

# GEORGE AUGUSTINE O'DOHERTY

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**DATE OF BIRTH:** August 28, 1966; Kilkenny, Ireland

**EDUCATION:** The Ohio State University, Columbus, Ohio

Ph.D., Chemistry, Sept. 1987 to Jan. 1993

**Advisor:** Professor Leo A. Paquette

Rensselaer Polytechnic Institute, Troy, New York

B.S., Chemistry, Sept. 1984 - June 1987

**Advisor:** Professor Alan R. Cutler

## SCIENTIFIC EMPLOYMENT:

Full Professor Chemistry (Sept. 2010 – present)

Department of Chemistry, Northeastern University

Full Member (2010)

Mary Babb Randolph Cancer Center, West Virginia University

Associate Professor Chemistry (Aug. 2005 – Aug. 2010)

Department of Chemistry, West Virginia University

Assistant Professor Chemistry (Sept. 2002 – Aug. 2005)

Department of Chemistry, West Virginia University

Assistant Professor Chemistry (Sept. 1996 – 2002)

Department of Chemistry, University of Minnesota

I.C. Postdoctoral Scholar (Sept. 1995 – 1996)

Department of Chemistry, Imperial College, London

**Advisor:** Professor Anthony G. M. Barrett

NSF Postdoctoral Scholar (Jan. 1993 – Aug. 1995)

Department of Chemistry, Stanford University

**Advisor:** Professor Barry M. Trost

## HONORS and AWARDS:

Horace S. Isbell Award from the ACS Carbohydrate Division (2009)

Eberly College of Arts and Science Outstanding Researcher Award (2007)

Woodburn Professor, Eberly College of Arts and Science (2006 & 2007)

WVU's Dept. of Chemistry Outstanding Professor (2006)

Shanghai Normal University "Honored Professor" (Dec. 2005, 2010-2012)

Arnold and Mabel Beckman Young Investigator (Sept. 1999 to Aug. 2002)

NSF Postdoctoral Fellowship (Jan. 1993 to Dec. 1994)

British Petroleum America Fellowship (Jan. 1991 to Dec. 1991)

National Need Fellowship (Jan. 1989 to Dec. 1989)

OSU Departmental Fellowship (Sept. 1987 to Aug. 1988)

American Chemical Society (1987 to present)

American Society for Biochemistry and Molecular Biology (2012 to present)  
Visiting Professor at Indian Institute of Technology-Bombay (2015-2019)

**PUBLICATIONS (197):** This section is divided into four sections:

Research Articles (157), Reviews/Book Chapters (31), Book Reviews (3), and Patents (6)  
(‡ Co-First Authors, the order is alphabetical)

**RESEARCH ARTICLES (157):**

157. "Diastereoselective Synthesis of  $\beta$ -Gar" Ngu, L.;‡ Ray, D.;‡ Watson, S. S.;‡ Beuning, P. J.; Ondrechen, M. J.; O'Doherty, G. A. *Molecules*, **2022**, *27*, 2528-2538. DOI: 10.3390/molecules27082528
156. "Synthetic efforts and ultimate limitation to an Asymmetric Achmatowicz approach toward EBC-23" Wang, Y.; O'Doherty, G. A. *J. Org. Chem.* **2022**, *87*, 6006–6013. DOI: 10.1021/acs.joc.2c00262
155. "De Novo Asymmetric Approach to Aspergillide-C" Xing, Y., O'Doherty, G. A. *ChemistrySelect* **2022**, *7*, e202200266. DOI: 10.1002/slct.202200266
154. "Achmatowicz Approach to the Asymmetric Synthesis of both (+)- and (-)-Monanchorin" Ma, Y.;‡ Vermula, R.;‡ Zhang, Q.;‡ Wu, B.; O'Doherty, G. A. *Green Synth. & Catal.* **2022**, *3*, 156-161. DOI: 10.1016/j.gresc.2022.03.003
153. "Functional Characterization of Structural Genomics Proteins in the Crotonase Superfamily" Mills, C. L.; Pengcheng Y. P.; Leifer, B.; Ferrins, L.; O'Doherty, G. A.; Beuning, P. J.; Ondrechen, M. J. *ACS-Chem. Bio.* **2022**, *17*, 395–403. DOI: 10.1021/acscchembio.1c00842
152. "Synthesis of a C-7 Pd-glycosyl-donor via the base promoted alkylative CO<sub>2</sub> trapping with 2-acetylfuran" Francisco, K. R.;‡ Li, Y.;‡ Lindquist-Kleissler, B.;‡ Zheng, J.;‡ Xing Y., O'Doherty, G. A. *J. CO<sub>2</sub> Utilization.* **2021**, *54*, 101774. DOI: 10.1016/j.jcou.2021.101774
151. "Cytotoxic effect of carbohydrate derivatives of digitoxigenin involves modulation of plasma membrane Ca<sup>2+</sup>-ATPase" Valadares, J. M. M.; Bajaj, S. O.; Li, H.; Wang, H.-Y. L.; Silva, S. C.; Garcia, J. P.; Pereira, D. G.; Azalim, P.; Quintas, L. E. M.; Noël, F.; Cortes, V. F.; O'Doherty, G. A. Barbosa, L. A. *J. Cell. Biochem.* **2021**, *12*, 1903-1914. DOI: 10.1002/jcb.30150
150. "Identifying Requirements for RSK2 Specific Inhibitors" Wright, E. B.; Fukuda, S.; Li, M.; Li, Y.; O'Doherty, G. A.; Lannigan, D. A. *J. Enzyme Inhib. Med. Chem.* **2021**, *36* (1), 1798-1809. DOI: 10.1080/14756366.2021.1957862
149. "Structure-activity relationship of avocadyne" Tcheng, M.; Cunha, V. L. S.; Ahmed, N.; Liu, X.; Smith, R. W.; Rea, K. A.; Akhtar, T. A.; D'Alessandro, A.; Minden, M. D.; Vockley, J.; O'Doherty, G. A.; Lowary, T. L.; Spagnuolo, P. A. *Food Funct.* **2021**, 6323-6333. DOI: 10.1039/d1fo00693b
148. "Synthesis of O-linked cyclitol analogues of Gilvocarcin M and antibacterial activity" Sharif, E. U.;‡ Shi, P.;‡ O'Doherty, G. A. *Isr. J. Chem.* **2021**, *61*, 394-400. Special issue in honor of Barry M. Trost's 80th B'day. DOI: 10.1002/ijch.202100015
147. "Total and Formal Syntheses of Fostriecin" Gao, D.;‡ Li, B.;‡ O'Doherty, G. A. *Org. Chem. Front.*, **2020**, *7*, 3608-3615. DOI: 10.1039/D0QO01121E
146. "Synthesis and Biological Study of the Phomopsolide and Phomopsolidone Natural Products" Aljahdali, A. Z.;‡ Foster, K. A.;‡ O'Doherty, G. A. *Chem. Commun.* **2020**, *56*, 12885-12896. (Featured Article) DOI: 10.1039/D0CC04069J
145. "Potential antitumor activity of digitoxin and user-designed analog administered to human lung cancer cells" Eldawud, R.; Wagner, A.; Dong, C.; Gupta, N.; Rojanasakul, Y.; O'Doherty, G. A.; Stueckle, T. A.; Dinu, Z. C. *Biochim. Biophys. Acta, Gen. Subj.* **2020**, 129683. DOI: 10.1016/j.bbagen.2020.129683
144. "RSK2 maintains adult estrogen homeostasis by inhibiting ERK1/2-mediated degradation of estrogen receptor alpha" Ludwik, K. A.; Sandusky Z. M; Stauffer, K. M.; Li, Y.; Boyd, K. L.; O'Doherty G. A.;

- Stricker, T. P.; Lannigan, D. A. *Cell Reports* **2020**, *32*, 107931. DOI: 10.1016/j.celrep.2020.107931
143. “New Therapeutic Strategies for Carbapenem-resistant Enterobacteriaceae” Brennan-Krohn, T.; Manetsch, R.; O’Doherty, G. A.; Kirby, J. E. *Transl. Res.* **2020**, *220*, 14-32. DOI: 10.1016/j.trsl.2020.02.008
142. “The Affinity of RSK for Cyclitol analogues of SL0101 is Critically Dependent on the B-Ring C-4’-Hydroxy” Li, Y.;<sup>‡</sup> Seber, P.;<sup>‡</sup> Wright, E. B.;<sup>‡</sup> Yamin, S.;<sup>‡</sup> Lannigan, D.A.; O’Doherty, G. A. *Chem. Commun.* **2020**, *56*, 3058-3060. DOI: 10.1039/d0cc00128g
141. “Regioselective Synthesis of a C-4” Carbamate, C-6” *n*-Pr substituted Cyclitol Analogue of SL0101” Li, Y.;<sup>‡</sup> Sandusky, Z. M.;<sup>‡</sup> Vemula, R.;<sup>‡</sup> Zhang, Q.;<sup>‡</sup> Wu, B.; Fukuda, S.; Li, M.; Lannigan, D.A.; O’Doherty, G. A. *Org. Lett.*, **2020**, *22*, 1448-1452. DOI: 10.1021/acs.orglett.0c00042
140. “Synthesis and biological evaluation of 4’-substituted kaempfer-3-ols” Kim, S.;<sup>‡</sup> Li, Y.;<sup>‡</sup> Lin, L.;<sup>‡</sup> Sayasith, P. R.;<sup>‡</sup> Tarr, A. T.;<sup>‡</sup> Wright, E. B.;<sup>‡</sup> Yasmin, S.;<sup>‡</sup> Lannigan, D. A.; O’Doherty, G. A. *J. Org. Chem.*, **2020** *85*, 4279-4288. DOI: 10.1021/acs.joc.9b03461
139. “Conformational states of the pig kidney Na<sup>+</sup>/K<sup>+</sup>-ATPase differently affect bufadienolides and cardenolides: a directed structure-activity and structure-kinetics study” Azalim-Neto, P.; do Monte, F. M.; Rendeiro, M. M.; Liu, X.; O’Doherty, G. A.; Fontes, C. F.; Leitão, S. G; Quintas, L. M.; Noël, F. *Biochem. Pharmacol.*, **2020**, *171*, 113679. DOI: 10.1016/j.bcp.2019.113679
138. “De Novo Asymmetric Synthesis of Avocadyne, Avocadene and Avocadane Stereoisomers” Cunha, V.;<sup>‡</sup> Liu, X.;<sup>‡</sup> Lowary, T. L.; O’Doherty, G. A. *J. Org. Chem.*, **2019**, *84*, 15718-15725. DOI: 10.1021/acs.joc.9b02391
137. “Synthesis of Dehydro-Dephospho-Fostriecin and Formal Total Synthesis of Fostriecin” Gao, D.;<sup>‡</sup> Li, B.;<sup>‡</sup> O’Doherty, G. A. *Org. Lett.*, **2019**, *21*, 8334-8338. DOI: 10.1021/acs.orglett.9b03120
136. “Synthesis and Direct Comparison of the Anticancer Activities of Phomopsolides D/E and Two 7-Oxa-/7-Aza-analogues” Aljahdali, A. Z.;<sup>‡</sup> Freedman, S. A.;<sup>‡</sup> Scott, J.;<sup>‡</sup> Li, M.; O’Doherty, G. A. *Med. Chem. Commun.*, **2019**, *10*, 1205-1211. DOI: 10.1039/C9MD00121B
135. “Site-specific reversible protein and peptide modification: transglutaminase-catalyzed glutamine conjugation and bioorthogonal light-mediated removal” Moulton, K.; Sadiki, A.; Koleva, B.; Ombelets, L.; Tran, T.; Liu, S.; Wang, B.; Chen, H.; Micheloni, E.; Beuning, P.; O’Doherty, G. A.; Zhou, Z. *Bioconjugate Chem.*, **2019**, *30*, 1617-1621. DOI: 10.1021/acs.bioconjchem.9b00145
134. “A De Novo Synthesis of Phomopsolide E: A Practical Conversion from Phomopsolide D” Harris, J. M.;<sup>‡</sup> Li, M.;<sup>‡</sup> *Heterocycles*, **2019**, *99*, 1217-1225. DOI: 10.3987/COM-18-S(F)96  
Special issue in honor of Professor Tohru Fukuyama.
133. “Asymmetric Synthesis of 7-Aza-Phomopsolide E and its C-4 epimer” Aljahdali, A. Z.;<sup>‡</sup> Freedman, S. A.;<sup>‡</sup> Li, M.; O’Doherty, G. A. *Tetrahedron*, **2018**, *74*, 7121-7126. DOI: 10.1016/j.tet.2018.10.036  
Special issue on Metal Catalysis in Natural Product Synthesis.
132. “De Novo Asymmetric Synthesis of (–)-Nanaomycin A” Zhang, Q.; O’Doherty, G. A. *Tetrahedron*, **2018**, *74*, 4994-4999. DOI: 10.1016/j.tet.2018.06.051  
Special issue in honor of Sir Derek Barton.
131. “Characterization of Tetrahydrolipstatin and Stereoderivatives on the Inhibition of Essential *Mycobacterium tuberculosis* Lipid Esterases” C. M. Goins, T. D. Sudasinghe, X. Liu, Y. Wang, G. A. O’Doherty, D. R. Ronning, *Biochemistry*, **2018**, *57*, 2383-2393. DOI: 10.1021/acs.biochem.8b00152
130. “A Practical Synthesis of Glycinamide Ribonucleotide (GAR)” Ray, D.; Beuning, P. J.; Onderchen, M. J.; O’Doherty, G. A. *Heterocycles*, **2018**, *97*, 776-784. 10.3987/COM-18-S(T)50  
Special issue in honor of Prof. Kiyoshi Tomioka.
129. “Stereochemical Structure Activity Relationship Studies (S-SAR) of Tetrahydrolipstatin” Liu, X.;<sup>‡</sup>

