyclic Compounds, Newport, RI, July 2009.
7. **Dounay, A. B.**; Forsyth, C. J. "Synthetic Innovations en Route Towards a Total Synthesis of Azaspiracid," (oral) 1<sup>st</sup> International COE Symposium. Giant Polyether Natural Products: Isolation and Synthesis. Sendai, Japan, November 2003.
6. **Dounay, A. B.**; Forsyth, C. J. "Synthetic Studies Toward the C<sub>5</sub>-C<sub>20</sub> Domain of the Azaspiracids," (poster) 37<sup>th</sup> National Organic Symposium, Bozeman, MT, June 2001.
5. **Dounay, A. B.**; Forsyth, C. J. "Synthetic Studies Toward the C<sub>5</sub>-C<sub>20</sub> Domain of the Azaspiracids," (oral) Division of Organic Chemistry, 221<sup>st</sup> American Chemical Society National Meeting, San Diego, CA, March 2001.
4. **Dounay, A. B.**; Urbanek, R. A.; Sabes, S. F.; Forsyth, C. J. "Total Synthesis of 7-Deoxy-Okadaic Acid," (oral) Graduate Fellowship Award Symposium, Division of Medicinal Chemistry, 218<sup>th</sup> American Chemical Society National Meeting, New Orleans, LA, August 1999.
3. **Dounay, A. B.**; Urbanek, R. A.; Sabes, S. F.; Forsyth, C. J. "Total Synthesis of the Marine Natural Product 7-Deoxy-Okadaic Acid," (poster) 36<sup>th</sup> National Organic Symposium, Madison, WI, June 1999.
2. **Dounay, A. B.**; Urbanek, R. A.; Forsyth, C. J. "Abbreviated Synthesis of the C<sub>1</sub>-C<sub>14</sub> Domain of Okadaic Acid," (poster) Division of Organic Chemistry, 216<sup>th</sup> American Chemical Society National Meeting, Boston, MA, August 1998.
1. **Dounay, A. B.**; Orosz, S.; Shao, P.; Bailey, L. C. "The Effect of Peptide Composition on HPLC Retention Time and CE Mobility," (poster) American Association of Pharmaceutical Scientists National Meeting, Miami, FL, November 1995.

## PATENTS

12. Gray, D. L. F.; Davoren, J. E.; **Dounay, A. B.**; Efremov, I. V.; Mente, S. R.; Subramanyam, C. "Preparation of pyrrolopyrazinyloxyphenylimidazopyrazine derivatives and analogs for use as dopamine D<sub>1</sub> agonists" WO 2015166370, 2015.
11. Gray, D. L. F.; Zhang, L.; Davoren, J. E.; **Dounay, A. B.**; Efremov, I. V.; Mente, S. R.; Subramanyam, C. "Preparation of pyrazinylphenoxythienopyridine derivatives"

and analogs for use as dopamine D1 ligands, particularly D1 agonists or partial agonists” WO 2015162515, 2015.

