CURRICULUM VITAE

Name: Qisheng Zhang

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Education

2003 – 2006	Postdoctoral Associate in the area of Chemical Biology Advisor: Professor Peter G. Schultz The Scripps Research Institute, La Jolla, California
1998 – 2003	Ph.D. in Organic Chemistry Advisor: Professor Dennis P. Curran University of Pittsburgh, Pittsburgh, PA
1995 – 1998	M.S. in Organic Chemistry Advisor: Professor Long Lu Shanghai Institute of Organic Chemistry, Shanghai
1990 – 1995	B.E. in Chemical Engineering Advisor: Professor Jian Chen Tsinghua University, Beijing

Positions and Awards

2013 – present	Associate Professor of Chemical Biology and Medicinal Chemistry
2014 – present	Joint appoint with Department of Pharmacology
2007 – 2013	Assistant Professor of Chemical Biology and Medicinal Chemistry The University of North Carolina at Chapel Hill
2008	Junior Faculty R. J. Reynolds Fund Award
2015	PY2 Instructor of the Year, UNC Eshelman School of Pharmacy

Grants

Current Grants

1R01CA177993-01A1 (Allbritton) NIH 08/01/2014-07/31/2019
Single-cell Measurement of Lipid Signaling in Colorectal Cancer
Total cost: $3,008,295 Direct cost to my lab: $74,475/yr 1.0 calendar
Role: Co-investigator

The goal of this application is to develop a technology platform to readily measure lipid signaling in single cells of colorectal cancer cell lines or patient samples. My lab is responsible for design, synthesis, and characterization of various lipid probes.

2018-TEG-1505 (Zhang) NCBC 06/01/2018-05/31/2019
Fluorogenic Biosensors for Phospholipase C Isozymes
Total cost: $75,000 Direct cost to my lab: $60,000 0.6 calendar
Role: Principal Investigator

The goal of this grant application is to optimize a novel assay that is based on XY-69, a membrane-associated, fluorogenic reporter for phospholipase C isozymes and apply it to report active mutants of PLC-γ isozymes in cancer.

Past Grants

R1030 (Zhang) EII 06/01/2016-05/31/2018
"Clickable" Assays of Metabolic Enzymes for Precision Medicine
Total cost: $200,000 Direct cost to my lab: $70,000/yr no salary coverage
Role: Principal investigator

The goal of this application is to develop "clickable" assay to analyze metabolic enzymes and profile endogenous small molecules.

Not numbered (Chen) Daedalus Fund (Cornell internal) 09/01/2017-08/31/2018
Novel Drug Candidates to Eliminate Zika Virus Infection
Total: $100,000 Direct cost to my lab: $33,000 0.24 calendar
Role: subcontract PI

The goal of this grant is to synthesize analogs of hippeastrine, a natural product that inhibits Zika virus infection to enhance its potency.

1R01GM086558-01A1 (Zhang) NIH 09/01/2011-08/31/2017
Developing Small Molecule ARFGAP Regulators to Dissect Cell Signaling
Total cost: $1,381,518 Direct cost to my lab: $145,649/yr 2.40 calendar
Role: Principal Investigator

The goal of this grant is to develop small molecule ARFGAP regulators to probe cell signaling, particularly the role of ARFGAP-regulated processes for the Wnt/β-catenin signaling pathway.

1R01GM098894-01 (Zhang: PI; Sondek: Co-PI) NIH 09/26/2011/-08/31/2015
High-throughput Screens to Identify Modulators of Phospholipase C Isozymes
Total cost: $843,600 Direct cost to my lab: $105,482/yr 1.90 calendar
Role: Principal Investigator

The goal of this grant is to develop integrated screening strategies for the identification of modulators of PLCs.

1R01ES013611-01S1 (Jaspers) NIH 08/01/2013-06/30/2015
Diesel-induced Alterations of Influenza Infectivity
Total cost: 1,013,231 Direct cost to my lab: $75,000 0.6 calendar
Role: Co-investigator

The overall goal of this grant is to develop novel technologies and complementary experimental approaches to investigate how exposures to diesel exhaust modify innate immune

responses in humans. My lab is responsible for developing probes to analyze PI3K and PLA2 activity in primary NK cells.