- Wang, Y.;<sup>‡</sup> Duclos, R. I.; O'Doherty, G. A, *ACS Med. Chem. Lett.* **2018**, *9*, 274-278. DOI: 10.1021/acsmchemlett.8b00050
128. "The Asymmetric Syntheses of Cryptocaryols A and B" Aljahdali, A. Z.;<sup>‡</sup> Foster, K. A.;<sup>‡</sup> O'Doherty, G. A. *Chem. Commun.* **2018**, *54*, 3428-3435. DOI: 10.1039/c8cc00482j (Featured Article)
127. "Anti-tumorigenic effects of a novel digitoxin derivative on both estrogen receptor–positive and triple-negative breast cancer cells" Kulkarni, Y. M.; Yakisich, J. S.; Azad, N.; Venkatadri, R.; Kaushik, V.; O'Doherty, G. Iyer, A.K.V. *Tumour Biol.* **2017**, *39*, 1-10. DOI: 1010428317705331
126. "Stereoselective Synthesis and Evaluation of C6"-Substituted 5a-Carbasugar Analogues of SL0101 as Inhibitors of RSK1/2" Li, M.;<sup>‡</sup> Li, Y.;<sup>‡</sup> Ludwik, K. A.;<sup>‡</sup> Sandusky, Z. M.;<sup>‡</sup> Lannigan, D. A.; O'Doherty, G.A. *Org. Lett.* **2017**, *19*, 2410-2413. DOI: 10.1021/acs.orglett.7b00945
125. "Nigericin decreases the viability of multidrug-resistant cancer cells and lung tumorspheres and potentiates the effects of cardiac glycosides." Yakisich, J.S.; Azad, N.; Kaushik, V.; O'Doherty, G.A.; Iyer, A.K. *Tumour Biol.* **2017**, *39*, 1-11. DOI: 1010428317694310
124. "De Novo Asymmetric Synthesis of Phoracantholide J" Avocetien, K. F.;<sup>‡</sup> Li, J. J.;<sup>‡</sup> Liu, X.;<sup>‡</sup> Wang, Y.; Xing, Y.; O'Doherty, G. A. *Org. Lett.* **2016**, *18*, 4970–4973. DOI: 10.1021/acs.orglett.6b02432
123. "Approach to the Synthesis of C<sup>1</sup>-C<sup>11</sup> fragment of Leucascandrolide A" Hunter, T. J.;<sup>‡</sup> Zheng, J.;<sup>‡</sup> O'Doherty, G. A. *Org. Chem. Front.*, **2016**, *3*, 1120 - 1125. DOI: 10.1039/C6QO00284F. Issue celebrating the 75th Birthday of Professor Barry Trost
122. "Asymmetric Iterative Hydration of Polyene Strategy to Cryptocaryols A and B" Hunter, T. J.;<sup>‡</sup> Wang, Y.;<sup>‡</sup> Zheng, J.;<sup>‡</sup> O'Doherty, G. A. *Synthesis* **2016**, *48*, 1700-1710. DOI: 10.1055/s-0035-1561607
121. "De novo asymmetric synthesis of a 6-O-methyl-D-glycero-L-gluco-heptopyranose-derived thioglycoside for the preparation of Campylobacter jejuni NCTC11168 capsular polysaccharide fragments" Ashmus, R.; Jayasuriya, A.; Lim, Y.-J.; O'Doherty, G. A. Lowary, T. L. *J. Org. Chem.* **2016**, *81*, 3058–3063. DOI: 10.1021/acs.joc.6b00296
120. "Metabolomic profiling of cell death in human lung cancer cells by a novel digitoxin analog" Kulkarni, Y.; Azad, N.; Kaushih, V.; Yakish, J. S.; Venkatadri, R.; Wright, C.; Rojanasakul, Y.; O'Doherty, G. A.; Iyer, A. *Cancer Res.* **2016**, *76*, 15. DOI: 10.1158/1538-7445.AM2016-15
119. "Flexible Acyclic Polyol-Chloride Anion Complexes and Their Characterization by Photoelectron Spectroscopy and Variable Temperature Binding Constant Determinations" Shokri, A.; Wang, X.-B.; Wang, Y.; O'Doherty, G. A.; Kass, S. R. *J. Phys. Chem. A.* **2016**, *120*, 1661-1668. DOI: 10.1021/acs.jpca.5b12286
118. "Development of a RSK Inhibitor as a Novel Therapy for Triple Negative Breast Cancer" Ludwik, K. A.; Campbell, J. P.; Li, M.; Li, L.; Sandusky Z. M.; Pasic, L.; Sowder, M. E.; Brenin, D. R.; Pietenpol, J. A.; O'Doherty G. A.; Lannigan, D. A. *Mol. Cancer Ther.* **2016**, *15*, 2598-2608. DOI: 10.1158/1535-7163.MCT-16-0106
117. "De Novo Asymmetric Synthesis and Biological Analysis of the Daumone Phermone in *Caenorhabditis elegans* and the Soybean Cyst Nematode *Heterodera glycines*" Guo, H.; LaClair, J.; Masler, E.P.; O'Doherty, G. A.; Xing, Y. *Tetrahedron*, **2016**, *72*, 2280-2286. DOI: 10.1016/j.tet.2016.03.033
116. "Digitoxin and its synthetic analog MonoD have potent antiproliferative effects on lung cancer cells and potentiate the effects of hydroxyurea and paclitaxel." Yakisich, J. S., Azad, N., Venkatadri, R., Kulkarni, Y., Wright, C., Kaushik, V., O'Doherty, G. A. and Iyer, A. K.V. *Oncol. Rep.* **2016**, *35*, 878-886. DOI: 10.3892/or.2015.4416
115. "Autophagy-Induced Apoptosis in Lung Cancer Cells by a Novel Digitoxin Analog" Kulkarni, Y. M.; Kaushik, V.; Azad, N.; Wright, C.; Rojanasakul, Y.; O'Doherty, G. A.; Iyer, A. K. V. *J. Cell. Physiol.* **2016**, *231*, 817-828. DOI: 10.1002/jcp.25129

114. "De Novo Asymmetric Synthesis of (+)-Monanchorin" Ma, Y.; O'Doherty, G. A. *Org. Lett.* **2015**, *17*, 5280-5283. DOI: 10.1021/acs.orglett.5b02651
113. "The Asymmetric Synthesis of Tetrahydrolipstatin" Liu, X.;<sup>‡</sup> Wang, Y.;<sup>‡</sup> O'Doherty, G. A. *AsianJOC.* **2015**, *4*, 994-1009. DOI: 10.1002/ajoc.201500240
112. "Gold- and Silver-Catalyzed Glycosylation with Pyranone Glycosyl Donors: An Efficient and Diastereoselective Synthesis of  $\alpha$ -Anomers" Liu, W.; Chen, Q.; Liang, J.; Du, Z.; Zhang, K.; Zheng, X.; O'Doherty, G. A. *Synlett*, **2015**, *26*, 1683-1686. DOI: 10.1055/s-0034-1379929
111. "Silylated organometals: a family of recyclable homogeneous catalysts" Huang, J.-L.; Wang, J.-Z.; Li, H.-X.; Haibing, G.; and O'Doherty, G. A., *Green Chem.* **2015**, *17*, 1473-1478. DOI: 10.1039/C4GC01586J
110. "Synthesis and Structure-Activity-Relationship Study of 5a-Carbasugar Analogues of SL0101" Li, M.;<sup>‡</sup> Li, Y.;<sup>‡</sup> Mrozowski, R. M.;<sup>‡</sup> Sandusky, Z. M.;<sup>‡</sup> Shan, M.; Song, X.;<sup>‡</sup> Wu, B.;<sup>‡</sup> Zhang, Q.;<sup>‡</sup> Deborah A. Lannigan, D. A. and O'Doherty, G. A., *ACS Med. Chem. Lett.* **2015**, *16*, 95-99. DOI: 10.1021/ml5004525
109. "De novo synthesis and biological evaluation of C6"-substituted C4"-amide analogues of SL0101" Mrozowski, R. M.;<sup>‡</sup> M. Sandusky, Z. M.;<sup>‡</sup> Vemula, R.;<sup>‡</sup> Wu, B.;<sup>‡</sup> Zhang, Q.;<sup>‡</sup> Deborah A. Lannigan, D. A. and O'Doherty, G. A., *Org. Lett.* **2014**, *16*, 5996-5999. DOI: 10.1021/ol503012k
108. "Enantioselective synthesis of  $\alpha$ - and  $\beta$ -Boc-protected 6-hydroxy pyranones: carbohydrate building blocks" Bajaj, S. O.;<sup>‡</sup> Farnsworth J. R.;<sup>‡</sup> O'Doherty, G. A. *Org. Synth.* **2014**, *91*, 338-355. DOI: 10.15227/orgsyn.091/0338
107. "Total Synthesis of Tetrahydrolipstatin, via a highly Regio- and Stereo-selective Carbonylation of Epoxyhomoallylic alcohols." Mulzer, M.;<sup>‡</sup> Tiegs, B.;<sup>‡</sup> Yanping Wang, Y.;<sup>‡</sup> Coates, G. W.; O'Doherty, G. A. *J. Am. Chem. Soc.* **2014**, *136*, 10814-10820. DOI: 10.1021/ja505639u
106. "Structure activity relationship study of Mezzettiasides natural products and its four new disaccharide analogues for anticancer/antibacterial activity" Bajaj, S. O.;<sup>‡</sup> Shi, P.;<sup>‡</sup> Beuning, P. J.; O'Doherty, G. A. *Med. Chem. Commun.*, **2014**, *5*, 1138-1142. DOI: 10.1039/C4MD00095A
105. "De novo asymmetric synthesis of the mezzettiaside family of natural products via the iterative use of a dual B-/Pd-catalyzed glycosylation" Bajaj, S. O.;<sup>‡</sup> Sharif, E. U.;<sup>‡</sup> Akhmedov, N. G.; O'Doherty, G. A. *Chem. Sci.* **2014**, *5*, 2230-2234. DOI: 10.1039/C4SC00593G
104. "Cryptocaryol Structure Activity Relationship Study of Cancer Cell Cytotoxicity and Ability to Stabilize PDCD4" Cuccarese, M. F.;<sup>‡</sup> Wang, Y.;<sup>‡</sup> Beuning, P. J.; O'Doherty, G. A. *ACS Med. Chem. Lett.* **2014**, *5*, 522-526. DOI: 10.1021/ml4005039
103. "Digitoxin analogs with improved anti-cytomegalovirus activity" Cai, H.; Wang, H.-Y. L.; Venkatadri, R.; Fu, D.-X. Forman M.; Bajaj, S. O.;<sup>‡</sup> Li H.;<sup>‡</sup> O'Doherty, G. A.; Arav-Boger, R. *ACS Med. Chem. Lett.* **2014**, *5*, 395-399. DOI: 10.1021/ml400529q
102. "Regioselective Bromination: an Approach to the D-Ring of The Gilvocarcins" Sharif, E. U.; O'Doherty, G. A. *Heterocycles.* **2014**, *88*, 1275-1285. Special issue in honor of Prof. Victor Sniekus's 77th B'day. DOI: 10.3987/COM-13-S(S)84
101. "Merremoside D: De novo synthesis of its purported structure, NMR analysis and comparison of spectral data" Sharif, E. U.;<sup>‡</sup> Wang, H.-Y. L.;<sup>‡</sup> Akhmedov, N. G.; O'Doherty G. A. *Org. Lett.* **2014**, *16*, 492-495. DOI: 10.1021/ol403369h
100. "Monosaccharide digitoxin derivatives sensitize human non-small cell lung cancer cells to anoikis through Mcl-1 proteasomal degradation" Pongrakhannon, V.; Stueckle, T. A.; Wang, H.-Y. L.; O'Doherty, G. A.; Dinu, C. Z.; Chanvorachote, P.; Rojanasakul, Y. *Biochem. Pharmacol.* **2014**, *88*, 23-35. DOI: 10.1016/j.bcp.2013.10.027, PMID: 24231508