10. Davoren, J. E.; **Dounay, A. B.**; Efremov, I. V.; Gray, D. L. F.; Lee, C.; Mente, S. Ri.; O'Neil, S. V.; Rogers, B. N.; Subramanyam, C.; Zhang, L. “Preparation of pyrazinylphenoxyfuopyrimidine derivatives and analogs for use as dopamine D1 ligands, particularly D1 agonists or partial agonists” WO 2015162518, 2015.
9. Brodney, M. A.; Davoren, J. E.; **Dounay, A. B.**; Efremov, I. V.; Gray, D. L. F.; Green, M. E.; Henderson, J. L.; Lee, C.; Mente, S. R.; O'Neil, S. V.; Rogers, B. N.; Zhang, L. “Preparation of Heteroaromatic Compounds as Dopamine D1 Ligands” WO 2014207601, 2014.
8. Coe, J. W.; Allen, J.A.; Davoren, J. E.; **Dounay, A. B.**; Efremov, I. V.; Gray, D.L. F.; Guilmette, E. R.; Harris, A. R.; Helal, C. J.; Henderson, J. L.; Mente, S. R.; Nason, D. M.; O'Neil, S. V.; Subramanyam, C.; Xu, W. “Preparation of heteroaromatic compounds and their use as dopamine D1 ligands for therapy” WO 2014072881, 2014.
7. Davoren, J.E.; **Dounay, A. B.**; Efremov, I.V.; Gray, D.L. F.; Mente, S. R.; O'Neil, S. V.; Rogers, B.N.; Subramanyam, C.; Zhang, L. “Preparation of heteroaromatic compounds and their use as dopamine D1 ligands” US 20140128374, 2014.
6. **Dounay, A. B.**; Tuttle, J. B.; Verhoest, P. R. “Preparation of tricyclic compds. as KAT II inhibitors for treatment of neurol. disorders and other diseases” WO 2013186666, 2013.
5. **Dounay, A. B.**; McAllister, L. A.; Parikh, V. D.; Rong, S.; Verhoest, P. R. “Preparation of pyrazolo[3,4-b]pyridin-6-ones as KAT II inhibitors for treating cognitive disorders and other diseases,” WO 2012073143, 2012.
4. **Dounay, A. B.**; Helal, C. J.; Tuttle, J. B.; Verhoest, P. R. “Preparation of quinoline compounds as KAT II inhibitors for treatment of nervous system disorders and other diseases,” WO 2012073146, 2012.
3. Claffey, M. M.; **Dounay, A. B.**; Gan, X.; Hayward, M. M.; Rong, S.; Tuttle, J. B.; Verhoest, P. R. “Preparation of bicyclic and tricyclic compounds as KAT II inhibitors for treating cognitive and other disorders,” WO 2010146488, 2010.
2. Allen, M. P.; Am Ende, C. W.; Brodney, M. A.; **Dounay, A. B.**; Johnson, D. S.; Pettersson, M. Y.; Schwarz, J. B.; Tran, T. P. “Preparation of phenylimidazole derivatives and analogs for use as gamma-secretase modulators,” WO 010100606, 2010.
1. Barta, N. S.; Campbell, B. M.; **Dounay, A. B.**; Gray, D. L. F.; Zorn, S. H. “Phenoxy-pyridyl derivatives” WO 2009081259, 2009.