1R21NS073041-01 (Zhang) NIH 09/01/2010-08/31/2013
High Throughput Assay Development for ARFGAP Modulators
Total cost: $73,351 Currently under "no cost extension" 0.75 calendar
Role: Principal Investigator

The goal of this grant is to develop a fluorescence polarization-based assay that is amenable to high through screen of ARFGAP modulators.

3R21NS073041-01S1 (Zhang) NIH 09/01/2010-08/31/2013
High Throughput Assay Development for ARFGAP Modulators
Total cost: $37,000 Currently under "no cost extension" 0.12 calendar
Role: Principal Investigator

The goal of this grant is to apply the fluorescence polarization-based assay to high through screen at NIH Florida screening center to identify ARFGAP modulators.

1R01HL094463-01 (Liu) NIH 02/01/2009-01/31/2014
In Vitro Synthesis of Recombinant Heparan Sulfate
Total cost: $1,480,000 Direct cost to my lab: $40,000/yr 0.60 calendar
Role: Co-investigator

The goals of this grant are: 1) develop a fluorous tag-based enzymatic synthesis strategy to synthesize structurally-defined oligosaccharides; 2) determine the substrate specificities of a variety of heparan sulfate biosynthetic enzymes; and 3) utilize the newly developed method to investigate novel anticoagulant HS structures.

2013-TEG-1501 (Parsons) NCBC 01/01/2013-12/31/2013
Fluorogenic Sensors for Phospholipase C Isozymes
Total request: $50,000 Direct cost to my lab: $37,436 0.6 calendar
Role: Co-investigator

The goal of this application is to investigate the stability and scope of application of a small molecule PLC reporter, WH-15, for its potential commercialization.

Not numbered (Sims) UCRF 07/01/2010-06/30/2012
Enabling Lipid Signaling Assays for Clinical Oncology
Total cost: $200,000 Direct cost to my lab: $100,000 no salary coverage
Role: Co-investigator

The goal of this grant is to develop chemical probes to measure PI3K activity in clinical samples.

Not numbered (Zhang) Elsa U. Pardee Foundation 10/01/2008-09/30/2009
Small Molecule ASAP1 Inhibitors as Novel Breast Cancer Therapeutics
Total cost: $125,000 Direct cost to my lab: $100,000 1.20 calendar
Role: Principal Investigator

The goal of this grant is to develop small molecule ASAP1 inhibitors and test their activities in inhibiting the proliferation and migration of human breast cancer cell lines.

Not numbered (Zhang) URC 01/01/2009-12/31/2010

Fluorous Enzymatic Synthesis of Inositol Phosphates
Total cost: $3,401 Direct cost to my lab: $3,401 no salary coverage
Role: Principal Investigator

The goal of this grant is to develop a novel technique that is based on fluorous tag-assisted enzymatic synthesis to synthesize various inositol phosphates.

Not numbered (Zhang) UCRF 04/01/2009-03/31/2010
The Molecular Bases of ARFGAP-QS11 Interaction
Total cost: $5,000 Direct cost to my lab: $5,000 no salary coverage
Role: Principal Investigator

The goal of this grant is to generate preliminary results on how a small molecule QS11 interacts with its target ARFGAP1 for further grant applications.

Not numbered (Zhang) Reynolds Fund 01/01/2008-12/31/2008
Small Molecule Sensors and Inhibitors of Phosphatase of Regenerative Liver 3 (PRL-3)
Total cost: $7,500 Direct cost to my lab: $7,500 no salary coverage
Role: Principal Investigator

The goal of this grant is to design and synthesize a novel small molecule reporter that will produce fluorescence output upon dephosphorylation by PRL-3.

Meeting Grants

2016-BMG-3001 (Zhang) NCBC 09/01/2015-10/31/2015
Ninth Annual Chapel Hill Pharmaceutical Sciences Conference
Direct cost: $6,500
Role: Conference Director

The funds are used for speaker travel and lodging, AV rental and travel awards for students and post-docs.