99. “Strengths of Different Types of Hydrogen Bonds: An Alternative to Low Barrier Hydrogen Bonds” Shokri, A.; Wang, Y.; O’Doherty, G. A. Wang, X.-B.; Kass, S. R. *J. Am. Chem. Soc.* **2013**, *135*, 17919-17924. DOI: 10.1021/ja408762r
98. “A Novel Use of Gentamicin in the ROS-Mediated Sensitization of NCI-H460 Lung Cancer Cells to Various Anticancer Agents” Cuccarese, M. F.;<sup>‡</sup> Singh, A.;<sup>‡</sup> Amiji, M.; O’Doherty, G. A. *ACS Chem. Biol.* **2013**, *8*, 2771-2777. DOI: 10.1021/cb4007024
97. “Convergent *De Novo* Synthesis of Vineomycinone B2 Methyl Ester” Chen, Q.;<sup>‡</sup> Zhong, Y.;<sup>‡</sup> O’Doherty, G. A. *Chem. Commun.* **2013**, *49*, 6806-6808. DOI: 10.1039/c3cc44050h
96. “Cryptocaryol A and B: Total Syntheses, Stereochemical Revision, Structure Elucidation and Structure-Activity Relationship” Wang, Y.; O’Doherty, G. A. *J. Am. Chem. Soc.* **2013**, *135*, 9334-9337. DOI: 10.1021/ja404401f
95. “De novo synthesis of *ido*-pyranoside and 3-deoxy sugar congeners via Wharton rearrangement” Cuccarese, M. F.;<sup>‡</sup> Wang, H.-Y. L.;<sup>‡</sup> O’Doherty, G. A. *Eur. J. Org. Chem.* **2013**, 3067-3075. DOI: 10.1002/ejoc.201300051
94. “De Novo Asymmetric Synthesis of Rhamno Di- and Tri-saccharides related to the Anthrax Tetrasaccharide” Wang, H.-Y. L.; Guo, H.; O’Doherty, G. A. *Tetrahedron* **2013**, *69*, 3432-3436. DOI: 10.1016/j.tet.2013.02.073
93. “C3’/C4’-Stereochemical Effects of Digitoxigenin  $\alpha$ -L-/ $\alpha$ -D-Glycoside in Cancer Cytotoxicity” Hinds J. W.;<sup>‡</sup> McKenna, S. B.;<sup>‡</sup> Sharif, E. U.;<sup>‡</sup> Wang, H.-Y. L.;<sup>‡</sup> Akhmedov, N. G.; O’Doherty, G. A. , *ChemMedChem.* **2013**, *8*, 63-69. DOI: 10.1002/cmdc.201200465
92. “Improving the affinity of SL0101 for RSK using structure-based design” Mrozowski, R. M.; Vemula, R.;<sup>‡</sup> Wu, B.;<sup>‡</sup> Zhang, Q.;<sup>‡</sup> Schroeder, B. R.; Hilinski, M. K.; Clarke, D. E.; Hecht, S. M.; O’Doherty G. A.; Lannigan, D. A. *ACS Med. Chem. Lett.* **2013**, *4*, 175-179. DOI: 10.1021/ml300298v
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  4. "Intramolecular Reaction Rate is Not Determined Exclusively by the Distance Separating Reaction Centers. The Kinetic Consequences of Modulated Ground State Strain on Dyotropic Hydrogen Migration in Systems of Very Similar Geometric Disposition." L. A. Paquette, G. A. O'Doherty, R. D. Rogers, *J. Am. Chem. Soc.*, **1991**, *113*, 7761-7762. DOI: 10.1021/ja00020a048
  3. "Structure Analysis of a Camphor Derived Cyclopentadienyl Lithium Compound by NMR and MNDO. A Ternary Equilibrium in Tetrahydrofuran." W. Bauer, G. A. O'Doherty, P. V. R. Schleyer, L. A. Paquette, *J. Am. Chem. Soc.*, **1991**, *113*, 7093-7100. DOI: 10.1021/ja00019a001
  2. "Stereoselective Access to the Three Diisodicyclopentadienyltitanium Dichlorides." C. Sornay, P.

Meunier, B. Gautheron, G. A. O'Doherty, L. A. Paquette, *Organometallics*, **1991**, *10*, 2082-2083. DOI: 10.1021/om00052a068

1. "Stereochemically Uniform Mode of Iron Carbonyl Complexation to Spirocyclic Isodicyclopentadienes." L. A. Paquette, G. A. O'Doherty, B. L. Miller, R. D. Rogers, A. L. Reingold and S. L. Geib, *Organometallics*, **1989**, *8*, 2167-2172. DOI: 10.1021/om00111a012

## REVIEWS and BOOK CHAPTERS (31): (‡Co-First Authors, the order is alphabetical)

1. "Achmatowicz Approach To 5,6-Dihydro-2H-Pyran-2-One Containing Natural Products" in *Strategy and Tactics in Natural Product Synthesis*, Michael Harmata Ed., by Joel M. Harris,‡ Miaosheng Li,‡ Jana G. Scott,‡ and George A. O'Doherty, ELSEVIER, London, **2004**.
2. "Several Approaches to Perhydrohistrionicotoxin: Setting an Azaspirocenters" Mortensen, M. S.; O'Doherty, G. A. *ChemTracts-Organic Chemistry* **2004**, *17*, 261-268.
3. "Stereocontrolled Total Synthesis of (+)-Streptazolin" Zhou, M.; O'Doherty, G. A. *ChemTracts-Organic Chemistry* **2004**, *17*, 593-599.
4. "Stereocontrolled Synthesis of the Polyol Portion in Polyene Macrolide Natural Products" Dougherty, J.,‡ Zhou, M.,‡ O'Doherty, G. A. *ChemTracts-Organic Chemistry* **2005**, *18*, 349-363.
5. "Recent Advances in 1,2-diamination of Alkenes" Mortensen, M. S.; O'Doherty, G. A. *ChemTracts-Organic Chemistry* **2005**, *18*, 555-561.
6. "Methallyl Bromide." (Update) O'Doherty, G. A.; Gao, D. in *Encyclopedia of Reagents for Organic Synthesis*, L. A. Paquette, Ed. John Wiley and Sons LTD, England, **2006**.
7. "Methallyl Chloride." (Update) O'Doherty, G. A.; Gao, D. in *Encyclopedia of Reagents for Organic Synthesis*, L. A. Paquette, Ed. John Wiley and Sons LTD, England, **2006**.
8. "De Novo Synthesis in Carbohydrate Chemistry: From furans to Monosaccharides and oligosaccharides." in *ACS Symposium Series 990, Chemical Glycobiology*, Xi Chen, Randall Halcomb and Peng George Wang Eds., by Xiaomei Yu and George A. O'Doherty, ACS, Washington, **2008**, pp. 3-22.
9. "Cyclohexa-1,3-diene." O'Doherty, G. A.; Guppi, S. in *Encyclopedia of Reagents for Organic Synthesis*, L. A. Paquette, Ed. John Wiley and Sons LTD, England, **2008**.
10. "1-(2-furanyl)-1,2-ethanediol." O'Doherty, G. A.; Yu, X. in *Encyclopedia of Reagents for Organic Synthesis*, L. A. Paquette, Ed. John Wiley and Sons LTD, England, **2008**.
11. "2-Ethenylfuran." O'Doherty, G. A.; Yu, X. in *Encyclopedia of Reagents for Organic Synthesis*, L. A. Paquette, Ed. John Wiley and Sons LTD, England, **2008**.
12. "Total Synthesis of Herboxidiene" Zhang, Q.; O'Doherty, G. A. *ChemTracts-Organic Chemistry*, **2009**, *22*, 112-120.
13. "Synthesis of (-)-Amathaspiramide F" Niu, D.; O'Doherty, G. A. *ChemTracts-Organic Chemistry*, **2009**, *22*, 81-88.
14. "Total Synthesis of Platensimycin and Platencin" Harsh, P.; O'Doherty, G. A. *ChemTracts-Organic Chemistry*, **2009**, *22*, 31-40.
15. "Total Synthesis of (+)-Largazole, a Histone Deacetylase Inhibitor" Yan, W.; O'Doherty, G. A. *ChemTracts-Organic Chemistry*, **2009**, *22*, 50-58.
16. "Total Synthesis of (-)-Cephalotaxine" Niu, D.,‡ Yan, W.,‡ Sharif, E.,‡ Rajaratnam, M.,‡ O'Doherty, G. A. *ChemTracts-Organic Chemistry*, **2009**, *22*, 89-95.
17. "Tactics in Total Synthesis of (-)-Kendomycin" Shan, M.,‡ Wang, L.,‡ Zhang, Q.,‡ O'Doherty, G. A. *ChemTracts-Organic Chemistry*, **2009**, *22*, 1-17.

18. "Stereocontrolled Synthesis of Pentacyclic Core in Ecteinasidin 743" Wang, L.; O'Doherty, G. A. *ChemTracts-Organic Chemistry*, **2009**, 22, 96-111.
19. "Total Synthesis of Sceptrin and Dibromosceptrin" Rajaratnam, M.; O'Doherty, G. A. *ChemTracts-Organic Chemistry*, **2009**, 22, 59-66.
20. "Application of Ring Strain in the Synthesis of Triquinanes: Synthesis of Pentalanene and Ventricosene" Cuccarese, M.; O'Doherty, G. A. *ChemTracts-Organic Chemistry*, **2009**, 22, 41-49.
21. "Total Synthesis of Zampanolide and Dactylolide" Sharif, E.; O'Doherty, G. A. *ChemTracts-Organic Chemistry*, **2009**, 22, 67-79.
22. "Synthesis of Haterumalide NA" Cuccarese,<sup>‡</sup> M.; Harsh, P.;<sup>‡</sup> Jordan, A.;<sup>‡</sup> O'Doherty, G. A. *ChemTracts-Organic Chemistry*, **2009**, 22, 18-30.
23. "Modulators of Na/K-ATPase: a patent review" Wang, H.-Y. L.; O'Doherty, G. A. *Expert Opin. Therapeutic Patents*, **2012**, 22, 587-605.
24. "Application of the Achmatowicz Rearrangement for the Synthesis of Oligosaccharides" in *Asymmetric Synthesis II: More Methods and Applications*, Christmann, M. & Braese, S. Eds., by Cuccarese, M. F. and O'Doherty, G. A. Wiley-VCH Verlag GmbH & Co. KG, Weinheim, **2012**., pp. 249-259.
25. "De Novo Asymmetric Synthesis of the Pyranoses: From Monosaccharides To Oligosaccharides" *Advances in Carbohydrate Chemistry and Biochemistry*, Derek Horton Eds., by Aljahdali, A. Z.;<sup>‡</sup> Shi, P.;<sup>‡</sup> Zhong, Y.;<sup>‡</sup> and O'Doherty, G. A., **2013**, Vol. 69, pp. 55-123.
26. "De Novo Approaches to Monosaccharides and Complex Glycans" in *Modern Synthetic Methods in Carbohydrate Chemistry*, Sebastien Vidal and Daniel B. Werz Eds., by Cuccarese, M. F.,<sup>‡</sup> Li, J. J.,<sup>‡</sup> and O'Doherty, G. A., Wiley-VCH Verlag GmbH & Co. KG, Weinheim, **2014**, pp. 1-28.
27. "The Alkyne Zipper Reaction is Asymmetric Synthesis" in *Modern Alkyne Chemistry – Catalytic and Atom-Economic Transformations*, Barry M. Trost and Chao-Jun Li Eds., by Avocetien, K.,<sup>‡</sup> Li, Y.,<sup>‡</sup> and O'Doherty, G. A., Wiley-VCH Verlag GmbH & Co. KG, Weinheim, **2014**, pp. 365-393. ISBN: 978-3-527-33505-3; DOI: 10.1002/9783527677894.ch13
28. "De Novo Asymmetric Synthesis of Carbohydrate Natural Products" in *Selective Glycosylations: Synthetic Methods and Catalysts.*, Clay S. Bennett Ed., by Shi, P. and O'Doherty, G. A., Wiley-VCH Verlag GmbH & Co. KG, Weinheim, **2017**, pp. 327-351. ISBN: 978-3-527-33987-7; DOI: 10.1002/9783527696239.ch15
29. "De Novo Asymmetric Synthesis of Oligosaccharides Using Atom-Less Protecting Group" in *Protecting Groups: Strategies and Applications in Carbohydrate Chemistry*, Sebastien Vidal Ed., by Ray, D. and O'Doherty, G. A., Wiley-VCH Verlag GmbH & Co. KG, Weinheim, **2019**, pp. 327-351. ISBN: 978-3-527-34010-1
30. "De Novo Synthesis of Oligosaccharides Via Metal Catalysis" in *Comprehensive Glycoscience*, 2<sup>nd</sup> Edition, Joseph Barchi Ed., by Zheng, J. and O'Doherty, G. A., Elsevier, Oxford, **2021** vol. 2., pp. 435-463 ISBN: 9780128194751, DOI: [10.1016/B978-0-12-819475-1.00104-8](https://doi.org/10.1016/B978-0-12-819475-1.00104-8)
31. "Asymmetric Achmatowicz Approach to Oligosaccharides" Kim, S. S.;<sup>‡</sup> Oiler, J.;<sup>‡</sup> Xing, Y.; O'Doherty, G. A. *Chem. Sci.* **Submitted**.

### BOOK REVIEWS (3):

1. Book Review of: "Medicinal Chemistry of Bioactive Natural Products" Edited by Xiao-Tian Liang and Wei-Shuo Fang (Chinese Academy of Medical Sciences, Beijing, China). John Wiley & Sons, Inc.: Hoboken, NJ, 2006. xx + 460 pp. \$89.95. ISBN 0-471-66007-8. O'Doherty, G. A. *J. Am. Chem. Soc.*; **2006**, 128, 12029-12029.
2. Book Review of: "Iminosugars: From Synthesis to Therapeutic Applications" Edited by Philippe

Compain and Olivier R. Martin (CNRS, University of Orleans, France): Chichester, 2007. xiv + 468 pp. \$170.00. ISBN 978-0-470-03391-3. O'Doherty, G. A. *J. Am. Chem. Soc.*; **2008**, *130*, 6651-6651.

3. Book Review of: "Carbohydrates—Tools for Stereoselective Synthesis" Edited by Mike M. K. Boysen (University of Hannover, Hannover Germany): Wiley-VCH Verlag GmbH & Co. KGaA Boschstr. 12, 69469 Weinheim, Germany, 2013. xvii + 376 pp. hardcover, ISBN 978-3-527-32379-1. O'Doherty, G. A. *Angew. Chem. Int. Ed.*; **2013**, *52*, 2-2.

