

## Sonali Kurup, Ph.D.

Associate Professor of Medicinal Chemistry  
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### Education & Training

- Ph.D. Medicinal Chemistry 8/2009  
Duquesne University, Pittsburgh, PA
- Bachelor of Pharmacy 5/2002  
Mumbai University, Mumbai, India
- Undergraduate Research 02/2001-01/2002  
Principal K.M. Kundnani College of Pharmacy  
Mumbai University, India

### Positions

- Associate Professor of Medicinal Chemistry (tenured) 08/2017-Present  
College of Pharmacy, Roosevelt University, Schaumburg, IL
- Assistant Professor of Medicinal Chemistry 02/2011-08/2017  
College of Pharmacy, Roosevelt University, Schaumburg, IL
- Research Fellow 11/2008-02/2011  
University of Michigan, Ann Arbor, MI
- Research Assistant 08/2007-10/2008  
Graduate School of Pharmaceutical Sciences, Duquesne University
- Teaching Assistant 08/2002-07/2007  
Mylan School of Pharmacy, Duquesne University, Pittsburgh, PA

### Teaching

*College of Pharmacy, Roosevelt University, Schaumburg, IL* 2011-Present

#### *Core Courses: Integrated Sequence Series (Medicinal Chemistry)*

- PHAR 530: Integrated Sequence I (Principles of Drug Action & the Autonomic Nervous System) (Course Co-ordinator)
- PHAR 531: Integrated Sequence II (Immunological and Musculoskeletal Disorders)
- PHAR 532: Integrated Sequence III (Endocrine & Pulmonary Disorders)
- PHAR 630: Integrated Sequence IV (Renal & Genitourinary Systems)
- PHAR 631: Integrated Sequence V (Cardiovascular Disorders)
- PHAR 632: Integrated Sequence VI (Gastric and Hepatobiliary Disorders)
- PHAR 633: Integrated Sequence VII (Infectious Disease)
- PHAR 636: Integrated Sequence X (Hematological & Oncological Disorders)
  
- PHAR 510: Biochemistry I 2011-2015
- PHAR 512: Clinical Microbiology and Immunology

#### *Elective Courses*

- PHAR 561: Research in Drug Design & Synthesis I 2012-Present
- PHAR 660: Advanced Medicinal Chemistry 2012-2013

## Academic Advising

### PharmD candidates

- Magdalena Gut, Ammara Zaidi, Peter Stamatopoulos, Khuteja Begum 2011-2014
- Sagar Patel, Diebh Faraj, Dima Farhat, Patrycia Papuga Ashley Brown 2013-2016
- Cam Nguyen, Stephen Zych, Ali Maki, Edward Principe Corinne Renault 2014-2016
- Estrella Cervantes, Viraj Patel, Hitomi Shiroshita, Karam Mutammara, Hyejeong Shin 2016
- Sara Weber, Viraj Patel, Hitomi Shiroshita, Karam Mutammara, Nishtha Patel, Erna Saric 2017-Present

## Supervised Research

### PharmD candidates

- Pavlina Liskova 2016-2017
- Shayna Cruz Summer 2017
- Samana Walji, Katarzyna Zalinski Summer 2016
- Robert Senones, Stephen Zych Summer 2015
- Bradley McAllister 2014-2015
- Trusha Mistry Summer 2014
- Patricia Majchrowski, Katarzyna Polanska Summer 2013
- Holly Edwards, Pinky Choksi Summer 2013
- Kuntal Patel, Gordana Milosevic, Tyler Davis Summer 2012
- Joel Ohrlund, Steven Karlsen, Jordan Zopfi 2011-2012

### Undergraduates

Sandy Mousheh (Honors program) Fall 2016

### Visiting research students

- Maura Kelleher (SPARKS program, Stevenson High School) Summer 2017
- Rebecca Polevoy, SPARKS program, Stevenson High School Summer 2016
- Anthony Fanizzi, Harper College Summer 2015
- Sinni Jacob Summer 2015
- Jessica Vigil, NIH Bridges Scholar, Elgin Community College Summer 2012

## Mentored Student Achievements

### Publication

- "Synthesis and biological activity of  $N^4$ -phenylsubstituted-7H-pyrrolo[2,3-d]pyrimidin-4-amines as dual inhibitors of aurora kinase A and epidermal growth factor receptor kinase." Kurup, S.\*; McCallister, B.; Liskova, P.; Mistry, T.; Fanizzi, A.; Stanford, D.; Keller, U.; Hoellein A. *Journal of Enzyme Inhibition and Medicinal Chemistry* **2018**, 1, 74-84.

