# Manish K. Tripathi, Ph.D.

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# **Education:**

**Ph.D. Biotechnology (2003)** Central Drug Research Institute/Hamdard University, India. (*Major in Biochemistry and Molecular Biology*)

**M.Tech. Biotechnology (1997)** Institute of Engineering & Technology, Lucknow, India. (*Major in Industrial Biotechnology*)

M.Sc. Biochemistry (1994) Lucknow University, India.

B.Sc. Chemistry, Physics & Mathematics (1992) Kanpur University, India.

# **Professional Positions:**

# 2019-Present Assistant Professor (Tenure Track)

Dept. of Immunology and Microbiology, Univ. of TX Rio Grande Valley, McAllen, TX.

- Project: 1. Mechanism and regulation of Sorafenib resistance in HCC.
  - 2. Mechanism and regulation of Proteins and LncRNA involved in Anoikis Resistance.
  - 3. Stress-induced regulation of LncRNA-MALAT1 in CRC progression and metastasis.
  - 4. Role of Ankyrin Family protein in liver and breast cancer.
  - 5. Identification of novel LncRNAs responsible for cancer metastasis, mechanism of regulation, associated proteins and pathways, with the goal to identify new and novel early diagnostic/prognostic markers and potential therapeutic targets in colorectal and liver cancer.
  - 6. In vitro model to screen drugs potent for Immunotherapy.

#### Collaborative Projects:

- 7. Role of mucin MUC13 in CRC health disparity.
- 8. GalNT14 a novel enzyme regulating MUC13 glycosylation and signaling.
- 9. Validation of CAR-T targeting MUC13 in hepatobiliary cancers.

#### 2017-2019 Assistant Professor

Dept. of Pharmaceutical Sciences, Univ. of TN Health Science Center, Memphis, TN. Project: A) Molecular mechanism and identification of biomarker(s) for early stage diagnosis, metastasis and drug response in colorectal cancer.

- 1. Role of mucin MUC13 in CRC health disparity.
- 2. Long noncoding RNA (LncRNA) in CRC metastasis and Anoikis resistance.
- B) Role of LncRNA-MALAT1 in Colorectal Cancer Health Disparity
- C) GalNT14 a novel enzyme regulating MUC13 glycosylation and signaling.
- D) Role of LncRNAs in Triple Negative Breast Cancer drug resistance. LncRNAs as early diagnostic, prognostic and novel therapeutic target in TNBC.
- E) Nanoparticle delivery of CRISPR-Cas9 constructs to inhibit oncogenes.

#### 2011-2017 Research Faculty

Department of Cancer Biology, Vanderbilt University, Nashville, TN.

Project: A) Transactivation of Kaiso by the tumor suppressor BRCA1. Identify, component map and characterize Kaiso / BRCA1 complex. (*J of Clin Investigation 2017*)

B) Role of Nuclear Factor of Activated T-cell (NFAT) transcription factor in colorectal cancer invasion and metastasis (*Cancer Research*, 2014).

Adjunct Faculty (2016): Nashville State Community College, Nashville, TN.

Teaching: Introduction to Biology II (BIOL 1020); 4.0 Credit; 6 Sem. Hrs.

General Biology I, (BIOL 1110); for Science Majors; 4.0 Credit; 6 Sem. Hrs.

#### 2004-2010 Post-Doctoral Fellow

Molecular Physiology and Biophysics, Vanderbilt University, Nashville, TN.

Project: Biochemical, structural, and functional (co-activator) analyses of Transcription Factor IID (TFIID) and mechanism of gene regulation by RNA Polymerase II. (*Nature*, 2010; *Structure*, 2009; MCB, 2007).

#### 2002-2003 Post-Doctoral Research Associate

Department of Microbiology and Immunology, Meharry Medical College, Nashville, TN. Project: Role of transcriptional repressor protein Slug on Human BRCA2 gene expression. (*JBC a*, 2005; *JBC b*, 2005; BBRC *a/b*, 2005; *Mol Cancer*, 2010; *Mol Bio Par*, 2005).

#### 1998-2002 Senior Research Fellow

Department of Fermentation Technology, Central Drug Research Institute, Lucknow, India.

Project: Biochemistry and molecular biology of microbial lipase (*J. Chem Res.*, 1999; *Bioorganic Chem*, 2002; *Enzyme Microb. Techno*. 2004).

## **University Committee Appointments:**

2022-Present: Admission Committee School of Medicine (nominated)e, UTRGV School of Medicine.
 2020-2022: Vice Chairman, Medical Student Evaluation and Promotion Committee (MSEPC), UTRGV School of Medicine.

**2019-Present:** Member South Texas Center of Excellence in Cancer, UTRGV.

**2020-Present:** Member Institute for Cancer Immunotherapy, UTRGV.

2020-2021: UTRGV SOM Research Symposium Finance Planning Committee

#### **Mentoring Research Students:**

#### MS Thesis Research Mentor

#### **Current:**

**1.** Sophia Leslie, MS-BCMB UTRGV, Department of Biology, 2022 Batch. Role of lncRNA UCA1 in Colorectal Cancer Progression and Metastasis

#### **Graduated:**

**1.** Samantha Lopez, MS-BCMB UTRGV, Department of Biology, 2022 Batch. Role of POTE Ankyrin Domain Family Member E (POTE-2) protein in liver cancer progression

**2.** Omar Karkoutly, MS-BCMB UTRGV, Department of Biology, 2022 Batch. Graduated Screening for potential therapeutic targets of YB-1 protein using a bioinformatics approach

#### **Undergraduate Students (BS Biology, B2BMED, PreMed)**

#### **Current:**

**1.** Amayrani Sanchez: BS (B2BMED) Fourth year, UTRGV, (since Jan 2022), Department of Biology, UTRGV, TX.Expected graduation date Fall 2023.

- **2.** Dwain Spears: BS (B2BMED) Research Intern, 3<sup>rd</sup> yr (since August 2022), Department of Biology, UTRGV, TX. Expected graduation date Fall 2024.
- **3.** Kate Santos: Research Intern, 2nd yr B2BMed student, (since October 2022, Department of Biology, UTRGV, TX. Expected graduation date Fall 2024.
- **4.** Alysette Horton (Vaqueros MD): ESI student, 3<sup>rd</sup> yr PreMed student, (since September 2022, Department of Biology, UTRGV, TX. Expected graduation date Fall 2024.
- **5.** Greeshma John: Research Intern, Ist yr PreMed student, (since August 2022), Department of Biology, UTRGV, TX. Expected graduation date Fall 2025.
- **6.** Adithya Anil Kumar: Research Intern, 4<sup>th</sup> year PreMed student, (since August 2020), Department of Biology, UTRGV, TX. Expected graduation date Spring 2023.
- 7. Kristopher Ezell: B2BMED Final year PreMed Student, (since August 2020) UTRGV, Independent Research 3; BMED 3123. Expected graduation date Fall 2022.
- 8. Ana Ayala Paazi: BS (Premed) IVth yr, UTRGV, (since Oct. 2021). Expected graduation date Fall 2022.

#### **Past Students:**

1. Dhruva Sudershan: BS (Premed) IIyr, UTRGV, (Joined Oct.-Nov 2021). Independent Research 2; BMED 3122. Expected graduation date Spring 2024.

#### **Graduate Students**

**1.** Justin Wendel: University of Texas Rio Grande Valley, Edinburg, TX. Master of Physician Assistant Studies, Area Health Education Center Scholar 2019-current.

#### **Medical Students**

- **1.** Areeb Masood MS3 MEDI8127: LncRNA in HCC Drug Resistance. June 2020-Oct 2020. Expected graduation date Spring 2022.
- **2.** Prakhar Jain MS1 MEDI8127: LncRNA in NAFLD. Nov 2020-Jan2021. Expected graduation date Spring 2024.
- **3.** Aaron de La Cruz MEDI8127: Knockdown of oncogenic POTEE Protein using RNAi technology. This study will help to determine POTE2 role in liver cancer. Expected graduation date Spring 2024.
- **4.** Alisha Valdez: SOM Medical Student 2025: MEDI8127. Analyzing POTE-2 Protein Function in Liver Cancer Cell Lines.