## PATENTS (6):

1. "Novel pyranose stereoisomers and methods for producing unnatural sugars via palladium catalyzed glycosylation" US Patent Application; US 20070254333 A1, 04/26/2007 *George A. O'Doherty*.
2. "Anionic Acid-Labile Surfactants and Methods of Use" US Patent Application; US 2009/022136 A1, 11/26/2009 *Matthew J. Powell, Trust T. Razunguzwa, George A. O'Doherty, Miaosheng Li*.
3. "Zwitterionic Acid-Labile Surfactants and Methods of Use" US Patent Application; US 20110250641 A1 10/13/2011 *Matthew J. Powell, Trust T. Razunguzwa, George A. O'Doherty, Miaosheng Li*.
4. "Preparation of glycosylated cardiotonic steroids as antitumor agents" US Patent Application; US WO 2014194068 A1 5/29/2014 *O'Doherty, George A.; Li, Hongyan; Bajaj, Sumit O.; Wang, Hua-Yu Leo; Cuccarese, Michael F.; Boger, Ravit*.
5. "Synthesis and identification of Novel RSK-specific inhibitors" US Patent Application; US 9,040,673 B2 5/26/2015 *Hecht, Sidney M.; Lannigan-Macara, Deborah A.; Smith, Jeffrey Allan; O'Doherty, George A.; Hilinski, Michael Kenneth*.
6. "Chemo-enzymatic site-specific modification of peptides and proteins to form cleavable conjugates" US Patent Application; US 11129790B2, 2021/9/28 *Zhou, Zhaohui, Sunny; O'Doherty, George A.; Liu, Shanshan; Moulton, Kevin, R.; Ombelets, L.; Sadiki, Amissi*.

## LECTURESHIPS:

1. Pfizer Lecture, Kansas University, Lawrence, KS, May 5-7, 2010
2. Honored Professor, Shanghai Normal University, Shanghai, PRC, 2010-2014
3. Visiting Professor at Indian Institute of Technology-Bombay (2015-2018)
4. Graduate Programs of the CCO Campus of the Federal University of Sao Joao del Rei (Sept 28-Oct. 3rd, 2018)

## ABSTRACTS AND MEETING CONTRIBUTIONS:

1. National Organic Symposium, San Antonio, TX, June 3, 1997.
2. Gordon Conference: Organic Reaction and Processes, Henniker, VT, August 2, 1997.
3. National ACS Meeting, Dallas, TX, April 2, 1998.
4. Great Lakes Regional ACS Meeting, Milwaukee, WI, June 3, 1998.
5. Gordon Conference: Organic Reaction and Processes, Henniker, VT, August 2, 1998.
6. National ACS Meeting, Boston, MA, August 27, 1998.
7. National ACS Meeting, Anaheim, CA, March 26, 1999.
8. National Organic Symposium, Madison, WI, June 22, 1999.
9. Gordon Conference: Natural Products, Henniker, VT, July 23, 1999.
10. 1999 Beckman Young Investigator Symposium: Newport Beach, CA, August 20-22, 1999.
11. *Carbohydrates for The Next Millennium Symposium*, at the South East Regional ACS Meeting, Knoxville, TN, Oct. 14-17, 1999.
12. National ACS Meeting, San Francisco, CA. March 27, 2000.
13. Gordon Conference: Stereochemistry, Salve Regina College, Newport, RI, June 14, 2000.
14. Gordon Conference: Heterocycles, Salve Regina College, Newport, RI, June 14, 2000.
15. NSF-Workshop on Organic Synthesis and Natural Products, Squam Lake, NH, July 14, 2000.

16. Gordon Conference: Natural Products, Plymouth, NH, July 30, 2000.
17. 2000 Beckman Young Investigator Symposium: Newport Beach, CA, August 25-27, 2000.
18. National Organic Symposium, Bozeman, MT, June 10, 2001.
19. 2001 Beckman Young Investigator Symposium: Newport Beach, CA, August 24-26, 2001.
20. 2001 Singapore International Chemical Conference (SICC-2) "Frontiers in Chemical Design and Synthesis": Singapore, December 18-20, 2001.
21. National ACS Meeting, Orlando, FL, April 10, 2002.
22. Gordon Conference: Stereochemistry, Salve Regina College, Newport, RI, June 9, 2002.
23. Gordon Conference: Organic Reaction and Processes, Roger Williams, RI, July 21, 2002.
24. 2002 Beckman Young Investigator Symposium: Newport Beach, CA, August 23-24, 2002.
25. National Organic Symposium, Bloomington, IN, June 7, 2003.
26. Gordon Conference: Carbohydrates, Tilton, Tilton NH, June 22, 2003.
27. Gordon Conference: Natural Products, Tilton, Tilton NH, July 27, 2003.
28. 35th ACS-Central Regional ACS Meeting, Pittsburgh, PA, Oct. 23, 2003.
29. National ACS Meeting, Anaheim, CA, March 28, 2004.
30. 36th ACS-Central Regional ACS Meeting, Indianapolis, IN June 3, 2004.
31. 2004 Tetrahedron Symposium, New York, NY, June 18, 2004.
32. Gordon Conference: Stereochemistry, Salve Regina College, Newport, RI, June 20-25, 2004.
33. Leo A. Paquette 70<sup>th</sup> Birthday Symposium, Columbus, OH, July 9-10, 2004
34. Gordon Conference: Organic Reaction and Processes, Roger Williams, RI, July 18, 2004.
35. Gordon Conference: Natural Products, Tilton, Tilton, NH, July 26, 2004.
36. National ACS Meeting, Philadelphia, PA, August 22, 2004.
37. 88th Canadian Chemistry Conference, Saskatoon, SK Canada, June 1, 2005.
38. Gordon Conference: Carbohydrates, Tilton, Tilton NH, June 19, 2005.
39. Gordon Conference: Natural Products, Tilton, Tilton NH, July 24, 2005.
40. National ACS Meeting, Washington, DC, August 28 and 30, 2005.
41. Midwest Carbohydrate Symposium, Toledo, OH, Sept. 30 and 31, 2005.
42. Singapore International Chemical Conference (SICC-4), Singapore, December 8-10, 2005.
43. 23rd International Carbohydrate Symposium Satellite Meeting on Synthetic Carbohydrate Chemistry, Vancouver, BC Canada, July 22, 2006.
44. 23rd International Carbohydrate Symposium, Whistler, BC Canada, July 25, 2006.
45. Latest Trends in Organic Synthesis, Toronto, Canada, August 10, 2006.
46. National ACS Meeting, San Francisco, CA, September 11, 2006.
47. Midwest Carbohydrate Symposium, Detroit, MI, Sept. 29 and 30, 2006.
48. The Paquette Legacy Symposium, Columbus, OH, May 18 and 19, 2007.
49. The Barton Conference 2007, St. Lucia, May 27 to June 2, 2007.
50. Gordon Conference: Carbohydrates, Tilton, Tilton NH, June 17-21, 2007.
51. National ACS Meeting, Boston, MA, August 23, 2007.
52. Midwest Carbohydrate Symposium, Columbus, OH, Oct. 5 and 6, 2007.
53. Gordon Conference: Stereochemistry, Salve Regina College, Newport, RI, July 27-31, 2008.
54. Latest Trends in Organic Synthesis, Toronto, Canada, August 13-16, 2008.
55. Midwest Carbohydrate Symposium, Cleveland, OH, Oct. 3 and 4, 2008.
56. Gordon Conference: Carbohydrates, Tilton, Tilton NH, June 14-18, 2009.
57. National ACS Meeting, Washington, DC, August 15, 2009.
58. Midwest Carbohydrate Symposium, Cincinnati, OH, Oct. 2 and 3, 2009.
59. Asymchem Symposium, Tianjin, China, Oct. 19th, 2009.
60. Gordon Conference: Organic Reaction and Processes, Bryant College, RI, July 18-22, 2010.
61. Chemistry for Mankind, Nagpur University, Nagpur, India, Feb. 4, 2011.
62. 15th ISCB International Conference, Saurashtra University, Rajkot, India, Feb. 10, 2011.
63. The Barton Conference 2011, Fiji, May 14-20, 2011.

64. Gordon Conference: Carbohydrates, Tilton, Tilton NH, June 19-24, 2011.
65. The Trost Conference 2011, Stanford, CA, June 25-26, 2011.
66. Gordon Conference: Organic Reaction and Processes, Bryant College, RI, July 17-22, 2011.
67. NIH and FDA Glycosciences Day, Bethesda, MD, June 12, 2012.
68. TSRC, Accelerating Reaction Discovery, Telluride, CO, August 5-12, 2012.
69. National ACS Meeting, Philadelphia, PA, August 19-23, 2012. Session: *Glycoscience at the Crossroad of Health, Materials, and Energy*
70. National ACS Meeting, New Orleans, LA, April 7-11, 2013. Session: *In honor of Derek Horton's 80th birthday*
71. Gordon Conference: Carbohydrates, Mt. Snow, VT, June 16-21, 2013.
72. Gordon Conference: Natural Products, Proctor Academy, NH, July 28-Aug. 2, 2013.
73. TSRC, Accelerating Reaction Discovery, Telluride, CO, August 4-9, 2013.
74. The Boston Symposium on Organic and Bioorganic Chemistry, Boston, MA, October 16, 2013.
75. 27th International Carbohydrate Symposium, Indian Institute of Science, Bangalore, India, Jan. 12-17, 2014.
76. Frontiers in Chemistry & Biology of Oligosaccharides a Satellite Meeting for the 27th International Carbohydrate Symposium at IISER-Pune, Pune, India, Jan. 18-19, 2014.
77. Advances in Glycochemistry a Satellite Meeting for the 27th International Carbohydrate Symposium at IIT-Bombai, Mumbai, India, Jan. 20, 2014.
78. National ACS Meeting, Dallas, TX, Mar. 17-20, 2014. Session: *New Directions in Carbohydrate Chemistry*
79. TSRC, Accelerating Reaction Discovery, Telluride, CO, July 27-August 1, 2014.
80. Na/K-ATPase and Related Transport ATPases:, Lunteren, NL, August 27-Sept. 1, 2014.
81. St. Louis Award Symposium, Frontiers in Modern Glycosciences, St. Louis, MO, Oct. 18, 2014.
82. International Workshop on Resource Chemistry, Shanghai Normal University, Shanghai, PRC, Dec. 23th, 2014.
83. National ACS Meeting, Denver CO, March 23, 2015.
84. Tufts University Cancer Center Retreat, Worcester MA, June 9, 2015.
85. Gordon Conference: Carbohydrates, Mt. Snow, VT, June 14-19, 2015.
86. Chirality Conference, Boston, MA, June 28-30, 2015.
87. National ACS Meeting, Boston MA, Aug. 16-20, 2015.
88. International Conference on New Horizons in Synthetic and Materials Chemistry (ICSMC-2015), Mumbai, India, Nov. 27th, 2015.
89. Pacifichem 2015 Meeting, Honolulu HI, Dec. 16-20, 2015.
90. International Symposium on Resource Chemistry (ISRC 2016), Shanghai, CN Jan. 14-15, 2016.
91. The Trost Conference 2016, Stanford, CA, May 20-21, 2016.
92. 28th International Carbohydrate Symposium (ICS 2016), New Orleans, LA, USA, July. 12-17, 2016.
93. Gordon Conference: Natural Products, Proctor Academy, Andover, NH, July 31-Aug. 4th, 2016.
94. Saber Meeting: Aviation Biofuels, Purdue Univ., West Lafayette, IN, Aug. 9-10, 2016.
95. International Conference on Organic Synthesis (ICOS-2016), Mumbai, India, Dec. 15th, 2016.
96. National ACS Meeting, San Francisco CA, April. 3rd, 2017.
97. International Symposium on Resource Chemistry (ISRC 2017), Shanghai, CN May. 15-17, 2017.
98. New England Glyco-Chemistry Meeting, Boston, MA, June 23, 2017.
99. Gordon Conference: Carbohydrates, Mt. Snow, VT, June 25-29, 2017.
100. National Organic Symposium Trust (NOST), XVIII NOST-OCC meeting, IISER-Bhopal, India, August 24-26, 2017.
101. Boston Symposium on Organic and Bioorganic Chemistry (BSOBC, 2017) meeting, Boston, MA, October 18, 2017.
102. National ACS Meeting, New Orleans, LA, March 19th, 2018.
103. International Symposium on Resource Chemistry (ISRC 2018), Shanghai, CN May. 11-12, 2018.

104. New England Glyco-Chemistry Meeting, Boston, MA, June 8th, 2018.
105. BORAM XVI Conference, Boston, MA, June 26-30th, 2018.
106. NSF-REU Conference, San Antonio, TX, July 11-13th, 2018.
107. Gordon Conference: Org. Rxn. & Processes, Stoneham College, Eastham, MA, June 15-19th, 2018.
108. ASP 2018 Annual Meeting, Lexington, KY, July 21-25th, 2018.
109. National ACS Meeting, Boston, MA, Aug. 19-23, 2018.
110. 50th Annual Congress of the Brazilian Society of Pharmacology and Experimental Therapeutics (SBFTE) Ribeirão Preto, SP, Basil Sept. 25-28, 2018.
111. IIT Bombay Diamond Jubilee Chemistry Symposium, Mumbai, India, Feb. 25-28th 2019.
112. National ACS Meeting, Orlando, FL, Mar. 31-Apr. 4th, 2019.
113. Center for Drug Innovative Drug Discovery Annual Drug Discovery Symposium, April 29-30, 2019
114. International Conference on Glyco-Engineering, Qingdao, CN May 10-11, 2019.
115. International Symposium on Resource Chemistry (ISRC 2019), Shanghai, CN May. 14-16, 2019.
116. Third Annual New England Glyco-Chemistry Meeting, Boston, MA, June 9th, 2019.
117. Gordon Conference: Carbohydrate, Regal Riverside, Hong Kong, MA, June 23-27th, 2019.
118. Gordon Conference: Org. Rxn. & Processes, Stoneham College, Eastham, MA, July 21-26th, 2019.
119. V Meeting on Cardiotonic Steroids and the Na<sup>+</sup> Pump, Divinopolis, Minas Gerais, Brazil, Sept. 19-20th, 2019.
120. The Boston Symposium on Organic and Bioorganic Chemistry, Boston, MA, Oct. 15, 2019.
121. Fourth Annual New England Glyco-Chemistry Meeting, Boston, MA, June 13th, 2020.
122. International E-Seminar Chemistry, Biology and COVID, Lucknow, India, June 25-26th, 2020.
123. TSRC, Accelerating Reaction Discovery, Telluride, CO, July 27-August 1, 2020.
124. 2020 Beckman Symposium "A Virtual Event", August 6-8th, 2020.
125. The Boston Symposium on Organic and Bioorganic Chemistry, Boston, MA, Oct. 5, 2020.
126. The 5<sup>th</sup> International Conference on Catalysis and Chemical Engineering (Virtual), Feb. 22-26, 2021.
127. International E-Conference on Molecules to Materials for sustainability in XXI century (MMS-2021) Dept of Chemistry, GITAM Visakhapatnam, Andhra Pradesh, INDIA-530045, Mar. 9-10, 2021.
128. Fifth Annual New England Glyco-Chemistry Meeting, Boston, MA, June 16th, 2021.
129. 2021 Beckman Symposium "A Virtual Event", August 5-6th, 2021.
130. Pacifichem 2021 Virtual Meeting, Dec. 16-21, 2021.
131. The 6<sup>th</sup> International Conference on Catalysis and Chemical Engineering (Virtual), Feb. 22-26, 2022.
132. Sixth Annual New England Glyco-Chemistry Meeting, Boston, MA, June 11th, 2022.

