## SOMANATH P. R. SHENOY, M.Sc., Ph.D., FAHA.

# PUBMED NAME: "Somanath P.R." OR "Payaningal R. Somanath"

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**RANK:** Kenneth L. Waters Endowed Professor of Pharmacy, <u>University of Georgia</u>.

<u>OTHER ROLES</u>: Assistant Department Head for Research & Graduate Education

Graduate Coordinator, Clinical & Administrative Pharmacy

Director, MCG Center for Pharmacy and Experimental Therapeutics Director, Clinical and Experimental Therapeutics Graduate Program

Co-Director, TL1 and KL2 Training Programs, Georgia CTSA

**GRADUATE FACULTY STATUS: Current** 

CITIZENSHIP: Naturalized US Citizen and Overseas Citizen of India

**ORCID iD:** https://orcid.org/0000-0003-3017-0230

**EDUCATION** 

1991-1994 BSc. Zoology, Botany & Chemistry

Sacred Heart College, Mahatma Gandhi University, Cochin, India

1994-1996 MSc. Biochemistry, <u>Annamalai University</u>, Chidambaram, Tamil Nadu, India 1996-2000 Ph.D. Biochemistry (Animal Science), <u>National Dairy Research Institute</u>

(Government of India), Indian Council of Agricultural Research, Karnal, India

**POSTDOCTORAL TRAINING** 

2000-2001 Project Associate, Center for Cellular & Molecular Biology, Hyderabad, India

2002-2003 Postdoctoral Research Associate, Kent State University, Kent, OH

2003-2006 Postdoctoral Research Fellow, Lerner Research Institute, Cleveland Clinic, Cleveland, OH

#### **GENERAL INFORMATION**

Links to the Principal Investigator and the Clinical and Experimental Therapeutics Web pages

#### LABORATORY ADDRESS

(1) <u>5B-125 Charlie Norwood VA Medical Center, Augusta GA</u>, Tele: (706) 733-0188; Ext.: 2493 Email: Somanath.Shenoy@va.gov

(2) <u>UGA Lab – HM170-176</u>. 914 New Bailie Street, Augusta, GA - 30912-2450.

RESIDENTIAL ADDRESS: 406 Pottery Drive, Martinez, GA 30907. Email: somanathshenoy@gmail.com

#### **CURRENT PRIMARY ACADEMIC APPOINTMENTS**

2023: Kenneth L. Waters Endowed Professor of Pharmacy

2018: Professor with Tenure

2009: Research Scientist, Angiogenesis Research, Charlie Norwood VAMC, Augusta, GA

#### PAST ACADEMIC APPOINTMENTS

2001-2002: Lecturer in Biochemistry, Kurukshetra University, India

2007-2008: Research Associate (Instructor), Cleveland Clinic

2008-2009: Project Scientist (Research Assistant Professor), Cleveland Clinic

2009-2013: Assistant Professor (Tenure-Track), College of Pharmacy, University of Georgia 2013-2018: Associate Professor (Tenured), College of Pharmacy, University of Georgia

#### **LEADERSHIP ROLES**

### **Assistant Department Head for Research & Graduate Education**

### Clinical & Administrative Pharmacy, UGA-College of Pharmacy

2021 - Present

Duties include all the above and (1) Working in conjunction with CAP graduate program faculty to ensure the implementation of policies and procedures, program curriculum, oral comprehensives, and dissertation defenses, bolstering the quality and synthesis of graduate courses, evaluating models of course delivery. (2) Developing and maintaining metrics for excellence (e.g., publications, practice innovations, awards, graduation rates, accreditation cycles, alumni engagement). Serving on the Undergraduate and Graduate Education committee in the College.

#### Director, Clinical and Experimental Therapeutics Graduate Program

2016 - Present

Lead a graduate faculty unit, supported the graduate students (MS and Ph.D.) on their recruitment, and continued administrative support until graduation or post-graduate training. Conducted all formal academic programs, teaching assignments and supported student life. Key developments include (1) Developed a new MS program in 2016, recruited the first batch of students in 2017, recruited and graduated 10 MS students on time. (2) Revised the Ph.D. curriculum that is 100% taught by the CET faculty members. (3) 100% success rate with on-time student graduations and 100% success in job placement or post-graduate training positions in top-tier institutions. (4) Worked for SACS reaccreditation in 2021. (5) Developed PharmD/MSCR dual degree program with Emory, and one fellow graduated. (6) Developed Residency/MS and Residency/Ph.D. sandwich programs in CET and recruited candidates from the UGA PharmD program. (7) Assisted with designing, planning, and constructing a UGA research laboratory on the Augusta campus in 2018. (8) Worked with the Saudi Arabian Cultural Mission and Egyptian Mission to recruit state-funded international scholars to the CET program. (9) Students and postdocs participated in the Augusta University and VA Research days.

#### **Graduate Coordinator**

### Clinical & Administrative Pharmacy, UGA-College of Pharmacy

2021 - Present

Serving as the Supervisor of Record for CAP Graduate Students, a liaison between the department and the Graduate School, and implementing all policies and procedures of the Graduate Council about graduate education at UGA. Overseeing graduate student matriculation (general guidance) and progress review process, leading student appeals process, supporting post-graduation placement, and managing graduate student alumni database for ongoing engagement with UGA.

#### **Co-Director**

#### NIH funded TL1 & KL2 Training Programs, Georgia CTSA (Atlanta, GA)

2016 - Present

As the UGA co-director for the NRSA KL2 and TL1 program and provide leadership as a Georgia CTSA Research Education Executive Committee member with my Emory, Georgia Tech, and Morehouse School of Medicine colleagues, I have been instrumental in advising and supporting the 6 TL1 and 5 KL2 scholars that have completed or are currently in the program at UGA. I am fully committed to providing the leadership and mentorship for continued excellence in the TL1/KL2 program at UGA and across the institutional partners of the Georgia CTSA. Key initiatives include (1) Assisted with grant funding application in 2016 with a successful award in 2017. (2) Assisted with several TL1 (Pre and post-doc) and

KL2 (Junior Faculty) grant applications. Successful attracting 5 TL1 grants and 4 KL2 grants to the University of Georgia. Two of the KL2 trainees found success with extramural grant funding. Lead as a major supervisor or co-mentored a KL2 and a TL1 fellow. (3) Currently developing a new MSCR program at the University of Georgia. (4) Served as a Site lead at UGA and received Supplement funding from NCATS to develop MOOCs for access by all the partnering institutions.

### **Director, Center for Pharmacy & Experimental Therapeutics**

### Medical College of Georgia, Augusta University

2020 - Present

In my capacity as an MCG's center director, representing the UGA Department of Clinical and Administrative Pharmacy, I facilitate experimental therapeutics research on the AU campus through the Clinical and Experimental Therapeutics (CET) laboratories and in collaborations with the Medical College of Georgia (MCG) faculty. E.g., attend the AU Research Administration Meeting, and administer the CET program research activities at the Charlie Norwood VA Medical Center labs. In addition, I report quarterly to the Sr. VP for Research at Augusta University on UGA College of Pharmacy's research activities on the Augusta campus and our ongoing/future collaborations with the Augusta University faculty, use of core facilities, etc.

#### Senior Editor, North American Vascular Biology Organization NAVBO

### 'Vascular Biology Publications Alert'

2015 - Present

Oversee a nationally reputed scientific board of associate editors on NAVBO's monthly publication on important research articles published in the field of vascular biology.

### **Interim Assistant Department Head for Research**

#### Clinical & Administrative Pharmacy, UGA-College of Pharmacy

2020 - 2021

In the role of an interim Assistant Head for Research, my duties included (1) Managing UGA-COP's research facilities, overseeing the CET research (IRB, IACUC, Biosafety, and Chemical Safety, etc.), and serving as a liaison with AU and CNVAMC on annual research and facilities contracts, and overall conduct of departmental research across all four campuses. (2) Assisting faculty members with their research needs and grantsmanship, junior faculty training on research conductance and other requirements, and integrate of pharmacy students and residents in translational research. (3) Assisting with identifying and monitoring budgetary concerns regarding implementing research in the department (e.g., fixed annual laboratory maintenance, computer server for large data).

#### **COMMITTEE CHAIR DUTIES**

2011: <b>Cha</b>	r, Graduate Education & Curriculum Committee, UGA-COP
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2016-2018: **Chair, Graduate Education and Curriculum Committee**, UGA-College of Pharmacy - Duties include, but are not limited to, reviewing and approving new courses and course amendments in the graduate programs by working with the course coordinators.

2011-2015: **Co-chair, Prostate Cancer Session, World Congress on Oncology, Greece.** 

Moderated scientific sessions at the international conference

2012: Chair, Planning Committee, STaR Conference-2012' Cancer therapy - Making it

personal.' - Overseen planning committee on organizing a South-East US regional

conference.

2019: Chair, Faculty Search Committee, Clinical and Experimental Therapeutics, UGA -

Successfully chaired a committee to recruit faculty for the CET program.

2020, 2022: Chair, Promotion & Tenure Committee, UGA-Clinical & Administrative Pharmacy -

Review and provide promotion and tenure recommendations to department faculty and

conduct post-tenure reviews.

2019-2020: Co-Chair, The Basic Cell Sciences 2 committee, American Heart Assn.

Chaired a study section to assign reviewers, conduct the meetings, review the grant

proposals, and scored applications to support recommendation for funding.

- 2021-2022: **Chair, Faculty Council, College of Pharmacy, University of Georgia.** Oversee the activities of the UGA-College of Pharmacy Faculty council that serve as deliberative and advisory bodies for all matters of the policy of the University of Georgia and are primary forums for faculty-administrative interaction in determining that policy.
- 2022-2023: Chair, Promotion & Tenure Committee, College of Pharmacy, University of Georgia. Moderate the discussions on the promotion and tenure of faculty and changes in the rules governing the P&T process in the college based on the unit criteria, college rules and the UGA guidelines.
- 2018-2025: Chair, Institutional Biosafety Sub-Committee (IBSC), Charlie Norwood VA Medical Center, Augusta GA. Chair meetings, review proposals and oversee biosafety for research conducted at the CNVAMC. Additional responsibilities include training of the committee members, advising the faculty, overseeing compliance matters and reporting back to ORO and ORD, VA department, Washington, DC.

#### **OTHER CURRENT APPOINTMENTS**

2009:	Member, Center for Drug Discovery, University of Georgia, Athens, GA
2009:	Member, Cancer Center, University of Georgia.
2011:	Adjunct Faculty, Department of Medicine, Augusta University, Augusta
2013:	Associate Member: Vascular Biology Center, Augusta University
2014:	Member, Biomedical and Health Sciences Institute, University of Georgia
2014:	Adjunct Member, Cancer Center, Augusta University
2015:	Member, Center for Pharmacy and Experimental Therapeutics, Augusta Univ.
2016:	Board Member, Research Education Executive Committee, Georgia CTSA
2019:	Board Member, Augusta Biomedical Research Corporation, Augusta, GA
2020	Color I'Co Ad Con Donal March on A con Theorem I'co Inc

Scientific Advisory Board Member, <u>Ayma Therapeutics Inc.</u>
 Co-founder & Chief Scientific Officer (CSO): <u>MetasTx, LLC.</u>

2021: UGA-College of Pharmacy Executive Committee

2021-Current: UGA-COP CAP Department Executive Leadership Committee

#### **PROFESSIONAL AND COMMITTEE DUTIES**

2009: Member, Self-study committee - Resources, UGA-College of Pharmacy

2010-Current: Member, Institutional Animal Care and Use Committee (IACUC) at the Charlie Norwood

VAMC, Augusta. (Currently on a 4th 3-year term)

2010-2011: Member, Graduate Education & Curriculum Committee, UGA-COP

2011: Member, Faculty Search Committee, UGA-CET Program

2013: Member, Clinical and Translational Research task force, Augusta University 2013-2016: Member, Academic and professionalism committee, UGA-College of Pharmacy

2013: Member, College of Pharmacy Research Retreat Committee

2014-2018: Member, Institutional Biosafety Committee at the Charlie Norwood VAMC

2014-Current: Member, Institutional pre-proposal review committee at the CNVAMC, Augusta.

2014: Member: CNVAMC Augusta Research Week Planning Committee

2010-2017: Coordinator, CET-VAMC Journal Club

2010-Current: Preceptor, Provide laboratory research training to PharmD students (electives and

APPEs), Pharmacy PGY2 residents, summer students, resident physicians

2014: Member, Department Head Search Committee, AU-Department of Biochemistry 2015: Member, College of Pharmacy Graduate program strategic planning task force

2016: AHA Scientific Sessions (Annual Meeting) - 2016 Abstract Reviewer

2016: Moderator, CET retreat on developing a new MS program to start in Fall of 2017

2018-2019: Graduate Education and Curriculum Committee, UGA-College of Pharmacy
 2018: CAP Department Student Appeals Adhoc Committee-College of Pharmacy
 2019: PBS Department Student Appeals Adhoc Committee-College of Pharmacy

2021: Member, COP Strategic Plan 2025 Executive Committee- Strengthening Partnerships with

Communities across Georgia & around the World

2014-Current: Promotion & Tenure Committee, UGA-Clinical & Administrative Pharmacy

2018-Current: Promotion & Tenure Committee, UGA-College of Pharmacy

2019-Current: Board Member, Augusta Biomedical Research Corporation, Augusta, GA

2016-2020: Proposal Reviewer, American Legion Grant Award

2019-2022: Member, Faculty Council, College of Pharmacy, University of Georgia

2019-2022: Content Expert, Translational Education & Mentoring in Science (<u>TEAMS</u>) Program.

2020-2021: Member, Department Head Search Committee, UGA-Clinical & Administrative Pharmacy

2020-2023: UGA-Health & Clinical Sciences University P&T Review Committee

2021-2022: UGA-COP Executive Committee

2020-Current: Executive Committee member, Clinical & Administrative Pharmacy Department.

2021-Current: Member, Graduate Education & Curriculum Committee, UGA-COP

2023-Current: University Post-Tenure Review Appeals Committee, University of Georgia.