**COAUTHORED  
CONFERENCE  
PRESENTATIONS**

17. Scott, W. L.; Fuller, A. A.; **Dounay, A. B.**; Samaritoni, J. G.; O'Donnell, M.; Dave, P.; Sanchez, J. Tiano, D.; Rivera, D. G. "Ernest Eliel Workshop: US and Cuba collaboration in chemistry education and neglected disease drug discovery" (oral) 255<sup>th</sup> ACS National Meeting and Exposition, New Orleans, LA, March 18 - 22, 2018.
16. Walden, M.; Pham, T.; Butler, C.; Zecca, H.; Krakoff, E.; Kopec, B.; Ichire, O.; MacKenzie, C.; Pitot, M. Navarro, M.; Gonzalez-Diaz, R.; **Dounay, A. B.** "Design, synthesis, and evaluation of 1,2-dihydroquinazolin-2-ones against Trypanosoma brucei" (poster) 255<sup>th</sup> ACS National Meeting and Exposition, New Orleans, LA, March 18 - 22, 2018.
15. Scott, W. L.; Fuller, A. A.; **Dounay, A. B.**; O'Donnell, M.; Samaritoni, J. G. "Distributed drug discovery experiments in undergraduate organic chemistry laboratories" (oral) 253<sup>rd</sup> ACS National Meeting and Exposition, San Francisco, CA, April 2 - 6, 2017.
14. Scott, W. L.; Samaritoni, J. G.; Popiloek, L.; **Dounay, A.**; Schirch, D.; Garcia Rivera, D.; Biernasiuk, A.; Malm, A.; O'Donnell, M. "Distributed drug discovery (D3) update: First global student collaboration in neglected disease discovery." (oral) 252<sup>nd</sup> ACS National Meeting and Exposition, Philadelphia, PA, August 21-25, 2016.
13. Walden, M.\*; **Dounay, A. B.** "Synthesis of Drugs to Treat Human African Sleeping Sickness" (poster) Council on Undergraduate Research Posters on the Hill Symposium, Washington, D.C., April 18-19, 2016.
12. Pham, T.\*; **Dounay, A.** "Design and synthesis of novel 1,2-dihydroquinazolin-2-one derivatives for the treatment of human African trypanosomiasis" (poster) Colorado Springs Undergraduate Research Forum, Colorado Springs, CO, April 2, 2016.
11. Walden, M.\*; **Dounay, A.** "Synthesis of Quinazolinone Derivatives Designed to Treat Human African Trypanosomiasis" (oral) Colorado Springs Undergraduate Research Forum, Colorado Springs, CO, April 2, 2016.
10. Pham, T.\*; Walden, M.\*; Krakoff, E.\*; Kopec, B.\*; Gonzalez-Diaz, R.; Navarro, M.; Pollastri, M.; **Dounay, A.** "Design and synthesis of novel 1,2-dihydroquinazolin-2-one derivatives for the treatment of human African trypanosomiasis" (poster) 251<sup>st</sup> ACS National Meeting & Exposition, San Diego, CA, March 13-17, 2016.
9. Krakoff, E.\*; **Dounay, A. B.** "Exploration of Kinase-Targeting Inhibitors for Human African Trypanosomiasis" (oral) Midstates Consortium for Mathematics and Science, Undergraduate Research Forum in Physical Sciences, Chicago, IL, November, 2015.
8. Walden, M.\*; **Dounay, A. B.** "Synthesis of Quinazolinone Derivatives Designed to Treat Human African Trypanosomiasis" (oral) Midstates Consortium for Mathematics and Science, Undergraduate Research Forum in Physical Sciences, Chicago, IL, November, 2015.



7. Pham, T.\*; Dounay, A. B. (oral) “Design and Synthesis of Novel Quinazolinone Derivatives for the Treatment of Human African Trypanosomiasis,” (oral) Midstates Consortium for Mathematics and Science, Undergraduate Research Forum in Physical Sciences, Chicago, IL, November, 2015.
6. Parfenov, G.\*; Dounay, A. B. “Synthesis of Novel Human African Trypanosomiasis Compounds,” (poster) 12<sup>th</sup> Annual Colorado Springs Undergraduate Research Forum, Colorado Springs, CO April, 2015.
5. Rutledge, J.\*; Dounay, A. B. Parfenov, G.; Kim, K. “Design and Synthesis of Novel Compounds for the Treatment of Human African Trypanosomiasis” (poster) National Meeting of the American Chemical Society, Denver, CO March, 2015.
4. Rutledge, J.\*; Dounay, A. B. “Design and Synthesis of Novel Compounds for the Treatment of Human African Trypanosomiasis” (poster) Midstates Consortium for Mathematics and Science, Undergraduate Research Forum in Physical Sciences, St. Louis, MO, November, 2014.
3. Jans, P.\*; Dounay, A. B. “Synthesis of a Novel Compound for the Treatment of Human African Trypanosomiasis” (oral, by Jans), 11<sup>th</sup> Annual Colorado Springs Undergraduate Research Forum, United States Air Force Academy, Colorado Springs, CO, April 2014.
2. Nicholls, N.\*; Dounay, A. B. “Synthesis of a Novel Compound for the Treatment of Human African Trypanosomiasis” (oral, by Nicholls: withdrawn on day of session due to speaker illness), Midstates Consortium for Math and Science Undergraduate Research Symposium, University of Chicago, Chicago, IL, October 2013.
1. Kim, K.\*; Dounay, A. B. “Synthesis of a Novel Compound for the Treatment of Human African Trypanosomiasis” (poster, by Kim), Midstates Consortium for Math and Science Undergraduate Research Symposium, University of Chicago, Chicago, IL, October 2013.