## INVITED TALKS:

1. Scranton University, Scranton, PA, Oct. 17, 1997.
2. Department of Medicinal Chemistry, University of Minnesota, Minneapolis, MN, Oct. 21, 1998.
3. Imperial College of Science and Technology, London, UK, Nov. 27, 1998.
4. University of Tennessee at Knoxville, Knoxville, TN, Jan. 21, 1999.
5. College of St. Benedicts and St. Johns University, St. Joseph, MN, Sept. 22, 1999.
6. Cambridge University, Cambridge, England, Oct. 8, 1999.
7. Marquette University, Milwaukee, WI, Oct. 29, 1999.
8. The Ohio State University, Columbus, OH, Nov. 3, 1999.
9. Youngstown State University, Youngstown, OH, Nov. 5, 1999.
10. Padua University, Padua, Italy, Nov. 29, 1999.
11. University of Ferrara, Ferrara, Italy, Nov. 30, 1999.
12. Aventis Pharmaceuticals, Bridgewater, NJ, Jan. 12, 2000.
13. R. W. Johnson Pharmaceutical Research Institute, Raritan, NJ, Jan. 13, 2000.
14. Institut fuer Organische Chemie, Ludwig-Maximilians-Universitaet Muenchen, Munich, Germany, June 26, 2000.

15. Macalester College, Minneapolis, MN, Sept. 13, 2000.
16. University of Venice, Venice, Italy, Oct. 4, 2000.
17. University of Bologna, Bologna, Italy, Oct. 6, 2000.
18. University of Milan, Milan, Italy, Oct. 9, 2000.
19. North Dakota State University, Fargo, ND, Oct. 19, 2000.
20. Merck Process Research, Rahway, NJ, Feb. 23, 2001.
21. Istituto di Biocatalisi e Riconoscimento Molecolare, CNR, Milan, Italy, Aug. 17, 2001.
22. Bristol-Myers Squibb Pharmaceutical Research Institute, New Brunswick, NJ, Sept. 20, 2001.
23. Iowa State University, Ames, IA, Sept. 25, 2001.
24. Iowa University (Dept. of Medicinal Chemistry), Iowa City, IA, Sept. 26, 2001.
25. Michigan State University, Lansing, MI, Oct. 24, 2001.
26. Utah State University, Logan, UT, Oct. 31, 2001.
27. Brigham Young University, Provo, UT, Nov. 1, 2001.
28. Hunter College (CUNY), New York, NY, Nov. 20, 2001.
29. SUNY at Stony Brook, Stony Brook, NY, Nov. 21, 2001.
30. University of Alabama, Tuscaloosa, AL, Jan. 24, 2002
31. West Virginia University, Morgantown, WV, Feb. 8, 2002
32. Rensselaer Polytechnic Institute, Troy, NY, Feb. 12, 2002
33. Albany Molecule Research Inc., Albany, NY, Feb. 13, 2002
34. Brandeis University, Waltham, MA, Feb. 19, 2002
35. Brown University, Providence, RI, March 12, 2002
36. Kings College (UCL), London, UK, July 11, 2002
37. Imperial College of Science and Technology, London, UK, July 12, 2002
38. Virginia Tech. University, Blacksburg, VA, Nov. 14th, 2002
39. University of Virginia, Charlottesville, VA, Nov 15th, 2002
40. University of Wisconsin at Oshkosh, Oshkosh, WI, Dec 9th, 2002
41. University of Wisconsin at Madison, Madison, WI, Dec 10th, 2002
42. University of Wisconsin at Milwaukee, Milwaukee, WI, Dec 11th, 2002
43. Kansas University, Lawrence, KS, March 13th, 2003
44. Kansas State University, Manhattan, KS, March 14th, 2003
45. Columbia University, New York, NY, April 28th, 2003
46. Oklahoma State University, Stillwater, OK, Oct. 13th, 2003
47. University of Arkansas, Fayetteville, AR, Oct. 15th, 2003
48. Kosan Bioscience, Hayward, CA, Jan. 19th, 2004
49. University of California at Berkeley, Berkeley, CA, Jan. 20th, 2004
50. Youngstown State University, Youngstown, OH, Jan. 23rd, 2004
51. Stanford University, Stanford, CA, Feb. 11th, 2004
52. CV-Therapeutics, Palo Alto, CA, Feb. 12th, 2004
53. University of British Columbia, Vancouver, BC, Canada, Apr. 8th, 2004
54. University of Western Washington, Bellingham, WA, Apr. 9th, 2004
55. Allegheny College, Meadville, PA, Sept. 17th, 2004
56. Rice University, Houston, TX, Oct. 7th, 2004
57. University of Texas, at Austin, Austin, TX, Oct. 8th, 2004
58. The University of Texas Medical Branch at Galveston, Galveston, TX, Oct. 11th, 2004
59. The University of Kentucky, Lexington, KY, Feb. 4th, 2005
60. Indiana University, Bloomington, IN, Feb. 7th, 2005
61. Oregon State University, Corvallis, OR, Sept. 26th, 2005
62. Simon Fraser University, Vancouver, BC, Sept. 26th, 2005
63. Duquesne University, Pittsburgh, PA, Oct. 28th, 2005
64. Fudan University, Shanghai, PRC, Dec. 12th, 2005

65. Shanghai Institute of Organic Chemistry, Shanghai, PRC, Dec. 13th, 2005
66. East China Normal University, Shanghai, PRC, Dec. 13th, 2005
67. Shanghai Normal University, Shanghai, PRC, Dec. 14th, 2005
68. The University of Akron, Akron, OH, Feb. 15th, 2006
69. University of Pittsburgh, Pittsburgh, PA, March 14th, 2006
70. University of Missouri at St. Louis, St. Louis, MO, April 3rd, 2006
71. University of Toledo, Toledo, OH, April 12th, 2006
72. University of Rutgers, New Brunswick, NJ, April 17th, 2006
73. University of California at San Diego, San Diego, CA, May 11, 2006
74. San Diego State University, San Diego, CA, May 12, 2006
75. University of Wisconsin at Madison, School of Pharmacy, Madison, WI, Sept. 15th, 2006
76. University of Pennsylvania, Philadelphia, PA, Oct. 9th, 2006
77. University of Louisville, Louisville, KY, Mar. 30th, 2007
78. Centrose LLC, Madison, WI, Aug. 31st, 2007
79. Rensselaer Polytechnic Institute, Troy, NY, Sept. 11, 2007
80. University of Georgia, Athens, GA, March. 20, 2008
81. St. Jude Children's Research Hospital, Memphis, TN, August. 25, 2008
82. University of Missouri-Columbia, Columbia, MO, Sept. 12, 2008
83. Texas Tech, Lubbock, TX, Sept. 24, 2008
84. Texas Christian University, Fort Worth, TX, Set. 25, 2008
85. University of Texas-Arlington, Arlington, TX, Sept. 26, 2008
86. Temple University, Philadelphia, PA, Dec. 8, 2008
87. University of Wisconsin at Madison, School of Pharmacy, Madison, WI, Dec. 15th, 2008
88. Auburn University, Auburn, AL, Feb. 26th, 2009
89. National Science Foundation, Arlington, VA, Aug. 27th, 2009
90. Northeastern University, Boston, MA, Sept. 9th, 2009
91. Tianjin University, Tianjin, China, Oct. 21st, 2009
92. Nankai University, Tianjin, China, Oct. 23rd, 2009
93. Duquesne University, School of Pharmacy, Pittsburgh, PA, Nov. 18th, 2009
94. University of Alberta, Edmonton, Alberta, Canada, Nov. 27th, 2009
95. University of Georgia, School of Pharmacy, Athens, GA, Feb. 4th, 2010
96. University of North Carolina-Greensboro, Greensboro, NC, Oct. 15th, 2010
97. Shanghai Institute of Organic Chemistry, Shanghai, PRC, Dec. 14th, 2010
98. Shanghai Normal University, Shanghai, PRC, Dec. 15th, 2010
99. Tufts University, Boston, MA, April. 12th, 2011
100. Shanghai Institute of Materia Media, Shanghai, PRC, Sept. 14th, 2011
101. Fudan University, Shanghai, PRC, Sept. 15th, 2011
102. Shanghai University for Electric Power, Shanghai, PRC, Sept. 16th, 2011
103. University of New Hampshire, Durham, NH, Sept. 27th, 2011
104. University of Mass-Dartmouth, Dartmouth, MA, Nov.16th, 2011
105. University of California-Davis, Davis, CA, Nov. 22nd, 2011
106. East China University of Technology, Shanghai, PRC, Dec. 15th, 2011
107. SynCore, Shanghai, PRC, Dec. 16th, 2011
108. Nankai University, School of Pharmacy, Tianjin, China, Dec. 21st, 2011
109. Binghamton University, Dept. of Chemistry, Binghamton, NY, Feb. 17th, 2012
110. University of Connecticut, Dept. of Chemistry, Storrs, CT, Mar. 7th, 2012
111. Hubei University of Science and Technology, Shijiazhuang, Hubei, PRC, Dec. 17th, 2012
112. East China Normal University, Shanghai, PRC, Dec. 18th, 2012
113. Shanghai University, Shanghai, PRC, Dec. 19th, 2012
114. Bowdoin College, Bowdoin, ME, Feb. 22nd, 2013

115. Bates College, Lewiston, ME, April 5th, 2013
116. Syracuse University, Syracuse, NY, Sept. 24, 2013
117. Louisiana State University, Baton Rouge, LA, Dec. 6, 2013
118. Shanghai Normal University, Shanghai, PRC, Dec. 25th, 2013
119. University of Mass-Lowell, Lowell, MA, PRC, Feb. 21st, 2014
120. The University of Kentucky, Lexington, KY, Mar. 7th, 2014
121. University of Toledo, Toledo, OH, Mar 10th, 2014
122. University of New Mexico, Albuquerque, NM, Aug. 22nd, 2014
123. Marshall University, Huntington, WV, Oct. 28th, 2014
124. Hubei University of Science and Technology, Shijiazhuang, Hubei, PRC, Dec. 13th, 2014
125. Guangdong University of Technology, Guangzhou, PRC, Dec. 15th, 2014
126. Guangzhou Institutes of Biomedicine and Health, Guangzhou, PRC, Dec. 16th, 2014
127. South China University of Technology, PRC, Dec. 16th, 2014
128. Roche R&D Center (China) Ltd, Shanghai, CN, Dec. 22nd, 2014
129. CSIR-IICT, Hyderabad, India, Nov. 20th, 2015
130. IIT-Madras, Chennai, India, Nov. 22nd, 2015
131. IIT-Bombay, Mumbai, India, Nov. 27th, 2015
132. NCL-Pune, Pune, India, Nov. 28th, 2015
133. IISER-Pune, Pune, India, Nov. 29th, 2015
134. Shanghai Normal University, Shanghai, CN Nov. 21, 2016
135. IISc-Bangalore, Bangalore, India, Dec. 2nd, 2016
136. IISER-Thiruvananthapuram, Kerala, India, Dec. 12th, 2016
137. University of Mass-Boston, Boston, MA, Feb. 22nd, 2017
138. Albany University, Dept. of Chemistry, Albany, NY, Feb. 28th, 2017
139. ShanghaiTech, Dept. of Chemistry, Shanghai, CN, May. 17th, 2017
140. University of Science and Tech. of China (USTC), Dept. of Chemistry, Hefei, CN, May. 18th, 2017
141. Hefei University of Technology, Dept. of Chemistry, Hefei, CN, May. 19th, 2017
142. Seoul National University, Dept. of Chemistry, Seoul, KR, May. 23rd, 2017
143. Hanyang University, Dept. of Chemistry, Seoul, KR, May. 25th, 2017
145. POTECH, Dept. of Chemistry, Pohang, KR, May. 26th, 2017
146. IIT-Bombay, Mumbai, India, Aug. 17th, 2017
147. University of Goa, Goa, India, Aug. 19th, 2017
148. CSIR-IICT, Hyderabad, India, Aug. 22nd, 2017
149. IIT-Delhi, Delhi, India, Aug. 28, 2017
150. University of Delhi, Delhi, India, Aug. 29th, 2017
151. Vertex Pharmaceuticals (Europe) Ltd, Oxfordshire, UK, Oct. 30th, 2017
152. Imperial College of Science and Technology, London, UK, Oct. 31, 2017
153. University of Bristol, Bristol, UK, Nov. 1, 2017
154. Oxford University, Oxford, UK, Nov. 2, 2017
155. Southampton University, Southampton, UK, Nov. 3, 2017
156. Hong Kong University, Hong Kong, CN, May 8, 2018
157. Chinese University of Hong Kong, Hong Kong, CN, May 9, 2018
158. Anhui Medical University, Hefei, CN, May 14, 2018
159. Genomics Research Center, Academia Sinica, Taipei, Taiwan, May 16, 2018
160. Georgia State University, Atlanta, GA, Sept. 7, 2018
161. Universida de Federal de São João del Rei, Divinópolis, MG, Brazil, Oct. 1st, 2018
162. University of Toronto, Toronto, CN, Nov. 26, 2018
163. University of Texas, at Austin, Austin, TX, April 31th, 2019
164. Shanghai University, Shanghai, PRC, May 17th, 2019
165. Sichuan University, School of Chemical Engineering, Chengdu, PRC, May 20th, 2019