### PROFESSIONAL SOCIETY AFFILIATIONS AND VOLUNTARY SERVICE

2004-Present: Member, American Heart Association (ATVB and BCVS Councils)

2008-Present: **Council Member**, North American Vascular Biology Organization (NAVBO) 2010-2018: **Study Section Member**, **American Heart Assn.** Grant Review Panel (Vascular) 2012-Present: **Prem. Professional Member**, **American Heart Assn**, ATVB & BCVS Councils

2013-Present: Fellow of the American Heart Association (FAHA)

2013-2018: Professional Member of American Society for Biochem and Mol Biology (ASBMB)

2018-Present: Communications Committee Member, NAVBO

2023-2024: Member, Association for Research in Vision and Ophthalmology (ARVO)

#### **ENTREPRENEURIAL ACTIVITIES**

# 2021-Present: Co-Founder and Chief Scientific Officer (CSO), MetasTx, LLC.

A pathway that we have been working on over the last decade is P21 activated



Kinase-1 (PAK1) and its potential role in cancer metastasis and lung diseases. We identified a novel drug to suppress PAK1 (IPA-3) and tested its efficacy in vitro and Vivo cancer therapeutics. In collaboration with Brian Cummings's team, we developed a new drug formulation called "SSL-IPA3" (MTX-101), a liposomal formulation of otherwise unstable inhibitor of PAK1. The drug formulation was tested for its stability and other favorable biophysical properties. It was efficacious to prevent and/or treat prostate tumor growth and metastasis to bone in an experimental model in mice and suppress prostate and breast cancer cell proliferation and other functions *in vitro*. The drug formulation was filed for patency in 2016, approved by the European Union patent agency in 2021, and is in the final stages of granting a US patency. By working with the University of Georgia office of innovation, we co-founded MetasTx in August 2021 (a start-up company) to develop and market the product (MTX-101) for cancer metastasis clinical trials. The company is in the developmental stage, and investments are sought from accredited investors and funding through Georgia research Alliance and NIH-SBIR grants.

**2022:** MetasTx received best start-up pitch presentation <u>award</u> at the <u>BioNJ's 12th Annual</u> <u>BioPartnering Conference</u>

**2022:** MetasTx LLC Raises Funds, Engages Manufacturing Partner, And Advances Phase One Development - **BioSpace**, **Globe Newswire**, **Yahoo**, and **J\*Star** 

2022: Accelerator Venture Partners suggested companies to be Fast-Tracked in 2022 Globe Newswire

2023: Awarded Best Pitch Presentation by the California-based 'PitchForce Connect'.

### 2020-Present: Scientific Advisor, AYMA Therapeutics Inc.

The study in our laboratory over the last two decades has identified the integral role of the Akt pathway

in several physiological processes and pathologies that include cancer and lung diseases such as the acute respiratory distress syndrome (ARDS), idiopathic

Ayma Therapeutics Inc.

pulmonary fibrosis (IPF), and COVID-19 associated lung injury and ARDS. We identified a reliable treatment option in "Triciribine" (AYX-101), a widely considered Akt pathway inhibitor for IPF, ARDS, retinal degenerative diseases (e.g., Diabetic retinopathy), and COVID-19. We also discovered that Triciribine has benefited from the activation of the adenosine receptor (acting as an adenosine receptor agonist). Since it is most active in a mono-phosphate form, it potentially activates AMP Kinase (an effect similar to the beneficial effects of Metformin in diabetic patients), which will help to normalize the pathologically deregulated pathways. This augments injury resolution, suppresses uncontrolled inflammation/cytokine storm, and inhibits tissue fibrosis. Our publications in these areas become the basis of clinical trials being planned by AYMA Therapeutics Inc. and grant applications being submitted to NIH and other funding agencies.

### HONORS, AWARDS, PATENTS, AND INVENTION DISCLOSURES

1996:	Runner-up, Best Student, the Society of Biological Chemists, Annamalai Chapter
1996:	Junior Research Fellowship, NDRI, Indian Council of Agricultural Research, India
1999:	Senior Research Fellowship, Council of Scientific and Industrial Research, India
2005:	Innovator Award (Cleveland Clinic): Novel approach to control vascular maturation

2005: Irvine H. Page Award, Cleveland Clinic

2005: <u>Invention Disclosure</u>: Novel approaches to control vascular permeability and maturation: submitted to Cleveland Clinic Foundation, Cleveland, OH

2006: Junior Investigator Award of Research Excellence by the Cleveland Clinic

2007: Award of Research Excellence by the Cleveland Clinic for the 2<sup>nd</sup> consecutive year

2007: New Investigator Travel Award American Heart Association (BCVS Council)

2008: Scientist Development Grant (National) Award by the American Heart Association Young Investigator Award, 12<sup>th</sup> Biennial Midwest Platelet Conference, Lexington, KY

2012: Outstanding Achievements in Research Award at the 15<sup>th</sup> International Symposium on Molecular Medicine, Crete, Greece

2012: International Travel Award by UGA Senior VP to attend FASEB TGFβ meeting, Italy

2013: Summer Research Award for the productive College Faculty, UGA OVPR

2013: Elected as a Fellow of the American Heart Association (FAHA)

2014: International Travel Award, UGA Office of Senior VP for the International Oncology meeting in Greece

2014: Summer Research Award for the productive College Faculty, 2<sup>nd</sup> consecutive year

2014: <u>American Legion</u> Research Award

2015: UGA-GRU Inter-University Collaborative seed grant award (2015-2016)

2015: <u>Invention Disclosure</u>: Akt inhibitor 'Triciribine' for the treatment of Pulmonary Arterial Hypertension (PAH) and Idiopathic Pulmonary Fibrosis (IPF)

2015: <u>Invention Disclosure</u>: Inhibition of GSK3 using SB415286 for both early androgen-dependent and advanced androgen-independent prostate cancer

2016: Idea Development Award, US Department of Defense-PCRP Program

2016: Excellence in Manuscript Review and Editorship Certificate from *Oncology Reports* 

2017: <u>Invention Disclosure</u>: Use of MMP3 (UK356618) and FoxO (AS1842856) inhibitors in the treatment of acute respiratory distress syndrome (ARDS)

2017: <u>Invention Disclosure</u>: Use of MMP3 activity assay in biological fluids as a novel biomarker and prognostic marker for ARDS

2018: *Invention Disclosure*: sPLA2 responsive liposomes of IPA3 for prostate and breast cancer

- 2018: Excellence in Manuscript Review and Editorship Certificate from *Molecular Medicine Reports* iournal
- 2019: Excellence in Manuscript Review and Editorship Award Certificate from *Molecular and Therapeutics Medicine* journal
- 2019: American Legion Research Award
- 2009-21: Wilson Pharmacy/Dean's Endowment Intramural Awards for 12 consecutive years as PI
- 2021: <u>European Union patent</u> (EP 3 416 623 B1) "IPA-3-Loaded liposomes and methods of use thereof"-Granted
- 2022-23: <u>U.S. PATENT</u> (63/304,058) "Pharmaceutical Compositions and Methods of Administration" (Provisional) submitted on January, 2022 and full application submitted on January, 27 2023 (Pending).
- 2022: <u>U.S. PATENT</u> (16/077,980) Application No. 62/295,331 filed on 2/15/2016. US Utility Patent Number 11,517,539, titled "IPA-3-LOADED LIPOSOMES AND METHODS OF USE THEREOF" issued on 12/06/2022. Inventors: Somanath Rammohan Shenoy, Brian S. Cummings, and Wided Najahi-Missaoui. Assigned to University of Georgia Research Foundation, Inc.
- 2022: <u>Invention Disclosure</u>: Let-7a-5p and miR-199a-5p Expression in Prostate cancer cells are a therapeutic target and biomarker for metastatic prostate cancer
- 2022: Invited panelist at the <u>Health Connect South Conference</u>, Georgia Aquarium, Atlanta, GA
- 2023: Wiley publishers recognition for "Top Downloaded Article of the Year" for the study "Aktindependent effects of triciribine on ACE2 expression in human lung epithelial cells: Potential benefits in restricting SARS-CoV2 infection" in the Journal of Cellular Physiology.
- 2023: UGA Student Career Success Influencer Award 2022 Recognition by the University of Georgia Career Center for greatly contributing to the career development of UGA graduates.
- 2023: Teacher of the Year Award (Graduate/Undergraduate)- UGA College of Pharmacy.
- 2023: Kenneth L. Waters Endowed Pharmacy Professorship (Inaugural), University of Georgia.

#### **AWARDS AND RECOGNITIONS TO TRAINEES**

- 2009: Anna Goc, Ph.D., Best Postdoctoral Poster Award, UGA Centre for Drug Discovery conference
- 2010: Samith Thomas, MD, "Rahn-Peacock Award for Research Excellence", MCG, Augusta
- 2010: Anna Goc, Ph.D., Best Postdoctoral Research Award at the VA Research Day, Augusta
- 2010: Samith Thomas, MD, "STaR Postdoctoral award for the best translational research"
- 2011: Anna Goc, Ph.D., Best Postdoctoral Research Award, VA Research Day Augusta
- 2011: Samith Thomas, MD, Runner up, Postdoctoral Research Award, VA Research, Augusta
- 2012: Maha Abdalla, PharmD, Award of Excellence in CET, GRU Graduate Research Day
- 2012: Anna Goc, Ph.D., Postdoctoral Fellow, received STaR Travel Award
- 2012: Anna Goc, Ph.D., 2<sup>nd</sup> runner-up, Postdoctoral Research Award, STaR conference
- 2013: Samith Thomas, MD, "Rahn-Peacock Award for Research Excellence", MCG
- 2013: Maha Abdalla, PharmD, Ph.D., Award of Research Excellence, AU Graduate Research Day
- 2013: Ahmad Al-Azayzih, PharmD, Ph.D., Award of Research Excellence, AU-GRD
- 2013: Fei Gao, MD, Ph.D., "STaR Postdoctoral Award for the Best Translational Research"
- 2013: Maha Abdalla, PharmD, Ph.D., UGA Grad. Travel Award, ACCP meeting at Albuquerque, NM
- 2013: Maha Abdalla, PharmD, Ph.D., American Heart Association Pre-Doctoral Fellowship Award
- 2013: Maha Abdalla, PharmD, Ph.D., Runner-up, UGA-Graduate Research Day Research Award
- 2014: Maha Abdalla, PharmD, Ph.D., "Graduate Research Award", VA Research Day, Augusta, GA
- 2015: Ahmad Al-Azayzih, PharmD, Ph.D., "People's Choice Award for the Best Science", VA Research Day
- 2016: Harika Sabbineni, BPharm, Ph.D., "People's Choice Award for Best Science", VA ResearchDay
- 2016: Benjamin Andrick, PharmD, "Best Graduate Research Award", STaR Conference
- 2016: Justin Joy, PharmD, Best Clinical Seminar Presentation, Spring 2016.
- 2017: Sandeep Artham, PharmD, Ph.D., UGA Grad. Travel Award, Gordon Conference, Newport, RI

2017: Sandeep Artham, PharmD, Ph.D., "Best Graduate Research Award" at the VA Research Day

2017: Abdul Alwhaibi, PharmD, Ph.D., UGA Grad. Travel Award for AACR Conference at Orlando, FL

2017: Arti Verma, Ph.D., STaR Travel Award, STaR Conference-2017, Augusta, GA.

2018: Mir Adil, PharmD, Ph.D., UGA-CET Award for Excellence in Literature Evaluation

2019: Rana Kadry, PharmD, MS, UGA-CET Award for Excellence in Literature Evaluation

2019: Mir Adil, PharmD, Ph.D., 2<sup>nd</sup> Runner Up, "Best Graduate Research Award", VA Research Day

2020: Stacey Risk, PharmD, Best Clinical Seminar Presentation, spring 2020.

2020: Madhuri Rudraraju, PharmD, UGA-CET Award for Excellence in Literature Evaluation

2021: Mir Adil received recognition and a cash award for his service at the VA research Day

2021: Madhuri Rudraraju, PharmD, Award of Research Excellence, AU- Grad. Research Day

2021: Mir Adil won a Travel Award at the Ion Channels Regulation Conference by FASEB

2021: Mir Adil won an "international research award" - 2021-European Chemical Biology Symposium

2022: Edith Ford, PharmD student - poster competition FINALIST, ACCP Global Conference, SFO, CA.

2023: Nidhi Shenoy won the Best Science Award at CSRA Science Fair

2023: Madhuri Rudraraju, PharmD, Research Poster Award, 1st Place, VA Research Day.

2023: Madhuri Rudraraju, PharmD, People's choice Award, 2<sup>nd</sup> Place, VA Research Day.

2023: Shengshuai Shan, Ph.D., Research Presentation (Oral) Award, 1st Place, VA Research Day.

#### PROFESSIONAL SERVICES TO SCIENTIFIC JOURNALS

2010-Present: **Editorial Board Member** for journals:

PLoS One (Associate Editor) MDPI Life (Senior/Section Editor)

Oncology Reports, Spandidos Publications, Greece (Editorial Board Member)

Experimental and Therapeutic Medicine (Editorial Board Member) Medicinal Chemistry: Current Research (Editorial Board Member)

MDPI Physiologia (Section Editor)

Frontiers in Molecular Biosciences (Associate/Topic Editor)

2006-Present: Reviewer for journals including, but are not limited to, Blood, Journal of Biological Chemistry, Proceedings of National Academy of Sciences, USA, Journal of Pharmacology and Experimental Therapeutics, Journal of Cellular Physiology, International Journal of Cancer, Oncogene, Molecular Biology of Cell, PLoS One, British Journal of Pharmacology, Biochemical Pharmacology, Pharmacological Research, Carcinogenesis, International Journal of Oncology, BMC-Cancer, BMC-Complementary & Alternative Medicine, Biochimica Biophysica Acta- Reviews in Cancer Biology, Biochimica Biophysica Acta-Molecular Cell Research, Cancer Research, Molecular Cancer Research, Molecular Cancer Therapeutics, Arteriosclerosis Thrombosis & Vascular Biology, Molecular Medicine, Frontiers in Immunology, Journal of Cell Biology, Heliyon (Cell Publications), Scientific Reports, Science Signalling, Science Advances, and Nature Communications.

### Invited study section member in the international grant review agency panels:

2012-2018: **Prostate Cancer UK** 

Medical Research Council-UK

World Cancer Research Fund International-UK European Commission for Research and Innovation

European Research Council (Belgium & UK),

Italian Ministry of Health "Infection, immunity, and lung diseases" Group

Cancer Research Wales (UK) - Invited Grant Proposal Review Member 2019:

2020: Member- Nazarbayev University's (Kazakhstan) Peer Review Panel for 2020 by OARU.

2021: Yarmouk University Faculty Promotion Reviewer, Yarmouk, Jordan.

2021: **Swiss National Science Foundation** Grant Proposal Reviewer

### **CURRENTLY FUNDED RESEARCH AWARDS**

R01 NS104573 (NIH/NINDS) Ergul/Shenoy (Multi-PI) 09/01/2020-08/31/2023

Progressive Post Stroke Cognitive Impairment: Mechanisms & Intervention.

The goal is to study the effect of microglial activation in the neurovascular unit after stroke.

Total Funding: \$1,390,878 (3 years)

**UL1 TR000454** (NIH/NCATS) Taylor/Phillips (PIs) 09/01/2022-08/31/2027

Georgia Clinical and Translational Science Alliance (Georgia-CTSA).

The goal of this project is to promote clinical and translational science research in Georgia.