#### **Postdoctoral Fellow:**

Kyle Doxtater: Postdoctoral Fellow, Department of Immunology and Microbiology, since July 2021,

under co-supervision with Dr. Subhash Chauhan (Chairman).

Sudhir Kotnala: Assistant Research Scientist (Postdoc), Department of Immunology and Microbiology,

since Jan 2020-August 2022, under co-supervision Dr. Subhash Chauhan (Chairman).

#### **Graduate Student Thesis Committee**

- 1. Carlos Perez III, MS Biochemistry and Molecular Biology (2022).
- 2. Emanuel Manning, MS Biochemistry and Molecular Biology (2022).

# **Thesis** Evaluation:

**Ph.D. Thesis Evaluation:** GLA University, Mathura, U.P., INDIA. Department of Biotechnology. Title "A STUDY OF BACTERIURIA IN PREGNANT WOMEN OF DIFFERENT SOCIO-ECONOMIC GROUPS AND ANTIBIOGRAM PATTERN" Candidate Pragya Lakshmi, Roll No: 169432002. Submitted 02/18/2021.

#### **Honors and Awards:**

**Interactive Mentoring to Enhance Research Skills (IMERS),** University of Kentucky/National Institute of General Medical Sciences' NIH-focused grant writing workshop (October 4-6, 2021). Selected with full expense coverage.

**Judge**, *International conference on Cancer Health Disparity*, Harlingen TX. Clinical Abstracts section (August 13-14, 2021).

**Judge**, *Graduate Research Day*, College of Graduate Health Sciences, Univ. of TN Health Science Center, TN (April 26, 2019).

Judge, Annual Postdoc Research Day, Univ. of TN Health Science Center, TN (December 6, 2018).

"Most Outstanding Poster", In Recognition of Excellence in Cancer Research and Outstanding Poster Presentation, Vanderbilt Ingram Cancer Center retreat on "GI Malignancies", Vanderbilt Medical Center, (May 2013).

"Exemplary efforts in Cancer Research", 11<sup>th</sup> Annual Meharry Medical College /Vanderbilt Ingram Cancer Center /Tennessee State University Cancer Partnership retreat, Meharry Medical College, (Jan. 2012).

**ASBMB Travel Award**, American Society for Biochemistry and Molecular Biology, "Biochemical and Genetic Analyses of Post Translational Modifications on the Mechanism of Gene Regulation by Repressor Activator Protein RAP1" San Diego, CA, (April 2008).

**Third Prize (Biochemistry)**, First Annual BRET Postdoctoral Symposium, Poster presentation: "TFIID serves as coactivator for Rap1p through direct protein-protein interactions", Vanderbilt University Medical Center, (April 2007).

**ASBMB Travel Award,** American Society for Biochemistry and Molecular Biology "Slug mediated repression of BRCA2 gene expression in invasive Breast tumor cells", Centennial Anniversary celebration, San Francisco, CA, (April 2006).

Senior Research Fellowship, Council of Scientific and Industrial Research, India, (1998-2002).

**DBT Master's Fellowship,** Department of Biotechnology, India, (1994-1997).

# **Research Support: ACTIVE**

## NIH/NIGMS SuRE-1

09/01/2022-08/31/2026

Title: Role of lncRNA UCA1 in anoikis resistance and CRC metastasis

Total cost: \$750,000 Role: Principal Investigator

#### AARG-NTF (Alzheimer's Association Research Grant – New to the Field)

11/01/2022-10/31/2025

Title: LncRNA Malat1 as a potential therapeutic target for Alzheimer's Disease

Total cost: \$150,000.00 Role: Principal Investigator

# UTRGV (RP230419) CPRIT (TREC)

08/01/2023-07/31/2026

South Texas Center of Excellence in Cancer Research

Project Title: Stress-regulated role of lncRNA-Malat1 in liver carcinogenesis

Total cost 375,000

Role: Principal Investigator

#### KSA International Collaboration grant, Saudi Arabia

12/01/2020-11/30/2023

RGV 0001099; Project ID 5400001296

Title: Genetic Polymorphism of IL-6, IL-8 and CRP genes as Prognostic Biomarkers for Chemotherapeutic

Response in Saudi and American Ovarian Cancer patients

Role: MPI (PI: Afsarul Haque, Ph.D, Associate Professor, KAUST, Saudi Arabia, UTRGV)

Total Cost: \$90,000

**Kosten Foundation** (PI: Subhash C. Chauhan) Jan. 2022-Oct. 2023

Title: Generation of Novel CAR-T Therapy for Pancreatic Cancer

Total Cost: \$80,000 Role: Co-Investigator

# School of Medicine, UTRGV Start up (#35000459) Research Support:

Research Support from School of Medicine, UTRGV, TX

June 2019 onwards.

Role: Principal Investigator

**NIH/SC1 GM140982-01** (PI: Bilal Hafeez) 05/17/2021-05/16/2025

Title: Targeting ribosome biogenesis and desmoplastic tumor microenvironment for the treatment of

advanced pancreatic cancer Total cost: \$1.453,000

Role: Collaborator

# **Completed Research Support:**

**1R01CA204552:** (Chauhan-PI; **Tripathi Co-I**)) 07/11/2016-05/31/2022

MUC13 Mucin in Colorectal Cancer Health Disparity

Agency: NIH/NCI

Project: To investigate role of MUC13 mucin in colorectal cancer health disparity and evaluate its

diagnostic/prognostic potential.

**Role: Co-Investigator** 

## **UT Clinical CORNET Cancer Award**

Funded May 01, 2018 to July 2019; \$50,000

Project: Role of lncRNA MALAT1 in CRC health disparity

Agency: University of TN Health Science Center

**Role: Principal Investigator** 

#### **UT CORNET Cancer Award**

Funded May 01, 2017 (1 year); \$50,000.

Project: Role of lncRNA-NRON and NFAT in CRC health disparity

Agency: University of TN Health Science Center

**Role: Principal Investigator** 

PI: Manish Tripathi (NIH Roadmap Opportunity)

Grant# VR17697: Tripathi: CTSA Program Development.

Funded January 2016: Dec. 2016 Project: Role of Kaiso in tumorigenesis.

**Role: Principal Investigator** 

PI: Manish Tripathi (NIH Roadmap Opportunity)

Grant# 00000080: Tripathi: CTSA Program Development.

Funded April 2007

Project: Post Translation Modification studies in Rap1p and TFIID.

**Role: Principal Investigator** 

PI: Manish Tripathi (NIH Roadmap Opportunity)

Grant# 00000073: Tripathi: CTSA Program Development

Funded May 2007

Project: Generation of phospho-mutants (hyper or hypo) of Rap1p and TFIID.

**Role: Principal Investigator** 

#### **Peer Reviewer:**

African Journal of Microbiology Research, Asian Journal of Biotechnology, Biomolecules, Blood Substitutes, Biotechnology, Cancers, Cancer and Metastatic Reviews, Cancer Drug Resistance, Cells, Cellular Immunology, Diseases, Heliyon, International Journal of Cancer Research, International Journal of Molecular Sciences, Journal of Biological Sciences, Journal of Biological Chemistry, Journal of Pharmacology and Toxicology, Journal of Applied Sciences, Journal of Clinical Medicine, Journal of Ovarian Research, Journal of Cancer Biology and Research, Journal of Integrative Medicine, Journal of Integrative Neuroscience, Lifesciences, Molecular Cellular Biochemistry, Medicina, Molecular Microbiology, Nanomedicine, Nucleic Acid Research, Noncoding RNA (ncRNA), Nutrients, Open Access Journal of Cancer and Oncology, PLOS ONE, PEER J, Scientific Reports, Theranostics, Therapeutic Advances in Medical Oncology.

#### **Editorship:**

Topic Editor: *Biomedicines* (2020-2022; MDPI, 2227-9059).

