**CURRICULUM VITAE**

**HINA MIR, PhD**

**Work Address:**

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**EDUCATION**

2011 Ph.D. in Biochemistry, Department of Biochemistry, The Maharaja University of

Baroda, India.

2003 M.Sc. in Biochemistry, Department of Biochemistry, The Maharaja University of

Baroda, India.

2000 B.Sc. in Biochemistry, Gujarat University, India.

**EMPLOYMENT**

**ACADEMIC APPOINTMENTS**

06/2019-Present : Instructor, Department of Microbiology and Immunology at the Morehouse School of Medicine, Atlanta, GA.

11/2015/-05/2019: Research Associate, Department of Microbiology and Immunology at the Morehouse School of Medicine, Atlanta, GA.

09/2013–10/2015: Postdoctoral fellow, Department of Microbiology and Immunology at the

Morehouse School of Medicine, Atlanta, GA.

07/2011–09/2013: Postdoctoral fellow, Department of Physiology at University of Tennessee

Health Science center, Memphis, TN.

9/2006-04/2011: Senior Research Fellow, Department of Biochemistry, The Maharaja

University of Baroda, India.

09/2004-08/2006: Junior Research Fellow, Department of Biochemistry, The Maharaja

University of Baroda, India.

**PROFESSIONAL MEMBERSHIPS and ACTIVITIES**

Member (#285402): American Association for Cancer Research (AACR)

Member (#368421): American Society of Clinical Oncology (ASCO)

Member (#00872277): Society for Basic Urology (SBUR)

Member (#00124236): American Physiological Society (APS)

**HONORS /AWARDS**

2017 Best poster presentation award, Cancer Research Symposium at University of Alabama at Birmingham. Supported by NCI funded MSM/UAB/TU U54 partnership.

2016 Health Disparity Research Training Program Scholar.

2015 American Association for Cancer Research – Scholar-in-Training Award for meritorious abstract presented at the 8th AACR Conference on The Science of Cancer Health Disparity in Racial/Ethnic Minorities and the Medically underserved. November, 13-16, 2015, Atlanta, GA.

2013 University of Tennessee Health Science center – Spring 2013 PhDA Travel Award.

2011 International conference on Molecular Medicine – Best Poster Award

2009 Young Explorers in Indian Biology (YEIB) - Travel Award.

2004 Received Junior research fellowship from Department of Biotechnology, Government of India funded Research project at Department of Biochemistry, India.

**JOURNAL EDITORIAL BOARDS, ADVISORY COUNCILS, PEER REVIEWER of MANUSCRIPTS**

**JOURNAL EDITORIAL BOARDS**

Journal of Solid Tumor

International Journal of Immunology and Immunobiology

Austin Digestive System

Cancers

International Journal of Molecular Sciences

**PEER REVIEW**

1. International Journal of Molecular Sciences
2. BMC Cancer
3. Medical & Biological Eng & Computing
4. International Journal of Oncology
5. Oncology Reports.
6. Oncology Letters.
7. International Journal of Respiratory and Pulmonary Medicine
8. International Journal of Molecular Medicine
9. Experimental and Therapeutic Medicine
10. Austin Digestive system
11. Molecular and Clinical Oncology
12. Molecular Medicine reports
13. Molecules
14. Cancer Cell International
15. Oncotarget
16. BBA-General Subjects

**EVALUATING WORK OF OTHERS**

* Research Day 2017: Served as a judge for poster presentation at for Spelman College, Atlanta, GA.
* Cancer Research Symposium 2018: Judge for poster presentation at University of Alabama at Birmingham, Compressive Cancer Center. Birmingham, AL.

**TEACHING/TRAINING at MSM**

2017-Cont.: Lecture on data presentation as a part of the scientific writing workshop for MD and graduate students participating in the Summer Cancer Research and Education Program.

2015-Cont.: Teaching and training postdoctoral fellows, MD students, graduate students, masters and high school students in laboratory setting on fundamentals of cancer research and research techniques.