## INVITED LECTURES

12. **University of Minnesota, Department of Medicinal Chemistry**, Dounay, A. B. “Design, Synthesis, and Evaluation of New Drugs for African Sleeping Sickness,” Minneapolis, MN, September 25, 2018.
11. **Ohio State University, Department of Chemistry and Biochemistry, Paquette Workshop**, Dounay, A. B. “1) Design, Synthesis, and Evaluation of New Drugs for African Sleeping Sickness; 2) Finding the perfect job: Careers for organic chemists in pharma and academia; 3) Building a New Research Program in Chemistry at a Small Liberal Arts College,” Columbus, OH, April 6 – 7, 2018.
10. **Colorado College, Family and Friends Weekend, TigerEd**, Dounay, A. B. “New Drugs for Bad Bugs: Discovering Medicines for Neglected Diseases,” Colorado Springs, CO, October 6, 2017.

9. **University of Vermont, Department of Chemistry**, Dounay, A. B. “Design, Synthesis, and Evaluation of New Drugs for African Sleeping Sickness,” Burlington, VT, April 6, 2017.
8. **2017 CC Books on the Beach**, Dounay, A. B., “Innovating Medical Discovery: Where Trial, Error, Profitability, and Ethics Intersect,” Rio Del Mar, CA, March 18-19, 2017.
7. **CC Alumni Mini-Books on the Beach**, Dounay, A. B., “New Drugs for Bad Bugs: Discovering Medicines for Neglected Diseases,” San Francisco, CA, March 16, 2017.
6. **Colorado College, Faculty Lunch seminar series**, Dounay, A. B., “New Drugs for Bad Bugs: Discovering Medicines for Neglected Diseases,” December 2016.
5. **Ernest Eliel Workshop, University of Havana**, Dounay, A. B. “Neglected Tropical Disease Research at Colorado College: Design and Synthesis of New Drugs for African Sleeping Sickness,” October 2016.
4. **Ernest Eliel Workshop, University of Havana**, Dounay, A. B. “Implementation of the D3 Lab at Colorado College,” October 2016.
3. **Colorado State University, Cellular and Molecular Biology Program Seminar Series**, Dounay, A. B. “Design, Synthesis, and Evaluation of New Drugs for Human African Trypanosomiasis,” Fort Collins, CO, August 2016.
2. **Grace and St. Stephen’s Church, Adult Education Program**, Dounay, A. B. “New Directions for African Sleeping Sickness,” Colorado Springs, CO, March, 2015.
1. **Colorado College, Mracheck Fellowship Dinner**. Dounay, A. B. “Design and Synthesis of New Drugs for Human African Trypanosomiasis,” May, 2014.

## EXTERNAL GRANTS

2017 – 2018	\$5,000	Boettcher Foundation Collaboration Grant
2015 – 2016	\$5,000	Boettcher Foundation Collaboration Grant
2014 – 2017	\$225,000	Boettcher Foundation Webb-Waring Early Career Investigator Biomedical Research Award, “Design, Synthesis, and Evaluation of New Drugs for Human African Trypanosomiasis”
2014 – 2017	\$204,047	National Science Foundation Major Research Instrumentation (NSF-MRI) Award [with J. Owens, M. Brasuel, and H. Vaghoo], “Acquisition of High Performance Liquid Chromatography Tandem Mass Spectrometry Instrumentation to Support Research and Undergraduate Education in Southern Colorado”
2014 – 2016	\$35,000	Research Corporation for Science Advancement Cottrell College Award, “Design, Synthesis, and Evaluation of New Drugs for Human African Trypanosomiasis”