Guest Editor: Special Issue: Host Microbiota and Cancer; Frontiers in Oncology (2021-present)

Editorial Board Member: Experimental Biology and Medicine (EBM) (2022-2025)

# **Professional Memberships:**

American Association for Cancer Research (AACR) since 2002 American Society of Biochemistry and Molecular Biology (ASBMB) since 2006 Association of Microbiologists of India, Life member since 1999 American Association for the Advancement of Science since 2022 Society for Experimental Biology and Medicine since 2022

#### Talks/Seminars:

- 1. "Potential Involvement of a Glycoprotein MUC13 Mucin in Colorectal Cancer Health Disparity". International Conference on Cancer Health Disparities. School of Medicine (Edinburg, TX) and Harlingen Convention Center (Harlingen, TX), August 13-14, 2021.
- 2. "Stress Regulated Role of LncRNA-MALAT1 in Colorectal Cancer Progression and Metastasis". Innovation Day-2020; Sept. 25, 2020, Amity Stem Cell Institute (ASCI and Kiran Mazumdar-Shaw center for Affordable Innovations (KMSCAI), Amity University, Gurugram, Haryana, India.

- **3.** "South Texas Center of Excellence in Cancer Research: Development and Progress in Cancer Investigation in the Valley". STEM Summit 2021, April 16<sup>th</sup>, 2021, South Texas College, Edinburg, TX.
- **4.** "Emerging Roles of LncRNA in the Formation and Progression of Colorectal Cancer". February 11th, 2021, Seminar Series, Department of Biology and School of Medicine, UTRGV, Edinburg, TX.
- **5.** "NFATc1, Poor prognostic marker of CRC regulates Malat1". Jan 09th, 2021, Research Seminar series, School of Medicine, UTRGV, Edinburg, Texas.
- **6.** "Long noncoding RNA in Colorectal Cancer Tumorigenesis." **Invited Seminar**, Translational Research Seminar in conjunction with Cancer Research Group Seminar organized by South TX Diabetes and Obesity Institute (STDOI), UTRGV SOM; UTRGV Department of Health and Biomedical Science; UTHSC at Houston, School Public Health, Brownsville Regional Campus UTHSC School of Public Health, Brownsville, TX, 78520. (March 06, 2020).
- 7. "NFAT associated long noncoding RNA in colorectal cancer health disparity". CORNET Symposium, UTHSC, Memphis TN, (October 29, 2018).
- **8.** "Current research areas in cancer: Personalized medicine, Genomics and Immunotherapy" Purple night Kosten Foundation (Pancreatic Cancer) 10/06/2018, UTHSC, Memphis TN.
- **9.** "To understand the molecular mechanisms involved in the carcinogenesis of PDAC" Kosten Foundation (Pancreatic Cancer) Annual Meeting 08/14/2018, UTHSC, Memphis TN.
- **10.** "NRON as a repressor of NFAT Transcription factor in Pancreatic Cancer", Kosten Foundation (Pancreatic Cancer) Annual Meeting 06/07/2017, CRB 252, UTHSC, Memphis TN.
- 11. "To understand the molecular mechanisms involved in the carcinogenesis of PDAC", Kosten Foundation (Pancreatic Cancer) Day 10/07/2017, CRB 114, UTHSC, Memphis TN.
- **12.** "NFATc1: Transcriptional Regulator for Long Noncoding RNA MALAT1 in CRC", Departmental presentation: 11/28/2017, CRB 114, UTHSC, Memphis TN.
- **13.** "Role of NFATc1 in colon cancer metastasis", Department of Microbiology and Immunology, Meharry Medical College, (May 17, 2016).
- **14.** "Role of Kaiso and its interacting partners in tumorigenesis", Department of Cancer Biology, Vanderbilt University, (October 21, 2015).
- **15.** "Role of Kaiso in intestinal tumorigenesis", Vanderbilt Digestive Disease Research Center, Vanderbilt University Medical Center, (April 27, 2015).
- **16.** "Transcription Factor IID (TFIID): Structural Analysis and Co-activator function on Ribosomal Protein Genes", Vanderbilt Medical Center, (Oct 6, 2008).
- 17. "Down-regulation of UCRP and UBE2L6 in BRCA2 knocked-down human breast cells". Department of Cancer Biology, Meharry Medical College, (April 2006).

## <u>Publications</u>: (\*Corresponding author)

- 1. Agarwal, R.N.; Aggarwal, R.; Nandarapu, P.; Aggarwal, H.; Verma, A.; Haque, A.; **Tripathi, M.K.\*** (2022). COVID-19 Vaccination Drive in a Low-Volume Primary Care Clinic: Challenges & Lessons Learned in Using Homegrown Self-Scheduling Web-Based Mobile Platforms. Vaccines 2022, 10, 1072. https://doi.org/10.3390/vaccines10071072
- 2. Agarwal RN, Aggarwal H, Verma A and **Tripathi MK.\*** (2021): A case report of a patient on therapeutic warfarin who died of COVID-19 infection with a sudden rise in d-dimer. *Biomedicine 2021; Oct* 3;9(10):1382.
- **3.** Wendel J, Verma A, Dhevan V, Chauhan SC and **Tripathi MK\* (2021):** Stress and Molecular Drivers for Cancer Progression: A Longstanding Hypothesis. *Biomed J Sci & Tech Res (BJSTR) 37(1)-2021*. MS.ID.005953. DOI: 10.26717/BJSTR.2021.37.005953.

- **4.** Karkoutly O, Dhasmana A, Dhevan V, Chauhan SC, and **Tripathi MK\* (2021):** Molecular Modelling a Key Method for Potential Therapeutic Drug Discovery. *Biomed J Sci & Tech Res (BJSTR) 37(3)-2021*. MS.ID.006000. DOI: 10.26717/BJSTR.2021.37.006000.
- **5.** Kumari S, Sikander M, Malik S, **Tripathi MK**, Hafeez BB, Yallapu MM, Chauhan SC, Khan S, Jaggi M \* **(2021):** Steviol Represses Glucose Metabolism and Translation Initiation in Pancreatic Cancer Cells. *Biomedicine 2021 Dec2*; *9*(12):1814.
- **6.** Massey, A.E.; Malik, S.; Sikander, M.; Doxtater, K.A.; **Tripathi, M.K.**; Khan, S.; Yallapu, M.M.; Jaggi, M.; Chauhan, S.C.; Hafeez, B.B. (**2021**): Clinical Implications of Exosomes: Targeted Drug Delivery for Cancer Treatment. *Int. J. Mol. Sci.* 2021, 22, 5278.
- 7. Doxtater KD, **Tripathi MK\***, Khan MM**\* (2020)**: Recent advances on the long non-coding RNAs in Alzheimer's disease. *Neural Regeneration Research*, 2020 Dec;15(12):2253-2254. PMID: 3155386. \*co-Corresponding author
- **8.** Nagesh PKB, Chowdhury P, Hatami E, Kumari S, Kashyap VK, **Tripathi MK**, Wagh S, Meibohm B, Chauhan SC, Jaggi M, Yallapu MM. **(2019):** Cross linked polyphenol-based drug nano-self assemblies engineered to blockade prostate cancer senescence. *ACS Appl Mater Interfaces*, 2019 Oct 23;11(42):38537-38554. PMID: 3155386.
- **9.** Tripathi MK\*, Zacheaus C, Doxtater K, Keramatnia F, Gao C, Yallapu MM, Jaggi M, Chauhan SC. **(2018)**: Z Probe, an Efficient Tool for Characterizing Long Non-Coding RNA in FFPE Tissues. *Non-coding RNA 2018 Sep5;4(3)*. PMID: 30189670. \*co-Corresponding author
- **10.** Tripathi MK\*, Doxtater K, Keramatnia F, Zacheaus C, Yallapu MM, Jaggi M, Chauhan SC. **(2018):** Role of lncRNAs in ovarian cancer: defining new biomarkers for therapeutic purposes. *Drug Discovery Today 2018 Sep; 23(9):1635-1643*. PMID: 29698834. \*co-Corresponding author
- **11.** Chowdhury P, Nagesh PKB, Hatami E, Wagh S, Dan N, **Tripathi MK**, Khan S, Hafeez BB, Meibohm B, Chauhan SC, Jaggi M, Yallapu MM. **(2018):** Tannic acid-inspired paclitaxel nanoparticles for enhanced anticancer effects in breast cancer cells. *J Colloid Interface Sci. 2018 Sep 22; 535:133-148*. PMID:30292104.
- 12. Ganju A, Chauhan SC, Hafeez BB, Doxtater K, Tripathi MK, Zafar N, Yallapu M, Kumar R, Jaggi M. (2018): Protein kinase D1 regulates subcellular localization and metastatic function of metastasis-associated protein 1.
- Br J Cancer. 2018 Feb 20;118(4):587-599. PubMed PMID: 29465084.
- **13.** Short SP, Kondo J, Smalley-Freed WG, Takeda H, Dohn MR, Powell AE, Carnahan RH, Washington MK, **Tripathi M**, Payne DM, Jenkins NA, Copeland NG, Coffey RJ, Reynolds AB. **(2017):** p120-Catenin is an obligate haploinsufficient tumor suppressor in intestinal neoplasia. *J Clin Invest.* 2017 Dec 1;127(12):4462-4476. PMID: 29130932.
- **14.** Hafeez BB, Ganju A, Sikander M, Kashyap VK, Hafeez ZB, Chauhan N, Malik S, Massey AE, **Tripathi MK**, Halaweish FT, Zafar N, Singh MM, Yallapu MM, Jaggi M, Chauhan SC. **(2017):** Ormeloxifene suppresses prostate tumor growth and metastatic phenotypes via inhibition of oncogenic β-catenin signaling and EMT progression. *Mol Cancer Ther. 2017 Oct;16 (10):2267-2280*.
- **15. Tripathi Manish K**, Deane NG, Zhu J, An H, Mima S, Wang S, Padmanabhan S, Shi Z, Prodduturi N, Ciombor KK, Chen X, Washington MK, Zhang B and Beauchamp RD. **(2014):** Nuclear Factor of Activated