166. Guangdong University of Technology, Guangzhou, PRC, June 28th, 2019
167. Wayne State University, Detroit, MI, Sept. 4th, 2019
168. University of Toledo, Toledo, OH, Sept. 5th, 2019
169. Vanderbilt University, Nashville, TN, Feb. 24th, 2020
170. William Paterson University, Wayne, NJ, Oct. 29th, 2020

## **RESEARCH GRANT APPLICATIONS:**

### **Current Awards:** (~ \$2 M total costs)

- 1 **NSF-REU 1757078 (PI: O’Doherty/Oyelaren)**  
“REU Site: Research Opportunities in Biological and Chemical Catalysis II”  
**Amount Awarded:** \$330,000 (3 years)  
9/1/18 - 8/31/23
- 2 **NIH (R21) AI146485 (PI: Kirby, BIDMC; MPI: O’Doherty; co-I: Mantesch)**  
“Fusidic acid derivatization to enhance entry into Gram-negative pathogens”  
**Amount Awarded:** \$475,160 total/\$275,000 direct (2 years); NEU Share (50%)  
5/15/19 - 4/30/22
- 3 **NIH (RO1) AI154860 (PI: Kirby, BIDMC; MPI: O’Doherty, Yu; co-I: Mantesch)** “De Novo Synthesis, and Functional and Structural Characterization of Novel Aminoglycoside Analogues to Bypass Resistance Mechanisms and Optimize Selectivity”  
**Amount Requested:** \$815,399/year total (4 years); NEU (\$308,300 total, \$200K/year direct)  
8/1/20 - 07/31/24
- 4 **NSF 2102649 (PI: O’Doherty)**  
“De Novo Asymmetric Synthesis of Natural and Unnatural Oligosaccharide Motifs”  
**Amount Awarded:** \$500,000 (3 years)  
8/1/21 - 7/31/24

### **Pending Awards:**

- 1 **NIH (RO1) (PI: Kirby, BIDMC; MPI: O’Doherty, Yu; co-I: Mantesch)** “Apramycin antibacterial drug discovery and overcoming resistance through hypothesis driven design”  
**Amount Requested:** \$4,056,733.00 total, \$1,391,625.00 direct, (\$900,000 NEU direct, for 5 years)  
4/1/23 - 3/31/28
- 2 **NIH (R21) AI151896A (PI: Kirby, BIDMC; MPI: O’Doherty; co-I: Mantesch)** “Spectinomycin derivatization to enhance entry into multidrug-resistant Gram-negative ESKAPE pathogens and block modifying enzyme-based resistance”  
**Amount Requested:** \$475,160 total/\$275,000 direct (2 years); NEU Share (50%)  
9/1/22 - 8/31/24
- 3 **2023 Sanofi iAwards (PI: O’Doherty)**  
“Repurposing/retuning cardiac glycosides as anti-viral and anti-cancer agents”  
**Amount Requested:** \$125,000 total (1 years)  
9/1/22 - 8/31/23

**Previous Research Grants: (Funded):** (~ \$6 M total costs)

- 1 American Chemical Society, Petroleum Research Fund Type G.  
“Controlling the Regioselectivity of the Aminohydroxylation Reaction on Vinylfurans”  
Amount Awarded: \$25,000.  
6/1/99 - 9/1/01
- 2 University of Minnesota Graduate School Grant in Aid  
“Development of a Novel Palladium Glycosylation Reaction”  
Amount Awarded: \$21,756.  
1/1/99 - 12/31/99
- 3 The American Cancer Society-internal  
“The Enantioselective Syntheses of Castanospermine, Swainsonine and Other New Azasugar”  
Amount Awarded: \$15,000.  
6/1/98 - 5/31/99
- 4 National Science Foundation  
“A New Phase Transfer and Palladium(0) Catalyzed Method for the Introduction of Fluorine-18 Radioisotopes into Biologically Important Molecules”.  
Amount Awarded: \$32,000  
6/1/97 - 9/15/98
- 5 University of Minnesota Graduate School Grant in Aid  
“Development of a Novel Palladium Insertion / Ring Expansion / Cyclization Reaction”  
Amount Awarded: \$21,600.  
1/1/97 - 12/31/97
- 6 The Beckman Foundation (Young Investigator Award)  
Project title: “Synthesis of Carbon and Oxygen Linked 1,6-Oligosaccharides”  
Amount Awarded: \$200,000 direct cost  
9/1/99 - 8/31/02
- 7 NIH (RO1)  
“Synthesis of Papulacandins A-D; Antifungal Analogs”  
Amount Awarded: \$680,000 direct cost (170,000 direct/year for four years).  
3/1/02 - 2/29/06
- 8 NSF  
“De Novo Synthesis of Oligosaccharides via Palladium Catalysis”  
Amount Awarded: \$ 335,000 (110,000/year for three years).  
6/1/04 - 5/31/06
- 9 WVU-ARTS  
“The De Novo Design, Synthesis and Evaluation of Unnatural Antibiotics”  
Amount Awarded: \$40,000  
6/1/06 - 5/31/07
- 10 PRF-AC  
“De Novo Synthesis of Rare/Unnatural Sugars from Achiral Materials”  
Amount Awarded: \$90,000 (\$45,000 direct/year for 2 years)  
7/1/07 - 12/31/09
- 11 NIH (STTR), Luna Innovations Incorporated, co-PI  
“Development of RSK inhibitors as Novel Therapeutics for *Yersinia pestis*”  
Amount Awarded: \$180,000 to WVU (\$125,000 direct)  
6/1/08 - 12/31/09

- 12 WVU-AEI  
 “Comprehensive Production of Furan Based Biofuels from Carbohydrates”  
 Amount Awarded: \$30,000  
 9/1/09 - 10/31/10
- 13 NSF  
 “De Novo Synthesis of Oligosaccharides via Palladium Catalysis II”  
 Amount Awarded: \$360,000 for 3 years  
 1/1/08 - 1/31/12
- 14 NIH (RO1)  
 “De Novo Synthesis for MedChem on Sugars”  
 Amount Awarded: \$586,000 (\$200,000 direct/year for 2 years)  
 8/1/09 - 7/31/12
- 15 NIH (1847-NIH-2S/NEU), Sub-contract from Luna Innovations Incorporated  
 (5 R44 AI06612), co-PI  
 “Development of RSK inhibitors as Novel Therapeutics for *Yersinia pestis*”  
 Amount Awarded to NEU: \$120,000 for 1 year  
 7/15/13 - 5/15/14
- 16 NIH (RO1 GM090259)  
 “De Novo Synthesis of Biologically Relevant Oligosaccharides”  
 Amount Awarded: \$1,172,000 (\$200,000 direct/year for 4 years)  
 9/1/09 - 8/31/14
- 17 NSF (CHE-1213596)  
 “De Novo Asymmetric Synthesis of Natural and Unnatural Carbohydrate Motifs”  
 Amount Awarded: \$300,000 for 3 years  
 7/1/12 - 6/30/15
- 18 NIH R21CA208631 (Vanderbilt Subcontract PI grant: O’Doherty)  
 “Dual Action RSK Inhibitor”  
 Amount Awarded: \$66,948 (NEU, 1 years)  
 9/1/16 - 8/31/18
- 19 NSF 1565788 (PI: O’Doherty)  
 “De Novo Asymmetric Synthesis of Natural and Unnatural Carbohydrate Motifs”  
 Amount Awarded: \$450,000 (3 years)  
 7/1/16 - 4/30/20
- 20 NIH (R21) AI142040 (PI: Kirby, BIDMC; MPI: O’Doherty)  
 “Apramycin scaffold exploration using novel glycochemistry and SAR studies to enhance activity  
 against *Acinetobacter baumannii* and other multidrug-resistant Gram-negative pathogens”  
 Amount Awarded: \$476,443 total/\$275,000 direct (2 years); NEU Share (50%)  
 11/13/18 - 10/31/20
- 21 NIH (RO3) AI144196 (PI: Kirby, BIDMC; MPI: O’Doherty)  
 “Targeted modification of the apramycin 2-deoxystreptamine ring to block aminoglycoside  
 modifying enzyme-based inactivation and enhance potency against multidrug-resistant Gram-  
 negative pathogens”  
 Amount Awarded: 182,984 total/\$100,000 direct (2 years); NEU Share (50%)  
 2/08/19 - 1/31/22

**Unrestricted Industrial Funds:**

- 1 Eco-Labs  
“Synthesis of Labeled Fragrant Molecules”  
Amount Awarded: \$20,000
- 2 Sigma Aldrich  
“Synthesis of Novel Natural Products”  
Amount Awarded: \$30,000
- 3 Protea Bioscience  
“The Synthesis of Novel Surfactants”  
Amount Awarded: \$70,000

## SERVICE:

### To the Scientific community

- 1 Scientific articles were reviewed for the following journals:  
*J. Am. Chem. Soc., J. Org. Chem., Org. Lett., J. Med. Chem., Angew. Chemie, Tetrahedron Lett., Tetrahedron, Tetrahedron Asymmetry, Synlett, SYNTHESIS, Carbohydr. Res., Eur. J. Org. Chem., J. Phys. Chem. A, Aust. J. Chem., Organic & Biomolecular Chemistry, Molecular Diversity, Heterocycles, Chemical Commun., J. Chem. Ed., J. of Carbohydr. Chem., J. of Agric. Food Chem., J. Mol. Catal. A: Chem., Medical Research Review., Chem. Rev., Catalysis Commun., Green Chemistry, Environmental Science & Technology, Advanced Synthesis & Catalysis, Acc. Chem. Res., Bio. Med. Chem. Lett., Bio. Med. Chem, Chemistry, A Eur. Journal., Chemistry, A Asian. Journal., J. of Undergraduate Chem. Res. Chemistry Central Journal, Glycoconjugate Journal, Microporous & Mesoporous Materials, LOC, Biomacromolecules, J. Colloid and Interface Sci., Molecular BioSystems, J. Mat. Res., J. Nat. Prod., Nature Chemical Biology, Beilstein J. Org. Chem., Anal. Chem., J. Proteome Res., Bioconjugates, Anal. Biochem., Pharm. Res., Applied Catalysis A, Molecules, Marine Drugs, Pharmaceuticals Frontiers, Chemistry*
- 2 Scientific proposals were reviewed for the following funding agencies:  
*NIH (ad hoc SBCA, SBCB, DDR), NIH (Pre-doctoral), NIH (Post-doctoral), NIH (SBIR/STTR), NSF & NSF-REU (panel & individual reviewer), The American Cancer Society, the Petroleum Research Fund, the Research Corp, West Virginia Univ., Utah State Univ., Louisiana Board of Reagents, The Arnold and Mabel Beckman Foundation, UARP at the University of California, GLFC, DOE (GNEP), DOE (NEUP), California HIV/AIDS Program, California TRDRP, DOE (RRPR), NSERC (Discovery Grant), Science Foundation of Ireland, Mass. Life Sciences, European Commission.*
- 3 ACS Student Grants Committee for the Northern WV ACS local section (2005-2010)
- 4 American Chemical Society CDD study section member (2008 to 2010)
- 5 NIH F08 Fellowship ZRG1 F08 E study section
- 6 *California HIV/AIDS Program* Study section member (2008 to Present)
- 7 *California TRDRP* Study section member (2009 to Present)
- 8 Organizing committee for the “Leo A. Paquette 70th B’day Symposium” July 9th, 2004 Columbus, Ohio.
- 9 Student Grants Committee of the North Central WV Section of the ACS (2005 to 2010)
- 10 Member of the Editorial Advisory board for *Chemtracts Organic Chemistry*
- 11 Member of the Editorial Advisory board for *Chemistry Central Journal*
- 12 Consultant to *Protea Bioscience*, Morgantown, WV (2008-2010).
- 13 Member of the Editorial Advisory board for *International Journal of Carbohydrate Chemistry*
- 14 Vice Chair 2011 *Carbohydrate Gordon Conference*
- 15 Chair 2013 *Carbohydrate Gordon Conference*
- 16 Member-at-Large of the ACS CARB Division (2014-2015)