## INTERNAL

## GRANTS

2018 – 2019	\$5,000	Colorado College Natural Sciences Division Research and Development Grant
2017 – 2018	\$5,000	Colorado College Natural Sciences Division Research and Development Grant
2016 – 2017	\$5,000	Colorado College Natural Sciences Division Research and Development Grant
2015 – 2016	\$4,525	Colorado College Natural Sciences Division Research and Development Grant
2014 – 2017	\$17,700	Institutional match for Boettcher Foundation grant
2014 – 2016	\$10,000	Institutional match for Research Corporation grant
2013 – 2014	\$5,000	Colorado College Natural Sciences Division Research and Development Grant
2013	\$4,000	Colorado College Mrachek Fellowship
2013	\$4,500	Colorado College Faculty-Student Collaborative Grant
2013	\$4,000	Colorado College Mellon Scholarship for Innovation in Teaching: Blended Learning
2013	\$450	Colorado College Crown Center and Academic Technology Services Travel Grant
2015 – 2016	\$4,525	Colorado College Natural Sciences Division Research and Development Grant

## RESEARCH STUDENTS

Student	Degree/Graduate Program	Area of Specialty
Natalie Nicholls, '13		
Zachary White, '13	Ph.D., University of Texas, Austin	Organic chemistry
Petra Jans, '15	M.D./Ph.D., University of Texas, San Antonio	Medicine
Zachary Keskinen, '15		
Kangmin Kim, '15	Ph.D., University of Colorado, Boulder	Materials chemistry
Brian Kopec, '15	Ph.D., University of Kansas	Medicinal chemistry
Galina Parfenov, '15		
Erika Versalovic, '15		
Emma Krakoff, '16	D.V.M., Colorado State University	Veterinary medicine
Henry Zecca, '16	Ph.D., Emory University	Organic chemistry
Marika Pitot, '16	M.D., University of Pennsylvania	Medicine
Jarod Rutledge, '17		
ThanhTruc Pham, '17		
Caden Mackenzie, '17		
Samuel Brown, '18		
Maddie Walden, '18		
Jenelle Weaver, '18	Ph.D., University of Illinois, Urbana-Champaign	Inorganic chemistry
Seneca Griffin, '19		
Norberto Orellana, '20		

## COURSES TAUGHT

Foundational Concepts in Organic Chemistry (CH 204), lecture  
Structures of Organic Molecules (CH250), lecture and laboratory  
Reactions of Organic Molecules (CH251), lecture and laboratory  
Synthesis of Organic Molecules (CH351), lecture and laboratory

Advanced Topics in Chemistry: Medicinal Chemistry (CH 400), lecture  
Investigations in Chemistry (CH 201/301/410), mentored research  
Senior Seminar (CH 490)

## **SERVICE**

### **College-wide service**

Faculty Executive Committee (2017 – 2018)  
Boettcher Webb-Waring Selection Committee (Spring 2017)  
Faculty Advancement Committee (Fall 2016 – present)  
Sherman Fairchild Foundation site visit, department representative (Fall 2016)  
Summer Collaborative Research (SCoRe) organizing committee (2016)  
Panelist, “Ask the Faculty Anything” Panel for students in SCoRe program (2016)  
Panelist, “A Conversation with Faculty” Panel for Parents at Fall Orientation (2014)  
Faculty mentor, “Speakers on Innovation” student summer seminar program (2014)  
Natural Science Faculty Panelist, Boettcher Scholar Finalist Recruiting Event (2014)  
Phi Beta Kappa, local chapter elections committee (2014)  
Midstates Consortium for Mathematics and Science Executive Committee (2013 – 2017)  
Colorado Springs Undergraduate Research Forum (CSURF) Committee (2013 – 2015)  
First-Year Writing Portfolio Reader (Summer 2013, Winter 2014)  
Faculty/Alumni Representative Boettcher Scholar Recruiting and CC Scholar Events  
(2013 – present)  
Academic Advisor (2013 – present)

### **Departmental service**

Department Representative at Sophomore Majors Fair (Spring 2014)  
Otis A. Barnes Scholarship in Chemistry and Biochemistry committee (2013 – present)  
Chemistry and Biochemistry Department Laboratory Safety Committee, Chair (2013 – 2015)  
Department Representative at New Student Orientation Majors Fair (Fall 2013)  
Seminar Program, co-organizer (2012 – 2014)

