Dr SOUMYA N KRISHNAMURTHY

CONTACT

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PROFESSIONAL EXPERIENCE

Postdoctoral Research Fellow (Biochemistry) — Since May 2012
PI: Michael Roth, Ph. D.

UT Southwestern Medical Center, Dallas, Texas
Project Title: Antiviral activity of a novel ethoxybenzamide in human bronchial epithelial cells

- Identified a robust anti-viral compound by high throughput screening from a 200,000 compound library
- Established immortalized bronchial epithelial cells as the preferred cell line for antiviral studies as opposed to employing lung cancer cell lines
- Collaborated with personnel from laboratories of various disciplines for establishing drug target studies
- Primary author of a manuscript (research article) currently being written for submission in Journal of Virology

Graduate Research Assistant — Aug 2007 – Apr 2012
PI: Alakananda Basu, Ph.D.
University of North Texas Health Science Center, Fort Worth, Texas

- Recipient of a pre-doctoral fellowship from the Breast Cancer Research Program, Department of Defense (BC083099) for the project entitled, "Understanding the role of IKKepsilon in breast cancer cells" for $97,000
- Awarded distinctions in Ph. D. Qualifying, Grant writing Qualifying and Dissertation Defense – One of three students in five Ph. D. student batches (~ 75 students) to have accomplished distinctions in all three examinations
- Won the HealthPoint Translational Research Award – for first place in poster presentation at the Annual Research Appreciation Day, UNTHSC for the year 2011
- Awarded the Outstanding Graduate Student in Cancer Biology, UNTHSC for the year 2009
- Published three articles in peer-reviewed journals including a review article on an unrelated to the primary research focus
- Mentored two undergraduate students who are currently pursuing graduate studies

Project 1 Title:

Understanding the regulation of IKKepsilon by Akt in breast cancer cells

- Established the upstream signaling pathway of IKKepsilon in triple-negative breast cancer cells
- Demonstrated that the transcriptional regulation of IKKepsilon occurs via the transcription factor, NF-kappaB
- Established that the regulation of IKKepsilon by Akt leads to survival in breast cancer cells
- Presented the work at one international and five local poster presentation sessions
- Communicated the work as the first author for a research article published in the journal, Genes & Cancer.

Project 2 Title:

Regulation of IKKepsilon by PKC-epsilon in breast cancer cells

- Established that depletion of PKCepsilon, in contrast to other PKC isoforms modestly decreased IKKepsilon
- Demonstrated that the regulation of IKKepsilon by PKCepsilon is transcriptional in nature
- Presented the work at one local poster presentation session

Project 3 Title:

PKCepsilon induces Bcl-2 by activating CREB

- Examined the role of PKCepsilon in the transcriptional regulation of Bcl-2
- Demonstrated that depletion of PKCepsilon reduced CREB phosphorylation in breast cancer cells
- Presented the work at one international and two local poster presentation sessions
- Second author in the work published at International Journal of Oncology.

Graduate Research Assistant — Aug 2004 – Jul 2006

PI: Rong Wang, Ph.D.
Illinois Institute of Technology, Chicago, Illinois

Project 1:

Distinction of Bacilli spores by coat surface morphology

- Identified and characterized spore coat morphology in B.anthracis, B.subtilis, B.pumilis and B.cereus using Atomic Force Microscopy
- Second author in the work communicated in the journal, Langmuir

Project 2:

Study of stem cell markers using Atomic Force Microscopy

- Established culture of human embryonic stem (hES) cells on feeder (MEFs) and feeder-free (Matrigel) layers in the laboratory
- Examined the presence of undifferentiated stem cell markets on the hES cells using Atomic Force Microscopy

Trainee Scientist — Jul 2003 – Jan 2004

ubilant Biosys, Bangalore, India

- Performed manual curation of more than 2500 research articles focused on signaling pathways leading to Artherosclerosis on its proprietary Discovery Informatics Gateway platform

Project Associate — Jan 2003 – Jun 2003

St. John's Medical College, Bangalore, India PI: Dennis Xavier, MD

- Documented and generated reports for the phase III clinical evaluation of the drug, Reviparin for the treatment of acute myocardial infarction

EDUCATIONAL QUALIFICATIONS

- **Doctor of Philosophy (Cancer Biology)** — Apr 2012
  University of North Texas Health Science Center, Fort Worth, Texas Dissertation Title: Regulation of IKKepsilon by Akt in breast cancer cells
- **Master of Science (Biology)** — Apr 2007
  Illinois Institute of Technology, Chicago, Illinois
- **Master of Science (Biotechnology)** Bangalore — Apr 2002
  University, Bangalore, India
- **Bachelor of Science** — Apr 2000
  Bangalore University, Bangalore, India

SCHOLARSHIPS, AWARDS AND HONORS :