- T-cell Activity Is Associated with Metastatic Capacity in Colon Cancer. Cancer Research 2014; 74(23), 6947-57.
- **16.** Zhu S, Hong J, **Tripathi Manish K**, Sehdev V, Belkhiri A, El-Rifai W. **(2013):** Regulation of CXCR4-mediated invasion by DARPP-32 in gastric cancer cells. *Molecular Cancer Research 2013; 11, 86-94.*
- 17. Singha UK, Hamilton V, Duncan MR, Weems E, Tripathi MK, Chaudhuri M. (2012): Protein translocase of mitochondrial inner membrane in *Trypanosoma Brucei*. *Journal of Biological Chemistry* 2012; 287(18), 14480-93.
- **18.** Papai G, **Tripathi Manish K**, Ruhlmann C, Layer JH, Weil PA, Schultz P. **(2010):** TFIIA and the transactivator Rap1 cooperate to commit TFIID for transcription initiation. *Nature 2010; 465, 956-961*.
- 19. Misra S, Sharma S, Agarwal A, Khedkar SV, Tripathi Manish K, Mittal MK, Chaudhuri G. (2010): Cell cycle-dependent regulation of the bi-directional overlapping promoter of human BRCA2/ZAR2 genes in breast cancer cells. *Molecular Cancer* 2010; 9, 50.
- **20.** Papai G, **Tripathi Manish K**, Ruhlmann C, Werten S, Crucifix C, Weil PA, Schultz P. **(2009):** Mapping the initiator binding Taf2p subunit in the structure of hydrated yeast TFIID. *Structure, March 2009; 17, 363-373*.
- **21.** Garbett KA, **Tripathi Manish K**, Cencki B, Layer JH, Weil PA. **(2007):** TFIID serves as coactivator for Rap1p through Direct Protein-Protein interactions. *Molecular and Cellular Biology* 2007; 27(1), 297-311.
- **22.** Tripathi MK, Misra S, Khedkar SV, Hamilton N, Irvin-Wilson C, Sharan C, Sealy L, Chaudhuri G. (2005): Regulation of BRCA2 Gene Expression by the SLUG Repressor Protein in Human Breast Cells. *Journal of Biological Chemistry* 2005; 280 (17), 17163-17171.
- **23.** Tripathi Manish K, Chaudhuri G. (2005): Down-regulation of UCRP and UBE2L6 in BRCA2 knocked-down human breast cells. *Biochemical & Biophysical Research Communication* 2005; 328(1), 43-48.
- **24.** Tripathi Manish K, Misra S, Chaudhuri G. (2005): Negative regulation of the expressions of cytokeratins 8 and 19 by SLUG repressor protein in human breast cells. *Biochemical & Biophysical Research Communication* 2005; 329(2), 508-515.
- **25.** Misra S, **Tripathi Manish K**, Chaudhuri G. (2005): Down-regulation of 7SL RNA expression and impairment of vesicular protein transport pathways by Leishmania infection of macrophages. *Journal of Biological Chemistry* 2005; 280(32), 29364-29373.
- **26.** Misra S, Bennett J, Friew YN, Abdulghani J, Irvin-Wilson CV, **Tripathi Manish K**, Williams S, Chaudhuri M, Chaudhuri G. (**2005**): A type II ribonuclease H from Leishmania mitochondria: an enzyme essential for the growth of the parasite. *Molecular Biochemical Parasitology* 2005; 143(2), 35-145.
- **27. Tripathi Manish K**, Roy U, Jinwal UK, Jain SK, Roy PK. **(2004):** Cloning, Sequencing and Structural Features of Lipase: A new member of the 343-residues *Streptococcus* lipase. *Enzyme Microbial Technology* 2004; 34(5), 437-445.

- **28.** Tripathi Manish K, Jinwal UK, Roy U, Patra A, Roy PK, Batra S, Bhaduri AP. (2002): Effect of different strains of yeast on stereo controlled reduction of 5-acetylisoxazolines. *Bioorganic Chemistry* 2002; 30(5), 350-355.
- **29.** Chowdhury AR, **Tripathi Manish K**, Jinwal UK, Roy U, Kumar VV, Bhaduri AP, Roy PK. **(1999):** Chemoselective hydrolysis of esters by fungal lipase. *Journal of Chemical Research 1999*; *S* (4), 266-267.

#### Nucleotide sequences of novel cDNAs submitted to GenBank Accession Numbers

• AF395190

*Streptococcus* sp. (N1) putative ABC transporter, putative lipase, putative carbonic anhydrase, and lipase genes, complete cds.

• AF395194, AF395195, AF395196, AF395197, AF395198, AF395199

Pseudomonas mendocina (PK-12CS) Lipase gene, partial nucleotide sequence (1-6).

• AF395200, AF395201, AF395202

Pseudomonas mendocina (PK-12CS) Esterase gene, partial nucleotide sequence (1-3).

AY091666

Lipase Structural Gene lipA, Lipase Helper Gene lipB, Probable Aspartokinase and Unknown Proteins.

#### Protein structures submitted to EMDataBank (http://emsearch.rutgers.edu)

• EMDB Accession code: 5026

Cryo-negative stain structure of the yeast transcription factor TFIID at 20 Angstrom resolution; TAP-tag purified yeast TFIID; Single particle reconstruction (22 angstroms resolution).

http://emsearch.rutgers.edu/atlas/5026 summary.html

EMDB Accession code: 5175

Frozen-hydrated map of the yeast general transcription factor TFIID; HA-tag purified yeast TFIID; Single particle reconstruction (28.9 angstroms resolution).

http://emsearch.rutgers.edu/atlas/5175 summary.html

• EMDB Accession code: 5176

Frozen hydrated map of the yeast TFIID-TFIIA-Rap1-DNA complex; HA-tag purified yeast TFIID; Single particle reconstruction (24.5 angstroms resolution).

http://emsearch.rutgers.edu/atlas/5176 summary.html

• EMDB Accession code: 5177

Frozen hydrated map of the yeast TFIID-TFIIA-Rap1-DNA complex; HA-tag purified yeast TFIID; Single particle reconstruction (18.6 angstroms resolution).

http://emsearch.rutgers.edu/atlas/5177 summary.html

• EMDB Accession code: 5178

Frozen hydrated map of the yeast TFIID-TFIIA-DNA complex; TAP-tag purified yeast TFIID; Single particle reconstruction (31.4 angstroms resolution).

http://emsearch.rutgers.edu/atlas/5178 summary.html

#### **Submission:**

1. "MUC13 and YAP1 Complex Drives Colorectal Cancer Cells Anchorage Independent Survival and Metastasis"

Kyle Doxtater, **Manish K. Tripathi\***, Radhika Sekhri, Bilal Hafeez, Sheema Khan, Nadeem Zafar, Murali M. Yallapu, Meena Jaggi, and Subhash C. Chauhan\*

Submission: Cancer Communication; \*co-corresponding author

2. "Reprogramming of Pancreatic Adenocarcinoma Immunosurveillance by a Microbial Probiotic Siderophore"

Mehdi Chaib, Bilal B. Hafeez, Hassan Mandil, Daria Deidre, Ajeeth K. Pingili, Sonam Kumari, Mohammed Sikander, Vivek K. Kashyap, **Manish K. Tripathi**, Sheema Khan, Stephen Behrman, Murali M. Yallapu, Meena Jaggi, Liza Makowski, and Subhash C. Chauhan.