A-17850 (Zhang) Lilly 09/01/2015-10/31/2015
Ninth Annual Chapel Hill Pharmaceutical Sciences Conference
Direct cost: $9,540
Role: Conference Director

The funds are used for food associated with the Conference.

Pending Grants

R21(Zhang) NIH 07/01/2019-06/30/2021
Discovery of novel small molecule probes for Parkinson's disease
Total cost: $450,000 Direct cost to my lab: $120,000 1.2 calendar
Role: Principal Investigator

The goal of this grant application is to validate pharmacological regulation of LRRK2's GTPase activity through inhibition of ArfGAP1 as a novel therapeutic intervention of Parkinson's disease.

R01CA233811-A1(Allbritton/Armistead/Zhang) NIH 07/01/2019-06/30/2024
Microfabricated instrumentation to measure sphingolipid signaling in human acute myeloid leukemia

Total cost: $3,774,244 Direct cost to my lab: $676,259 1.2 calendar
Role: Principal Investigator

The goal of this grant application is to develop an innovative platform to measure the activity of the sphingolipid pathway in single cells from primary, human, acute myeloid leukemia.

RO1(Chen/ Zhang) NIH 07/01/2019-06/30/2024
Chemical biology approach to dissect Zika virus infection
Total cost: $1,500,000 Direct cost to my lab: $500,000 1.2 calendar
Role: Principal Investigator

The goal of this grant application is to define the organs, pathways, and molecular targetsthat are associated with hippeastrine's anti-ZIKV activity.

Not numbered (Sondek/Zhang) LLS 07/01/2019-06/30/2021
PLC-g isozymes: unexploited drug targets for the treatment of leukemias and lymphomas
Total cost: $1,000,000 Direct cost to my lab: $350,000 1.8 calendar
Role: Principal Investigator

The goal of this grant application is to generate a novel library of isotope-coded fragments to trap protein targets and validate it with PLC gamma 1, an emerging target involved in autoimmune diseases and cancer metastasis.

DOD (Chen/Zhang/) DOD 04/01/2019-03/30/2022
Chemical biology approach to dissect Zika virus infection
Total cost: $1,500,000 Direct cost to my lab: $500,000 1.2 calendar
Role: Principal Investigator

The goal of this grant application is to define the organs, pathways, and molecular targetsthat are associated with hippeastrine's anti-ZIKV activity.

Peer Reviewed Publications (* corresponding author)

1. Yu, H.; Zhang, Q.; Huang, W.* A Two-step Approach to 2-Polyfluoroalkyl Quinolines from N-aryl Polyfluoroalkyl Imidoyl Iodides. *Chin. J. Chem.* **1997**, 15, 278–282.
2. Zhang, Q.; Lu, L.* A Novel Synthetic Route to Ethyl 3-Substituted-trans-2,3-difluoro-2-acrylates and Their Reactions with Nucleophiles. *Tetrahedron Lett.* **2000**, 41, 8545–8548.
3. Zhang, Q.; Luo, Z.; Curran, D. P.* Separation of "Light Fluorous" Reagents and Catalysts by Fluorous Solid-Phase Extraction: Synthesis and Study of a Family of Triarylphosphines Bearing Linear and Branched Fluorous Tags. *J. Org. Chem.* **2000**, 65, 8866–8873.
4. Luo, Z.; Zhang, Q.; Oderaotoshi, Y.; Curran, D. P.* Fluorous Mixture Synthesis: A Fluorous-Tagging Strategy for the Synthesis and Separation of Mixtures of Organic Compounds. *Science* **2001**, 291, 1766–1769.
5. Zhang, Q.; Rivkin, A.; Curran, D. P.* Quasiracemic Synthesis: Concepts and Implementation with a Fluorous Tagging Strategy to Make Both Enantiomers of Pyridovericin and Mappicine. *J. Am. Chem. Soc.* **2002**, 124, 5774–5781.
6. Curran, D. P.;* Zhang, Q. Microwave Heating Effects Rapid and Selective Decarboalkoxylation of Mono-Alkylated Malonates and β-Ketoesters. *Adv. Synth. Catal.* **2003**, 345, 329–333.