- Distinction in PhD Dissertation Defense, UNTHSC — Apr 2012
- Pre-Doctoral Traineeship Award from the Breast Cancer Research Program, Department of Defense (BC083099) for the project entitled, "Understanding the role of IKK-epsilon in breast cancer" for $97,000. — Jan 2009 - Feb 2012

- First place – HealthPoint Translational Research Award – for poster presentation at the Annual Research Appreciation Day, UNTHSC Apr 2011
- Elected as Associate member of Sigma Xi, UNTHSC Apr 2010
- Outstanding Graduate Student in Cancer Biology, UNTHSC May 2009
- Distinction in Grant Writing Qualifying Exam, UNTHSC Apr 2009
- Distinction in Oral Qualifying Exam, UNTHSC Jul 2008
- Distinction in Qualifying Exam, IIT Mar 2006
- Certificate of Merit in MS Biotechnology, Bangalore University Apr 2002 & 2001
- Best Student in Sciences, Hindu Senior Secondary School, Chennai Jul 1997
- Scholastic Scholarship in Science Hindu Senior Secondary School, Chennai Jul 1996

PUBLICATIONS :

- **Krishnamurthy, S**, Roth MG. "Antiviral activity of ethoxybenzamide in human bronchial epithelial cells". Manuscript currently in preparation.
- **Krishnamurthy, S**, Basu A. "Regulation of IKKe expression by Akt2 isoform." Genes & Cancer; 2011 Nov;2(11):1044-50
- Basu A, **Krishnamurthy S**. "Cellular responses to Cisplatin-induced DNA damage." J Nucleic Acids. 2010 Aug 8; 2010 pii: 201367
- Shankar, E, **Krishnamurthy, S**, Paranandi, R, Basu, A. "PKCepsilon induces Bcl-2 by activating CREB" International Journal of Oncology; 2010, Apr; 36(4): 883-8.
- Wang R, **Krishnamurthy SN**, Jeong JS, Driks A, Mehta M, Gingras BA. "Fingerprinting species and strains of Bacilli spores by distinctive coat surface morphology" 2007, Langmuir, 23: 10230-4

SKILL SET :

- **Cell culture:** Maintanence of mammalian cell lines (HBECs, MCF-7, MCF-10A, MCF-10CA1a, MCF-10CA1d, MDA-MB-231, MDA-MB-468, SKBR3, BT-20, SUM149, T47D, HCC1395, HCC1937, HEK293, A549, MDCK, BHK-21, MEF), primary human embryonic stem cells. All cell lines were successfully grown and maintained without the addition of antibiotics.
- **Protein chemistry:** SDS-PAGE, Western Blotting, Co-immunoprecipitation, Immunocytochemistry
- **High Throughput Screening:** Compound screening, cell culture optimization for 96- and 384-well plates, Structure-Activity relationship studies
- **Molecular Biology:** Isolation of plasmid DNA, RNA extraction, Quantitative RT-PCR, Primer designing
- **Transfections:** Transient and stable transfections – plasmid transfection using liposome-mediated delivery, lentiviral transductions, siRNA transfections.
- **Functional Assays:** Cell proliferation, Cell survival assays, Clonogenic assay, Boyden chamber migration/invasion assays, Wound healing assays, Soft agar colony formation assays, Agarose-bead migration assay, Virus plaque assays, Cell-Titer Glo Assays
- **Microscopy:** Atomic Force Microscopy, Fluorescence Microscopy, Confocal Microscopy, Deconvolution Microscopy
- **Data analysis/Computer Skills:** Statistical analyses, Image J, GraphPad prism, MS Office.

NON-ACADEMIC ACTIVITIES :

- Professional Singer — Since Apr 2014
  Trained Hindustani classical singer. Working on a yet-to-be titled rock album.
- Website developer — Since Sep 2004
  Developed and maintained Roth lab (UTSW Medical Center) and Wang lab (Illinois Institute of Technology) webpage.
- Treasurer – Indian Cultural Association, UTSW Medical Center — Jun 2012 – Jul 2013
  Organized Indian food sale and raised $300 for Hamon Cancer Center charity.
- Master of Ceremony, Annual UNTHSC Diwali Celebration — Oct 2010
  Conducted and hosted the event attended by over 200 UNTHSC employees and students.
- Volunteer Science Fair Judge — Since Jun 2010
  Judged poster presentations of middle and high school science fairs on- and off-campus at UNT Health Science Center and at UT Southwestern Medical Center
- Student Volunteer, American Cancer Society-Relay for Life — Sep 2008 – Oct 2009
  Raised funds and walking team member for the annual Fort Worth event.
- Volunteer, Lead Poisoning Prevention in India — May 1998 – Feb 2002
  Organized various blood lead testing camps as a part of the George Foundation, Bangalore Chapter, India