

# Mahesh Peddibhotla

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Research Assistant Professor,  
Pharmacodynamics,  
College of Pharmacy,  
University of Florida  
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## EDUCATION AND TRAINING:

### M.S. (Applied Pharmacoeconomics)

Pharmaceutical Outcomes and Policy, College of Pharmacy, Gainesville, University of Florida, August 2020 – May 2022

### Post-Doctoral Research

Chemical Biology, Texas A & M University, College Station, Texas, January 2005 - August 2007

Sponsor: Professor Daniel Romo.

Project: “Development of Chemo-Site Selective Reaction Toolbox for the Simultaneous Arming and Tagging of Bioactive Natural products”

### Ph.D.

Chemistry, Michigan State University, East Lansing, MI, USA August 1998 – December 2004 Research

Advisor: Professor Jetze J. Tepe.

Project: “Lewis Acid Mediated In Situ Generation of Munchnones Aimed at Diversity Oriented Synthesis of Nitrogen Containing Dihydroheterocycles”

### M.Sc.

Chemistry, Indian Institute of Technology, Mumbai, India, 1995-1997

Research Advisor: Professor Sujata V Bhat

Thesis Project: “Synthesis and Evaluation of Bioactive Pyrimidine derivatives”

**B.Sc.** - Chemistry, University of Mumbai, Mumbai, India, 1992-1995

## RESEARCH FUNDING:

NIH RO1, 1R01HL158548-01A1 05/2022 - 04/2026

Co-I: Peddibhotla (MPI: Burnett, Sangaralingam, Malany)

Title: Novel Therapeutics for Cardiovascular Disease.

Funded: \$715,647 per year

NIH/NCI, 1R21CA270714-01 04/2022 - 03/2024

PI: Peddibhotla (MPI: Malany)

Title: Preclinical development of CXCR6 antagonists to target sorafenib resistance in Hepatocellular Carcinoma.

Funded: \$178,234 per year

UF Research DRPD-ROSF2022 06/2022 - 05/2024

Co-PI: Peddibhotla (PI: Zarrinpar)

Title: Preclinical development of CXCR6 antagonists targeting resistance to sorafenib – first-line targeted therapy for hepatocellular carcinoma

Funded: \$85,000 (2 year)

ALLOROCK (Private Funding), PRO00041112

09/2021 - 09//2022

Co-I: Peddibhotla (PI: Malany)

Title: Optimize Guanyl Cyclase Receptor A Potentiators to IND-enabling Studies as Potential Cardiovascular Therapeutics

Funded: \$238,303 per year

NIH/NIDDK, R01 DK126371-01

7/1/2020 – 6/30/2025

(Role: Key Personnel) Small molecule CXCR4 agonists to improve diabetic wound healing.

## **APPOINTMENTS:**

2022-2023 Guest Editor, Life Journal, MDPI, Special Issue on ‘Modulation of Chemokine Receptor Activity to Target Liver Cancer’ to be published in summer 2023

2020-Present Research Assistant Professor, College of Pharmacy, University of Florida

2018-Present Adjunct Associate Faculty (Chemistry), Valencia College, Orlando, FL

2018-2020 Temporary Full-time Faculty (Chemistry), Seminole State College, Sanford, FL

July - 2009 NIGMS Study Section, RFA-GM-09-005: Expanding the Chemical Space for Carbohydrates

2007-2018 Senior Scientist, Conrad Prebys Center for Chemical Genomics, Sanford Burnham Medical Discovery Institute, Orlando, FL

## **HONORS/AWARDS/FELLOWSHIPS:**

June 2020 Digital Professor Certificate Awarded, Valencia College

2004-2005 Harold Hart Endowed Fellowship, Michigan State University

1995-1996 Gold medalist “Aptitude in chemistry” conducted by Indian Chemical Society.

1993-1994 Gold medalist “Aptitude in chemistry” conducted by Indian Chemical Society.

1988-1989 Merit Certificate “Science Talent Search Competition” conducted by The Greater Bombay Science Teachers Association.