Role: Co-Investigator

Total Funding: \$45 Million (5 years)

**KL2 TR002381** (NIH/NCATS) Blumberg (PI) 09/01/2022-08/31/2027

Institutional junior faculty career development award through Georgia-CTSA.

The goal of this project is to promote junior faculty research in clinical and translational science.

Role: Co-Investigator (Co-Director of the KL2 Training Core)

Total Funding: \$7 Million (5 years)

**TL1 TR002382** (NIH/NCATS)

Blumberg (PI)

09/01/2022-08/31/2027

Institutional Pre/Postdoctoral training award through Georgia-CTSA.

This project aims to promote clinical and translational science research to pre/postdoctoral fellows in Georgia.

Role: Co-Investigator (Co-Director of the TL1 Training Core)

Total Funding: \$5 Million (5 years)

**R03 AI169063** (NIH/NIAID)

05/01/2022-04/30/2024

Mechanistic Insights of TIMP-1 in Influenza Virus Infection.

The goal is to study the role of TIMP-1 in IAV infection.

Role: Co-Investigator

Total Funding: \$151,000 (2 years) – Pending activation (Received fundable score). Grimsey (PI)

Wang (PI)

**R03 AI171967** (NIH/NIAID)

05/10/2022-04/30/2024

Characterization of Atypical P38 Signaling in Acute lung Injury.

The goal is to study the role of Atypical P38 Signaling in Acute lung Injury.

Role: Co-Investigator

Total Funding: \$142,208 (2 years).

Dean's endowment funds Shenoy (PI) 07/01/2022-06/30/2023

Exosomal Claudin-5 and promotion of inflammation in lung injury.

Total Funding: \$12,000 (1 year)

**TL1 Predoctoral Award.** (NIH/NCATS/GA-CTSA) Burton (PI) 08/01/2022-09/30/2023

The Atypical Approach: Identifying and Characterizing TAB1-mediated p38 Activation by GPCRs in

the Progression of Lung Disease

Role: Co-Investigator (Faculty Co-Sponsor).

Total Funding: \$35,000 (1 year)

**Georgia Research Alliance Award** Shenoy (PI) 10/01/2022-09/30/2023

MetasTx LLC: Novel formulations for metastatic prostate cancer therapy (Phase-Ia)

Role: PI

Total Funding: \$25,000 (1 year)

A phase 1-b for an additional \$25000.00 is pending award activation.

### **COMPLETED FUNDED RESEARCH PROJECTS**

PC 150431 (Department of Defense) Shenoy (PI)

09/15/2016-09/14/2021

sPLA<sub>2</sub>-Responsive Liposomal Delivery of IPA-3 for Prostate Cancer Therapy

This study aims to develop a nanotechnology-based approach to target P21 activated kinase in treating metastatic prostate cancer.

Total Funding: \$472,500 (3 years)

**R01 HL103952** (NIH/NHLBI)

Shenoy (PI)

06/01/2011-05/31/2018

Protein kinase B (Akt)-mediated pathway regulating endothelial barrier function.

Total Funding: \$1,575,000 (5 years)

**UL1 TR000454** (NIH/NCATS)

Taylor/Phillips (PIs)

10/01/2017-09/30/2022

Georgia Clinical and Translational Science Alliance (Georgia-CTSA).

The goal of this project is to promote clinical and translational science research in Georgia.

Role: Co-Investigator

Total Funding: \$44,102,365 (5 years)

**KL2 TR002381** (NIH/NCATS)

Blumberg (PI)

10/01/2017-09/30/2022

Institutional junior faculty career development award through Georgia-CTSA.

The goal of this project is to promote junior faculty research in clinical and translational science.

Role: Co-Investigator (Co-Director of the KL2 Training Core)

Total Funding: \$6,501,540 (5 years)

TL1 TR002382 (NIH/NCATS) Blumberg (PI)

10/01/2017-09/30/2022

Institutional Pre/Postdoctoral training award through Georgia-CTSA.

This project aims to promote clinical and translational science research to pre/postdoctoral fellows in Georgia.

Role: Co-Investigator (Co-Director of the TL1 Training Core)

Total Funding: \$4,645,870 (5 years)

F32 HL147437 (NIH/NHLBI-NRSA) Wang (PI)

05/15/2019-05/14/2022

TIMP-1 in Influenza-A Virus (IAV) infection

The goal of this project is to study the role of TIMP-1 in exacerbating IAV infection.

Role: Co-Investigator (Faculty Sponsor)

Total Funding: \$205,134 (3 years)

**KL2 Career Development Award** 

(Georgia-CTSA) Newsome (PI) 10/01/2019-09/30/2021

Stromelysin1 in Acute Respiratory Distress Syndrome.

The goal of this project is to study the benefits of targeting stromelysin1 in ARDS.

Role: Co-Investigator (Faculty Sponsor)

Total Funding: \$272,000 (2 years)

TL1 Predoctoral Award (NIH/NCATS/Georgia-CTSA) Jones (PI) 08/01/2020-07/30/2021

Microglial activation in stroke recovery.

The goal of this project is to determine the role of microglial activation in stroke recovery.

Role: Co-Investigator (Faculty Co-Sponsor)

Total Funding: \$35,000 (1 year)

**UL1 TR002378-02S1** (NIH/NCATS)

Phillips/Shenoy

09/22/2018-06/30/2020

Strategic Plan and Development of Online Education at the Georgia Clinical and Translational Science Alliance.

Role: UGA Site Lead (Sub-PI on the Supplement)

Total Funding: \$367,194 (1 year)

**PC 150431-P** (Department of Defense) Cummings (PI) 09/15/2016-09/14/2020

Secretory Phospholipase A2-Responsive Liposomal Delivery of IPA-3 for Prostate Cancer Therapy This study aims to develop a nanotechnology-based approach to target P21 activated kinase in

treating metastatic prostate cancer.

Role: Co-Investigator

Total Funding: \$566,250 (3 years)

**American Legion** Shenoy (PI) 07/01/2019-06/30/2020

Targeting NODAL for Prostate Cancer.

Total Funding: \$7,000 (1 year)

**American Legion** Shenoy (PI) 07/01/2014-06/30/2015

IPA-3 for Prostate Cancer.
Total Funding: \$10,000 (1 year)

**IO1 BX000891** (VA Merit Review) Fagan (PI) 04/01/2011-03/31/2015

Mechanisms and Consequences of Hypertension after Stroke.

Role: Co-Investigator

Total Funding: \$660,000 (4 years)

**13 PRE17100070** (AHA-Fellowship) Abdalla (PI) 07/01/2013-06/30/2015

Akt1-mediated pathway leading to pulmonary arterial hypertension.

Role: Sponsor.

Total Funding: \$56,000 (2 years)

**08-30326N** (AHA-National) Shenoy (PI) 06/01/2008-05/30/2013

Molecular mechanisms regulating Akt1 stimulated integrin activation, extracellular matrix secretion, and assembly.

Role: *Principal Investigator*.
Total Funding: \$260,000 (4 years)

Indian Council of Agricultural Research- Junior Research Fellowship (Pre-Doc). The mechanisms of acrosome reaction.

Shenoy (PI)

07/01/1996-06/30/1998

Total Funding: Indian Rupees ₹ 43,200 (2 years)

**Council of Industrial and Scientific Research- Senior Research Fellowship (Pre-Doc).** Progesterone and acrosome reaction. Shenoy (PI) 07/01/1998-06/30/2000

Total Funding: Indian Rupees ₹ 67,200 (2 years)

Dean's special endowment funds Shenoy (PI) 07/01/2013-06/30/2014

Differential role of TGFβ in tumor growth and bone remodeling in prostate cancer.

Total Funding: \$10,000 (1 year)

Provost's Summer Research Award (UGA) Shenoy (PI) 07/01/2013-06/30/2014

Targeting Pak1 for Prostate Cancer.

Total Funding: \$5,000 (1 year)

Translational Research Initiative Grant (CAP) Shenoy (PI) 07/01/2013-06/30/2014

Examining TGF $\beta$  and Integrin  $\alpha_{\nu}\beta_{3}$  Expression in Early and Aggressive Human Prostate and Bladder Cancer Tissues as Biomarkers for early detection and as targets for therapy.

Total Funding: \$25,000 (1 year)

Wilson Pharmacy Foundation Seed Grant Shenoy (PI) 07/01/2009-06/30/2010

Akt-mediated reciprocity between prostate cancer and microenvironment.

Total Funding: \$10,000 (1 year)

Wilson Pharmacy Foundation Seed Grant Shenoy (PI) 07/01/2010-06/30/2011 Statins for prostate cancer. Total Funding: \$7,000 (1 year) Wilson Pharmacy Foundation Seed Grant Shenoy (PI) 07/01/2011-06/30/2012 TGFβ signaling in Bladder cancer. Total Funding: \$8,500 (1 year) **Translational Research Initiative Grant** 07/01/2011-06/30/2012 Shenoy (PI) Is GSK-3 the gridlock in Akt-targeted prostate cancer therapy? Total Funding: \$25,000 (1 year) **UGA-COP Dean's Special Endowment Funds** Shenoy (PI) 07/01/2012-06/30/2013 Mechanisms Regulating Myofibroblast differentiation and Pulmonary Fibrosis. Total Funding: \$8,000 (1 year) **Translational Research Initiative Grant** DeRemer (PI) 07/01/2012-06/30/2013 Effects of cabazitaxel and dasatinib on prostate cancer micrometastasis. Total Funding: \$15,000 (1 year); Role: Con-Investigator. **Provost's Summer Research Award (UGA)** Shenoy (PI) 07/01/2014-06/30/2015 IPA-3 for Prostate Cancer. Total Funding: \$5,000 (1 year) **Wilson Pharmacy Foundation Seed Grant** Shenoy (PI) 07/01/2015-06/30/2016 Mechanisms regulating ARDS. Total Funding: \$9,500 (1 year) **UGA-GRU Inter-Institutional Grant** Shenoy/Browning (PI) 07/01/2015-06/30/2016 Akt-FoxO-Protein Kinase G pathway in colorectal cancer. (Multi-PI Award) Total Funding: \$40,000 (1 year) **Wilson Pharmacy Foundation Seed Grant** Shenoy (PI) 07/01/2016-06/30/2018 miR-669h-3p regulation in metastatic prostate cancer. Total Funding: \$7,500 (2 years) Dean's special endowment funds Shenov (PI) 01/01/2018-12/31/2018 Claudin-17 in acute respiratory distress syndrome (ARDS). Total Funding: \$10,000 (1 year) **Morgan Fund in Pharmacy** Newsome (PI) 01/01/2018-12/31/2018 Clinical evaluation of MMP-3 activity in patients with ARDS. Total Funding: \$5,000 (1 year); Role: Con-Investigator. Earl and Carol Wright Program for Cancer Chastain (PI) 01/01/2018-12/31/2018 Evaluating the role of aquaporin-4 channels in Cryptococcus neoformans CNS infections. Total Funding: \$6,000 (1 year); Role: Con-Investigator. Clinical & Translational Research Unit Grant (UGA) Newsome (PI) 07/01/2018-06/30/2019 Clinical evaluation of MMP-3 activity in Broncho alveolar lavage samples from patients with ARDS. Total Funding: \$40,000 (1 year); Role: Con-Investigator. **Translational Research Initiative Grant** Shenoy (PI) 07/01/2017-06/30/2019 ALK-5 and Stromelysin1: New diagnostic and therapeutic targets for deadly lung diseases. Total Funding: \$50,000 (2 years) Wilson Pharmacy Foundation Seed Grant Newsome (PI) 07/01/2018-06/30/2019 Mechanistic characterization of cisatracurium on stromelysin-1 expression and activity by the

endothelial cells and inflammatory cells in ARDS. Total Funding: \$5,000 (1 year); Role: Con-Investigator. Wilson Pharmacy Foundation Seed Grant Shenoy

(PI) 07/01/2018-06/30/2019

Crumbs-3 in endothelial-barrier function and lung injury.

Total Funding: \$10,000 (1 year)

Wilson Pharmacy Foundation Seed Grant Newsome (PI) 07/01/2020-06/30/2021

Phenotypic characterization of acute respiratory distress syndrome (ARDS) by stromelysin-1

(MMP3) expression.

Total Funding: \$5,000 (1 year); Role: Con-Investigator.

Wilson Pharmacy Foundation Seed Grant Shenoy

(PI) 07/01/2020-06/30/2021

The status of claudin-17 (CLDN-17) in COVID-19 associated ARDS.

Total Funding: \$7,500 (1 year)

**Dean's special endowment funds** Chastain (PI)

07/01/2021-06/30/2022

Acetazolamide for cerebral edema in Cryptococcus neoformans meningoencephalitis.

Role: Co-Investigator (Co-Investigator)

Total Funding: \$8,000 (1 year)

#### MEDIA COVERAGE OF OUR RESEARCH

2011: Statins for prostate cancer highlighted by MedLinx and UK based Lead Discovery

2013: Atlanta Business Chronicle UGA is working on a new prostate cancer drug:

Access at Atlanta Business Chronicle

2013: UGA Today, UGA Columns and Technology

2014: Athens Herald: For access, click here Athens Banner-Herald

2015: UGA Today and UGA Research

2015: UGA Today: For access, click here UGA Research

2015: Science Daily, Eurekalert, Technology, Times of India, Britain News, lung disease news, pulmonary hypertension news, Medlinx, etc.

For access, click <u>MedLinx</u>, <u>Science Daily</u>, <u>Lung Disease News</u>, <u>NewsMax</u>, and <u>Global News</u> Connect.

2015: Newscast to 8 news agencies/blogs can be accessed here: Altmetric Data

2016: Nanotechnology drug (SSL-IPA3) inhibiting prostate cancer was highlighted in >25 News media sites and discussed in several blogs.

2016: Newscast to >25 news agencies/blogs can be accessed here: Altmetric Data

2019: Researchers find new drug targets for deadly lung disease - UGA Today, Technology and Drug Discovery: For access, click here: UGA Today, Technology and Drug Discovery

2020: Focus on Faculty – UGA Today

2022: Keeping Cancer in Place: Overcoming metastasis Nature, November 2022 Issue.