**Accepted: Communication Biology (InPress)** 

# **Book Chapters:**

- **1.** Kyle A. Doxtater, **Manish K. Tripathi**, Murali M. Yallapu, Meena Jaggi, Subhash C. Chauhan. "Use of Droplet PCR Polymerase chain reaction (PCR) in Biomedical Research." *Chapter 13, Series Title: Springer Protocols Handbooks; Book Title: Experimental Protocols in Biotechnology; ISBN: 978-1-0716-0606-3.* **Accepted March 2020, In Press**.
- **2.** Andrew E. Massey, **Manish K. Tripathi**, Murali M. Yallapu, Meena Jaggi, Subhash C. Chauhan. "A Novel Technique for the Detection of Long non-coding RNAs (LncRNAs) on Tissue Sections." *Chapter 15, Series Title: Springer Protocols Handbooks; Book Title: Experimental Protocols in Biotechnology; ISBN: 978-1-0716-0606-3. Accepted March 2020, In Press.*

## **Selected Abstract Presentations (from total of 55)**

Abstracts presented at national and international conferences (AACR, ASBMB, DDW, ICCHD and VICC retreats).

- Omar Karkoutly, Anupam Dhasmana, Kyle Doxtater, Sudhir Kotnala, Kristopher Ezell, Sophia Leslie, Adithya Anilkumar, Samantha Lopez, Subhash Chauhan, Manish Tripathi\*.
  Identification and validation of novel molecular inhibitors from the DrugBank drug library. Abstract # 3357; Section 27, AACR annual meeting New Orleans, LA; April 8-13th 2022.
- Samantha Lopez, Adithya Anilkumar, Kyle Doxtater, Sudhir Kotnala, Neeraj Chauhan, Murali Yallapu, Meena Jaggi, Subhash Chauhan, Manish Tripathi\*.
  Role of an ankyrin domain protein in hepatocellular carcinoma progression. Abstract # 544; Section 32, AACR annual meeting New Orleans, LA; April 8-13<sup>th</sup> 2022.
- **3.** Sophia Leslie, Kyle Doxtater, Samantha Lopez, Adithya Anilkumar, Meena Jaggi, Subhash Chauhan, **Manish Tripathi\*.**LncRNA UCA1 modulates glucose metabolism proteins in colorectal cancer. *Abstract # 1547; Section 7, AACR annual meeting New Orleans, LA; April 8-13<sup>th</sup> 2022.*
- **4.** Adithya Anilkumar, Samantha Lopez, Sophia Leslie, Kyle Doxtater, Neeraj Chauhan, Bilal Hafeez, Murali Yallapu, Meena Jaggi, Subhash Chauhan, **Manish Tripathi\***. Exosomes as nanocarriers for biomolecules and potential diagnostic targets in cancer. *Abstract* # 2790; Section 32, AACR annual meeting New Orleans, LA; April 8-13<sup>th</sup> 2022.
- **5.** Kyle Doxtater, **Manish K. Tripathi\***, Radhika Sekhri, Sudhir Kotnala, Bilal Hafeez, Sheema Khan, Nadeem Zafar, Murali Yallapu, Meena Jaggi, Subhash Chauhan\*. "MUC13 enhances colorectal cancer metastasis through molecular interaction with YAP1 transcription factor." *Abstract # 992; Section 13, AACR annual meeting New Orleans, LA; April 8-13<sup>th</sup> 2022.*
- **6.** Carlos Perez, Mudassier Ahmad, Andrew Massey, Asif Shahriar, Emmanuel Anning, Vivek Kashyap, Neeraj Chauhan, Anupam Dhasmana, **Manish Tripathi**, Subhash Chauhan, Bilal Hafeez.

- Targeting ribosome biogenesis is a novel strategy to suppress the growth of pancreatic cancer. Abstract # 3950; Section 22, AACR annual meeting New Orleans, LA; April 8-13<sup>th</sup> 2022.
- 7. Anilkumar A, Lopez S, Doxtater KD, Chauhan N, Kotnala S, Yallapu M, Dhevan V, Chauhan SC, Tripathi MK. Modulation of POTE-2 Expression by ncRNAs in Hepatocellular Carcinoma. International Conference on Cancer Health Disparities. School of Medicine (Edinburg, TX) and Harlingen Convention Center (Harlingen, TX), August 13-14, 2021.
- 8. Wendel J, Doxtater KD, Ezell KL, Lopez S, Anilkumar A, Leslie S, Dhevan V, Jaggi M, Chauhan SC, Tripathi MK. Stress induced lncRNA MALAT1 in colorectal cancer health disparity. International Conference on Cancer Health Disparities. School of Medicine (Edinburg, TX) and Harlingen Convention Center (Harlingen, TX), August 13-14, 2021.
- **9.** Ezell KL, Karkoutly O, Leslie S, Sudershan D, Doxtater KD, Kotnala S, Lopez S, Anil Kumar A, Satapathy S, Dhevan V, Chauhan SC, **Tripathi MK.** YB-1 transcription factor promotes Sorafenib resistance in Liver Cancer. International Conference on Cancer Health Disparities. School of Medicine (Edinburg, TX) and Harlingen Convention Center (Harlingen, TX), August 13-14, 2021.
- 10. Karkoutly O, Dhasmana A, Ezell KL, Doxtater KD, Dhevan V, Chauhan SC, **Tripathi MK**. Performing a High-Throughput Virtual Screening (HVTS) to identify potential therapeutic targets of YB-1 protein. International Conference on Cancer Health Disparities. School of Medicine (Edinburg, TX) and Harlingen Convention Center (Harlingen, TX), August 13-14, 2021.
- 11. Lopez S, Doxtater KD, Anilkumar A, Kotnala S, Dhevan V, Chauhan SC, **Tripathi MK.** Role of POTE-2 in hepatocellular carcinoma progression. International Conference on Cancer Health Disparities. School of Medicine (Edinburg, TX) and Harlingen Convention Center (Harlingen, TX), August 13-14, 2021.
- 12. Factors responsible for ethnicity-based survival rates of colorectal cancer patients in the state of Texas. Gabriela M. Chavarria, **Manish Tripathi** and Demba Fofana. AACR Virtual Annual Meeting 2021. Abstract Control Number: 4507; Session Category: Epidemiology; Session Title: Cancer Health Disparities Research; Permanent Abstract Number: 779.
- 13. Role of lncRNA UCA1 in colorectal cancer progression and metastasis. Kyle Doxtater, Samantha Lopez, Justin Wendel, Utkarsh Mishra, Areeb Masood, Adithiya Anilkumar, Bilal Hafeez, Murali Yallapu, Meena Jaggi, Subhash Chauhan, Manish K. Tripathi. AACR Virtual Annual Meeting 2021Abstract Control Number: 4490; Session Category: Tumor Biology; Session Title: Invasion and Metastasis 1; Permanent Abstract Number: 2855.
- 14. Doxtater K, Zacheaus C, Sekhri R, Mishra UK, Stiles ZE, Mishra N, Guda C, Zafar N, amin M, Shukla P, Yallapu MM, Jaggi M, Chauhan SC, **Tripathi, MK**. "Stress regulated role of lncRNA Malat1 in colorectal cancer progression and metastasis", Abstract # 3142, AACR 2020 (Annual Meeting) San Diego, CA (Emeeting due to Covid-19).
- **15.** Doxtater K, Sekhri R, Mishra UK, Jaggi M, **Tripathi, MK**, Chauhan SC. "MUC13 enhances anchorage independent survival and cooperates with YAP1 and β-catenin towards colorectal cancer metastasis" Abstract # 4916, AACR 2020 (Annual Meeting) San Diego, CA (Emeeting due to Covid-19).
- **16.** Nagesh PKB, Chowdhury P, Kashyap VK, Dhasmana A, **Tripathi**, **MK**, Chauhan SC, Jaggi M, Yallapu MM. "Alteration of tau-tubulin interactions renders chemo-sensitization and apoptosis in docetaxel