## **STUDENT MENTORING:**

2022-2023 Post-doctoral Scientist, Medicinal Chemistry, Direct Report

Fall 2022 Pharmacy Research Elective, Merial Chatila, PharmD, College of Pharmacy, UF

2021-2025 Graduate Student Dissertation Committee, Morgan Reeves, PhD, College of Pharmacy, UF  
Supported on NIH/NCI, 1R21CA270714-01 & UF Research DRPD-ROSF2022

2020-2022 Faculty Mentor, South Asian-American Political Union, UF

2008-2009 Post-Doctoral Research Scientist, Pasha Khan, Sanford Burnham, Orlando, FL

2007-2008 Research Associate, Diana Velosa, Sanford Burnham Medical Discovery Institute

2006-2007 Graduate Student, Chamni, Supakarn, PhD, Chemistry, Texas A & M University

Summer 2004 Undergraduate Student, NSF REU, Lauren Stanford, MSU

Summer 2002 Undergraduate Student, NSF REU, Brian Carey, MSU

## PUBLICATIONS:

1. Peddibhotla S, Caples K, Chen Q. et. al. Triazolothiadiazine Derivative Activates CXCR4 Signaling and Improves Diabetic Wound Healing. **2022**; *Manuscript in preparation*.
2. Dobrovolskaite A, Moots Holly, Tantak M, et. al. Discovery of anthranilic acid derivatives as difluoromethylornithine adjunct agents that inhibit far upstream element binding protein 1 (FUBP1). *J. Med. Chem.* **2022**; submitted.
3. Berneburg I, Peddibhotla S, Heimsch KC, et al. An Optimized Dihydrodibenzothiazepine Lead Compound (SBI-0797750) as a Potent and Selective Inhibitor of Plasmodium falciparum and P. vivax Glucose 6-Phosphate Dehydrogenase 6-Phosphogluconolactonase. *Antimicrob. Agents Chemother.* **2022**;66(4):e0210921.
4. Xu J, Hu J, Idlett-Ali S, et al. Discovery of Small Molecule Activators of Chemokine Receptor CXCR4 That Improve Diabetic Wound Healing. *Int. J. Mol. Sci.* **2022**;23(4):2196.
5. Sangaralingham SJ, Whig K, Peddibhotla S, et al. Discovery of small molecule guanylyl cyclase A receptor positive allosteric modulators. *Proc. Natl. Acad. Sci. USA.* **2021**;118(52):e2109386118.
6. Pinkerton AB, Sessions EH, Hershberger P, et al. Optimization of a urea-containing series of nicotinamide phosphoribosyltransferase (NAMPT) activators. *Bioorg. Med. Chem. Lett.* **2021**;41:128007.
7. Slosky LM, Bai Y, Toth K, et al.  $\beta$ -Arrestin-Biased Allosteric Modulator of NTSR1 Selectively Attenuates Addictive Behaviors. *Cell.* **2020**;181(6):1364-1379.e14.
8. Peddibhotla S, Hershberger PM, Jason Kirby R, et al. Discovery of small molecule antagonists of chemokine receptor CXCR6 that arrest tumor growth in SK-HEP-1 mouse xenografts as a model of hepatocellular carcinoma. *Bioorg. Med. Chem. Lett.* **2020**;30(4):126899.
9. Pinkerton AB, Peddibhotla S, Yamamoto F, et al. Discovery of  $\beta$ -Arrestin Biased, Orally Bioavailable, and CNS Penetrant Neurotensin Receptor 1 (NTR1) Allosteric Modulators. *J. Med. Chem.* **2019**;62(17):8357-8363.
10. McAnally D, Siddiquee K, Gomaa A, et al. Repurposing antimalarial aminoquinolines and related compounds for treatment of retinal neovascularization. *PLoS One.* **2018**;13(9):e0202436.
11. Kirby RJ, Divlianska DB, Whig K, et al. Discovery of Novel Small-Molecule Inducers of Heme Oxygenase-1 That Protect Human iPSC-Derived Cardiomyocytes from Oxidative Stress *J. Pharmacol. Exp. Ther.* **2018**;364(1):87-96.
12. Ahn B, Soundarapandian MM, Sessions H, et al. MondoA coordinately regulates skeletal myocyte lipid homeostasis and insulin signaling. *J. Clin. Invest.* **2016**;126(9):3567-3579.
13. Barak LS, Bai Y, Peterson S, et al. ML314: A Biased Neurotensin Receptor Ligand for Methamphetamine Abuse. *ACS Chem. Biol.* **2016**;11(7):1880-1890.