- 17 Editorial board member for *Molecules*
- 18 External review committee for Hubei University of Science and Technology, Shijiazhuang, Hubei, PRC, Dec. 28-30th, 2013
- 19 Member of the ACS National Awards Selection Committee, James Flack Norris/Physical Organic Chemistry (2014-2016, 2021-present)
- 20 NESACS Norris Award Committee (member, 2017-2020, Chair 2019-2020)
- 21 Reviewer for the Beckman Foundation PD Committee (2015-2020)
- 22 Member-at-Large of the ACS CARB Division (2017-2018)
- 22 Co-Founded and Organized the New England Glyco-Chemistry Meeting (2017-present)
- 23 External Proposal reviewer for Aix-Marseille Universite (2017)
- 24 External Reviewer for Killam Research Fellowship Program (2017)
- 25 Reviewer for the Beckman Foundation Young Investigator Committee (2017-2020)
- 26 External Mentor/Scientific Advisor OleMiss NIH P20 grant (Prof. David Colby: 2019-present)
- 27 Editorial board member for *Journal of Zhejiang University-SCIENCE A*
- 28 Ad Hoc Member of the ACS Carbohydrates Awards Committee (2018-2019)
- 29 Member of International Consulting Board for the International Joint Laboratory on Resource Chemistry (IJLRC) (2017-2022)
- 30 Advisory Board Member for the Roxbury Community College Science Department (2019-present)
- 31 Editorial board member for *Pharmaceuticals Frontiers*
- 32 Section Editor-in-Chief for the "Biological and Natural Products" Section of *Chemistry* (2020-present).
- 33 Arnold O. Beckman Postdoctoral Fellowship Executive Committee member (2020-present)
- 34 Editorial board member for *Marine Drugs* (2017-present)
- 35 Editorial board member for *Green Synthesis and Catalysis* (2021-present)

### **To University**

- 1 College of Science Council (2011 to 2014), Associate Chair (2013-2014)
- 2 The Joy and Alfred Viola Undergraduate Award Selection Committee (2011-2016)
- 3 Academic Standing Committee (Summer 2011)
- 4 Joint Pharmacy/Chemistry Search Committee for Natural Products Chemist (Chair, 2016)
- 5 Chemistry Department Chair Search Committee (Member, 2016)
- 6 College Full Professor Advisory Committee (Member, 2017-2021; Chair, 2018 and 2020/2021)
- 7 Review for Dana Farber/NEU joint grant program (DFCI-NU, 2016, 2017, 2019)
- 8 Chemistry Dept. representative on Marine and Environmental Sciences tenure committee for Aron Stubbins (Fall 2017-2019)
- 9 Chair of Academic Appeal Resolution Committee (Fall 2017/Spring 2018)
- 10 COS Excellence in Research Award Committee (Spring 2022)

### **To the Department**

- 1 Student Seminar Committee (2010-2021)
- 2 Departmental Merit Review Committee (2011, 2012, 2016)
- 3 Graduate Studies Committee (2011 to 2012)
- 4 Department Curriculum Review Committee (2012-2013)
- 5 Mentor (Roman Manetsch, 2014-present)
- 6 Co-Mentor (Ke Zhang, 2012-present)
- 7 Co-Mentor (Jeff Agar, 2017-2019)
- 8 Co-Mentor (Alexander Ivanov, 2017-present)
- 9 Organize the NSF-REU Chemistry Research Site (with Oyinda Oyelaren) at NEU (2019-2023)
- 10 Organize the KGSP-REU Chemistry research site at NEU (2020-present)

## TEACHING:

### Courses Taught

(1996 to 2001 taught ~2 lecture course/year at the University of Minnesota)

(2002 to 2010 taught ~2 lecture course/year at the West Virginia University)

(2010 to 2020 taught ~2 lecture course/year at the Northeastern University)

- 1 Spring 2020 Chemistry 5904/8504/8500 - Student Seminar, 1 credit (Graduate Seminar)
- 2 Spring 2020 Chemistry 5672 - Org. Syn. II, 3 credits (Organic Synthesis II)
- 3 Spring 2020 Chemistry 5501 - Chemical Safety I, 1 credit (Chemical Safety course)
- 4 Summer 2020 Chemistry 5501 - Chemical Safety I, 1 credit (Chemical Safety course)
- 5 Fall 2020 Chemistry 5501 - Chemical Safety I, 1 credit (Chemical Safety course)
- 6 Fall 2020 Chemistry 5904/8504/8500 - Student Seminar, 1 credit (Graduate Seminar)
- 7 Spring 2021 Chemistry 5904/8504/8500 - Student Seminar, 1 credit (Graduate Seminar)
- 8 Spring 2021 Chemistry 5672 - Org. Syn. II, 3 credits (Organic Synthesis II)
- 9 Spring 2021 Chemistry 5501 - Chemical Safety I, 1 credit (Chemical Safety course)
- 10 Summer 2021 Chemistry 5501 - Chemical Safety I, 1 credit (Chemical Safety course)
- 11 Fall 2021 Chemistry 5627 – Mech. & Phys. Org., 3 credits (Mechanism and Physical Org. course)
- 12 Fall 2021 Chemistry 5501 - Chemical Safety I, 1 credit (Chemical Safety course)
- 13 Spring 2022 Chemistry 5672 - Org. Syn. II, 3 credits (Organic Synthesis II)
- 14 Spring 2022 Chemistry 5501 - Chemical Safety I, 1 credit (Chemical Safety course)
- 15 Summer 2022 Chemistry 5501 - Chemical Safety I, 1 credit (Chemical Safety course)

## STUDENTS/RESEARCHERS ADVISED:

### Current:

#### Visiting Scientist (1)

Dr. Alhanouf Aljahdali (Summer 22-Present)

#### Postdoctoral Student (2)

Dr. Nishikant Satam (Fall 19-present)

Dr. Ramachandra Reddy Donthiri (Spring 21-present)

#### Graduate Students (4)

Bohui Li (Summer 17-present)

Ian Hicks (Summer 21-present)

Wei-Ting “Lily” Change (Fall 22-present)

Yuhan Wang (Fall 21-present) MS student in Pharmacy

#### Undergraduate Students (5)

Izzabella “Bella” Allen (NSF-REU Summer 22)

Ryder DeCanio (Spring 20-present)

Brynn Swanson (Spring 20-present)

David Zhao (Fall 20-present)

Aneesh Sridhar (Fall 20-present)

### Former:

#### Visiting Scientist (3)

Dr. Alhanouf Aljahdali (Summer 22-Present)

Dr. Miaosheng Li (Summer 09-Summer-10) Working for Anichem Inc.

Dr. Wenming Cheng (Summer 18-Summer 19) Currently a faculty member at the Anhui Medical College.

### **Postdoctoral Students (13)**

Dr. Simone Cavalcante Silva (Fall 18-Fall 2020) Working in Brazil.  
Dr. Mingzong Li (Summer 10-present) Working for Agios Pharmaceuticals in Cambridge MA.  
Dr. Hongyan Li (Summer 10-Summer 14) Working at Pyranomed at Boston MA.  
Dr. Qian Chen (Fall 09-Summer 12) Prof. of Chemistry at Guangdong University of Technology  
Dr. Rajender Vemula (Spring 10-Summer 12) Working as a Postdoc. Fellow for Prof. E. J. Corey, Harvard  
Dr. Sang-Woo Kang (Summer 09-Winter 11) Working at Polypeptide  
Dr. Todd Stueckle (Summer 09-Summer 10) Working with Yon Rojanasakul at WVU  
Dr. Miaosheng Li (Fall 07-Fall 08) Currently is working for Protea Biosciences Inc  
Dr. Md. Moinuddin Ahmed (Summer 02-Fall 06) Currently is working for Exela Pharma Sciences.  
Dr. Joseph Dougherty (Fall 03-Summer 06) Currently is working for Dynamic Science, Aberdeen MD.  
Dr. R. Sathesh Babu (Summer 02-Summer 05) Currently is working for Califia Bio Inc., San Diego, CA.  
Dr. Dennis Tomcik (Winter 03-Fall 04) Currently is working for Battelle, Columbus, OH.  
Dr. Devan Balachari (Spring 99-Spring 01) Currently is working for Texas Biochemicals, Dallas TX.

### **Graduate Students (44)**

#### **Ph.D. (28)**

Dr. Alhanouf Aljahdali (Summer 16-Spring 2022) Defended Ph.D. Thesis (Spring '22), received a Ibn Rushd Fellowship Program to work as a Post-Doc. at BIDMC-HMS.  
Dr. Chao Liang (Fall 13-present) Defended Ph.D. Thesis (Summer '19), working as a Post-Doctoral associate at MGH.  
Dr. Xiaofan Liu (Fall 13-present) Defended Ph.D. Thesis (Summer '19), working as a Post-Doctoral associate at MGH.  
Dr. Yu Li (Fall 12-Spring 19) Defended Ph.D. Thesis (March '19), working as a Post-Doctoral associate in the Kishi lab at Harvard.  
Dr. Debarpita Ray (Summer 12-Spring 18) Defended Ph.D. Thesis (April '17), working at Johnson-Matthey.  
Dr. Jiamin Zheng (Spring 12-Summer '17) Defended Ph.D. Thesis (Aug. '17). Currently is working for Roche in Shanghai China. Currently is working for Deloitte in Boston.  
Dr. Yuzhi Ma (Fall 11-Summer '15) Defended Ph.D. Thesis (Aug. '15), received an MS degree in Computer Science (Northeastern University).  
Dr. Sumit Bajaj (Spring 09-Summer '15) Defended Ph.D. Thesis (July '15), working as a Postdoc. Fellow in Prof. C.-H. Wang's labs at Scripps.  
Dr. Pei Shi (Winter 10-Spring '15) Defended Ph.D. Thesis (April '15), working at Corden Pharma.  
Dr. Yashan Zhong (Fall 09-Fall 14) Defended Ph.D. Thesis (Dec. '14), and received an MS degree in Biosatistics. Currently working at CVS.  
Dr. Yanping Wang (Fall 10-Summer 14) Defended Ph.D. Thesis (Jun. '14), working as a Postdoc. Fellow in Prof. K.C. Nicolaou's labs at Rice.  
Dr. Mike Cuccarese (Fall 08-Spring 14) Defended Ph.D. Thesis (Mar. '14), working as a Postdoc. Fellow in Prof. Ralph Weissleder's labs at MGH center for System Biology.

Dr. Qi Zhang (Summer 08-Spring 13) Defended Ph.D. Thesis (Dec. '13), working as a Postdoc. Fellow in Prof. Zhang's labs at NEU.

Dr. Ehesan Sharif (Fall 07- Summer 13) Defended Ph.D. Thesis (July '13), working at Arcus Biosciences in South San Francisco, CA.

Dr. Leo Wang (Fall 07-Summer 12) Defended Ph.D. Thesis (June '12), working as a Postdoc. Fellow in Prof. De Brabander's labs at UT-Southwestern.

Dr. Yalan Xing (Fall 06-Winter 11) Defended Ph.D. Thesis (March '11), working as a Postdoc. Fellow in Prof. Kishi's labs at Harvard University.

Dr. Bulan Wu (Fall 06-Winter 11) Defended Ph.D. Thesis (March '11), working as a Postdoctoral Fellow in Prof. Wuest's labs at Temple University.

Dr. Mingde Shan (Fall 04-Spring 09) Defended Ph.D. Thesis (April '09), working as a Postdoc. Fellow in Prof. Kishi's labs at Harvard University.

Dr. Haibing Guo (Fall 03-Spring 08) Defended Ph.D. Thesis (April '08), working as a Postdoc. Fellow in Prof. Kishi's labs at Harvard University.

Dr. Matthew Mortensen (Spring 03-Fall 07) Defended Ph.D. Thesis (Nov. '07), working at Lake Region Medical.

Dr. Maoquan Zhou (Fall 02-Fall 07) Defended Ph.D. Thesis (Oct. '07), working as a Postdoc. in Prof. Jon Torson's labs at the University of Wisconsin-Madison.

Dr. Sanjeeva Rao Guppi (Fall 02-Fall 07) Defended Ph.D. Thesis (Sept. '07), currently working at Mylan.

Dr. Miaosheng Li (Spring 02-Fall 06) Defended Ph.D. Thesis (Nov. '06), working for Protea Biosciences in Morgantown, WV.

Dr. Dong Gao (Fall 03-Fall 06) Defended Ph.D. Thesis (Nov. '06), currently working at Mylan.

Dr. Tom Hunter (Fall 99-Summer 03) Defended Ph.D. Thesis (August '03), currently working at SAFC in Madison, WI.

Dr. Cathy Smith (Winter 97-Summer 02) Defended Ph.D. Thesis (August '02), currently working at Cedarburg Pharmaceutica.

Dr. Mike Haukaas (Spring 97-Winter 02) Defended Ph.D. Thesis (January '02), obtained J.D. at William Mitchell Law School, currently working as a Patent Attorney at Schwegman, Lundberg & Woessner, P.A.

Dr. Joel Harris (Winter 97-Summer 01) Defended Ph.D. Thesis (June '01), currently working at Schering Plough.

### **M.S. (10)**

Sugyeom Kim (Summer 20-Summer 2021) CPS Masters Student in Analytics

Scotty Blechman (Summer 18-present)

Nathalie Myrthil (Summer 18-present)

Alhanouf Aljahdali (Fall 13-Summer 2015)

Melvin S. Rajaratnam (Fall 07-Summer 10) Defended M.S. Thesis (July '10), currently working for Mylan Lab in Morgantown WV.

Philip Harsh (Summer 05-Fall 08) Defended M.S. Thesis (November '08), currently working for Ross Chemicals in Lancaster PA.

Wenjun Xin (Fall 05-Fall 07) Defended M.S. Thesis (August '07), currently working for Dow's R&D center in Shanghai.

Jana Scott (Fall 01-Summer 03) Defended M.S. Thesis (August '03), currently working at Cancer Center-Univ. of Minnesota with Prof. Steve Hecht.