7. Vallin, K. S. A.; Zhang, Q.; Larhed, M.; Curran, D. P.; Hallberg, A.* A New Regioselective Heck-Vinylation with Enamides: Synthesis and Investigation of Fluorous-Tagged Bidentate Ligands for Fast Separation. *J. Org. Chem.* **2003**, 68, 6639–6645.
8. Chen, S.; Zhang, Q.; Wu, X.; Schultz, P. G.;* Ding, S.* Cellular Dedifferentiation of Lineage-Committed Myogenic Cells Induced by Reversine. *J. Am. Chem. Soc.* **2004**, 126, 410–411.
9. Zhang, Q.; Lu, H.; Richard, C. R.; Curran, D. P.* Synthesis of Sixteen Stereoisomers of Murisolin, Murisolin A and 16,19-cis-Murisolin by Fluorous Mixture Synthesis. *J. Am. Chem. Soc.* **2004**, 126, 36–37.
10. Curran, D. P.;* Wang, X.; Zhang, Q. Heavy, Medium and Light Fluorous Triarylphosphines Exhibit Comparable Reactivities to Triphenylphosphine in Typical Reactions of Triarylphosphines. *J. Org. Chem.* **2005**, 70, 3716–3719.
11. Curran, D. P.;* Zhang, Q.; Lu, H.; Gudipati, V. On the Proof and Disproof of Natural Product Stereostructures: Characterization and Analysis of a Twenty-Eight Member Stereoisomer Library of Murisolins and Their Mosher Ester Derivatives. *J. Am. Chem. Soc.* **2006**, 128, 9943–9956.
12. Curran, D. P.;* Zhang, Q.; Richard, C. R.; Lu, H.; Gudipati, V. Total Synthesis of a Twenty-eight Member Stereoisomer Library of Murisolins. *J. Am. Chem. Soc.* **2006**, 128, 9561–9573.
13. Chen, S.; Do, J.; Zhang, Q.; Yao, S.; Yan, F.; Scholer, H. Schultz, P. G.;* Ding, S.* Maintenance of human and mouse embryonic stem cells self-renewal by a small molecule. *Proc. Natl. Acad. Sci. U. S. A.* **2006**, 103, 17266–17271.
14. Zhang, Q.; Major, B.; Takanashi, S.; Camp, N. D.; Nishiya, N.; Peters, E. C.; Ginsberg, M.; Schultz, P. G.;* Moon, R. T.;* Ding, S.* A Small Molecule Synergist of the Wnt/β-catenin Signaling Pathway. *Proc. Natl. Acad. Sci. U. S. A.*104, 7444–7448.
15. Chen, S.; Takanashi, S.; Zhang, Q.; Xiong, W.; Peters, E.C.; Ding, S.;* Schultz, P.G.* Reversine Induces Cellular Reprogramming of Lineage-Committed Mammalian Cells. *Proc. Natl. Acad. Sci. U. S. A.* **2007**, 104, 10482-10487.
16. Song, Z. and Zhang, Q.* Fluorous Aryl Diazirine Photoaffinity Labeling Reagents. *Org. Lett.* **2009**, 11, 4883-4885.
17. Jones, C. A.; Nishiya, N.; London, N. R.; Zhu, W.; Sorensen, L. K.; Chan, A.; Lim, C. J.; Chen, H.; Zhang, Q.; Schultz, P. G.; Hayallah, A. M.; Thomas, K. R.; Famulok, M.; Zhang, K.; Ginsberg, M. H.; Li, D. Y.* Slit2-Robo4 Signaling Promotes Vascular Stability by Blocking Arf6 Activity. *Nature Cell Biol*. **2009**, 11, 1325-1331.
18. Liu, R.; Xu, R.; Chen, M.; Weiwer, M.; Zhou, X.; Bridges, A. S.; DeAngelis, P. L.; Zhang, Q.; Linhardt, R. J.; Liu, J.* Chemozymatic Design of Heparan Sulfate Oligosaccharides. *J. Biol. Chem.* **2010**, 285, 34240−34249.
19. Huang, W.; Hicks, S. N.; Sondek, J.; Zhang, Q.* A Fluorogenic, Small Molecule Reporter for Mammalian Phospholipase C Isozymes. *ACS Chem. Biol.* **2011**, 6, 223-228.
20. Sun, W.; Vanhooke, J.; Sondek, J.; Zhang, Q.* High Throughput Fluorescence Polarization Assay for the Enzymatic Activity of GTPase-activating Protein of ADP-ribosylation Factor (ARFGAP). *J. Biomol. Screen.* **2011**, 16, 717-723.
21. Huang, W.; Jiang, D.; Wang, X.; Sims, C. E.; Allbritton, N. L.; Zhang, Q.* Kinetic Analysis of PI3K Reactions with Fluorescent PIP_2 Derivatives. *Anal. Bioanal. Chem*. **2011**, 401, 1881-1888.
22. Song, Z.; Zhang, Q.* Design, Synthesis, and Incorporation of Fluorous 5-Methylcytosines into Oligonucleotides. *J. Org. Chem*. **2011**, 76, 10263-10268.