14. Peddibhotla S, Fontaine P, Leung CK, et al. Discovery of ML358, a Selective Small Molecule Inhibitor of the SKN-1 Pathway Involved in Drug Detoxification and Resistance in Nematodes. *ACS Chem. Biol.* **2015**;10(8):1871-1879.
15. Hershberger PM, Hedrick MP, Peddibhotla S, et al. Imidazole-derived agonists for the neurotensin 1 receptor. *Bioorg. Med. Chem. Lett.* **2014**;24(1):262-267.
16. Peddibhotla S, Hedrick MP, Hershberger P, et al. Discovery of ML314, a Brain Penetrant Non-Peptidic  $\beta$ -Arrestin Biased Agonist of the Neurotensin NTR1 Receptor. *ACS Med. Chem. Lett.* **2013**;4(9):846-851.
17. Hershberger PM, Peddibhotla S, Sessions EH, et al. Synthesis and physicochemical characterization of novel phenotypic probes targeting the nuclear factor-kappa B signaling pathway. *Beilstein J. Org. Chem.* **2013**;9:900-907.
18. Preuss J, Maloney P, Peddibhotla S, et al. Discovery of a Plasmodium falciparum glucose-6-phosphate dehydrogenase 6-phosphogluconolactonase inhibitor (R,Z)-N-((1-ethylpyrrolidin-2-yl)methyl)-2-(2-fluorobenzylidene)-3-oxo-3,4-dihydro-2H-benzo[b][1,4]thiazine-6-carboxamide (ML276) that reduces parasite growth in vitro. *J. Med. Chem.* **2012**;55(16):7262-7272.
19. Khan PM, Correa RG, Divlianska DB, et al. Identification of Inhibitors of NOD1-Induced Nuclear Factor- $\kappa$ B Activation. *ACS Med. Chem. Lett.* **2011**;2(10):780-785.
20. Peddibhotla S, Shi R, Khan P, et al. Inhibition of protein kinase C-driven nuclear factor-kappaB activation: synthesis, structure-activity relationship, and pharmacological profiling of pathway specific benzimidazole probe molecules. *J. Med. Chem.* **2010**;53(12):4793-4797.
21. Zhou CY, Li J, Peddibhotla S, Romo D. Mild arming and derivatization of natural products via an In(OTf)<sub>3</sub>-catalyzed arene iodination. *Org. Lett.* **2010**;12(9):2104-2107.
22. Shi R, Re D, Dudl E, et al. Chemical biology strategy reveals pathway-selective inhibitor of NF-kappaB activation induced by protein kinase C. *ACS Chem. Biol.* **2010**;5(3):287-299.
23. Peddibhotla S. 3-Substituted-3-hydroxy-2-oxindole, an emerging new scaffold for drug discovery with potential anti-cancer and other biological activities. *Curr. Bioact. Compd.* **2009**;5(1):20-38. (*Invited Review -385 citations to date*)
24. Noberini R, Koolpe M, Peddibhotla S, et al. Small molecules can selectively inhibit ephrin binding to the EphA4 and EphA2 receptors. *J. Biol. Chem.* **2008**;283(43):29461-29472.
25. Peddibhotla S, Dang Y, Liu JO, Romo D. Simultaneous arming and structure/activity studies of natural products employing O-H insertions: an expedient and versatile strategy for natural products-based chemical genetics. *J Am Chem Soc.* **2007**;129(40):12222-12231.
26. Sharma V, Peddibhotla S, Tepe JJ. Sensitization of cancer cells to DNA damaging agents by imidazolines. *J. Am. Chem. Soc.* **2006**;128(28):9137-9143.
27. Sharma V, Lansdell TA, Peddibhotla S, Tepe JJ. Sensitization of tumor cells toward chemotherapy: enhancing the efficacy of camptothecin with imidazolines. *Chem Biol.* **2004**;11(12):1689-1699.