2023: Drs. Shenoy, Narayanan Identify Potential 'Goldilocks' Treatment for Retinal Disorders

### <u>Invited study section member in the grant review panels of US funding agencies:</u>

2019-2020: INBRE Program Grant Invited Reviewer-University of Nebraska

2020: Invited Reviewer, Iner-Clarke Atlanta & Augusta University Inter-institutional Grant

2017-2018: Member, American Heart Career Development Award BCS Grant Review Panel

2010-Present: Member, American Heart Assn Fellowships Basic Cell CSS Review Panel

2017-Present: Member, Georgia CTSA TL1 Predoctoral Fellowship Review Panel

2017-Present: Member, Georgia CTSA TL1 Postdoctoral Fellowship Review Panel

2017-Present: Member, Georgia CTSA KL2 Career Development Grant Review Panel

2017-Present: Member, Georgia CTSA Pilot Seed Grant Review Panel

2022-Current: Member, AHA Transformational Project Award Cardiology Peer Review Panel

2022: Review panel member, COVID Research Recovery Funding Program Review, UGA

### RESEARCH PUBLICATIONS (Listed 'Somanath PR' in PubMed)

### A complete list of publications from NCBI My Bibliography: Research Publications by "Somanath PR"

- 1. Shan S, Liu F, Ford E, Caldwell RB, Narayanan SP, Somanath PR. Triciribine Attenuates Pathological Neovascularization and Vascular Permeability in a Mouse Model of Proliferative Retinopathy, *BIOMED. PHARMACOTHER.* 2023; 162: 114714.
- Somanath PR, Chernoff J, Cummings BS, Prasad SM, Homan HD. Targeting P21-Activated Kinase-1 for Metastatic Prostate Cancer. CANCERS. 2023; 15(8):2236.
- McGee, RE, Blumberg, HM, Ziegler, TR, Ofotokun, I, Bhatti, PT, Paulsen, DF, Quarshie, A, Somanath, PR, Comeau, DL. Mentor Training for Junior Faculty: A Brief Evaluation Report from the Georgia CTSA. J INVEST MED. 2023 (In Press).
- 4. Almuntashiri S, Zhang D, Somanath PR, Newsome AS. MMP3 in Severe COVID-19: A Biomarker or Therapeutic Target? *INFECT DISORD DRUG TARGETS*, 2023; 23(1): e190622206159.
- Han, Y, Zhu, Y, Almuntashiri, S, Wang, X, Somanath, PR, Owen, CA, Zhang, D. Extracellular vesicle encapsulated CC16 as novel nanotherapeutics for acute lung injury. MOL THER. 2023 Jan 11:S1525-0016(23)00009-6.
- Liu F, Alfarhan M, Baler L, Shenoy N, Liao Y, Henry-Ojo HO, Somanath PR, and Narayanan SP. Treatment with MDL 72527 Ameliorated Retinal Ganglion Cell Loss, Optic Nerve inflammation, and Improved Visual Acuity in an Experimental Model of Multiple Sclerosis, CELLS, 2022, Dec 16;11(24):4100.
- 7. Han Y, Zhu Y, Almuntashiri, S, Dutta S, Wang, X Somanath PR, Zhang, D. Nebulization of Extracellular Vesicles: A Promising Drug Delivery Approach for Lung Diseases. *J CONTROL RELEASE*. 2022; 352, 556-569.
- 8. Alanazi, A, Adil, MS, Lin, X, Chastain, D, Henao-Martinez, AF, Franco Paredes, C, Somanath, P.R. Elevated Intracranial Pressure in Cryptococcal Meningoencephalitis: Examining Old, New, and Promising Drug Therapies. *PATHOGENS*. 2022, 11(7):783.
- 9. Ahmad Z, Somanath PR. AKT Isoforms in the Immune Response in Cancer. Curr Top Microbiol Immunol. 2022;436:349-366.
- 10. Adil MS, Parvathagiri V, Verma A, Liu F, Rudraraju M, Narayanan SP, Somanath PR. Claudin-17 Deficiency in Mice Results in Kidney Injury Due to Electrolyte Imbalance and Oxidative Stress. *CELLS*. 2022; 11(11):1782.
- 11. Alwhaibi A, Parvathagiri V, Verma A, Artham, S, Adil MS, Somanath, PR, *Let-7a-5p* and *miR-199a-5p* expression regulated by Akt1 modulate prostate cancer epithelial-to-mesenchymal transition. *CANCERS*. 2022, 14, 1625.
- 12. Adil MS, Parvathagiri V, Verma A, Liu F, Rudraraju M, Narayanan S, Somanath PR. *Cldn17*<sup>-/-</sup>mice display leaky vasculature and organ injury accompanied by oxidative stress and inflammation. *RESEARCH SQUARE*. 2022 January. [preprint]. DOI: 10.21203/rs.3.rs-1270153/v1
- 13. Alfarhan M, Liu F, Shan S, Pichavaram P, Somanath PR, Narayanan SP. Pharmacological Inhibition of Spermine Oxidase Suppresses Excitotoxicity Induced Neuroinflammation in Mouse Retina. *INT J MOL SCI.*, 2022 Feb 15;23(4):2133.
- 14. Rudraraju M, Narayanan SP, Somanath, P.R. Distinct mechanisms of human retinal endothelial barrier modulation by mediators of diabetes and uveitis. *LIFE (MDPI)*. 2022, 12, 33.

- Adil, MS, Khulood, D, Narayanan SP, Somanath, PR. Bioinformatics analyses reveal modulation of the cell-barrier junction and cytoskeletal genes in lung epithelial cell lines on SARS-CoV-2 infection. TISSUE BARRIERS. 2021. Nov 5: 2000300.
- 16. Candadai, AA, Liu, F, Verma, A, Alfarhan, M, Adil, MS, Fagan, SC, Somanath, PR, Narayanan, SP. Neuroprotective Effects of Fingolimod in Experimental Optic Neuritis. *CELLS*, 2021, 10(11), 2938
- 17. Kaur, SP, Verma A, Lee HK, Barnett LM, Somanath, PR. Cummings BS. Inhibition of glypican-1 expression induces an activated fibroblast phenotype in a human bone marrow-derived stromal cell line. *SCI REP*. 2021. 11(1):9262.
- 18. Adil, MS, Verma A, Rudraraju M, Narayanan SP, Somanath, PR. Akt-independent effects of triciribine on ACE2 expression in human lung epithelial cells: Potential benefits in restricting SARS-CoV2 infection. *J CELL PHYSIOL*. 2021; 236:6597–6606
- 19. Kadry RW, Adil MS, Newsome AS, and Somanath P.R. Cisatracurium attenuates LPS-induced modulation of MMP3 and junctional protein expression in human microvascular endothelial cells. *BIOSCIENCE TRENDS*, 2021; 15(1):50-54.
- 20. Adil MS, Khulood D, and Somanath P.R. Targeting Akt-associated microRNAs for Cancer Therapeutics. *BIOCHEM PHARMACOL*. 2021. 189: 114384.
- 21. Alharthi A, Verma A, Sabbineni H, Adil, MS, Somanath, P.R. Distinct effects of stromelysin1 inhibition on EndMT and myofibroblast differentiation. *J CELL PHYSIOL*. 2021. 236(7): 5147-5161.
- 22. Verma A, Artham S, Somanath PR. ALK-1 to ALK-5 ratio dictated by the Akt1-β-catenin pathway regulates TGFβ-induced EndMT. *GENE*, 2021, 768: 145293.
- 23. Adil MS, Narayanan SP, Somanath PR. Cell-cell junctions: structure and regulation in physiology and pathology. *TISSUE BARRIERS*. 2021 Jan 2;9(1):1848212.
- 24. Adil MS and Somanath PR. Endothelial Permeability Assays *in vitro*. *SPRINGER PROTOCOLS, METHODS IN MOL. BIOLOGY*. 2021; 2367:177-191.
- 25. Adil MS and Somanath PR. Vascular Permeability Assays *in vivo*. *SPRINGER PROTOCOLS, METHODS IN MOL. BIOLOGY*. 2021; 2367:165-175.
- 26. Missaoui WN, Quach ND, Somanath PR, and Cummings BS. Liposomes targeting P21 activated kinase-1 (PAK-1) and selective for Secreted phospholipase A<sub>2</sub> (sPLA<sub>2</sub>) decrease cell viability and induce apoptosis in metastatic triple-negative breast cancer cells. INT J MOL SCI., 2020, 21 (24), 9396. 2020.
- 27. Kadry, R, Newsome, AS, and Somanath, P.R., Pharmacological inhibition of MMP3 as a potential therapeutic option for COVID-19 associated acute respiratory distress syndrome, *INFECTIOUS DISORDERS DRUG TARGETS*, 2021; 21(6): e170721187996.
- 28. Almuntashiri S, Zhu N, Han Y, Wang X, Somanath PR, and Zhang D. Club Cell Secreted Protein CC16: Potential Applications in Prognosisand Therapy for Pulmonary Diseases. *J CLIN MED.*, 2020, 9(12), 4039.
- 29. Zhu N, Almuntashiri S, Han Y, Wang X, Somanath PR and Zhang D. The roles of CCN1/CYR61 in pulmonary diseases. *INT J MOL SCI.*, 2020, 21 (21), 7810.
- 30. Adil MS, Narayanan SP, and Somanath P.R. Is amiloride a promising cardiovascular medication to persist in the COVID-19 crisis? *DRUG DISCOV THER*. 2020 Nov 4;14(5):256-258.
- 31. Verma A, Missaoui WN, Artham S, Cummings BS, Somanath PR. Sterically stabilized liposomes targeting P21-activated kinase-1 and secreted phospholipase A2 suppresses prostate cancer growth and metastasis. *ONCOLOGY LETTERS* 2020, Nov;20(5):179.
- 32. Rudraraju M, Narayanan SP, Somanath, P.R. Regulation of blood-retinal barrier cell-junctions in diabetic retinopathy. *PHARMACOL RES.*, 2020 2020 Nov;161:105115.

- 33. Gah A, Adil, MS, Sabbineni H, Verma A, Somanath, P.R. Regulation of TGFβ type-I receptor (ALK1 and ALK5) expression in TGFβ1-induced myofibroblast differentiation. *CAN J PHYSIOL PHARMACOL*. 2020 Jul 23;841-848.
- 34. Somanath PR. Is targeting Akt a viable option to treat advanced-stage COVID-19 patients? *AM J PHYSIOL LUNG CELL PHYSIOL*. 2020 Jul 1;319(1): L45-L47.
- 35. Artham S, Verma A, Newsome A, Somanath PR. Acute lung injury patients exhibit increased stromelysin1 activity in the blood samples. *CYTOKINE*. 2020 Apr 6;131: 155086.
- 36. Verma A, Artham S, Alwhaibi A, Adil MS, Cummings BS, Somanath PR. PAK1 inhibitor IPA-3 mitigates metastatic prostate cancer-induced bone remodeling. *BIOCHEM PHARMACOL*. 2020. Mar 30;177:113943.
- Artham S, Verma A, Alwhaibi A, Adil MS, Manicassamy S, Munn DH, Somanath PR. Delayed Akt suppression in the lipopolysaccharide-induced experimental lung injury promotes resolution that is associated with enhanced effector regulatory T-cells. AM J PHYSIOL LUNG CELL PHYSIOL. 2020 Apr 1;318(4):L750-L761.
- 38. Liu F, Saul AB, Pichavaram P, Xu Z, Rudraraju M, Somanath PR, Smith SB, Caldwell RB, Narayanan SP, Pharmacological inhibition of spermine oxidase reduces neurodegeneration and improves retinal function in diabetic mice. *J CLIN MED.* 2020 Jan; 9 (2): pii: E340.
- 39. Alwhaibi A, Verma A, Artham S, Adil MS, Somanath PR. Nodal pathway activation due to Akt1 suppression is a molecular switch for prostate cancer cell epithelial-to-mesenchymal transition and metastasis. *BIOCHEM PHARMACOL*. 2019 Oct; 168:1-13.
- 40. Missaoui WN, Quach ND, Jenkins A, Dabke I, Somanath PR, Cummings BS. Silencing Pak-1 CLIN Med expression limits growth, migration, and invasion and sensitizes prostate and breast cancer cells to the Pak-1 inhibitor (IPA-3) *in vitro*. *PHARMACOL RES PERSPECT*. 2019 Sep 6;7(5): e00518.
- 41. Alwhaibi A, Verma A, Adil MS, Somanath PR. The unconventional role of Akt1 in advanced cancers and diabetes-promoted carcinogenesis. *PHARMACOL RES.* Volume 145, July 2019, 104270.
- 42. Alwhaibi A, Kolhe R, Gao F, Kobran EK, Somanath PR. Genome atlas analysis-based profiling of Akt pathway genes in the early and advanced human prostate cancer. *ONCOSCIENCE*. 2019 Jul 2;6(5-6): 317-336.
- 43. Sabbineni H, Verma A, Artham S, Anderson D, Amaka A, Liu FL, Narayanan SP, Somanath PR. Pharmacological inhibition of β-catenin prevents EndMT in vitro and vascular remodeling in vivo resulting from endothelial Akt1 suppression. *BIOCHEM PHARMACOL*. 2019 June; 164: 202-215.
- 44. Artham S, Gao F, Verma A, Alwhaibi A, Sabbineni H, Hafez S, Ergul A, Somanath PR. Endothelial stromelysin1 regulation by the forkhead box-O transcription factors is crucial in the exudative phase of acute lung injury. *PHARMACOL RES.* 2019 Mar; 141: 249-263.
- 45. Gao, F., Alwhaibi, A., Artham S, Verma A, Somanath PR. 2018. Endothelial Akt1 loss promotes prostate cancer metastasis through β-catenin. *BR. J CANCER*. 2018 May;118(11):1464-1475.
- 46. Alwhaibi A, Gao F, Artham S, Hsia BM, Mondal A, Kolhe R, Somanath PR. Modulation in the microRNA repertoire is responsible for the stage-specific effects of Akt suppression on murine neuroendocrine prostate cancer. *HELIYON*. 2018 Sep 17;4(9): e00796.
- 47. Sabbineni, H., Verma, A, Somanath PR. Isoform-Specific Effects of Transforming Growth Factor-β on Endothelial to Mesenchymal Transition. *J CELL PHYSIOL*. 2018 Nov;233(11):8418-8428.
- 48. Andrick, B., Alwhaibi, A., DeRemer, D.L., Quershi, S., Khan, R., Somanath PR., and Pantin, J. Lack of adequate pneumococcal vaccination response in chronic lymphocytic leukemia patients receiving Ibrutinib. *BR. J. HAEMATOL*. 2018 Sep;182(5):712-714.

