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YOGESH M. KULKARNI

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EMPLOYMENT**Assistant Professor**

Department of Pharmaceutical Sciences
School of Pharmacy
Hampton University, Hampton, VA

August, 2014-present**Post-doctoral fellow**

Hampton University School of Pharmacy, Hampton, VA

January, 2013 – July, 2014

PI: Anand Iyer

Project involves using cell and molecular biology techniques to test and develop novel analogues of digitoxin for the treatment of lung and breast cancer. Independent project involves using natural compounds in cancer therapy and developing a panel of multi-drug resistant tumors to identify novel mechanisms of chemoresistance using high-throughput proteomics and metabolomics.

Post-doctoral fellow

Hampton University Skin of Color Research Institute, Hampton, VA

September, 2011 – November, 2012

PI: Meena Katdare

Used 2D-gel electrophoresis and LC MS-MS for protein identification as a tool combined with cell cycle analysis using flow cytometry to identify potential therapeutic targets in keloids, wound healing and hypertrophic scars. Investigated the role of dietary curcumin in breast cancer therapy in mouse models. Submitted research grants for extramural funding.

Post-doctoral fellow

West Virginia University, Morgantown, WV

August, 2008 – August, 2011

PI: David Klinke

Used gel-based proteomics and MALDI-TOF MS for protein identification combined with systems biology as a tool to investigate the tumor microenvironment and unique patterns of differential protein expression between normal and breast cancer and melanoma.

Teaching Assistant - General Chemistry 103 &104

Louisiana Tech University, Ruston, LA

March 2001-July 2007

Instructor of Record: Danny Eddy

Teaching responsibility included lecturing and grading four sections of 80 students in each academic quarter. Delivered a 30-minute lecture covering fundamental principles of chemistry and conducted the lab.

Chem 103: Chemistry and measurement, atomic symbols and chemical formulas, stoichiometry, gases and thermochemistry.

Chem 104: Rates of reaction, study of chemical equilibria including those involving acids, bases, sparingly soluble salts and complex ions, thermodynamics of equilibrium and introductory electrochemistry. Designed the lab manual content for the following academic year based on student feedback and identified problem areas to improve safety.

EDUCATION**Ph.D., Biomedical Engineering**

Louisiana Tech University, Ruston, Louisiana
Dissertation: Biophysical Study of the SH2 domain of Human Tensin.
Thesis Advisor: Donald Haynie

November, 2007

Bachelor of Engineering, Instrumentation Engineering
Rajiv Gandhi Institute of Technology
Bombay University, Bombay, India

December, 1999

GRADUATE TEACHING EXPERIENCE

Course Instructor, Hampton University School of Pharmacy

Physiological Chemistry (PHA 311), Fall 2014 (62 students)

Immunology and Microbiology (PHA 423), Fall 2014 (60 students)

DISSEMINATION OF RESEARCH

* denotes under-graduate researcher, Ψ denotes equal contribution

Refereed Publications

Klinke DJ 2nd, **Kulkarni YM**, Wu Y, Byrne-Hoffman C, *Inferring alterations in cell-to-cell communication in HER2+ breast cancer using secretome profiling of three cell models* **Biotechnol Bioeng** 2014 Apr 18. doi: 10.1002/bit.25238

Kulkarni YM Ψ , Liu C Ψ , Qi Q, Zhu Y, Klinke DJ 2nd, and Liu J, *Differential proteomic analysis of caveolin-1 KO cells reveals Sh2b3 and Clec12b as novel interaction partners of caveolin-1 and capns1 as potential mediator of caveolin-1-induced apoptosis.* **Analyst** 2013 Nov 21;138(22):6986-96 PMID: 24091439

Kulkarni YM, Chambers E, McGray AJR, Ware JS*, Bramson JL, and Klinke DJ 2nd, *A quantitative systems approach to identify paracrine mechanisms that locally suppress immune response to Interleukin-12 in the B16 melanoma model.* **Integrative Biology** 2012, 4(8):925-36 PMID: 22777646

Kulkarni YM and Klinke DJ 2nd, *Protein-based identification of quantitative trait loci associated with malignant transformation in two HER2+ cellular models of breast cancer.* **Proteome Sci** 2012, 10(1):11. PMID: 22357162

Kulkarni YM, Suarez V, and Klinke DJ 2nd, *Inferring predominant pathways in cellular models of breast cancer using limited sample proteomic profiling.* **BMC Cancer** 2010, 10:291 PMID: 20550684

Manuscripts

Kulkarni YM and Klinke DJ 2nd, *Advances in Proteomic Breast Cancer Biomarker Discovery.* **In revision**

Kulkarni YM, Kaushik V, Azad N, Rojansakul Y, O'Doherty G and Iyer AK. *A Novel Digitoxin Analog Induces Autophagy Leading to Apoptosis in H460 Lung Cancer Cells.* **In preparation**

Invited Presentations

Kulkarni YM, Chambers E, McGray AJR, Ware JS*, Bramson JL and Klinke DJ 2nd. "Tumor-derived Wnt-inducible Signaling Protein-1 (WISP1) exhibits paracrine immunosuppression by inhibiting cellular response to Interleukin-12", Roche / Nature Medicine Symposium: Cancer Immunology and Immunotherapy, Nutley, NJ, September 2011.