28. Peddibhotla S, Tepe JJ. Stereoselective synthesis of highly substituted Delta1-pyrrolines: exo-selective 1,3-dipolar cycloaddition reactions with azlactones. *J. Am. Chem. Soc.* **2004**;126(40):12776-12777.
29. Peddibhotla S, Tepe JJ. Multicomponent synthesis of highly substituted imidazolines via a silicon mediated 1, 3-dipolar cycloaddition. *Synthesis*. **2003**; (09):1433-40.
30. Peddibhotla S, Cheng Z, DellaPenna Dean, Tepe JJ. Efficient Two-step Synthesis of Methylphytylbenzoquinones: Precursor Intermediates in the Biosynthesis of Vitamin E. *Tet. Lett.* **2003**; 44: 237-239.
31. Peddibhotla S, Jayakumar S, Tepe JJ. Highly diastereoselective multicomponent synthesis of unsymmetrical imidazolines. *Org Lett.* **2002**;4(20):3533-3535.

## PATENTS:

1. Burnett JC, Sangaralingham SJ, Malany S, Sessions H, Peddibhotla S, Herberger P, Maloney P. Synthesis of heterocyclic particulate guanylyl cyclase receptor a enhancers treating cardiovascular, renal, and metabolic diseases and cancers. PCT Int. Appl. (2021), WO 2021243230 A1 20211202.
2. Peddibhotla S, Hersberger PM, Kirby RJ, Malany S, Smith LH, Maloney PR, Sessions H, Divlianska D, Pinkerton AB. Preparation of azabicyclononanes and diazabicyclononanes as CXCR6 inhibitors and methods of use. PCT Int. Appl. (2021), WO 2021007208 A1 20210114.
3. Phanstiel O, Moots H, Maloney P, Hersberger P, Peddibhotla S. Preparation of piperazinylphenyl benzamide derivatives as non-polyamine based polyamine transport inhibitors and their use in the treatment of human cancers PCT Int. Appl. (2020), WO 2020033944 A2 20200213.
4. Smith LH, Maloney PR, McAnally D, Hersberger P, Sessions H, Peddibhotla S. 4-Aminoquinoline compounds for the treatment of pathological angiogenesis. PCT Int. Appl. (2019), WO 2019173482 A1 20190912.
5. Kelly D, Vega R, Sessions H, Leone T, Ahn B, Peddibhotla S. Preparation of N-thiazolyl benzamides as modulators of myocyte lipid accumulation and insulin resistance. PCT Int. Appl. (2017), WO 2017019772 A1 20170202.
6. Pinkerton AB, Hersberger PM, Peddibhotla S, Maloney PR, Hedrick MP. Preparation of substituted quinazolines as small molecule agonists of neurotensin receptor 1. PCT Int. Appl. (2015), WO 2015200534 A2 20151230.
7. Pinkerton AB, Hersberger PM, Peddibhotla S, Maloney PR, Hedrick MP, Barak L, Caron M. Preparation of piperazinylquinazolines and related compounds as agonists of neurotensin receptor 1. PCT Int. Appl. (2014), WO 2014100501 A1 20140626.
8. Tepe JJ, Peddibhotla S. Preparation of multi-anti-inflammatory and antimicrobial agents. PCT Int. Appl. (2003), WO 2003101969 A1 20031211.