### **Search Committees**

Tenure track English professor, junior faculty lunch group (2017)  
Tenure track organic chemistry professor (2016)  
Tenure track analytical chemistry professor (2016)  
Tenure track molecular biology professor (2014)  
Tenure track inorganic chemistry professor (2013)  
Tenure track bioorganic chemistry professor (2013)  
Tenure track inorganic chemistry professor (2012)

### **External Service**

Manuscript Reviewer: *Journal of Medicinal Chemistry*, *ChemMedChem*, *National Center for Case Study Teaching in Science*, *Scientific Reports*, *ACS Symposia Series: NMR Spectroscopy in the Undergraduate Curriculum (Volume 2)*, *Organic Letters*, *Journal of Organic Chemistry*, *European Journal of Organic Chemistry*, *Bioorganic and Medicinal Chemistry Letters*, *Bioorganic and Medicinal Chemistry*, *Mini Reviews in Medicinal Chemistry* (2007 – present)  
Member, Long Range Planning Committee, Medicinal Chemistry Division of the American Chemical Society (January 2018 – present)  
Chair, Gordon Research Seminar in Medicinal Chemistry, New London, NH (August 2018)

Reviewer, Graduate Research Fellowship Program, Medicinal Chemistry Division of the American Chemical Society (2018)  
Discussion Leader, Gordon Research Seminar in Medicinal Chemistry, New London, NH (August 2017)  
Chemistry Outreach: New Drugs for Bad Bugs: How Chemists Help Discover Medicines, Chipeta Elementary School, Colorado Springs, CO (May 2017)  
Chemistry Outreach: Nitrogen- Liquid and Gas, Chipeta Elementary School, Colorado Springs, CO (April 2017)  
Discussion Leader, Gordon Research Seminar in Medicinal Chemistry, New London, NH (August 2016)  
Panelist, National Science Foundation, Graduate Research Fellowship Program (January 2016)  
Boettcher Ambassador, Presentations at Palmer High School (2016 - 2017)  
Session co-chair, Strategies and Tactics for Complex Molecule Synthesis Symposium, Pacifichem, Honolulu, HI (December 2015)  
Reviewer, Wellbeing of Women, Research Training Fellowship Grant, (November 2015)  
Faculty Panelist, Midstates Consortium for Mathematics and Science, Careers at Liberal Arts Colleges panel discussion at Undergraduate Research Forum in Physical Sciences, University of Chicago, (November 2015)  
Panelist, Pathways to Health Clinica, Biennial of the Americas, Denver, CO (August 2015)  
Chemistry Outreach: Chemistry of Polymers and Slime, Chipeta Elementary School, Colorado Springs, CO (April 2015)  
Chemistry Outreach: Chemistry of Polymers and Slime, Buena Vista Elementary, Colorado Springs, CO (February 2013)  
Chemistry Outreach, Chemistry of Making Toothpaste, New London Multicultural Magnet School, New London, CT (January 2012)  
Chemistry Outreach: Chemistry of Polymers and Slime, New London Multicultural Magnet School, New London, CT (April 2012)  
Chemistry Outreach: Chemistry of Polymers and Slime, Child's Garden Montessori School, Stonington, CT (February 2011)  
Member, American Chemical Society, 1992 – present

## **PROFESSIONAL DEVELOPMENT**

Chemistry Collaborations, Workshops and Communities of Scholars (cCWCS) "Teaching Guided Inquiry in the Organic Laboratory" Workshop, Minneapolis, Minnesota (June 2014)  
Colorado College "Sustainability Across the Curriculum" Workshop (May 2014)  
Distributed Drug Discovery (D3) Inaugural Workshop, Indiana University-Purdue University-Indianapolis, Indianapolis, Indiana (July 2013)  
Chemistry Collaborations, Workshops and Communities of Scholars (cCWCS) "Active Learning in Organic Chemistry" Workshop, Charlotte, North Carolina (June 2013)  
Midstates Consortium for Math and Science New Faculty Workshop, Hope College, Holland, Michigan (July 2012)

Center for Creative Leadership, Women's Leadership Program, Greensboro, North Carolina  
(March 2011)