- 49. Gao, F., Alwhaibi, A., Sabbineni, H., Verma, A., Eldhahshan, W. and Somanath PR. (2017). Suppression of the Akt1-βcatenin pathway in advanced prostate cancer promotes TGFβ1-mediated EMT and metastasis. *CANCER LETTERS*. 402: 177-189.
- 50. Gao, F., Sabbineni, H., Artham, S., Somanath PR. 2017. Modulation of long-term endothelial-barrier integrity is conditional to the crosstalk between Akt1 and Src signaling. *JOURNAL OF CELLULAR PHYSIOLOGY*. 232: 2599-2609.
- 51. Wang R, Bridges A, Islam B, Sharman S, Hu M, Somanath PR, Venable L, Singh N, Kim S, Sridhar S, Hofmann F and Browning DD. 2017, Cyclic-GMP signaling increases antioxidant gene expression by activating FoxO3a in the colon epithelium. *AM J PATHOL.* 187: 377-389.
- 52. Gao F, Artham S, Sabbineni H, Al-Azayzih A, Peng XD, Hay N, Adams RH, Byzova TV and Somanath P.R. 2016, Endothelial-specific Akt1 loss blunts Angiopoietin-1 and VEGF-induced endothelial barrier protection through tight-junction turnover. *CELL MOL LIFE SCI.* Oct;73(20):3917-33.
- 53. Patel A, Sabbineni H, Clarke A, Somanath PR. Novel roles of Src in cancer cell epithelial-to-mesenchymal transition, vascular permeability, and microinvasion. *LIFE SCI*. 2016; 157:52-61.
- 54. Al-Azayzih A, Missaoui WN, Cummings BS and Somanath P.R. 2016, Liposomal delivery of the PAK-1 inhibitor IPA-3 limits prostate tumor growth *in vivo*. *NANOMEDICINE*. 12: 1231-1239.
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- 57. Gao F, Al-Azayzih A, Somanath PR. Discrete functions of GSK3α and GSK3β isoforms in prostate tumor growth and micrometastasis. *ONCOTARGET*. 2015 Mar20;6(8):5947-62.
- 58. Al-Azayzih A, Gao F, Somanath PR. P21 activated kinase-1 mediates transforming growth factor β1-induced prostate cancer cell epithelial to mesenchymal transition. *BIOCHIM BIOPHYS ACTA*, (MOL CELL RES.). 2015 May; 1853(5):1229-39.
- 59. Sabbineni H, Alwhaibi A, Goc A, Gao F, Pruitt A, Somanath PR. Genetic deletion and pharmacological inhibition of Akt1 isoform attenuate bladder cancer cell proliferation, motility, and invasion. *EUR J PHARMACOL*. 2015 Oct 5; 764:208-14.
- 60. Fairaq A, Goc A, Artham S, Sabbineni H, Somanath PR. TNFα induces an inflammatory stress response in microvascular endothelial cells via Akt- and P38 MAP kinase-mediated thrombospondin-1 expression. *MOL CELL BIOCHEM*. 2015 Aug; 406(1-2):227-36.
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- 62. Alhusban A, Al-Azayzih A, Goc A, Fagan S.C., Somanath P.R., 2014. Clinically relevant doses of candesartan inhibit prostate cancer growth *in vivo. J PHARM EXP THER.*, Sep; 350(3):635-45.
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### **BOOKS AND BOOK CHAPTERS**

- 104. Sabbineni H and Somanath PR. 2015. Pulmonary hypertension: Pathogenesis and Management. New York: *NOVA SCIENCE PUBLISHERS*; Chapter 1, Mechanisms of Vascular Remodeling in pulmonary arterial hypertension; p.1-38.
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- 106. Belal Al-Husein, Anna Goc and Somanath PR (2013), Simvastatin and Prostate Cancer: Molecular mechanisms regulating Cellular Functions *In vitro* and Tumor Growth *In vivo. SCHOLARS' PRESS*, AV Akademikerverlag GmbH & Co. KG, Saarbrücken, Germany (Book of 6 chapters in 135 pages).
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- 109. Artham S and Somanath PR. 2017. Stage-specific effects of hypoxia on interstitial lung disease, Chap. 12, *Hypoxia in Human Diseases*, *INTECH PUBLISHERS*, pp 227-242. *ISBN*: 978-93-51-2896-0.

### **MANUSCRIPTS IN REVIEW/REVISION**

- 110. Alanazi, A, Rudraraju M, Parvathagiri, V, Shan S, Lin, X, Henao-Martinez, AF, Franco Paredes, C, Narayanan, SP, Chastain, D, Somanath, P.R. A multi-arm, parallel, preclinical study investigating the potential benefits of acetazolamide, candesartan, and triciribine in the treatment of cryptococcal meningoencephalitis. 2023 (In Review).
- 111. Wang, X, Rojas-Quintero, J, Zhang, D, Peh, HY, Burkett, PR, Jimenez, L, Ramírez, G, Hernández, C, Tesfaigzi, Y, Levy, BD, Zuñiga, J, Somanath, PR, Owen, CA. MMP-8 Deficiency Reduces the Severity of H1N1 Influenza Viral Infection in Mice. 2023 (Under Revision).
- 112. Alshammari A, Han Y, Jones TW, Pillai B, Zhang D, Ergul A, Somanath PR, Fagan SC. Stimulation of Angiotensin II Type 2 Receptor modulates pro-inflammatory response in microglia and macrophages: Therapeutic Implications for the Treatment of Post-stroke Cognitive Impairment, *LIFE*, 2023 (In Review).
- 113. Alshammari A, Pillai B, Kamat P, Jones TW, Bosomtwi A, Khan MB, Hess DC, Somanath PR, Ergul A, Fagan SC. Minor stroke accelerates the development of vascular cognitive impairment in aged hypertensive rats. *J CEREBRAL BLOOD FLOW METAB*. 2023 (In Preparation).
- 114. Jones TW, Almuntashiri S, Chase A, Alhunaid A, Somanath PR, Newsome A, Zhang D. Plasma MMP-3 predicts mortality in acute respiratory distress syndrome. *RESP RES.* (2023) In Revision.

#### PROCEEDINGS PUBLISHED IN JOURNALS

- Alfarhan M, Liu F, Shan S, Pichavaram P, Somanath PR, Narayanan SP. Pharmacological Inhibition of Spermine Oxidase Suppresses Excitotoxicity Induced Neuroinflammation in Mouse Retina. Investigative Ophthalmology & Visual Science, 2022; 63(7): 2970–F0211.
- 2. Narayanan, SP, Candadai, AA, Liu, F, Verma, A, Alfarhan, M, Adil, MS, Fagan, SC, Somanath, PR. Neuroprotective Effects of Fingolimod in Experimental Optic Neuritis. Investigative Ophthalmology & Visual Science, 2021; 62(8): 2397.
- 3. Stromelysin-1 as a biomarker for acute lung injury By: Newsome, AS; Kadry, R; Artham, S; Jones T; and Somanath, P.R. *J CLIN TRANSL SCI* Volume: 4 Supplement: 1 Published: JUL 2020.
- 4. Antibody response to the pneumococcal conjugate vaccine (PCV13) in CLL patients receiving Ibrutinib: Andrick, B; Alwhaibi, A; DeRemer, D; Qureshi, S; Somanath, PR.; Pantim, JM. *BLOOD* Volume: 128 (22): 5597. Published: DEC 2016
- 5. Targeting traf6-pak1 signaling limits prostate tumor growth and tgf-beta1-induced prostate cancer cell epithelial to mesenchymal transition By: Somanath, Payaningal R.; Al-Azayzih, Ahmad; Gao, Fei FASEB JOURNAL Volume: 30 Supplement: 1 Meeting Abstract: 1107.8 Published: APR 2016
- 6. Early At1 Blockade Ameliorates Ischemia/reperfusion Injury By Pi3k/akt And Enos Pathways: In Vivo And In Vitro Evidence By: Ishrat, Tauheed; Pillai, Bindu; Somanath, Payaningal R.; et al. STROKE Volume: 46 Supplement: 1 Meeting Abstract: AWP111 Published: FEB 2015
- 7. Interference with akt signaling in dyslipidemia diminishes myocardial infarction and promotes survival by inhibiting oxidative stress By: Ma, Lining; Kerr, Bethany A.; West, Xiaoxia Z.; et al. *HEART* Volume: 98 Supplement: 2 Pages: E62-E63 Published: OCT 2012
- Protein kinase-B alpha differentially regulates hypoxia- and tumor-induced angiogenesis involving mTOR and forkhead transcription factors By: Somanath, Payaningal R.; Chen, Juhua; Byzova, Tatiana V. ARTERIOSCLEROSIS THROMBOSIS AND VASCULAR BIOLOGY Volume: 28 Issue: 6 Pages: E45-E46 Meeting Abstract: 73 Published: JUN 2008
- 9. Akt-1 regulates angiogenesis in skin. By: Byzova, T; Chen, JH; Somanath, PR *BLOOD* Volume: 104 Issue: 11 Pages: 241A-241A Part: 1 Meeting Abstract: 845 Published: NOV 16 2004
- 10. Andrick B, Alwhaibi A, DeRemer D, Quershi, Khan R, Shenoy S, Pantin J. Antibody response to pneumococcal conjugate vaccine (PCV13) in chronic lymphocytic leukemia patients receiving ibrutinib. *BLOOD* 2016 128:5597.
- 11. Integral Role of Akt-Serum Response Factor-Myocardin Signaling in Myofibroblast Differentiation with Implications in Pulmonary Arterial Hypertension Maha Abdalla , Anna Goc, Lakshman Segar, and Payaningal R Somanath Originally published17 Mar 2016. ARTERIOSCLEROSIS THROMBOSIS AND VASCULAR BIOLOGY. 2015;33:A221
- 12. Triciribine, a Selective Akt Inhibitor, Inhibits Myofibroblast Differentiation and Ameliorates Pulmonary Vascular Remodeling in Pulmonary Hypertension Payaningal R Somanath and Maha Abdalla Originally published17 Mar 2015. ARTERIOSCLEROSIS THROMBOSIS AND VASCULAR BIOLOGY. 2018;34:A353
- 13. Gao, F., Al-Azayzih, A., & Shenoy, S. P. R. (2015). Unforeseen role of GSK3 alpha and GSK3 beta isoforms in prostate tumor growth and metastasis. *INTERNATIONAL JOURNAL OF MOLECULAR MEDICINE*, 36, S111.
- 14. Gao, F., Al-Azayzih, A., & Shenoy, S. P. R. (2015). Discrete Functions Of GSK3 alpha And GSK3 beta Isoforms In Prostate Tumor Growth and Micrometastasis. *FASEB JOURNAL*, *29*.
- 15. Shenoy, S. P. R., Al-Azayzih, A., & Gao, F. (2014). TGF beta signaling and epithelial-to-mesenchymal transition in prostate cancer. *INTERNATIONAL JOURNAL OF MOLECULAR MEDICINE*, *34*, S106.

- 16. Payaningal R Somanath, Juhua Chen, Tatiana V Byzova; Protein Kinase-B Differentially Regulates Hypoxia- and Tumor-Induced Angiogenesis Involving mTOR and Forkhead Transcription Factors, ARTERIOSCLEROSIS THROMBOSIS AND VASCULAR BIOLOGY. July 9, 2013 e-46
- 17. Shenoy, S. P. R., Gao, F., & Al-Azayzih, A. (2014). Mechanisms regulating Akt-mediated endothelial-barrier function. *INTERNATIONAL JOURNAL OF MOLECULAR MEDICINE*, *34*, S106.
- 18. Abdalla, M., Pruitt, A., Goc, A., Segar, L., Ergul, A., Fagan, S. C., & Shenoy, S. P. R. (2013). Triciribine, a selective Akt inhibitor, ameliorates idiopathic pulmonary fibrosis and pulmonary hypertension. In *PHARMACOTHERAPY* Vol. 33 (pp. E292-E293).
- 19. Thompson, L., Burke, S., Gurley, E., Newsome, R. C., Abdalla, M., & Shenoy, S. P. R. (2013). Dasatinib, a Src inhibitor, attenuates alpha-SMA synthesis: role in pulmonary fibrosis. In *PHARMACOTHERAPY* Vol. 33 (pp. E293-E294).
- 20. Gurley, E., Thompson, L., Abdalla, M., & Shenoy, S. P. R. (2013). Dasatinib inhibits alpha-SMA assembly in myofibroblasts differentiation: a potential role in pulmonary fibrosis. In *PHARMACOTHERAPY* Vol. 33 (pp. E293).
- 21. Newsome, R., Abdalla, M., & Shenoy, S. P. R. (2012). Effect of dasatinib on TGF&beta-induced fibroblast-to-myofibroblast differentiation. In *PHARMACOTHERAPY* Vol. 32 (pp. E299).
- 22. Shenoy, S. P. R., Goc, A., Abdalla, M., & Al-Azayzih, A. (2012). Unlocking the 14-3-3 code in the regulation of prostate cancer cell motility and transendothelial migration. *INTERNATIONAL JOURNAL OF MOLECULAR MEDICINE*, 30, S18. Retrieved from
- 23. Shenoy, S. P. R., Abdalla, M., Goc, A., & Byzova, T. (2012). Protein kinase 'Akt'ions on extracellular matrix remodeling. *INTERNATIONAL JOURNAL OF MOLECULAR MEDICINE*, 30, S18.
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- 25. Kochuparambil, S. T., Al-Husein, B., Goc, A., Mohammad, S., Terris, M. K., Samuel, T. A., . . . Shenoy, S. P. R. (2011). Effects of simvastatin and docetaxel on different pathways in the regulation of prostate and breast cancer cell survival. *JOURNAL OF CLINICAL ONCOLOGY*, 29(15).
- 26. Kochuparambil, S.T, Al-Husein B, Goc A, Terris M, and Somanath, P.R. (2011). Anti-cancer efficacy of simvastatin on prostate cancer cells and tumor xenografts is mediated through inhibition of Akt. *THE JOURNAL OF UROLOGY*, April 2011, Elsevier
- 27. Kochuparambil, S. T., Al-Husein, B., Goc, A., Soliman, S., Choudhary, M, Liu, J and Shenoy, S. P. R., 2010, Abstract B47: Pleiotropic effects of simvastatin on prostate tumor growth and metastasis *CLINICAL CANCER RESEARCH*. AACR International Conference on Translational Cancer Medicine-- Jul 11-14, 2010; San Francisco, CA
- 28. Somanath, P.R., Chen, J. and Byzova T.V. 2007. Protein Kinase B alpha (Akt1)-mediated extracellular matrix remodeling is essential for vascular responses. 4<sup>th</sup> Annual meeting of BVCS, American heart association, Keystone, CO. Published in *CIRCULATION RESEARCH*
- 29. Byzova, T., Chen, J., Somanath P.R. 2006. Akt pathway and extracellular matrix control tumor growth *in vivo*. 11th World Congress on Advances in Oncology and 9th International Symposium on Molecular Medicine. Crete, Greece. *INTERNATIONAL JOURNAL OF MOLECULAR MEDICINE*
- 30. Somanath, P. R., Chen, J., & Byzova, T. V. (2008). Protein kinase-B alpha differentially regulates hypoxia- and tumor-induced angiogenesis involving mTOR and forkhead transcription factors. In *ARTERIOSCLEROSIS THROMBOSIS AND VASCULAR BIOLOGY* Vol. 28 (pp. E45-E46). Received Young Investigator Award