23. Song, Z.; Huang, W.; Zhang, Q.* Isotope-coded, Fluorous Photoaffinity Labeling Reagents. *Chem. Commun*. **2012**, 48, 3339-3341.
24. Huang, W.; Sun, W.; Song, Z.; Yu, Y.; Chen, X.; Zhang, Q.* Incorporation of a Fluorous Diazirine Group into Phosphatidylinositol 4,5-Bisphosphate to Illustrate its Interaction with ADP-ribosylation Factor 1. *Org. Biomol. Chem*. **2012**, 10, 5197-5201.
25. Wang, X.; Barrett, M.; Sondek, J.; Harden, T. K.; Zhang, Q.* Fluorescent Phosphatidylinositol 4,5-Bisphosphate Derivatives with Modified 6-Hydroxy Group as Novel Substrates for Phospholipase C. *Biochemistry* **2012**, 51, 5300-5306.
26. Huang, W.; Barrett, M.; Hajicek, N.; Hicks, S.; Harden, T. K.; Sondek, J.; Zhang, Q.* Small Molecule PLC Inhibitors from a Novel High Throughput Screen. *J. Biol. Chem.* **2013**, 288, 5840-5848.
27. Huang, W.; Proctor, A.; Sims, C. E.; Allbritton, N. L.; Zhang, Q.* Fluorous Enzymatic Synthesis of Phosphatidylinositides. *Chem. Commun*. **2014**, 50, 2928-2931.
28. Charpentier, T. H.; Waldo, G. L.; Barrett, M. O.; Huang, W.; Zhang, Q.; Harden, T. K.; Sondek, J.* Membrane-induced Allosteric Control of Phospholipase C-β Isozymes. *J. Biol. Chem*. **2014**, 289, 29545-29557.
29. Huang, W.; Zhang, Q. Fluorous Photoaffinity Labeling to Probe Protein-Small Molecule Interactions. *Methods Mol. Biol*. **2015**, 1263, 253-261.
30. Singh, M. H.; Gao, H.; Sun, W.; Song, Z.; Schmalzigaug, R.; Premont, R. T.; Zhang, Q.* Structure-activity Relationship Studies of QS11, a Small Molecule Wnt Synergistic Agonist. *Bioorg. Med. Chem. Lett.* **2015**, 25, 4838-4842.
31. Seo, J. B.; Jung, S. R.; Huang, W.; Zhang, Q.; Koh, D. S. Charge Shielding of PIP2 by Cations Regulates Enzyme Activity of Phospholipase C. *PLoS One* **2015**, 10, e0144432.
32. Gao, H.; Sun, W.; Song, Z.; Yu, Y.; Wang, L.; Chen, X.; Zhang, Q.* A Method to Generate and Analyze Modified Myristoylated Proteins. *Chembiochem* **2017**, 18, 324-330.
33. Singh, M. H.; Waybright, J.; Zhang, Q.* A Facile Method to Enable a Model Phospholipid Cell-permeable and Photoactivatable. *Tetrahedron* **2017**, 73, 3677-3683.
34. Tan, L.; Zhou, T.; Cederquist, G.; Mukherjee, S.; Kristen, B.; Zhang, Q.; Schwartz, R.; Evans, T. R.; Chen, S. High Content Screening in hESC-Neural Progenitors Identifies Drug Candidates that Inhibit Zika Virus Infection in Fetal-like Organoids and Adult Brain. *Cell Stem Cell* **2017**, 21, 274-283.
35. Waybright, J.; Huang, W.; Proctor, A.; Wang, X.; Allbritton, N. L.; Zhang, Q. Required Hydrophobicity of Fluorescent Reporters for Phosphatidylinositol Family of Lipid Enzymes. *Anal. Bioanal. Chem*. **2017**, 409, 6781-6789.
36. Huang, W.; Wang, X.; Endo-Streeter, S.; Barrett, M.; Waybright, J.; Wohlfeld, C.; Hajcek, N.; Harden, T. K.; Sondek, J.; Zhang, Q. A Membrane-associated, Fluorogenic Reporter for Mammalian Phospholipase C Isozymes. *J. Biol. Chem*. **2018**, 293, 1728-1735.