Conference Proceedings and Presentations

Kulkarni YM, Kaushik V, Wright C, O'Doherty G, Azad N and Iyer AK. "MonoD, a novel analogue of digitoxin, induces superoxide mediated autophagic cell death in H460 lung cancer cells", American Association for Cancer Research (**AACR**) National Meeting, San Diego, CA, April 2014.

Kaushik V, **Kulkarni YM**, Wright C, O'Doherty G, Azad N and Iyer AK. "Structural analysis of cardiac glycosides to determine the basis for tumoristatic activity", American Association for Cancer Research (**AACR**) National Meeting, San Diego, CA, April 2014.

Azad N, **Kulkarni YM**, Rojansakul Y, O'Doherty G and Iyer AK. "Anti-tumorigenic Effects of a Novel Digitoxin Analogue", American Association for Cancer Research (**AACR**) National Meeting, Washington, DC, April 2013.

Kulkarni YM, Alexander K, Wu Y and Klinke DJ 2nd. "Inferring Tumor-Immune Interaction Networks Via Unbiased Secretome Profiling", American Institute of Chemical Engineers (**AIChE**) National Meeting, Pittsburgh, PA, October 2012.

Klinke DJ 2nd, **Kulkarni YM**, Chambers E, McGray AJR, Ware JS* and Bramson JL. "B16 melanoma inhibits cellular response to Interleukin-12 via multiple mechanisms including paracrine action of Wnt-inducible Signaling Protein-1", American Association of Immunologists (**AAI**) Annual Meeting, Boston, MA, May 2012.

Alexander A, Wu Y, Kaiser J, **Kulkarni YM** and Klinke DJ 2nd. "Characterizing and comparing secretome from breast cancer and normal human cell models", American Chemical Society (**ACS**) National Meeting, San Diego, CA, March 2012.

Kulkarni YM and Klinke DJ 2nd. "Inference of Predominant Pathways in Cancer: A Proteomic Study among Three Human Mammary Epithelial Cell Models", American Institute of Chemical Engineers (**AIChE**) National Meeting, Minneapolis, MN, October 2011.

Kulkarni YM, Chambers E, McGray AJR, Ware JS*, Bramson JL and Klinke DJ 2nd. "Tumor-derived Wnt-inducible Signaling Protein-1 (WISP1) exhibits paracrine immunosuppression by inhibiting cellular response to Interleukin-12", Cancer Immunology and Immunotherapy: Building on Success, Bethesda, MD, September 2011.

Kulkarni YM and Klinke DJ 2nd. "Identifying Secreted Biomarkers for Immune Evasion in Cellular Models of Cancer", American Institute of Chemical Engineers (**AIChE**) National Meeting, Salt Lake City, UT, November 2010.

Kief KD*, Brundage KM, **Kulkarni YM** and Klinke DJ 2nd. "Assessing the Signal-to-Noise Characteristics for Two Transcription Factor Assays", American Institute of Chemical Engineers (**AIChE**) National Meeting, Salt Lake City, UT, November 2010.

Ware JS*, **Kulkarni YM** and Klinke DJ 2nd. "Identifying biochemical cues secreted by malignant melanocytes that promote escape from immunoediting", American Institute of Chemical Engineers (AIChE) National Meeting, Salt Lake City, UT, November 2010.

Klinke DJ 2nd, **Kulkarni YM** and Suarez, V. "Profiling Signaling Pathways Using Comparative Proteomics: An Illustrative Example From Breast Cancer", American Institute of Chemical Engineers (**AIChE**) National Meeting, Nashville, TN, November 2009

Kulkarni YM, Suarez V and Klinke DJ 2nd. "Proteomics of Breast Cancer for Signal Pathway Profiling and Target Discovery", Biomedical Engineering Society (**BMES**) Annual Meeting, Pittsburgh, PA, October 2009

Kief KD*, Brundage KM, **Kulkarni YM** and Klinke DJ 2nd. "Assessing the Signal-to-Noise Characteristics for Two Transcription Factor Assays", Biomedical Engineering Society (**BMES**) Annual Meeting, Pittsburgh, PA, October 2009

Widmeyer J*, **Kulkarni YM** and Klinke DJ 2nd. "Proteomics-Based Secretome Analysis for Cancer Cell Biomarker Assay", Biomedical Engineering Society (**BMES**) Annual Meeting, Pittsburgh, PA, October 2009

PROFESSIONAL MEMBERSHIPS

Human Proteome Organization (HUPO)

The Protein Society

Sigma Xi Scientific Research Society

American Association for Cancer Research (AACR)

American Association of Colleges of Pharmacy (ACCP)

PROFESSIONAL ACTIVITIES

Ad hoc reviewer for:

Advanced Drug Delivery Reviews

Proteome Science

Application of Clinical Genetics

Advances in Genomics and Genetics

Breast Cancer: Basic and Clinical Research

Breast Cancer Targets and Therapies

Therapeutics and Clinical Risk Management

Journal of Proteomics and Bioinformatics

Food and Chemical Toxicology