- 31. Protein phosphatase PP1 gamma 2 localized in the sperm head is phosphorylated and bound to protein 14-3-3. January 2003. *BIOLOGY OF REPRODUCTION* Volume: 68 SPR Shenoy, S Mishra, ZH Huang, Srinivasan Vijayaraghavan
- 32. Somanath, P.R, Jack, S, Vijayaraghavan, S. 2003. Binding of Glycogen synthase kinase-3 to immobilized axin: A single-step purification method for assay of GSK-3 activity in sperm extracts. Society for the study of reproduction (Published in *BIOLOGY OF REPRODUCTION*)
- 33. Somanath, P.R, Mishra, S, Huang, Z, Vijayaraghavan S. 2003. Protein phosphatase PP1 gamma2 localized in the sperm head is phosphorylated and bound to protein 14-3-3. Society for the study of reproduction (Published in *BIOLOGY OF REPRODUCTION*)
- 34. Mishra, S, Somanath, P.R, Vijayaraghavan S. 2003. Distinct pools of PP1 gamma 2 are regulated by sds22, protein 14-3-3, and hsp90 within spermatozoa. American Society of Molecular Biology and Biochemistry (Published in *FASEB JOURNAL*)

### **INVITED PLATFORM PRESENTATIONS**

- 2023: Triciribine prevents retinal injury and inflammation in a mouse model of oxygen-induced retinopathy, Southeast Regional Clinical & Translational Science Conference, Pine Mountain, GA.
- 2022: Invited panelist, Health-Connect South Symposium-2022, Atlanta GA. Eds & Meds: Collaboration or Competition
- 2021: International Conference on Cancer Metastasis, *Cldn17* loss in mice promotes tumor angiogenesis.
- 2021: World Conference on Lung & Respiratory Disease, Paris, Therapeutic benefits of targeting Akt pathway in the advanced stages of acute lung injury, Apr 24.
- 2020: The COVID-19 Conundrum: Pathophysiology and Evolving Therapeutic Strategies, Webinar Organized by the ITC Limited's SciTech Program based in Bangalore, India, August 4.
- 2020: Targeting Stromelysin1 for acute lung injury: Preclinical Evidence, Southeast Regional Clinical & Translational Science Conference, Pine Mountain, GA, February 28.
- 2019: Tight-Junction Proteins in Physiology and Pathology: It takes more than one brick to build a wall. Department of Biochemistry and Molecular Biology Seminar Series, Augusta University, Nov. 15.
- 2019: TGFβ2 is the predominant isoform that induces endothelial-to-mesenchymal transition via Akt1-βcatenin signaling in endothelial cells, FASEB SRC, West Palm Beach, FL, July 31.
- 2019: Targeting FoxO Transcription factors for acute lung injury, Georgia-CTSA Annual Conference, Pine Mountain, GA, March 1.
- 2019: Akt inhibition post lung injury protects vasculature and promotes resolution through CD4+/FOXP3+/CD103+/CTLA4+ effector T-regulatory cells (Tregs). Gordon Research Conference on Vascular Cell Biology, Ventura, CA, January 15.
- 2018: Targeting FoxO-Stromelysin pathway for ARDS at the Veterans Affairs VISN7 Meeting, Charleston, SC, Nov 1.
- 2018: FoxO-regulated endothelial stromelysin-1 promotes the exudative phase of acute respiratory distress syndrome at the International Vascular Biology Meeting, Helsinki, Finland, June 5.
- 2018: Invited Seminar on "Effective strategies in Graduate Education and Training" at the SSV College, Kerala India on January 14.
- 2017: Invited Lecture, Cancer Research Symposium, The First Affiliated Hospital, Chongqing Medical University, Chongqing, China on June 16, 2017.
- 2017: Protein Kinase-B 'AKT'ivity modulation in ARDS, Department of Medicine Research Conference, Keynote Speaker, Augusta University Medical Center, November 2, 2017.
- 2017: Visiting Professor, Chongqing Medical University, Chongqing, China (June 14-23, 2017).

- 2017: Gordon Research Conference on Angiogenesis, Newport, RI. August 6-11 entitled "Pulmonary endothelial Akt1-FoxO-MMP3 signaling as a novel therapeutic target for ARDS".
- 2017: FASEB SRC: The TGFβ Superfamily: Signaling in Development and Diseases, Lisbon, Portugal (July), Akt1-βcatenin suppression induced prostate cancer cell EMT via TGFβ pathway
- 2017: Gordon Research Conference on Vascular Cell Biology, Ventura, CA. January 15-20 entitled "Mechanisms regulating EndMT and vascular remodeling in Acute Lung Injury".
- 2016: Experimental Biology, San Diego, CA entitled "Targeting TRAF6-Pak1 signaling inhibits prostate tumor growth and TGFβ1-induced prostate cancer cell epithelial to mesenchymal transition."
- 2016: Gordon Research Conference (Endothelial Cell Phenotypes in Health & Disease), Girona, Spain, July 17-22 Akt1-mediated pathway regulating endothelial-to-mesenchymal transition.
- 2016: Visiting Professor, Department of Biochemistry, MS University of Baroda, India
- 2016: Invited lecture, The Vikram Sarabhai Center for Cell and Molecular Biology, Baroda, India
- 2015: 20<sup>th</sup> World Congress on Advances in Oncology, Athens, Greece (October), Unforeseen role of GSK-3 isoforms in prostate cancer growth & metastasis (Invited speaker and co-chair)
- 2015: Georgia Regents University Cancer Center entitled "Controversies, debates, and consensus on the 'Akt'tions of Protein Kinase  $B\alpha$  on tumor angiogenesis and prostate cancer."
- 2015: Experimental Biology Conference, Boston, MA (April) entitled "Discrete functions of GSK3 isoforms in prostate cancer growth and metastasis."
- 2014: 17<sup>th</sup> International Symposium on Molecular Medicine, Athens, Greece, Mechanisms regulating Akt1-mediated endothelial barrier function (Invited speaker)
- 2014: 19<sup>th</sup> World Congress on Advances in Oncology, Athens, Greece (October), TGFβ signaling in prostate cancer EMT (Invited speaker and co-chair)
- 2013: Featured Speaker: Georgia Urological Association (GUA) Spring Meeting, Lake Oconee, Greensboro, GA, Novel pathways mediating prostate cancer and their potential clinical implications.
- 2012: 17<sup>th</sup> World Congress on Advances in Oncology, organized by the Spandidos Publication Group, Hersonissos, Crete, Greece (October), Unlocking the 14-3-3 code in the regulation of prostate cancer cell motility and trans-endothelial migration
- 2012: 15<sup>th</sup> International Symposium on Molecular Medicine, Organized by the Spandidos Publication Group, Hersonissos, Crete, Greece, Protein kinase Bα: 'Akt'ions on extracellular matrix remodeling
- 2011: 16<sup>th</sup> World Congress on Advances in Oncology, Organized by the Spandidos Publications, Rhodes Island, Greece (Oct), Statins for Prostate Cancer: A friend, a foe or neither
- 2011: 2<sup>nd</sup> Southern Translational Education and Research (STaR) Conference Augusta, GA (September), Do Statins Protect Against Prostate Cancer?
- 2011: FASEB Summer Research Conferences: The TGF $\beta$  Superfamily: Signaling in Development and Diseases, Il Ciocco (Lucca), Italy (August), TGF $\beta$  and Bleomycin-induced extracellular matrix synthesis is mediated through Akt and Mammalian Target of Rapamycin
- 2010: University of Georgia, College of Pharmacy Grand Rounds, Augusta, GA (October), Statins and Cancer: A friend, a foe or neither
- 2010: University of Georgia, College of Pharmacy Grand Rounds, Augusta, GA (April), Anti-angiogenic therapy: A novel approach for the treatment of cancer
- 2010: Medical College of Georgia, Department of Physiology, Seminar Series, Augusta, GA (December), Akt in vascular cells: Shibboleths in vasculature development
- 2009: University of Georgia, Centre for Drug Discovery Seminar Series, Athens, GA (October), Akt signaling in the regulation of angiogenesis and tissue remodeling

- 2008: University of Georgia, Clinical and Experimental Therapeutics, College of Pharmacy, Augusta, GA (October), Akt signaling in tissue remodeling and angiogenesis
- 2008: University of South Carolina, Department of Cell Biology and Anatomy, Columbia SC (September), Akt–integrin axis in vascular biology
- 2008: Texas A&M University, Department of Molecular Cardiology, Temple, TX (July), Akt signaling in tissue remodeling and angiogenesis
- 2008: Cleveland Clinic, Department of Cancer Biology, Cleveland, OH (June), Akt signaling in tumor microenvironment and angiogenesis
- 2008: Somanath, P.R., Chen, J., Byzova, T.V. Multiple functions of Akt pathway in the regulation of angiogenesis. 15<sup>th</sup> International vascular biology meeting, Sydney, Australia
- 2008: Somanath, P.R., Chen, J., and Byzova T.V. Protein Kinase B alpha differentially regulates hypoxiaand tumor-induced angiogenesis by Akt1. 12<sup>th</sup> Biennial Midwest Platelet Conference, Lexington, KY (*Oral presentation; Received Young Investigator Award*)
- 2008: Protein Kinase B alpha differentially regulates hypoxia- and tumor-induced angiogenesis involving mTOR and Forkhead transcription factors. The annual meeting of ATVB, American Heart Association, Atlanta, GA; Published in *Arterio. Thromb. Vasc. Biol*)
- 2007: Akt and extracellular matrix control tumor growth. 11th World Congress on Advances in Oncology and 9th International Symposium on Molecular Medicine, Crete, Greece
- 2004: Blood vessel development and maturation in the skin are controlled by the Akt1 kinase. American Society of Hematology Annual Meeting and Exposition, San Diego, CA
- 2003: Protein phosphatase PP1 gamma2 localized in the sperm head is phosphorylated and bound to protein 14-3-3. Society for the study of reproduction Meeting, Cincinnati, OH

## SELECTED CONFERENCE ABSTRACTS/MEETINGS/WORKSHOPS (FROM >100)

- 2023: Shan S, Liu F, Somanath PR, and Narayanan SP. Triciribine Attenuates Pathological Neovascularization and Vascular Permeability in a Mouse Model of Proliferative Retinopathy. Association for Research on Vision and Ophtalmology (ARVO Annual Meeting), New Orleans, LA.
- 2023: Rudraraju M, Shan S, Liu F, Narayanan SP, and Somanath PR. Pharmacological modulation of cytoplasmic β-catenin strengthens cell junctions and alleviates pathological vascular permeability and inflammation in an experimental model of uveitis. ARVO annual meeting, New Orleans, LA.
- 2023: Alfarhan M, Liu F, Liao Y, Somanath PR, Narayanan SP. Long-term Treatment with MDL 72527 Reduced Retinal Neuro-glial Injury and Improved Visual Acuity, Contrast Sensitivity, and Inner Retinal Function in Diabetic Mice. ARVO annual meeting, New Orleans, LA.
- 2022: Adil MS, Parvathagiri, V, Narayanan SP, Somanath PR. Claudin-17 deficiency in mice results in vascular permeability, fluid-electrolyte imbalance, and oxidative stress leading to lung injury, International Vascular Biology Meeting, Oakland, CA (Oct 2022).
- 2022: Verma A, Artham S, Alwhaibi A, Adil MS, Cummings BS, Somanath PR. PAK1 inhibitor IPA-3 mitigates metastatic prostate cancer-induced bone remodeling, Korean Society of Medical Oncology (KSMO) 15th Annual Meeting & 2022 International Conference, Seoul, South Korea (Sept 2022).
- 2022: Ford E, Liu F, Shan S, Somanath PR, and Narayanan SP. Impact of Triciribine in retinal neurovascular injury in a mouse model of ischemic retinopathy, Oct 2022. ACCP Global Conference, San Francisco, CA. (FINALIST for the poster award).
- 2022: Parvathagiri V, Adil MS, Narayanan SP, Somanath PR. Cldn17 loss in mice promotes tumor angiogenesis, UGA-Emory Winship Cancer Center Retreat, July 2022.

- 2022: Alwhaibi A, Parvathagiri V, Verma, A, Somanath PR. Regulation of Let-7a-5p and miR-199a-5p Expression by Akt1 Modulates Prostate Cancer Epithelial-to-Mesenchymal Transition via the Transforming Growth Factor-β Pathway, UGA-Emory Winship Cancer Center Retreat, July 2022.
- 2021: SBIR/STTR Grant Workshop- Georgia-CTSA, Nov 2021.
- 2021: New Department Head Training Workshop- University of Georgia.
- 2021: AACP Equity, Diversity, and Inclusion Institute, January 20-22, 2021.
- 2019: Somanath P.R, Artham S, Manicassamy S, and Munn DH, Akt inhibition post lung injury protects vasculature and promote resolution through CD4+/FOXP3+/CD103+/CTLA4+ effector T-regulatory cells (Tregs), Gordon Conference on Vascular Biology, Ventura, CA.
- 2018: Verma A, Missaoui WN, Ahmad A, Cummings BS, and Somanath PR. IPA-3 prevents prostate cancer-induced bone remodeling, VA-VISN7 Meeting, Charleston, SC.
- 2018: Alwhaibi A, Gao F, and Somanath PR. Targeting Akt1-Catenin in endothelial cells promotes prostate cancer invasion and metastasis. AACR Prostate Cancer Conference, Orlando, FL.
- 2017: Missaoui WN, Cummings BS, and Somanath PR. Liposomal-Mediated Delivery of PAK-1 Inhibitor IPA-3 Limits Prostate Tumor Growth In Vivo, 2017-AACR Annual Meeting.
- 2016: Missaoui WN, Al-Azayzih A, Cummings BS and Somanath PR. Liposomal-Mediated Delivery of the p21 Activated Kinase-1 (PAK-1) Inhibitor IPA-3 Limits Prostate Tumor Growth In Vivo, 2016-AAPS National Biotechnology Conference, Boston, MA.
- 2015: Harika Sabbineni, Maha Abdalla, and Somanath PR. Targeting the Akt pathway ameliorates TGFβ-induced vascular pruning and pulmonary fibrosis via regulation of thrombospondin-1 expression, *FASEB Summer Research Conference*, Snowmass, CO.
- 2014: Maha Abdalla and Somanath PR. Triciribine ameliorates TGFbeta-induced pulmonary arterial remodeling, *American Heart Association ATVB Annual Meeting*, Toronto, Canada.
- 2013: Maha Abdalla, Anna Goc, and Somanath PR. Protein Kinase B (Akt) promotes Myofibroblast Differentiation via SRF and myocardin signaling, *FASEB Conference: TGFbeta signaling in physiology and disease*, Steamboat Springs, CO, July 28, 2013.
- 2013: Ahmad Al-Azayzih, Fei Gao, and Somanath PR. TGF-Pak1 signaling in prostate cancer, *FASEB Conference: TGFbeta in physiology and disease*, Steamboat Springs, CO, July 28.
- 2013: Maha Abdalla, Anna Goc, and Somanath PR. Protein Kinase B (Akt) mediates αSMA Synthesis in Myofibroblast Differentiation and Pulmonary Vascular Remodeling via SRF and myocardin signaling, *Gordon Conference*, *NH*.
- 2013: Abdalla M, Goc A, Segar L, Ergul EA, Fagan SC and Somanath Shenoy. Triciribine, a Selective Akt Inhibitor, Ameliorates Idiopathic Pulmonary Fibrosis, and Pulmonary Hypertension, American College of Clinical Pharmacy (ACCP) Annual Conference, Albuquerque, NM.
- 2013: Thompson L, Burke S, Gurley E, Newsome R, Abdalla M, and Somanath PR. Dasatinib, a Src/Abl inhibitor attenuates alpha-SMA synthesis: Role in pulmonary fibrosis, American College of Clinical Pharmacy (ACCP) Annual Conference, Albuquerque, NM.
- 2013: Erin Gurley, LeeAnn Thompson, Maha Abdalla, and Somanath Shenoy. Dasatinib inhibits αSMA assembly in myofibroblast differentiation: Potential role in pulmonary fibrosis, American College of Clinical Pharmacy (ACCP) Annual Conference, Albuquerque, NM.
- 2013: Maha Abdalla, Anna Goc, and Somanath PR. Protein Kinase B (Akt) mediates αSMA Synthesis in Myofibroblast Differentiation and Pulmonary Vascular Remodeling via SRF and myocardin signaling, *American Heart Association ATVB Annual Meeting*, Orlando, FL.
- 2012: Abdalla A, Goc A, and Somanath PR. PKB is Integral for αSMA Synthesis in Myofibroblast Differentiation in Idiopathic Pulmonary Fibrosis, *Keystone Symposia* on Pulmonary Vascular Disease: Current Concepts and Future Therapies, Monterey, CA.