## **SELECTED POSTERS / PRESENTATIONS/CONFERENCES:**

1. Peddibhotla S. Liver Cancer - A major turnaround in treatment, MSL Presentation & Communication Skills Certificate Program, MSL society, Raleigh, NC, August 20-22, 2018.
2. Peddibhotla S. A Selective Inhibitor of Plasmodium falciparum Glucose-6-Phosphate Dehydrogenase (PfG6PDH). NIH MLPCN C3 Teleconference, February 2, 2012.
3. Peddibhotla S. Invited Speaker Series in Medicinal Chemistry, Department of Chemistry, University of South Florida, Tampa, FL, January 2009.
4. Peddibhotla S. Attendee, Application of Modern Tools in Organic Synthesis, 1st Annual Meeting of Biotage® Summer Program, Richmond, VA, July 21- 23, 2008.
5. Peddibhotla S, Romo D. Chemo-Site Selective O-H Insertion/Huisgen Alkyne-Azide Cycloaddition Strategy for Direct Derivatization and Synthesis of Proteomic Probes of Natural Products. ICCA-X: 10th International Conference on the Chemistry of Antibiotics and other bioactive compounds, Vanderbilt University, Nashville, TN, USA, August 12-16, 2007.
6. Peddibhotla S, Romo D. Tagging polyhydroxy natural products for chemical proteomics via a regioselective rhodium-catalyzed OH insertion /click chemistry sequence. 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, 2006.
7. Peddibhotla S, Tepe JJ. Diastereoselective Multicomponent Synthesis of Unsymmetrical Imidazolines and Related Bioactive Compounds, Division of Organic Chemistry, 225th ACS National Meeting, New Orleans, LA; March 23-27, 2003.

## **TEACHING AND DEI:**

### **Courses Taught:**

2021-2022	Valencia College, Introductory Chemistry (non-majors and STEM majors), General Chemistry I and II, in person and online mode
2018-2020	Seminole State College, Foundation of Chemistry (Nursing and allied health majors), Organic Chemistry I and II, in person
1998-2004	Michigan State University, Teaching Assistant, General Chemistry and Organic Chemistry (pre-Med and STEM majors) recitation and laboratory

## **Professional Development Courses:**

### **University of Florida**

2022-2023	UF- SEC Multicultural mentoring certificate program: Why Mentoring Matters for DEI: Moving from Research to practice Dr. Murrell, October 12th
2022-2023	Office of the Chief Diversity Officer, Listening, Dialogue, and Community-building session for Non-Tenure Track Faculty Members, September 14
2022-2023	UF- SEC Multicultural mentoring certificate program Bridging Difference for Better Mentoring, Lisa Fain, September 8

**Valencia College:**

2021-2022	INDV3151: Culturally Responsive Pedagogy	10 PD hours
2021-2022	INDV7312: Mindfulness Tools for Educators	3 PD hours
2021-2022	LCTS3292: Active Learning Capstone	10 PD hours
2020-2021	LCTS3291: Impacting Active Learning through Metacognition	10 PD hours
2020-2021	LCTS3290: Foundations of Active Learning	10 PD hours
2020-2021	LCTS3290: Foundations of Active Learning	10 PD hours
2020-2021	LCTS3160: 101 Ways to Demonstrate the Essential Competencies	10 PD hours
2019-2020	PRFC3244: Legal Issues and the Virtual Student	2 PD hours
2019-2020	INDV3248: Building Online Learning Communities	2 PD hours
2019-2020	INDV3158: Universal Design and Accessibility	4 PD hours
2019-2020	LTAD3124: Introduction to Honorlock	2 PD hours
2019-2020	LCTS3125: Engaging the Online Learner	2 PD hours
2019-2020	ASMT3353: Authentic Learning and Online Assessment	2 PD hours
2019-2020	ASMT3326: Introduction to the Rubric for Online Competencies	4 PD hours
2019-2020	LCTS3242: Developing Interactive Web-based Courses	2 PD hours
2019-2020	LTAD3388: Screencasting	4 PD hours
2018-2019	INDV3352: Classroom Management: A Foundation in Expectations and Policy	20 PD hours
2018-2019	LCTS1110: Teaching in Our Learning College	30 PD hours
2018-2019	LTAD1118: Canvas Essentials	10 PD hours

**Workshops:****Valencia College**

2021-2022	Destination 2022: Impacts of Toxic Stress
2020-2021	Destination 2021: SEED I
2018-2019	Destination 2019: Inclusive Teaching

**Voluntary Activities:**

2017-2018	Community Advisory Board (CAB) member, WMFE 90.7/NPR, Orlando
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