Reviews (* corresponding author)

1. Zhang, Q.* Fluorous DMSO, 1,1,1,2,2,3,3,4,4,5,5,6,6-Nonafluoro-6-methane sulfinylhexane. *Electronic Encyclopedia of Reagents for Organic Synthesis*, **2004**.
2. Zhang, Q.; Curran, D. P.* Quasienantiomers and Quasiracemates: New Tools for Identification, Analysis, Separation and Synthesis of Quasienantiomers. *Chem. Eur. J.* **2005**, 11, 4866–4880.

Abstracts of Meeting Presentations/Posters

1. Zhang, Q.; Song, Z.; Huang, W. Enzymatic Synthesis and Profiling of Phosphatidylinositides with Fluorous Tags. 19th International Symposium on Fluorine Chemistry, Wyoming, Aug 23-28, **2009**. (invited short presentation)
2. Huang, W.; Hicks, S.; Sondek, J.; Zhang, Q. Small Molecule Reporters and Inhibitors for Mammalian PLC Isozymes. Keystone symposium, Colorado, Feb 13-17, **2011**. (poster submission was selected as a short presentation)
3. Wang, X.; Zhang, Q. Fluorescent PIP_2 Derivatives with 6-Hydroxy Modifications as PLC Substrates. Keystone symposium, New Mexico, Feb 12-16, **2012**. (poster)
4. Sun, W.; Zhang, Q. Molecular Basis of Inhibition of ARFGAP1 Activity by a Small Molecule QS11. Keystone symposium, New Mexico, Feb 12-16, **2012**. (poster)
5. Huang, W.; Barret, M.; Hicks, S. N.; Harden, T. K.; Sondek, J.; Zhang, Q. High Throughput Assay Development for Small Molecule Inhibitors of Mammalian Phospholipase C Isozymes. Keystone symposium, New Mexico, Feb 12-16, **2012**. (poster)
6. Huang, W.; Barret, M.; Hicks, S. N.; Harden, T. K.; Sondek, J.; Zhang, Q. Development of Fluorogenic Reporter and High Throughput Assay for Mammalian Phospholipase C Isozymes. SERMACS symposium, Raleigh, November 16, **2012**. (invited short presentation)
7. Huang, W.; Wang, X.; Zhang, Q. Chemical Probes to Monitor and Regulate Cellular Activity of Phospholipase C Isozymes. Gordon Research Conference, New Hampshire, July 21-26, **2013**. (poster)
8. Gao, H.; Sun, W.; Song, Z.; Yu, Y.; Chen, X.; Zhang, Q. Generating Novel Functional Myristoylated Proteins by Metabolic Interference. RTP Chemical Biology Symposium, May 30, **2014**. (poster)
9. Huang, W.; Wang, X.; Barrett, M.; Harden, T. K.; Sondek, J.; Zhang,Q. Novel Small Molecule Reporters and Inhibitors of Mammalian Phospholipase C Isozymes. 39th Symposium on Hormones and Cell Regulation, Mont Sainte-Odile, October 9-12, **2014**.
10. Waybright, J.; Huang, W.; Proctor, A.; Allbritton, N.L.; Zhang, Q. Pik Wisely: Fluorescent Reporter Analysis for Phosphatidylinositide Metabolic Profiling. Ninth Chapel Hill Pharmaceutical Sciences Conference, October 15, 2015.
11. Gao, H.; Xiong, Y.; Zhang, Q. Identification of Small Molecule Inhibitors of ARFGAP and Potential Therapeutic Uses in Parkinson's Disease. Ninth Chapel Hill Pharmaceutical Sciences Conference, October 15, 2015.