- 2012: Goc A, Liu J, Byzova TV and Somanath PR. "Chemotaxis and micrometastasis of prostate cancer cells are reliant on Akt-mediated affinity modulation of integrin  $\alpha_{v}\beta_{3}$ ". American Association for Cancer Research (AACR) on "Advances in Prostate Cancer Research", Orlando, FL
- 2013: NIH Angiogenesis Workshop at the National Institutes of Health, Bethesda.
- 2012: Al-Husein B, Goc A, Kochuparambil ST, Azayzih A and Somanath PR. "Effects of Simvastatin on Prostate Tumor Cell Proliferation and Micrometastasis". Hematology-Oncology Pharmacists Association (HOPA) Annual Meeting, March 21-24, Orlando, FL
- 2012: Katsanevas K, Al-Husein B, DeRemer D and Somanath PR. "Is GSK-3 the gridlock in Akt-targeted prostate cancer therapy". Hematology-Oncology Pharmacists Association (HOPA) Annual Meeting, March 21-24, Orlando, FL
- 2012: Goc A, Liu J, Byzova TV and Somanath PR. "Chemotaxis and micrometastasis of prostate cancer cells are reliant on Akt-mediated affinity modulation of integrin alpha-v beta-3". AACR meeting on "Advances in Prostate Cancer Research", Orlando, FL
- 2011: Samith Kochuparambil, Belal Al-Husein, and Somanath PR. Simvastatin and docetaxel utilize different pathways in the regulation of prostate and breast cancer cell survival with an additive effect when used in combination, American Society of Clinical Oncologists (ASCO), Chicago
- 2011: Samith Kochuparambil, Belal Al-Husein, and Somanath PR. Simvastatin inhibits Bcl-2 mediated survival pathway in prostate cancer cells. American Urological Society, Washington DC
- 2011: Belal Al-Husein and Somanath PR. Simvastatin Enhances Endothelial Barrier Function through Stabilization of Adherens Junction, presented at the NAVBO, "Vasculata" International Research workshop and conference in 'vascular biology', Atlanta
- 2011: Anna Goc, Maha Abdalla, Somanath PR. "Akt/cRaf axis in ECM remodeling: It takes two to tango", presented at the North American Vascular Biology Organization (NAVBO), "Vasculata" International Research workshop and conference in 'vascular biology', Atlanta
- 2011: Ahmed Al-Azayzih, Ahmed Alhusban, Anna Goc, Diana Hong, Susan Fagan, and Somanath PR. Angiotensin receptor blockers enhance prostate cancer cell functions in vitro. *American College of Clinical Pharmacy*, Pittsburgh
- 2010: Goc A, Al-Husein B, Choudhury, M, Liu, J and Somanath, P.R. TGFβ and Bleomycin-induced extracellular matrix secretion is mediated via Akt and mammalian target of rapamycin. Annual meeting of the ATVB, *American Heart Association*, San Francisco, CA
- 2010: Kochuparambil, S.T, Al-Husein B, Goc A, Soliman, S, and Somanath, P.R. Pleiotropic effects of Zocor on prostate cancer. *American Association for Cancer Research*, San Francisco, CA. (Also presented at the Georgia Research Summit, Atlanta)
- 2009: Grantsmanship Workshop, Organized by the UGA-OVPR.
- 2008: Somanath, P.R., Chen, J., Byzova, T.V. Multiple functions of Akt pathway in the regulation of angiogenesis. 15<sup>th</sup> International vascular biology meeting, Sydney, Australia
- 2007: Somanath, P.R., Chen, J. and Byzova T.V. Protein Kinase B alpha (Akt1)-mediated extracellular matrix remodeling is essential for vascular responses. 4<sup>th</sup> Annual meeting of BVCS. American Heart Association, Keystone, CO (Published in *Circ. Res.*)
- 2001: Workshop on surgical therapy for movement disorders, SCTIMST, Trivandrum, India
- 2000: Workshop on Electron microscopy technique, University of Punjab, Chandigarh, India

## **RECORD OF INSTRUCTION / TEACHING**

### KURUKSHETRA UNIVERSITY, DEPARTMENT OF BIOCHEMISTRY, INDIA

2001-2002: (For MS Biochemistry students). <u>Courses taught</u>: Enzyme Kinetics, Metabolism, Physiology & Anatomy, Clinical Biochemistry, and Laboratory training of research techniques in Biochemistry and Molecular Biology

2002-2003: KENT STATE UNIVERSITY, KENT, OH - Undergraduate/Graduate Research Training

<u>2004-2009</u>: <u>CLEVELAND CLINIC LERNER RESEARCH INSTITUTE, CLEVELAND, OH</u> - Research Training for Graduate students and postdoctoral fellows at the Lerner College of Medicine, Cleveland Clinic.

### THE UNIVERSITY OF GEORGIA, COLLEGE OF PHARMACY, AUGUSTA, GA

#### GRADUATE (PH.D. AND MS) PROGRAMS

#### PHRM 8740 (Introduction to CET Research; Any 3 Semesters – 4CR)

Year	Name	Year	Name
2009	Al-Husein, Belal	2010	Sabbineni, Harika; Elshaer, Sally and Sherif Hafez
2011	Alhusban, Ahmed, and Soliman, Sahar	2012	Abdalla, Maha, and Al-Azayzih, Ahmad
2013	Ahmed, Heba, and Fairaq, Arwa	2014	Artham, Sandeep, and Alwhaibi, Abdulrahman
2015	Eldahshan, Wael	2017	Adil, Mir
2018	Gah, Asma, and Alharthi, Ahlam	2019	Rudraraju, Madhuri and Kadry, Rana - Summer
2019	Jafari, Eissa and Almuntashiri, Sultan- Fall	2020	Alanazi, Abdulaziz and Parvathagiri, Varun
2021	Nourin, Nadia	2022	Alanazi, Abdulaziz and Manya Rao

## PHRM 7000 (Masters Research – All 3 Semesters - 5-12 CR)

Year	Name	Year	Name
2017-2019	Ahlam Alharthi, PharmD. Asma Gah, PharmD.	2018-2020	Rana Kadry, PharmD.
2020-2022	Abdulaziz Alanazi, PharmD	2022-2024	Manya Rao

#### PHRM 7300 (Masters Dissertation – Summer Semester – 4-6 CR)

Year	Name	Year	Name
2019	Ahlam Alharthi, PharmD. Asma Gah, PharmD.	2020	Rana Kadry, PharmD.
2022	Abdulaziz Alanazi, PharmD		

## PHRM 9000 (Doctoral Research – All 3 semesters - 4-12 CR)

Year	Name	Year	Name
2009- 2013	Belal Al-Husein, Ph.D.	2010-2014	Maha Abdalla, PharmD, Ph.D.
2010- 2014	Ahmad Al-Azayzih, PharmD.	2012-2017	Harika Sabbineni, BPharm.

2014- 2018	Sandeep Artham, PharmD.	2014-2019	Abdulrahman Alwhaibi, PharmD.
2017- 2021	Mir S. Adil, PharmD.	2018-2023	Madhuri Rudraraju, PharmD
2018-	Tim Jones, PharmD (Co-mentor)	2020-	Varun Parvathagiri, PharmD
2022-	Abdulaziz Alanazi, PharmD		

#### PHRM 9300 (Doctoral Dissertation; All 3 Semesters – 4-12 CR)

Year	Name	Year	Name
2012	Belal Al-Husein	2013	Al-Husein, Belal; Abdalla, Maha; Al-Azayzih, Ahmad
2014	Abdalla, Maha; Al-Azayzih, Ahmad	2015	Abdalla, Maha; Al-Azayzih, Ahmad
2016- 2017	Sabbineni, Harika	2018	Artham, S; Alwhaibi, A
2019	Alwhaibi, A; Adil; M, Rudraraju, M	2020	Adil; M, Rudraraju, M; Parvathagiri, V
2021	Adil; M, Rudraraju, M; Parvathagiri, V	2022	Rudraraju, M; Parvathagiri, V

#### PHRM 7390 (Methods in Experimental Therapeutics; Spring Semester - 3 CR)

2013-Present: Experimental models of Cancer Research, Experimental models of pulmonary arterial hypertension, fibrosis, Endothelial barrier function, vascular permeability, and ARDS, Cutting edge Techniques (RNA silencing, gene editing, and Nanostring technology)

### PHRM 7210 (Research Ethics and Grantsmanship; Fall Semester – 3CR)

2011-2015: Specific Aims, Significance, Innovation, Preliminary Data, Research Design/Approach-1

#### PHRM 8020 (Molecular Pharmacology; Spring Semester - 4 CR)

2017: Lipid Metabolizing Drugs and Statins (2CR)

### PHRM8080 (Grantsmanship; Fall Semester; Course coordinator – 3 CR)

2016-Present: Funding Sources, identifying research priority areas, Specific Aims, Abstract, Background, Significance, Innovation, Preliminary Data, Research Design, Approach, responding to reviewers, how to proofread writing, Assignments of grant applications, Instructions for review, Group Review, and Study section.

#### PHRM7230 (Ethical issues in research; Fall Semester; Course coordinator – 3CR)

2016-Present: Introduction and definitions, Authorship and publications, Funding Sources, Conflict of Interest, Data management, Responsible mentorship, Do's and Don'ts in Image Editing, Introduction to CITI program, Biosafety, Interactive instructional video, IACUC, IRB, Interactions with media and confidentiality, Student presentations and Quizzes.

#### PHRM 8600 (Drug Targets in Signal Transduction; Fall Semester – 3CR)

2011-2014: PI3Kinase-Akt/MAPK, Adhesion/cytoskeletal signaling, Cell polarity, and cell junctions 2016-2018: Cell polarity and cell junctions, Vascular permeability, vascular normalization, and cancer metastasis, Cellular integrins: Affinity and avidity modulation, Cytoskeletal remodeling in cell adhesion and motility, TGFβ and BMP signaling in physiology and pathology, Pitfalls/Alternative/ Methods/collaborators (Team building), Cell differentiation:

Mesenchymal cells/myofibroblasts in health & disease, Mechanisms of T-cell differentiation in inflammation.

2019-Present: Introduction to signal transduction mechanisms, Receptor Tyrosine Kinases, and their inhibitors, Protein Kinases A and G, Phospholipase C, DAG, IP3, Ca2+ and Protein Kinase-C, Cell Stress-related kinases (MAPK, SAPK, JUNK), PI3-kinase, Protein Kinase-B, and eNOS signaling, Mammalian Target of Rapamycin and AMP-Kinase pathways, Cell polarity and cell junctions, Vascular permeability, vascular normalization, & cancer metastasis, Cellular integrins: Affinity and avidity modulation, Cytoskeletal remodeling in cell adhesion and motility, TGFβ and BMP signaling in physiology and pathology, Pitfalls/Alternative/ Methods/collaborators (Team building), Cell differentiation: Mesenchymal cells/myofibroblasts in health & disease, Mechanisms of T-cell differentiation in inflammation.