- resistant prostate cancer: A nanoparticle approach", Abstract # 6736, AACR 2020 (Annual Meeting) San Diego, CA (Emeeting due to Covid-19).
- **17. Tripathi MK.** "Long-noncoding RNA MALAT 1 in Colorectal Cancer Health Disparity", UTRGV SOM Research symposium, Health Disparities: Community Engagement, Sept. 13, 2019, McAllen, TX.
- **18.** Doxtater K, Mishra UK Sekhri R, Zacheaus C, Yallapu MM, Jaggi M, Chauhan SC, **Tripathi, MK**. "Stress associated regulation of long noncoding RNA MALAT1 by transcription factor NFATc1 in colorectal cancer health disparity", UTRGV SOM Research symposium, Health Disparities: Community Engagement, Sept. 13, 2019, McAllen, TX.
- **19. Tripathi MK,** Zacheaus C, Doxtater K, Stiles Z, Keramatnia F, Zafar N, Amin M, Jaggi M, Chauhan SC. 5178 / 10 "MUC13 is a novel molecular signature, for early detection and metastatic colorectal cancer", AACR 2018 (Annual Meeting) April 18, 2018, 8:00 AM 12:00 PM, Chicago, Illinois.
- **20.Tripathi MK**, Short SP, Reynolds AB. "Kaiso/BRCA1 interaction in Intestinal Tumorigenesis", Vanderbilt-Ingram Cancer Center Scientific Retreat "At the Crossroads of Metabolism and Oncogenic Signaling" Vanderbilt University, (May 06, 2016).
- **21. Tripathi MK**, Reynolds AB. "Role of Kaiso in Intestinal Tumorigenesis", AACR Annual Meeting, Abstract # 2884, New Orleans, LA, (April 17-19, 2016).
- **22. Tripathi MK**, Mima S, Shi Z, Prodduturi N, Zhu J, Ciombor KK, Chen X, Washington MK, Deane NG, Beauchamp RD, Zhang B. "NFAT regulates a gene expression program associated with invasiveness and poor prognosis in colorectal cancer", AACR special conference on TUMOR INVASION and METASTASIS", Abstract #89460 1, San Diego, CA, (Jan 20-23, 2013).
- **23. Tripathi MK,** Freeman TJ, Connie W, Deane NG, Zhang B, Beauchamp RD. "Candidate-regulators of metastasis in colorectal cancer: Identification, validation and mechanism of regulation", Digestive Disease Workshop (DDW) in conjunction with American Gastroenterological Association (AGA Institute), San Diego, CA, (May 19-22, 2012).
- **24.Tripathi MK**, Ham AJ, Weil PA. "Biochemical and Genetic Analyses of Post Translational Modifications on the Mechanism of Gene Regulation by Repressor Activator Protein RAP1", ASBMB, San Diego, CA, (April 2008).
- **25.Tripathi MK**, Garbett KA, Cencki B, Layer JH, Weil PA. "TFIID serves as coactivator for Rap1p through Direct Protein-Protein interactions", ASBMB Transcription Meeting; "Transcriptional Regulation by Chromatin and RNA Polymerase II", Plenary Lecture: Prof. Roger Kornberg, Kiawah Island, SC, (Nov. 2-5, 2006).
- **26.Tripathi MK**, Chaudhuri G. "SLUG-mediated repression of BRCA2 gene expression in invasive breast tumor cells" ASBMB, San Diego, CA, (April 2006).
- **27. Tripathi MK,** Chaudhuri G. "Down-regulation of Ubiquitin Cross-Reacting Protein (UCRP) in BRCA2 knocked-down human breast cells", U54 Cancer Partnership Annual Retreat 2003, Vanderbilt Ingram Cancer Center, Vanderbilt University, (May 2003).
- **28. Tripathi MK**, Chaudhuri G. "Regulation of human BRCA2 gene silencer by SLUG and SNAIL in quiescent cells", AACR, Washington DC, (June 2003).

**29. Tripathi MK**, Chaudhuri G. "H1 RNA Promoter-based expression of short hairpin RNAs (shRNAs) against BRCA2 transcripts in Human Mammary Epithelial Cells", Vanderbilt Ingram Cancer Center, Annual Retreat, Vanderbilt University, (Nov 2002).

# **New Course Development:**

1. MS Program in Molecular Science (MMS): Member for MMS program development committee.

(Course coordinator: Dr. Amin Shah)

Course outline development:

- 1. Protein Biochemistry: Credit 2 (Required Core)
- 2. Industrial Biotechnology: Credit 2 (Prescribed Elective)
- 3. Recent Advances in Biomedical Sciences: Credit 2 (Elective)
- **2. PhD Program in Molecular Immunology:** Developed Program Approval application with Dr. Andreas Holzenburg. (Program coordinator: Dr. Subhash Chauhan and Dr. Andrew Tsin)

# **Teaching: School of Medicine UTRGV MS-1 students**

**Molecules 2** Medicine Module: Fall 2019, 2020, 2021

DNA Replication 1 & 2

Cell Cycle and DNA Repair 1 & 2

Transcription and RNA Processing 1 & 2

Protein Translation and Post Translation Modification

Methodology Related to Genetics

Mechanism of Cancer 1 & 2

Methods: Lab Diagnosis of Cancer

Attack and Defense Module: Fall 2019, 2020, 2021

Introduction to Virology

Immunology Diagnostic Techniques

Prions

Introduction to CAR-T

# Problem Based Learning (PBL): MS1 and MS-2 students

Diabetics and Human Nutrition (DHN) Module: Spring 2020 Endocrine and Female Reproduction (EFR) Module: Spring 2020

Cardio Vascular Related (CVR) Module: Spring 2021

Attack & Defense (A&D) Module: Fall 2021

# **Student Supervison/Mentored:**

During PhD program at Central Drug Research Institute, India, mentored and trained multiple students (8 students, duration 3-6 months) from different universities and institutes enrolled in Master's program (Biochemistry, Microbiology, Lifesciences and Biotechnology) in different microbiology, molecular biology techniques including designing their projects and checking the final dissertation write-up. Supervised and trained summer research students, rotation IGP and MD students on projects involving different molecular biology, microbiology and biochemical techniques at Vanderbilt University Medical Center and Meharry Medical College, Nashville, TN. Supervising one PhD student enrolled at Department of Pharmacy, UTHSC Memphis. At UTRGV, Department of Immunology and Microbiology, supervising undergraduate, graduate, and MD students. The students mentored at UTHSC Memphis and UTRGV TX are:

*Kyle Doxtater:* PhD student (Year 1-Year 5; Jan 2017-July 2021) Univ of TN Health Science Center, Memphis, and UTRGV School of Medicine, Edinburg, TX. Role of MUC13 in Anoikis resistance and colorectal progression and metastasis. (co-supervision with Dr. Subhash Chauhan)

*Utkarsh Mishra*: First year medical student, Volunteer 1 yr to work on Role of NFATc1 in lncRNA MALAT1 regulation in colorectal cancer.

Brandon Etienne: Graduate from Vanderbilt University, May 2019 (Major: Pre-medicine/Medicine, Health and society).

Gabriela Chavarria: BS Nursing student (Joined March 2020), UTRGV, Graduated Spring 2021.

# **Teaching Experience**

I have been a big proponent of teaching throughout my life. Coming from a family with fourth generation in teaching and research, it was something that I appreciated while advancing through my education. I started teaching when I was in college started with high school students and continued during my Master's, Ph.D. degrees and later during my Post-Ph.D. research career. I have been involved in teaching at different stages of my educational/research career.