Patents

1. Curran, D. P.; Zhang, Q. Fluorous Phosphines and Phosphine Oxides. US Patent 6727390 B2; Granted on April 27, **2004**.
2. Zhang, Q.; Ding, S.; Schultz, P. G. Methods and Compositions for Modulating Wnt Signaling Pathway. WO2006116503, **2006**.
3. Zhang, Q.; Huang, W.; Sondek, J.; Hicks, S. Fluorogenic Sensors for Phospholipase C Isozymes. US Patent No. 8,703,437, granted on April 22, **2014**. EP2580222, granted on March 22. **2017**.
4. Zhang, Q.; Wang, X.; Huang, W.; Sondek, J. Fluorogenic Reporters for Phospholipase C Isozymes and Methods of Making and Using the Same. US 62/461,608. WO2018156581.
5. Chen, S.; Zhou, T.; Tan, L.; Zhang, Q. Compounds and compositions for inhibition and elimination of Zika infection and uses for same. WO2018/170513 A1.

Presentations

1. "A Small Molecule Synergist of the Wnt/β-catenin Signaling Pathway", UNC Department of Pharmacology, September 18, **2007**.
2. "Developing Phosphatidylinositide Array for Biomarker Identification", NIH Workshop, Dallas, March 31, **2009**.
3. "Chemical Tools to Monitor and Regulate the Phosphatidylinositide Signaling Network", UNC Eshelman School of Pharmacy, April 18, **2012**.
4. "Chemical Tools to Monitor and Regulate the Phosphatidylinositide Signaling Network", University of Minnesota, June 26, **2012**.
5. "Chemical Approaches to Probe Signaling Pathways Regulated by Phosphatidylinositides", Shanghai Institute of Organic Chemistry, July 23, **2012**.
6. "Chemical Approaches to Probe Signaling Pathways Regulated by Phosphatidylinositides", Institute of Biophysics of Chinese Academy of Sciences, July 24, **2012**.
7. "Chemical Tools to Monitor and Regulate the Phosphatidylinositide Signaling Network", North Carolina State University, September 4, **2012**.
8. "Chemical Tools to Monitor and Regulate the Phosphatidylinositide Signaling Network", Virginia Commonwealth University, September 20, **2012**.
9. "Chemical Tools to Monitor and Regulate the Phosphatidylinositide Signaling Network", Duke University, September 25, **2012**.
10. "Chemical Tools to Monitor and Regulate the Phosphatidylinositide Signaling Network", Cornell University, October 15, **2012**.
11. "Chemical Tools to Monitor and Regulate the Phosphatidylinositide Signaling Network", Albert Einstein College of Medicine, October 16, **2012**.
12. "Chemical Tools to Monitor and Regulate the Phosphatidylinositide Signaling Network", University of Pittsburgh, October 25, **2012**.
13. "Chemical Tools to Monitor and Regulate the Phosphatidylinositide Signaling Network", Georgia State University, February 15, **2013**.
12. "Chemical Tools to Monitor and Regulate the Lipid Signaling Network", Vanderbilt University, September 10, **2014**.
13. **"**Fluorous Tag-assisted Analysis of Phospholipid Metabolism", 21st International Symposium on Fluorous Technologies, Boston, Aug 9-11, **2017**.
14. "Chemical Tools to Monitor and Regulate the Lipid Signaling Network", Eisai Inc, December 6, **2018**.