### Presentations

- "Synthesis and biological activity for novel inhibitors of aurora kinase A and epidermal growth factor receptor kinase" Senones, R.; Zych, S.; McAllister, B.; Mistry, T.; Hollein, A.; Keller, U.; Kurup, S. Poster presentation at the 8th Yao-Yuan Pharma Biotech Symposium, University of Illinois at Chicago, IL, April 2016 (#24).

- “Synthesis and biological activity for novel inhibitors of aurora kinase A and epidermal growth factor receptor kinase” *Senones, R.; Zych, S.* Oral presentation at the Summer Research Presentation, College of Pharmacy, Roosevelt University, Schaumburg, IL, August 2015.(First Place)
- “Structure-Based Design of Dual inhibitors of HIV Integrase and Ribonuclease H” Kurup, S.; *Jacob, S.*; Raghavan, S. Poster presentation at the 2nd International Conference on Retroviruses and Novel Drugs, Chicago, IL, June 2015 (#6). (Best Poster Award)
- “Design, synthesis and biological activity of 4-substituted pyrrolo[2,3-d]pyrimidines as dual inhibitors of epidermal growth factor receptor kinase and aurora kinase A” *McAllister, B.; Mistry, T.*; Kurup, S. Poster presentation at the 7th Yao-Yuan Pharma Biotech Symposium, University of Illinois at Chicago, IL, April 2015 (#7).

### Research Support & Grants

- Intramural Grant: Funded 1/2017 -12/2018  
College of Pharmacy, Roosevelt University, Schaumburg, IL  
Title: Combination therapy with targeted agents to augment anticancer effects; Role: PI
- Summer Research Grant: Funded 4/2017 -9/2017  
College of Pharmacy, Roosevelt University, Schaumburg, IL  
Title: Design, synthesis and evaluation of dual aurora kinase A and B inhibitors as novel anticancer agents; Role: PI
- Intramural Grant: Funded 01/2016  
College of Pharmacy, Roosevelt University, Schaumburg, IL  
Title: Design, synthesis and evaluation of multi-targeted inhibitors of EGFR, AURKA and/or AXL kinases; Role: PI
- Summer Research Grant: Funded 05/2015  
Office of the Provost, Roosevelt University, Schaumburg, IL  
Title: Dual kinase inhibitors of EGFR/AURKA through molecular hybridization; Role: PI
- Intramural Grant: Funded 04/2015  
College of Pharmacy, Roosevelt University, Schaumburg, IL  
Title: Identification of isatin-based compounds as inhibitors of HIV integrase; Role: PI
- Instructional Technology Grant: Funded 04/2015  
College of Pharmacy, Roosevelt University, Schaumburg, IL  
Title: Incorporation of technology-based resources to improve student learning and professional skills in pharmacy core and elective courses
- Intramural Grant: Funded 01/2015  
College of Pharmacy, Roosevelt University, Schaumburg, IL  
Title: Design, synthesis and evaluation of dual inhibitors of EGFR and AURKA; Role: PI
- Summer Research Grant: Funded 05/2014  
Office of the Provost, Roosevelt University, Schaumburg, IL  
Title: Design, synthesis and evaluation of novel mitotic kinase inhibitors as anticancer agents; Role: PI
- Sponsored research- Funded 05/2012  
NIH Bridges to Baccalaureate Program  
Title: Multitargeted HIV Inhibitors; Role: Research Mentor
- Kimax New Lab Start-Up Program: Funded 05/2012
- Summer Faculty Grant: Funded 05/2011  
Office of the Graduate Dean, Roosevelt University, Schaumburg, IL  
Title: Multitargeted HIV Inhibitors; Role: PI

## Publications

(\* Corresponding author)