2013-2015: Teaching and training graduate students, masters and high school students in laboratory setting on fundamentals of cancer research and research techniques.

**TEACHING / TRAINING at other institutions**

2009-2010: Teaching Microbiology in Master of Science curriculum, at the Department of Biochemistry, The Maharaja Sayajirao University of Baroda, Vadodara, India.

2009-2010: Teaching Bioenergetics in Master of Science curriculum, at the Department of Biochemistry, The Maharaja Sayajirao University of Baroda, Vadodara.

2009-2010: Teaching Biochemistry and Clinical Biochemistry in laboratory setting and hands on training in biochemical and molecular biology techniques to the students enrolled in post-graduate diploma in applied biochemistry and Master of Science at the Department of Biochemistry, The Maharaja Sayajirao University of Baroda, Vadodara.

2006-2009: Laboratory based teaching and hands on training in research techniques such as Protein Purification, Native PAGE, SDS -PAGE, Western Blot and Zymography to the students enrolled in Master of Science in Biochemistry, at the Department of Biochemistry, The Maharaja Sayajirao University of Baroda, Vadodara.

2005-2006: Teaching Developmental Biology in Master of Science curriculum, at the Department of Biochemistry, The Maharaja Sayajirao University of Baroda, Vadodara, India.

**GRADUATE STUDENTS (Mentored at Morehouse School of Medicine)**

2020 Talaijha Haynes, MSMS, Summer Cancer Research and Education program (SCREP), Morehouse School of Medicine. Biological basis of racial disparity in colorectal cancer. Mentor.

2019 Erin Wallace, MSCR student, Summer Cancer Research and Education program (SCREP), Morehouse School of Medicine. Association of Matrix Metalloproteinase and Fibrillin-2 in Colorectal Cancer. Mentor.

2018 Peris Mungai, MD student, Summer Cancer Research and Education program (SCREP), Morehouse School of Medicine. CTB-1 mediate signaling in colon cancer. Co-mentor.

*2016 Shakayala Nunez*, *BS*- Morehouse School of Medicine Graduate MSBR candidate. Effect of natural agent on Breast Cancer. Lab rotation. Mentor.

*2016 Ann Anu Kurian*, *BS*- Morehouse School of Medicine Graduate MSBR Student. Effect of natural agent on Breast. Lab rotation Co-Mentor.

*2016 Anju Marry Cherian*, *BS*- Morehouse School of Medicine Graduate MSBR Student. Effect of natural agent on Breast. Lab rotation Mentor.

2015 *Ian Saunders*, *MS*- Morehouse School of Medicine Graduate Student. Mr. Saunder’s PhD dissertation project is titled “Effects of Emodin on Colon Cancer Metastasis and Chemoresistance”. Co-mentor.

2015 *Jeronay King, MS*- Morehouse School of Medicine Graduate Student. Ms. Kings’s Ph.D dissertation project is titled “Role of CCR9-CCL25 in Triple Negative Breast Cancer and Disparity”. Co-mentor.

2014-2018  *Patrick P. Carriere*, MS- Morehouse School of Medicine Graduate Student Mr. Carriere’s PhD dissertation project is titled “Improving therapeutic outcome of colon cancer using Cinnamtannin-B1”. Co-mentor.

2014-2018 *Ashley B. Ward, MS*- Morehouse School of Medicine Graduate Student. Ms. Ward’s PhD project titled Chemopreventive and therapeutic efficacy of Quercetin, a Bioflavonoid on the Human Prostate Cancer”. Co-Mentor

2014-15 Jeronay King, BS- Morehouse School of Medicine, Master of Science Biomedical Research (MSBR) student. Ms. King’s project entitled “Improving therapeutic efficacy of Docetaxel in breast cancer. Co-mentor

2014 Anne Ramsey, MS. Summer Trainee, MSM/UAB/TU partnership U54 summer training program, Morehouse School of Medicine. Effects of Emodin on Breast Cancer. Co-Mentor.