#### PHRM 8700 (Advanced Therapeutics I; Spring Semester – 4 CR)

2009-Present: Ischemic Heart Disease, Cardiac Arrhythmias and Congestive Heart Failure (CHF), Experimental therapeutics in CHF and hypertension, Introduction to Pharmacogenomics, Pharmacogenomics in Cardiovascular System

### PHRM 8720 (Advanced Therapeutics II; Spring Semester; Course coordinator – 4CR)

2016-Present: Pulmonary Hypertension: Pathophysiology and Therapeutics, Pulmonary fibrosis: Pathophysiology and Therapeutics, Anti-cancer Drugs-I, Anti-cancer Drugs-II, Anti-angiogenic cancer therapy, Immunotherapy, Gene Therapy, Mechanisms of inflammation and Anti-inflammatory drugs

### PHRM 3550 (Advanced Therapeutics III; Spring Semester; Course coordinator – 4CR)

2013-2016: Pulmonary Hypertension: Pathophysiology and Therapeutics; Pulmonary fibrosis: Pathophysiology and Therapeutics; Anti-cancer Drugs-I and II; Anti-angiogenic cancer therapy, Mechanisms of inflammation, and Anti-inflammatory drugs

#### PHRM 8730 (Journal Club/Seminar, Every Spring and Fall semesters – 1CR)

2009-Present: Instructor (25% Effort)

2011-2018: Course Coordinator and Instructor (50% Effort)

#### THESIS READER

2012: Lakiea Bailey (Graduated in April 2012 from Georgia Regents/Augusta University)

2014: Seremwe, Mutsa (Graduated in April 2014 from Augusta University)

2015: Akhilesh Prajapati (Graduated in March 2015 from MS University of Baroda, India)

2016: Dinesh Babu (Graduated in February 2016 from Madras University, India)

#### **PHARMD AND RESIDENCY PROGRAMS**

### PHRM 5920 (Clinical Seminar; Spring Semester – 1 CR)

Year	Name	Year	Name
2010	Gahagan, Shawn, and Rutland, Amy	2011	Hartman, Kara, and Thiman, Michael
2012	Mathews, Holly; Caylor, Meghan, Wang, Jeffrey	2013	Gurley, Erin; Lee, Jennifer; Stiles, Nick
2014	Fair, Charles; Kamara, Kelvin; West, Brian	2015	Hendricks, Skylar; Capers, Taylor; Walker, Patrick
2016	Hood, Zachary; Keene, Margeret, AnnStephens, Rachel	2017	Lee, Annie; Joy, Justin, and Shibu, Priscilla

2018	Hsia, Bernard and Tarleton, Travis	2019	Crawford, Benjamin; Dhakal, Dimple and Nguyen, Vincent
2020	Clifton, Taylor; Cottle, Brooke; Lee, JJ; and Risk, Stacey	2021	Fagbamiye, Antonia; Kelley, Evan; Peters, Haley; Shelley, Rachel
2022	Ford, Edith; Le, Christopher; Laura, Ramirez		

### PHRM 5980 (Special topics in pharmacy-Undergraduate Research - P3 Students – 3CR)

Year	Name	Year	Name
2009- 2010	Diana Huang	2011- 2012	Uvette Lou, Brian Griffin, Robert Newsome
2012- 2013	Erin Gurley, Samantha Burke, LeeAnn Thompson	2013	Jessica Ujjin
2014	Isra J Rosales, Benjamin J. Albrecht, Ankit Patel- Spring	2014	Jessica Rhodes, Kelvin Kamara, Yuhan Ji, Thuan Yen Tran
2015- 2016	Margret Keene, Emily Jean Murray, Ife-Atu Anachbe	2016- 2017	Oge Okoye, Daniel T Anderson
2017	Tiffany Nina Park, Van Bui	2018	Naphun Nimmanonda
2019	Bernard Hsia	2021	Khalid Ziad
2022	Ford, Edith; Le, Christopher; Laura, Ramirez		

### APPE (Advanced Pharmacy Practice Experience) – Research (P4 Students – 3 CR)

Year	Name	Year	Name
2011-	Robert Newsome	2012-	Erin Gurley, Samantha Burke, LeeAnn
2012		2013	Thompson
2014	Jessica Rhodes, Kelvin Kamara, Yuhan Ji, Thuan Yen Tran	2017	Tiffany Nina Park, Alex Lam
2019	Tim Jones	2020	Ahmad Zayd

#### PHRM 7390 (Advanced Residency Research for PGY2 Oncology – 3 CR)

2011-2012: Katsanevas, Katerina 2012-2013: Steinbach, Alison 2015-2017: Andrick, Benjamin

### PHRM 5200 (Health Research Methods – Spring and Fall Semesters – 2 CR)

2021 Fall-Present: Data collection II: databases, and Research Ethics

### PHRM 5210 (Special topics in pharmacy-Writing Electives – P3 Students – 3CR)

2013: Liu, Wen Fei, and Patel, Ami

### PHRM 8730 (Human Pathophysiology; Fall Semester; Instructor – 4 CR)

2021-Present: Cancer pathophysiology-1, Cancer Pathophysiology-2, Lung pathophysiology-1, Lung Pathophysiology-2.

### GRADUATE, PHARMACY, RESIDENCY, AND POSTDOCTORAL RESEARCH TRAINING

#### PAST AND CURRENT TRAINEES

#### **POSTDOCTORAL FELLOWS**

Year	Name	Role	Current
2009-2013	Anna Goc, Ph.D.	Postdoc Fellow	Principal Scientist, Dr. Rath's Research Institute, CA
2009-2010	Junxiu Liu, Ph.D.	Fellow	Assistant Professor, Icahn School of Medicine, Mount Sinai, NY

2014-2015 Ahmad Al-Azayzih, Postdoc PharmD, Ph.D. Fellow Technology  2016-2019 Harika Sabbineni Postdoc Ph.D. Fellow  2011-2015 Fei Gao, MD, Ph.D. Postdoc Fellow  2016-2021 Arti Verma, Ph.D. Postdoc Fellow  2021-2022 Xiaoyun Wang, Ph.D. Fellow  2022- Yohan Han, Ph.D. Postdoc Fellow  2034-2024 Arti Verma, Ph.D. Postdoc Fellow  2045-205 Fellow  2055-206				
Ph.D. Fellow  2011-2015 Fei Gao, MD, Ph.D. Postdoc Fellow Professor, The First Affiliated Hospital, Chongqing Medical University, China  2016-2021 Arti Verma, Ph.D. Postdoc Fellow  2021-2022 Xiaoyun Wang, Postdoc Ph.D. Fellow  2022- Yohan Han, Ph.D. Postdoc Co-mentor	2014-2015	• •		•
Fellow Professor, The First Affiliated Hospital, Chongqing Medical University, China  2016-2021 Arti Verma, Ph.D. Postdoc Fellow  2021-2022 Xiaoyun Wang, Postdoc Ph.D. Fellow  2022- Yohan Han, Ph.D. Postdoc Co-mentor	2016-2019			Director of Business Development, ConcertAI, TX.
Fellow  2021-2022 Xiaoyun Wang, Postdoc Ph.D. Fellow  2022- Yohan Han, Ph.D. Postdoc Co-mentor	2011-2015	Fei Gao, MD, Ph.D.		Professor, The First Affiliated Hospital, Chongqing
Ph.D. Fellow  2022- Yohan Han, Ph.D. Postdoc Co-mentor	2016-2021	Arti Verma, Ph.D.	. 0000.00	Scientist, India
,	2021-2022	,		
	2022-	Yohan Han, Ph.D.		Co-mentor

# **PGY1/2 RESIDENTS/JUNIOR FACULTY**

Year	Name	Role	Current
2009-2012	Samith Thomas Kochuparambil, MD	Resident Fellow	Virginia Piper Cancer Institute, Minneapolis, MN
2012-2013	Alison Steinbach, PharmD.	PGY2 Resident	Clinical Pharmacist in PA
2011-2012	Katerina Katsanevas, PharmD.	PGY2 Resident	Clinical Pharmacist, University of Utah
2015-2017	Benjamin Andrick, PharmD.	PGY2 Resident	Geisinger Health Care, PA
2017-2021	Andrea Newsome, PharmD, MSCR	Clinical Assistant Professor, GA-CTSA KL2 Awardee	Clinical Associate Professor, University of Georgia
2022-	Xiaoyun Wang, Ph.D.	Assist Res Sci	

# PH.D. GRADUATES (MAJOR ADVISOR)

Year	Name	Thesis	Current
2009-2013	Belal Al-Husein, B.Pharm.	Molecular mechanisms regulating simvastatin-mediated inhibition of prostate cancer cellular functions in vitro and tumor growth in vivo.	Associate Professor and Assistant Dean at the JUST, Jordan
2010-2014	Maha Abdalla, PharmD.	Role of Akt in myofibroblast differentiation leading to pulmonary vascular remodeling and idiopathic pulmonary fibrosis	Associate Professor, South College of Pharmacy, TN
2010-2014	Ahmad Al-Azayzih, PharmD.	P21 activated kinase in prostate cancer metastasis	Associate Professor, JUST, Jordan.
2012-2017	Harika Sabbineni, B.Pharm.	Akt-mediated pathway regulating endothelial-to-mesenchymal transition and pulmonary vascular remodeling	Director of Business Development, ConcertAI, TX.
2014-2018	Sandeep Artham, PharmD	Reciprocal regulation of lung injury and resolution by the AKT/FOXO signaling in acute respiratory distress syndrome	Postdoctoral Fellow, Duke University, NC

2014-2019	Abdulrahman Alwhaibi, PharmD.	The unconventional role of Akt1 in advanced prostate cancer: functional and molecular characterization	Assistant Professor, King Saud University, Riyadh
2017-2021	Mir S. Adil, PharmD.	Claudin-17 in blood-tissue barrier regulation and vascular permeability	Postdoctoral fellow, Stanford University
2018-2023	Madhuri Rudraraju, PharmD.	Regulation of Blood-Retinal-Barrier junctions in Uveitis	
2019-	Timothy Jones, PharmD	Serum and Macrophage-derived Extracellular Vesicles in Inflammation	
2020-	Varun Parvathagiri, PharmD.	Claudin-17 in acute lung injury and inflammation	
2022-	Abdulaziz Alanazi, PharmD	TBD	

# M.S. GRADUATES (MAJOR ADVISOR)

Year	Name	Thesis	Current
2017-2019	Asma Gah, PharmD.	Tale of two Alks: alk1 and alk5 in TGFβ1-induced myofibroblast differentiation	Pharmacist in Saudi Arabia
2017-2019	Ahlam Alharthi, PharmD.	Distinct effects of pharmacological inhibition of stromelysin1 on endothelial-to-mesenchymal transition and myofibroblast differentiation	Pharmacist in Saudi Arabia
2018-2020	Rana Kadry, PharmD	Cisatracurium-induced protection of endothelial-barrier function	Ph.D. Scholar at University of Nebraska
2019-2021	Andrea Newsome, PharmD.	MMP3 as a biomarker for ARDS (MSCR-Emory University)	Clinical Associate Professor, UGA
2020-2022	Abdulaziz Alanazi, PharmD	A multi-arm, parallel, preclinical study investigating the potential benefits of Acetazolamide, Candesartan, and Triciribine in the treatment of cryptococcal meningitis	Ph.D. Scholar at University of Georgia
2022-	Manya Rao, PharmD	Targeting P21 activated kinase to prevent retinal endothelial cell dysfunction	

## PH.D. GRADUATES (ADVISORY COMMITTEE)

Year	Name	Thesis	Current
2009-2013	Roshini Prakash, BPharm	Cerebrovascular remodeling and plasticity in diabetes: mechanisms and relevance to stroke recovery	Medical Liaison, Jazz Pharmaceuticals, Los Angeles, CA
2009-2012	Mohamed Abdelsaid, B.Pharm.	Imbalance of cellular redox-state impairs vascular endothelial growth factor survival and angiogenic signal	Assistant Professor, Mercer University SOM, Savannah, GA
2010-2014	Sahar Soliman, B.Pharm.	Mechanisms of protection by angiotensin II receptor antagonists after stroke	Assistant Professor, Sam Houston State University
2009-2013	Ahmed Alhusban, Pharm.D	Improving stroke outcome through increasing the activity of the BDNF/TrkB system	Associate Professor at the JUST, Jordan

2011-2016	Sherif Hafez, B.Pharm.	Role of MMP-3 and tissue plasminogen activator in mediating neurovascular injury	Assistant Professor, Mercer College of
		and worsening functional outcomes in hyperglycemic stroke	Pharmacy, GA
2011-2015	Abdulrahman Fouda, B. Pharm.	Mechanisms of neuroprotection with AT2 receptor stimulation after stroke	Assistant Professor, University of Arizona
2012-2017	Mohammed Alsaggar, Pharm.D.	Hydrodynamic delivery for cancer and obesity research	Assistant Professor at the JUST, Jordan
2014-2019	Wael Eldahshan, MS	Impact of anglI receptor stimulation on recovery after stroke in females	Assistant Professor, S.W. Oklahoma State University.
2019-	Jeremy Burton, MS	Atypical p38MAP signaling in acute lung injury	PBS, UGA, GACTSA Fellow
2019-2023	Moaddey Alfarhan, BPharm, MS.	Spermine oxidase in neuroinflammation in the retina	Assistant Professor, King Khalid University, KSA.
2019-2023	Abdulkarim Alshammari, PharmD, MS.	Spermine oxidase in neuroinflammation in the retina	Assistant Professor, Northern Border University, KSA.
2020-	Yin Zhu, MS.	microRNA regulation of pneumonia-induced lung injury	CET, UGA
2021-	Suhib Alhusban	Hexosamine biosynthesis pathway in PAD	Augusta University
2021-	ljeoma Aziz	RTK inhibitors as neoadjuvant therapy in RCC	PHSOP, UGA

# **MASTERS GRADUATES (ADVISORY COMMITTEE)**

Year	Name	Thesis	Current
2017-2019	Waleed Althomali, PharmD.	Compound 21 for stroke recovery	Pharmacist in Saudi Arabia
2018-2020	Amritha Candadai, B.Pharm.	Fingolimod for multiple sclerosis- induced optic neuritis	Syngene International, Bangalore, India
2011	Eissa Jafari, PharmD	The role of neuronal SMOX on vascular damage in ischemic retinopathy	Ph.D. Scholar at U Florida
2010-2011	Sultan Almuntashiri, Pharm.D	The regulation of CC16 in lung epithelial cells in response to Klebsiella pneumoniae	Ph.D. Scholar, UGA

## **OTHER TRAINEES**

Year	Name	Role	Current
2019-2021	Daulat Khulood, MBBS	Medical Student Volunteer	
2011-2013	Alanna Pruitt	Research Assistant	LabCorp, NC
2011	Sejal Rana, MS	Research Assistant	
2010-2011	Shuaib Mohamed, BS	Research Assistant	Medical School
2010	Rahul Prasad	Summer Student	Medical School
2010	Marqueena Dunn	Summer Student, Grovetown High	
2009-2010	Mrunal Choudhary, BS	Research Technician II	Research Technician, AU
2006-2009	Miroslava Tischenko, BS	Research Technologist, Cleveland Clinic	Research Technologist, Case Western Reserve University

# **ANALYSIS REPORT OF RESEARCH PUBLICATIONS**

Google ScholarPublications110h-index42i10-index73Citations4980







Google Scholar

LinkedIn

ResearchGate

# Selected list of high impact journal publications of our research:

Journal	IF	Journal	IF
Nature Medicine	87.2	Cells	7.7
Molecular Therapy	12.9	Biomedicine and Pharmacotherapy	7.4
Journal of Controlled Release	11.5	Expert Opinion on Therapeutic Targets	6.9
Journal of Cell Biology	10.5	Clinical Science	6.8
Angiogenesis	10.7	Life Sciences	6.7
Pharmacological Research	10.3	Cancers	6.6
Cancer Letters	9.8	Nanomedicine: NBM	6.5
Science Signaling	9.6	Journal of Cellular Physiology	6.5
Diabetes	9.5	International Journal of Molecular Sciences	6.2
British Journal of Pharmacology	9.5	Pharmacotherapy	6.2
<b>Cellular and Molecular Life Sciences</b>	9.3	Biochemical Pharmacology	6.1
British Journal of Cancer	9.1	AJP -Lung Cellular and Molecular Physiology	6.0
Bioscience Trends	9.1	International Journal of Oncology	5.8
Oncogene	8.8	Laboratory Investigation	5.7
British Journal of Haematology	8.6	Journal of Biological Chemistry	5.5