- “Synthesis and biological activity of  $N^4$ -phenylsubstituted-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-amines as dual inhibitors of aurora kinase A and epidermal growth factor receptor kinase.” Kurup, S.\*; McCallister, B.; Liskova, P.; Mistry, T.; Fanizzi, A.; Stanford, D.; Keller, U.; Hoellein, A. *Journal of Enzyme Inhibition and Medicinal Chemistry* **2018**, *1*, 74-84.
- “A team-based assignment to integrate basic science and pharmacotherapeutic principles for anticancer agents.” Kurup, S.\*; Jungsuwadee, P.; Sakharkar, P. *Am. J. Pharm. Educ.* **2017**, *81*, Article 93.
- “Kinase inhibition as a therapeutic approach for *P. falciparum* malaria” Kurup, S.\* *Malar Cont Elimination* **2015**, *4*, e131.
- “Synthesis of 5,7-disubstituted-4-methyl-7*H*-pyrrolo[2,3-*d*]pyrimidin-2-amines as microtubule inhibitors.” Gangjee, A.; Kurup, S.; Smith, C.D. *Bioorg. Med. Chem.* **2013**, *21*, 1180-9.
- Kurup, S.; Dineley, K.; Malaiyandi, L.; Adewuya, R.; Potempa, L.A. "Drugs to Treat Head and Neck Cancers: Mechanisms of Action." Book chapter In *Head & Neck Cancer: Current Perspectives, Advances, and Challenges*; Radosevich, J.A., Ed.; Springer: Dordrecht, **2013**; pp 861-913.
- “ $N^4$ -Aryl-6-substitutedphenylmethyl-7*H*-pyrrolo[2,3-*d*]pyrimidine-2,4-diamines as receptor tyrosine kinase inhibitors.” Gangjee, A.; Kurup, S.; Ihnat, M.; Thorpe, J.; Disch, B. *Bioorg. Med. Chem.* **2012**, *20*, 910-14.
- “Synthesis and biological activity of  $N^4$ -phenylsubstituted-6-(2,4-dichlorophenylmethyl)-7*H*-pyrrolo[2,3-*d*]pyrimidine-2,4-diamines as vascular endothelial growth factor receptor-2 inhibitors and antiangiogenic and antitumor agents.” Gangjee, A.; Kurup, S.; Ihnat, M.; Thorpe, J.; Shenoy, S. *Bioorg. Med. Chem.* **2010**, *18*, 3575-87.
- “Recent Advances in Classical and Non classical Antifolates as Antitumor and Antiopportunistic Infection Agents: Part II.” Gangjee, A.; Jain, H.; Kurup, S. *Anticancer Agents Med. Chem.* **2008**, *8*, 205-231.
- “Recent Advances in Classical and Non classical Antifolates as Antitumor and Antiopportunistic Infection Agents: Part I.” Gangjee, A.; Jain, H.; Kurup, S. *Anticancer Agents Med. Chem.* **2007**, *7*, 524-542.
- “Dihydrofolate Reductase as a Target for Chemotherapy in Parasites.” Gangjee, A.; Kurup, S.; Namjoshi, O.” *Curr. Pharm. Des.* **2007**, *13*, 609-639.
- “Trends in male contraception.” Kurup, S.; Poddar, S. *Indian Journal of Pharmaceutical Education* **2002**, *36*, 176-183.

## Selected Conference Proceedings

(\* Corresponding author)

- “RS-41, a multi-targeted kinase inhibitor, induces cell cycle arrest and apoptosis in p53 mutant and wild type models of upper gastrointestinal cancers,” Visal, T.; Patel, S.; Pancholi, P.; Bapat, S.; Samant, A.; Kansara, D.; Kurup, S.; Sehdev, V. Poster presentation at the 110th American Association for Cancer Research (AACR) Annual Meeting, Washington, DC, **2017** (#4180).
- “Design, synthesis and biological evaluation of 4-substitutedanilinopyrrolo[2,3-*d*]pyrimidines as multi-targeted inhibitors of EGFR, JAK2 and AURKA” Kurup, S.\*; McCallister, B.; Senones, R.; Mistry, T.; Zych, S.; Pancholi, P.; Bapat, S.; Fanizzi, A.; Stanford, D.; Sehdev, V. Abstract for poster presentation at the 35<sup>th</sup> National Medicinal Chemistry Symposium-American Chemical Society, Chicago, IL **2016** (#56).