Teaching Contributions in 2018

Course number	Contact hours	Number of students	Role in the course	Semester
PHCY503	3	143	Instructor	Fall
PHCY624	16	27	CBMC Director	Spring
PHCY725	16	27	CBMC Director	Fall
CBMC807	3	14	Instructor	Fall
PHCY726	16	14	CBMC Director	Spring
PHRS801	1	20	Instructor	Fall

Projections for the next academic year: I will continue to participate in teaching PHCY503 and CBMC807 and work as the Divisional director for PHCY624, PHCY725, and PHCY726. In the future, it will be better to focus on teaching 1-2 courses with heavy loads instead of teaching a few lectures in many courses.

Personnel

Weigang Huang, Research Assistant Professor, January 2013- October 2018

Service Appointments

Division and School

PharmD Honors Committee (2008- 2017)
Admissions Committee (2013- present)
Assessment Committee (2008-2010)
Interviewer for PharmD candidate students (2008)
Search Committee for Assistant Professor with CICBDD (2008)
Self-study Oversight Committee (2015- 2017), wrote the report for CBMC Division
Research and Scholarship in Pharmacy (RASP) oversight committee (2016- present)
Graduate Education Committee (2018- present)
Divisional Director of Graduate Studies (2018- present)

31 students' thesis committee (meetings were held in 2017 for highlighted students)

Steven Cotton (CBMC)	Pierre Morieux (CBMC)	Flori Sassano (CBMC)
Mike Hackett (MOPH)	Renpeng Liu (CBMC)	Heather Bethea (CBMC)
Chia-Wen Hsu (CBMC)	Liying Zhang (CBMC)	Ryan Bullis (CBMC)
Tanya Scarlett (CBMC)	Christopher Grulke (CBMC)	Guiyu Zhao (CBMC)
Hsing-Yi Hung (CBMC)	Keri Flanagan (CBMC)	Weichen Xu (CBMC)
Xiaoming Yang (CBMC)	Wei Sun (CBMC)	Luong Nguyen (CBMC)
Tim O'Leary (CBMC)	Rachel Henderson (CBMC)	Rachel Bleich (CBMC)
Jarod Waybright (CBMC)	Junghyun Lee (CBMC)	Yingqiu Zhou (CBMC)
Kate Newns (CBMC)	Carrow Wells (CBMC)	Susan Woody (CBMC)
Oleksandra Dorosheva (CBMC)		Megan Agajanian (Pharmacology)
David Abraham (Chemistry)	Luke Gallion (Chemistry)	Maurice Horton
Drew Cesta		

Community

Reviewer for 18 journals:
Journal of Organic Chemistry; Organic Letters; ACS Combinatorial Chemistry; Synlett; Bioorganic Medicinal Chemistry Letters; Journal of Combinatorial Chemistry; Chemical Communications; Journal of Biomolecular Screening; Natural Products Report; Bioorganic and Medicinal Chemistry; Bioorganic and Medicinal Chemistry Letters; Journal of Medicinal Chemistry; ACS Combinatorial Science; ACS Chemical Biology; ACS Medicinal Chemistry Letter; Angewandte Chemie International Edition; J. Lipid. Chem.; PLoS One; JoVE; J. Biol. Chem.

Grant Reviewer
Austrian Science Fund (Lise Meitner Program)
Medical Research Council (MRC)

Tenure package reviewer
VCU
Rutgers University
Conference Organizer
9th Chapel Hill Pharmaceutical Sciences Conference, 2015