Yan Zhang (Fall 01-Summer 02) Defended M.S. Thesis (November '02) and received a Ph.D. degree from UNC Dept. of Chemistry and is currently working at Pfizer

Jason Abrams (Fall 99-Spring 00) Joint student with Prof. Craig Forsyth.

Defended M.S. Thesis (April '02), currently pursuing a Ph.D. at FSU.

### Other (6)

Mark Keranen	(Fall 98-Summer 00) Assistant Prof. at Univ. Tenn. At Martin
Hu Cui	(Fall 03-Summer 06) Transferred to Prof. Kung Wang's research group
Xiaomei Yu	(Summer 05-Summer 06) Transferred to Prof. Kung Wang's research group
Yonggang Jia	(Fall 05-Spring 07)
Hanmo Zhang	(Fall 06-Summer 07)
Tianqi Pan	(Fall 06-Summer 07)

### Undergraduate Students (102)

102) Maysa Ilamanova	(Summer 21-Summer 22) Visiting student from UMass-Boston, currently pursuing a PhD in chemistry at MIT.
101) Melanie Garcia	(Summer 21)
100) Pauline Predko	(Spring 21-Fall 21)
99) Seth Freedman	(Spring 18-Spring 21) Graduated May '21, currently a graduate student at the University of Chicago.
98) Krissty Sumida	(Spring 20-Fall 20) Graduated Dec. '20, currently a graduate student at UTSW.
97) Kathryn Foster	(Fall 17- Spring 20) NEU chemistry major graduated May 2020, Starting in Pitt Med. School in the Fall
96) Khanh Vu	(Summer 19- Spring 20) NEU chemistry major graduated May 2020
95) Sophia Mac	(Spring 20-Spring 20) NEU chemistry major graduated May 2020 and applying to Graduate Schools
94) Luu Pham	(Spring 18-Summer 19) NEU chemistry major graduated Dec. 2019
93) Robert Vanaria	(Summer 17-Spring 19)
92) Tenzing Briggs	(Fall 17-Spring 19)
91) Courtney Fu	(Spring 18-Fall 18) NEU pharmacy major
90) Arjun Sharma	(Fall 17-present) NEU chemistry major graduated Dec. 2019
89) Chris Mahir	(Fall 18-present) NEU biochemistry major
88) Terrence Hopkins	(Summer 19-present) Visiting NSF-REU summer student from William Paterson University, currently a graduate student at NYU.
87) Ling Xu	(Fall 16-Spring 2019) NEU chemistry major graduated May 2019. Currently a graduate student at UNC.
86) Scotty Blechman	(Spring 15-Fall 18) NEU chemistry major graduated May 2018, Working toward MS degree at NEU
85) Peyton Sayasith	(Summer 16-Spring 18) Current NEU chemistry major, applying for graduate school, currently a graduate student at NYU.
84) Kevin Deng	(Summer 18) NEU chemistry major graduated May 2018, applying to Medical School
83) Ariel Tarr	(Spring 17-Spring 18) NEU chemistry major graduated May. 2018, Working as a Research and Development Specialist at Meridian Bioscience
82) Jessa Silver	(Fall 16- Fall 16)
81) Curtis Gong	(Fall 16-Summer '17) NEU chemistry major graduated May. 2017, pursuing a MS degree in food science at Purdue.
80) Matthew Okscin	(Fall 16) NEU Chemistry major graduated Jan. 2017, pursuing a degree in nursing, nurse practitioner.
79) Sugyeom Kim	(Summer 16-Fall 16) NEU Biochemistry major graduated Jan. 2017, currently working at ReadCoor in Cambridge MA.
78) Joel Wallace	(Summer 16) Visiting NSF-REU summer student from Fisk College
77) Hillary Dequina	(Spring 15) NEU Chemistry major graduated May 2016

- 76) David McDonald (Spring 15) NEU Chemistry major graduated May 2016
- 75) Madeline MacDonnell (Spring 15) NEU Chemistry major graduated May 2016
- 74) Jamie Gullikson (Spring 15) NEU Chemistry major graduated May 2016
- 73) Lin Lin (Spring 16) NEU Chemistry major graduated May 2016
- 72) Naimah AlHazza (Spring 15-present) NEU Biochemistry major graduated Jan. 2016
- 71) Hannah Peterlin (Spring 15-present) NEU Chemistry major graduated May 2015
- 70) Ke Ji (Summer 14-Spring 15) NEU Chemistry major graduated May 2015
- 69) Xiwen (Andy) Song (Summer 12-Spring 15) NEU Chemistry major graduated May 2015
- 68) Marcel Romero (Fall 15) NEU Chemistry major graduated May 2015
- 67) Olivia Capotorto (Fall 15) NEU Chemistry major graduated May 2015 and currently in Dental School.
- 66) Brent Lindquist-Kleissler (Summer 2015) Visiting NSF-REU summer student from Fisk College
- 65) Karol Francisco (Summer 2015) Visiting NSF-REU summer student from Fisk College
- 64) John Hinds (Fall 11-Fall 2014) [Biochemistry] Applying to graduate school
- 63) Seungjoo Lee (Fall 13-Fall 2014) Currently an undergraduate pursuing a degree in Pharmacy at NEU.
- 62) Laura Tschiegg (Fall 13-Fall 2014) Currently an undergraduate pursuing a degree in Chemistry at NEU.
- 61) Edward Kim (Fall 13-Fall 2014) Currently an undergraduate pursuing a degree in Biochemistry at NEU.
- 60) Kenneth Avocetien (Summer 12-Fall 2014) Applying to graduate school
- 59) Kyleen Grissom (Summer 14) Visiting NSF-REU summer student from Amherst College
- 58) Yisu Kim (Fall 13-Spring 2014) Currently an undergraduate pursuing a degree in Pharmacy at NEU.
- 57) Brian D'Amico (Summer 11-Spring 2014) Graduated with a BS from NEU.
- 56) Sean McKenna (Fall 11- Spring 2014) [Biology and Environmental Science] Graduated with a BS from NEU.
- 55) Le Truong (Summer 12-Fall 2013) Graduated with a BS from NEU.
- 54) Janice Li (Summer 12-Spring 2014) Graduated with a BS from NEU.
- 53) XinXin Jin (Fall 13- Spring 2014) Graduated with a BS from NEU.
- 52) David Hill (Summer 11-Spring 13) Graduated with a BS from NEU.
- 51) Michael Flaherty (Spring 13-Spring 13) Graduated with a BS from NEU.
- 50) Kyle Rivers (Summer 13-Summer 13) Graduated with a BS from NEU.
- 49) Alexandra Mendoza (Summer 13- Summer 13) Graduated with a BS from NEU.
- 48) Deneen Cole (Summer 13) Visiting summer student from SUNY-Postdam.
- 47) Alhanouf Aljahdali (Summer 12-Summer 13) Graduated with a BS from NEU and is current pursuing her MS.
- 46) Mahawa Sam (Summer 12-Summer 12) Graduated from NEU and is currently at Tufts Medical School.
- 45) Jamison Farnsworth (Summer 12-Summer 12) Graduated from NEU and is currently working for.
- 44) Eric Humphies (Fall 11-Spring 12) Graduated from NEU and is currently working for.
- 43) Brian Shin (Fall 11-Spring 12)
- 42) Alex Mosher (Fall 11-Spring 11) Graduated from NEU and is currently working for.
- 41) Marble Mason (Summer 11-Fall 11) Graduated from NEU and is currently working for.
- 40) Qing Li (Summer 11-Fall 11) Graduated from NEU and is back in China.
- 39) Dave Courtney (Fall 10-Summer 11) Graduated from NEU and is currently working for.
- 38) Natasha Smith (Summer 07- Summer 10) Graduated from WVU and is currently pursuing a Ph.D. degree at Pitt.
- 37) Jason Coral (Fall 07-Summer 10) Graduated from WVU and is currently working Cephalon in Frazer PA.

- 36) Ian Townsend (Fall 08-Summer 10) Graduated from WVU and is currently pursuing a Ph.D. degree at UT-Austin.
- 35) Brian Dilcher (Spring 09-Summer 10) Currently working toward BS degree at WVU.
- 34) Tonia Ahmed (Summer 10) Currently working toward BS degree at WVU.
- 33) Shan Chen (Fall 08-Summer 08) Graduated from WVU and is currently pursuing a PharmD degree at WVU.
- 32) Josh Osbourn (Winter 05-Summer 07) Graduated from WVU and is currently pursuing a Ph.D. in chemistry at the University of Pittsburgh.
- 31) Philip Harsh (Summer 04-Summer 05) Graduated from WVU and is currently pursuing a Ph.D. in chemistry at West Virginia University.
- 30) Jonathan Zimmerman (Fall 05-Spring 06) Graduated from WVU (BS) and currently is in dental school.
- 29) Aaron Peoples (Summer 03-Fall 03) Graduated from WVU and is currently pursuing a Ph.D. in chemistry at the U. of Wisconsin at Madison.
- 28) John Orange (Fall 03-Spring 04) Currently he is pursuing his BS degree at WVU.
- 27) Mark Keranen (Fall 96-Summer 98) Graduated from U. of Minn. then pursued his Ph.D. at the University of Dortmund with Prof. Eilbracht and is currently an Assistant Prof. at Univ. of Tennessee at Martin.
- 26) Aaron Schmidt (Fall 96-Fall 99) Graduated from U. of Minn. and is currently working for Bayer Pharmaceuticals.
- 25) Angish Mebrahtu (Fall 96-Spring 97) Graduated from U. of Minn. and is currently working in the Eritrean Development Foundation.
- 24) Mark Bushey (Winter 97-Summer 00) Graduated from U. of Minn. (BS) and Ph.D. in chemistry at Columbia University and currently working at Exxon.
- 23) Craig Zifcsak (NSF/REU Summer 97) Graduated from U. of W. at Steven's Point) and obtained a Ph.D. in chemistry from the University of Minn.
- 22) Eric Voight (Fall 97- Spring 99) Graduated from U. of Minn. (BS) and Ph.D. in chemistry from University of Wisconsin and is currently working at Merck.
- 21) Gaurav Khanna (Fall 97-Spring 00) Graduated from U. of Minn. and is currently attending the U. of Minn., Medical School in Minneapolis.
- 20) Vanessa Audette (Winter 98-Fall 98) Graduated from U. of Minn. and is currently pursuing a Ph.D. in chemistry at University of Minn.
- 19) Amy Beukelman (Winter 98-Fall 98) Graduated from U. of Minn. and is currently attending the U. of Minn., Medical School in Minneapolis.
- 18) Joelle Stumpf (Winter 98-Spring 97) Graduated from U. of Minn. and is currently working in the Twin Cities.
- 17) Hang Nguyen (Winter 98-Spring 99) Graduated from U. of Minn. and is currently pursuing a masters in education at the University of St. Thomas.
- 16) Liam Quinn (Spring 98-Spring 01) Graduated from U. of Minn. and is currently working at 3M.
- 15) Tom Hunter (NSF/REU Summer 98) Graduated from U. of Northern Iowa and Ph.D. in chemistry at University of Minnesota and currently working at Schering Plough.
- 14) Paul Schwinghammer (Fall 98- Spring 99) Graduated from U. of Minnesota and is currently working in the Twin-Cities.
- 13) Jennifer Le (Fall 98-Fall 00) Graduated from U. of Minn. and is currently working at 3M.
- 12) Georga Windsperger (Fall 99-Spring 00) Graduated from U. of Minn. and is currently pursuing a PharmD degree at the University of Minn.
- 11) Dianna Le (Spring 99-Summer 99) Graduated from U. of Minn. and is currently

- working in the Twin Cities.
- 10) Raja Annamalai (Summer 99-Lando) Graduated from Georgia Institute of Tech. currently pursuing a Ph.D. in chemistry at University of Pennsylvania.
  - 9) Leslie A. Kreilich (Fall 99-Spring 00) Graduated from U. of Minn. and is currently working at 3M.
  - 8) Vui Mia (Summer 99) Graduated from St. Olaf College and is currently attending the U. of Minn. Duluth Medical School.
  - 7) Sarah D. Garaas (NSF/REU Summer 01), Undergraduate from Dartmouth and is currently working at Pfizer.
  - 6) Elizabeth Uhrich (Spring 01-Fall 01) Graduated from U. of Minn. and is currently pursuing a Ph.D. in chemistry at The University of Chicago.
  - 5) Shea Anderson (Summer 99-Spring 02), Graduated from the U. of Minn. and is currently seeking a fulltime position.
  - 4) Mitch Croatt (Spring 01-Summer 02), Graduated from U. of Minn. (BS) and received a Ph.D. in chemistry from Stanford University, currently continuing her work as a postdoc in Germany.
  - 3) Matt Mortensen (Spring 01-Fall 02) Graduated from U. of Minn. (BS) and received a Ph.D. in chemistry from West Virginia University, currently continuing her work as a postdoc in Germany.
  - 2) Katie Bratlie (Fall 01-Winter 03) Graduated from U. of Minn. (BS) and received a Ph.D. in chemistry from UC-Berkeley, currently continuing her work as a postdoc at Harvard.
  - 1) Bryan Berry (Fall 01-Winter 03) Graduated from the Univ. of Minn. and is currently attending medical school at U. of Minn.

#### **Research Assistant (4)**

- Mike Haukaas (Winter 97) Obtained a Ph.D. in my group at U. of Minn. Is currently in Law School.
- Aaron Schmidt (Summer 98-Fall 98) Graduate from U. of Minnesota and is currently working for Bayer Pharmaceuticals, Conn.
- Alexey Starosotnikov (Summer 99-Fall 99 & Summer 00-Fall 00) Graduate from Moscow State and is currently pursuing a Ph.D. at Moscow State.
- Xiaomei Yu (Summer 05) Currently a graduate student at WVU working toward her Ph.D.