**1.** Assistant Professor: Department of immunology and Microbiology, School of Medicine, University of TX Rio Grande Valley, McAllen TX.

Oct. 2019-Present

Teaching in two modules "Molecules to Medicine M2M" and "Action and Defense A&D" to School of Medicines students at UTRGV. Lectures include

#### A. MOLECULES 2 MEDICINE

DNA Replication 1&2

Cell Cycle and DNA Damage Repair 1&2

Transcription and Gene Regulation 1&2

Protein Translation and Post Translation Modification

Methods in genetics

Cancer Mechanisms 1&2

Diagnostic Methods in Cancer

# **B.** ATTACK AND DEFENSE

Introduction to Virus

Prions

CAR-T Immunotherapy: Principle and Advances

- **C. Problem Based Learning: (PBL):** UTRGV School of Medicine (SOM), MS2 and MS1 students for DHN and EFR modules.
- **2.** Assistant Professor: Department of Pharmaceutical Sciences, University of TN Health Science Center, Memphis TN.

Jan. 2017-May 2019

#### A. PHARMACEUTICAL ANALYSIS

PHAC 826 (Spring 2017, Spring 2019)

Lecture: Antibody based methods (March 10, 2017) Total Students: 20 (Ph.D. and Pharm. D. students)

#### **B.** BIOCHEMISTRY FOR PHARMACISTS (PHCY 1100)

Availability P1 (Fall 2019, 2018, 2017)

Credit Hours 2.5 (2.5-0-0);

Total Students: 180-189 (Pharm. D. students)

I worked in close association with Prof. Subhash Chauhan in developing particular sections of this course. I was responsible for the "DNA/RNA" and "Cell Signaling" section along with "Active Learning" sessions.

Lectures: (1 hr each)

#### **DNA/RNA:**

- 1. Nucleic acids: composition and structure.
- 2. From DNA to proteins: replication, transcription, translation, regulation of gene expression.
  - 3. Recombinant DNA Technology.
  - 4. Active learning 1 (Interactive session).

#### **Cell signaling:**

- 1. Basic principles of cell communication I: extracellular mediators of cell communication; secretory paradigms.
  - 2. Basic principles of cell communications II: membrane receptors; GPCR linked 2nd messenger pathways; receptor tyrosine kinases.
  - 3. Basic principles of cell communication III: intracellular receptors; gap junctions
  - 4. Basic principles of cell communication IV: non-canonical receptor-independent signal modulators.
  - 5. Signaling pathways relevant to drug action.
  - 6. Active learning 2 (Interactive session).
- **3.** *Adjunct Faculty*: Nashville State Community College, Nashville, TN. Jan. 2016-Dec. 2016
- A. General Biology I (Science Major BIOL 1110); 4.0 Credits; 6 Contact Hrs.

CAMPBELL BIOLOGY (10th Edn). Reece, Wasserman et al, (Pearson)

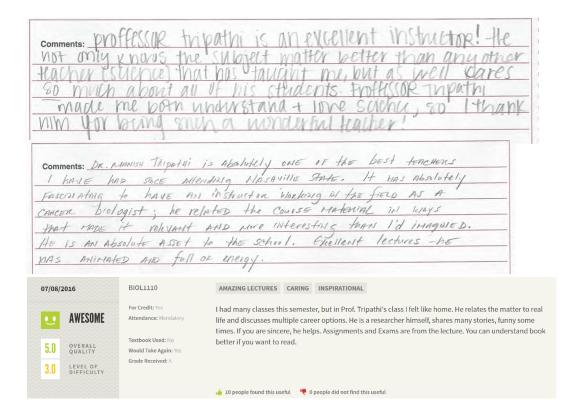
#### **Spring 2016 and Fall 2016**

(please find some of the personal comments attached)

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| comments: I thoroughly enjoyed this class. Our instructor was awe some, the is extremiley intelligent, easy to get along with, and treats you like a collegue, Would recommend to take |
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| and treats you like a collegue, would recommend to take  |
| him as a feacher. The only thing I didn't like was how   |
| late we met, but no one has control over that.   |



# B. Introduction to Biology II (BIOL 1020); 4.0 Credits; 6 Contact Hrs.

BIOLOGY (3<sup>rd</sup> Edn); Concepts and Investigations; M. Hoefnagels. (McGraw Hill).

#### Spring 2016 and Summer 2016

Syllabus; Lecture and Exam Schedule; Lab schedule and Teaching evaluation can be provided if needed.



More reviews are at http://www.ratemyprofessors.com/ShowRatings.jsp?tid=2145219

# 4. Guest Lecturer (ASGS-73; 1 credit hour): June 2005- June 2016

I was associated with School of Graduate Studies, Meharry Medical College, Nashville, TN, as a Guest Lecturer for the Recombinant DNA course since 2005. These classes were organized by Prof. Gautam Chaudhuri, Department of Microbiology and Immunology, Meharry Medical College. The classes comprised of 5-15 first- and second-year Ph.D. and MD/Ph.D. students. I was involved in designing the course with the most recent, student centric and research-oriented topics every year.

Lectures include different topics in the Recombinant DNA class such as:

- Proximity Ligation assay to understand protein-protein interactions and applications in cancer biology studies
- Introduction to Rainbow vectors and their applications in cancer metastasis investigations
- RNAi Technology: history, mechanism and role in basic science and therapeutics
- Retroviral based over-expression of proteins
- Biochemistry of Transcription by RNA Polymerase II
- Structural composition and analysis of multi-subunit transcriptional complex
- Post-Translational Modifications
- New methods to analyze Cancer Invasion and Metastasis
- Different Molecular and Protein Biology Techniques

# Collaborative Mentoring/Training:

#### June 2002- Dec. 2013

During my post-Ph.D. research, have trained multiple summer research students and rotation IGP students on projects involving different molecular biology, microbiology and biochemical techniques in the following laboratories at Vanderbilt University Medical Center and Meharry Medical College, Nashville, TN

• *Prof. Dan Beauchamp Laboratory:* 

Aaron Joshua Shambley: Final Year student, Vanderbilt University; Summer Research and Work study student; May 2011-December 2011. Project on Role of NFAT in Colorectal Cancer. Project report submitted along with departmental presentation.

*Natasha A. Chowdhury:* Final Year student, Vanderbilt University; Summer Research Student. May 2011-August 2011. Training on Tissue array analysis, Microscopy, immunofluorescence.

*Taylor M. Winkler:* High school graduate; Summer Research Student; May 2011-August 2011. Trained on different molecular biology and protein analysis techniques.

• Prof. Tony Weil Laboratory:

Jordan T. Feigerle: IGP Rotation Student, Vanderbilt Medical Center PhD Program; May 2010-August 2010. Trained for different molecular biology and protein biochemistry techniques for Purification and characterization of active TFIID and TFIIA protein complexes. Finally joined Tony Weil's laboratory for Ph.D.

• Prof. Gautam Chaudhuri Laboratory

Sheetal V. Khedkar, MD: Postdoc Researcher and MPH Student; Jan 2003-Dec 2003.

Mentored and trained for different molecular biology techniques for the project "Effect of transient ablation of the Folate receptor (RFC1) gene expression on the BRCA2 mRNA level in MCF-7 cells" The studies were presented in U54 Cancer Partnership Annual Retreat 2003, Vanderbilt Ingram Cancer Center, Vanderbilt University, Nashville, TN, USA.

*Valeri J. Daugherty,* MD: Postdoc Researcher; Jan 2003 - June 2003. Trained on molecular biology techniques and mentored her on a six-month project entitled "DNA-Affinity purification of the nuclear proteins that bind to the transcriptional silencer of the human BRCA2 gene" The studies were presented in AACR 2003 annual conference. *Proc. Amer. Assoc. Cancer Res.* (2nd Ed.) Vol. 44: pg. 69, 2003.

Noni Graham: 2003 NASA Meharry Summer Research Program; May 2003- August 2003.

Mentored and trained for different molecular biology techniques and final report submission for the project entitled "Identification of hSlug interacting proteins by screening human breast cDNA library by Bacteriomatch Two-Hybrid system".