- “Synthesis and biological activity for novel inhibitors of aurora kinase A and epidermal growth factor receptor kinase” Senones, R.; Zych, S.; McAllister, B.; Mistry, T.; Hollein, A.; Keller, U.; Kurup, S.\* Abstract for poster presentation at the 8th Yao-Yuan Biotech-Pharma Symposium, Chicago, IL **2016** (#24).
- “Structure-Based Design of Dual inhibitors of HIV Integrase and Ribonuclease H” Kurup, S.\*; Jacob, S.; Raghavan, S. Abstract for poster presentation at the 2nd International Conference on Retroviruses and Novel Drugs, Chicago, IL **2015** (#6).
- “Design, synthesis and biological activity of 4-substituted pyrrolo[2,3-*d*]pyrimidines as dual inhibitors of epidermal growth factor receptor kinase and aurora kinase A” McAllister, B.; Mistry, T.; Kurup, S.\* Abstract for poster presentation at the 7th Yao-Yuan Biotech-Pharma Symposium, Chicago, IL **2015** (#7).
- “Synthesis and biological activity of 4-substituted pyrrolo[2,3-*d*]pyrimidines as inhibitors of mitotic kinases” Kurup, S.\*; McAllister, B.; Mistry, T. Abstract for poster presentation at the 45th American Chemical Society Central Regional Meeting, Pittsburgh, PA **2014** (CHEM 106).
- “Identification of Small Molecule Substrate-Competitive Kinase Inhibitors” Santos, S.; Kurup, S.; Steffey, M.; Soellner, M. Abstract for poster presentation at the 245th American Chemical Society National Meeting, New Orleans, LA **2013** (MEDI 19).
- “Using Molecular Modeling to Integrate Biochemistry and Medicinal Chemistry in a Pharmacy Curriculum” Kurup, S.\*; Potempa, L. A. Poster presentation at the American Association of the Colleges of Pharmacy (AACCP) Annual Meeting, Kissimmee, FL, July 14-18, **2012**.
- “A Team-Based Unknown Drug Project Linking Medicinal Chemistry, Pharmacology and Clinical Pharmacy” Fuentes, D.G.; Benken, S.T.; Kurup, S. Poster presentation at the American Association of the Colleges of Pharmacy (AACCP) Annual Meeting, Kissimmee, FL, July 14-18, **2012**.

### Honors & Recognition

- Faculty Mentor: First Place Summer Student Research Presentation 2015  
Department of Biopharmaceutical Sciences  
College of Pharmacy, Roosevelt University
- Best Poster Award 2015  
2<sup>nd</sup> International Conference on Retroviruses and Novel Drugs  
Chicago, USA
- Most Creative Teaching Style Award 2014  
Student Advisory Council, College of Pharmacy, Roosevelt University
- Gold Medal for First Rank in the Graduating Class of 2002 2002  
Late Shri H.G. Advani Award  
Principal K.M. Kundnani College of Pharmacy, Mumbai, India
- Certificate of Merit for Academic Excellence 2000  
Watumull Foundation Award  
Principal K.M. Kundnani College of Pharmacy, Mumbai, India.

### Professional Memberships

- American Association for Cancer Research (AACR) 2016-Present
- Sigma Xi Scientific Research Society 2016-Present
- Rho Chi Society 2016-Present
- American Association of Pharmaceutical Scientists(AAPS) 2011-Present
- American Association of Colleges of Pharmacy (AACCP) 2010-Present
- American Chemical Society (ACS) 2004-Present

## **Professional Service**

### *Editorial Board Member*

- Open Journal of Medicinal Chemistry 2011-Present
- Malaria Control & Elimination 2012-Present
- Organic and Medicinal Chemistry International Journal 2016-Present

### *Ad-hoc Reviewer*

- Journal of Medicinal Chemistry 2014-Present
- Bioorganic Medicinal Chemistry 2014-Present
- Letters in Drug Design and Discovery 2015-Present
- Biologics: Targets & Therapy 2015-Present
- Journal of Pharma and Pharmaceutical Sciences 2015-Present
- American Journal of Pharmaceutical Education 2016-Present
- Medicinal Chemistry Research 2016-Present
- ChemMedChem 2016-Present
- Nature Scientific Reports 2017-Present

### *American Association of the Colleges of Pharmacy (AACP)*

- Abstract Reviewer: 2016 AACP National Meeting 2016
- Grant Reviewer: 2014 AACP New Investigator Award 2014