#### **April 1998- March 2002**

During my tenure as Senior Research Fellow (Graduate Student) at Department of Fermentation Technology, Central Drug Research Institute, Lucknow, India. I was involved in mentoring/training multiple students in different microbiology, molecular biology techniques. Helped in designing their projects and checking the final dissertation write-up. The students were from different universities and institutes enrolled in different master's program in Biochemistry, Microbiology, Lifesciences and Biotechnology. The students joined the department for 3-6 months for completion of research-based dissertation work towards award of their MS degree.

Aashish Fauzdar: M.Sc. Microbiology Student, Vikram University, Ujjain at Institute of Environment Management & Plant Sciences (IEMPS), Ujjain, India. January 2000 to April, 2000; "Isolation and characterization of genomic DNA from lipase producing isolates". PhD (All India Institute of Medical Sciences), New Delhi; Present Position: Manager, Quest Diagnostics, India.

Shashank Jain: M.Sc. Microbiology student, Department of Applied Microbiology and Biotechnology, Dr. H. S. Gour University, Sagar, MP, India. July 10<sup>th</sup>, 2000 to August 18<sup>th</sup>, 2000; "Genetic polymorphism studies of Leishmania field isolates by Randomly Amplified Polymorphic DNA". Ph.D. (Interdisciplinary Biomedical Sciences, UAMS, Little Rock, AR, USA); Presently working as Senior Scientist, Sri Research for Tissue Engineering (SRTE), Bangalore, India.

*Dhirendra Simanshu:* M.Sc. (Biotechnology) student, Center for Biotechnology, Jawaharlal Nehru University, New Delhi, India. 15th June - 31st July 2000; "Recent Molecular Biology Techniques". PhD in Molecular Biophysics, Indian Institute of Science, Bangalore. Presently working as Postdoctoral fellow at Memorial Sloan-Kettering Cancer Center, New York.

Rahul Srivastava: M.Sc. Microbiology student, School of Life Sciences, Pt. Ravishankar Shukla University, Raipur (C.G.), India. 6 July, 2000 – 31 Aug, 2000, "Biotransformation and Immobilization procedures". Ph.D (CDRI, Lucknow; awarded by JNU New Delhi); Present Position – Faculty, Dept. of Biotechnology & Bioinformatics, Jaypee University of Information Technology, Solan (H.P.), India.

Mukesh Kumar: B.Sc. Biotechnology student, Ranchi University; India. June 2001-August 2001, "Isolation Of standard Plasmid PBR 320". M.Sc. Biotech from Kanpur University; Post Graduate diploma in Drug Regulatory Affairs from Hamdard University, Present position: Assistant Manager, Baxter India Ltd.

*Praveena Dhanekula:* M.Sc. Biotechnology student at Nagarjuna University, Andhra Pradesh, India. May 2001 to July2001, "Training on Molecular Methods related to Parasitic Disease Leishmaniasis".

*Tripti Srivastava*: M.Sc. Biochemistry student, Department of Biochemistry, School of Life Sciences, C.S.J.M. University, Kanpur, India. June 19<sup>th</sup> to August 3<sup>rd</sup>, 2001, "Recent Techniques in Molecular Biology". Ph.D (Structural Biology) 2003-2009 (CDRI Lucknow, India). Present Position- Scientist at THSTI, India.

Neeraj Sharma: M.Sc. Biotechnology Student, Jiwaji University, Department of Biotechnology, Govt. Post Graduate College, Guna, M.P., India. Aug.2001 to Feb. 2002; "Polymorphism studies of *Leishmania donovani* field isolates at the genetic level". Present Position: Research Associate, Department of Internal Medicine and Endocrinology Wake Forest Baptist Health Sciences, Winston-Salem, NC-27157, USA.

**Teaching Evaluation at UTRGV School of Medicine:** 

| #  | COMMENTS REGARDING DR. TRIPATHI'S SESSIONS:  | DATE               |  |
|----|--|--------------------|--|
| 1  | Dr.Tripathi is passionate about the subject he is teaching which makes lecture more interesting. On top of that, he aims to teach not only the subject, but the history of the science, which I find engaging and informative. Plus, I love that he love Rosalind Franklin too!            | 8/9/2021 9:12 AM   |  |
| 2  | So glad to be in person with your energy and great passion.  | 8/8/2021 9:25 PM   |  |
| 3  | I really enjoyed his lecture! He made the material even more interesting.  | 8/8/2021 4:23 PM   |  |
| 4  | N/A  | 8/8/2021 1:13 PM   |  |
| 5  | Great lecturer, made DNA replication enjoyable!  | 8/8/2021 9:08 AM   |  |
| 6  | The slides were presented in a clear and understandable manner that made the topic easier to follow and highlight important information.   | 8/7/2021 3:09 PM   |  |
| 7  | I did not go to Dr. Tripathi's session and have not yet watched the recording. Sorry!  | 8/7/2021 11:29 AM  |  |
| 8  | Dr. Tripathi presented the material in a clear and engaging way.   | 8/6/2021 11:34 PM  |  |
| 9  | He is responsive to questions.   | 8/6/2021 11:16 PM  |  |
| 10 | Dr. Tripathi's story telling form of teaching is unique and a good way to get points across.   | 8/6/2021 6:28 PM   |  |
| 11 | Dr. Tripathi summarized complex concepts in a timely fashion and promoted an engaging student experience. Lectures were useful and entertaining.   | 8/6/2021 5:46 PM   |  |
| !  | COMMENTS REGARDING DR. TRIPATHI'S SESSIONS:  | DATE               |  |
| L  | Such a great lecturer! i wish I could attend more in person, but I fell so behind this week, but I was engaged even through the ponopto, so i look forward to your next lecture.   | 8/16/2021 1:54 AM  |  |
| 2  | Dr. Tripathi is another professor that is all-around great. He covers all aspects of learning within his lectures. He includes questions as well as great picture and dagrams. Highlights in red on his PPTs are extremely helpfull. In addition, hie enthusiasm helps me to stay focused. | 8/15/2021 1:14 PM  |  |
| 3  | Did not attend or watch lectures. I thought his powerpoints were helpful.  | 8/15/2021 11:25 AM |  |
| ļ  | I appreciated the questions he included throughout the slides  | 8/14/2021 3:17 PM  |  |
| 5  | Dr. Tripathi's lectures are very clear and he explains the material well   | 8/14/2021 1:35 PM  |  |
| 6  | Dr. Tripathi makes every lecture entertaining by tying in scientific advancements that were crucial to the field.  | 8/13/2021 9:54 PM  |  |
| 7  | Dr. Tripathi does a wonderful job of showing how every aspect of science took years of research to be established.   | 8/13/2021 9:25 PM  |  |
| 3  | He is very responsive to questions.  | 8/13/2021 8:17 PM  |  |
| )  | Dr. Tripathi was enjoyable. Lectures were appropriate for learning objectives.   | 8/13/2021 5:34 PM  |  |
| .0 | I appreciate Dr. Tripathi answering my questions in lecture and explaining difficult concepts until he believes we understood them.  | 8/13/2021 5:29 PM  |  |
| #  | COMMENTS REGARDING DR. TRIPATHI'S SESSIONS:  | DATE               |  |
| 1  | He is very straightforward about what will be tested upon and is very approachable.  | 8/23/2021 12:19 PM |  |
| 2  | Dr. Tripathi makes every lecture interesting by adding Nobel prize winning scientists.   | 8/23/2021 8:10 AM  |  |
| 3  | Dr. Tripathi has great PPT lecture slides and enthusiasm. I truly enjoy him provided questions throughout his sessions.  | 8/22/2021 12:11 PM |  |
| 4  | It was interesting to learn about different methods/lab techniques in genetics. Maybe interpreting results would have been cool, but it seems like it would be out of the scope of medical school.   | 8/21/2021 11:32 AM |  |
| 5  | Did not attend lecture, slides are very helpful though.  | 8/20/2021 7:01 PM  |  |
| 6  | Dr. Tripathi accurately covered each learning objective required.  | 8/20/2021 5:17 PM  |  |
| 7  | Dr. Tripathi continues to show the importance of laboratory sciences in lecture while letting us know what is available to us as students in his labs.   | 8/20/2021 5:10 PM  |  |