2014 Mentor, Jeronay King, Summer Trainee, MSM/UAB/TU partnership U54 summer training program, Morehouse School of Medicine. Effect of Apigenin on breast cancer”. Co-Mentor

2014 Mentor, Patrick P. Carriere, Summer Trainee, MSM/UAB/TU partnership U54 summer training program, Morehouse School of Medicine. Effect of CTB-1 on colon cancer. Co-mentor.

2014 Mentor, Meera Brahmbhatt, MD Summer Trainee, Morehouse School of Medicine. Role of the CCR9-CCL25 in Melanoma. Co-mentor.

2014 Mentor, Autum Key. PhD in Biomedical Research, Lab rotation. Effect of Dietary component on Breast Cancer. Co-mentor.

2014 Marshe’ Edwards. MS Biomedical Research, Morehouse School of Medicine. Lab rotation. Effect of Natural agent on Prostate cancer. Co-mentor.

2014 Anne Ramsey. MS Biomedical Research, Morehouse School of Medicine. Lab rotation. Effect of Emodin on Breast Cancer. Co-mentor.

2014 Jeronay King. MS Biomedical Research, Morehouse School of Medicine. Lab Rotation. Effected of Apigenin on Breast Cancer. Co-mentor.

2014 Patrick P. Carriere. PhD in Biomedical sciences, Morehouse School of Medicine. Lab rotation. Effect of CTB-1 on colon cancer. Co-mentor.

2013-14 Ashley B. Ward, MSBR candidate, Morehouse school of Medicine, Ashley’s dissertation project entitled “Effects of Quercetin on Prostate Cancer”. Co-mentor.

2013 Ashley B. Ward, Summer Trainee, MSM/UAB/TU partnership U54 summer training program. “Effects of Quercetin on Prostate Cancer”. Co-mentor.

2013 Ashley B. Ward. MS Biomedical Research. Lab rotation. Effects of Quercetin on Prostate Cancer. Co-mentor.

**GRADUATE STUDENTS (Mentored at other Institutions)**

2009 Co-mentor, Nimi Vashi, MSc Student, Department of Biochemistry, The Maharaja Sayajirao University of Baroda, India.

2009 Co-mentor, Kavin Soni, MSc Student, Department of Biochemistry, The Maharaja Sayajirao University of Baroda, India.

2009 Co-mentor, Nazneen Ghori, MSc Student, Sardar Patel University, India.

2009 Co-mentor, Kawal Mehendvi, MSc Student, Sardar Patel University, India.

2008 Co-mentor, Bina Patel, MSc Student, Sardar Patel University, India.

2008 Co-mentor, Yogesh Chawla, MSc Student, Department of Biochemistry, The Maharaja Sayajirao University of Baroda, India.

2008 Co-mentor, Milan Vachchhani, MSc Student, Department of Biochemistry, The Maharaja Sayajirao University of Baroda, India

2007 Co-mentor, Kaushal Patel, MSc Student, Sardar Patel University, India

2007 Co-mentor, Payal Sharma, MSc Student, Department of Biochemistry, The Maharaja Sayajirao University of Baroda, India

2007 Co-mentor, Shibi Likhite, MSc Student, Department of Biochemistry, The Maharaja Sayajirao University of Baroda, India.

**RESEARCH IN INTEREST:**

**Role of chemokines in cancer progression and metastasis:** In order to achieve the metastatic goal, cancer cell must migrate, invade and survive at secondary metastatic sites. My work focuses on assessing the chemokine-receptor axis in governing the homing sites of metastasizing cancers and thereby their significance as conspicuous targets for cancer therapies. We have demonstrated that cancer cells express CXCR6 and CCR9 and play significant roles in dictating the mechanisms involved in cancer progression. Therefore, my aim is to investigate signaling cascades dictated by these chemokines-chemokine receptors during disease progression and ultimately to develop new treatment modalities using anti-chemokine antibodies either alone or in combination with chemotherapeutics.

**Development of therapeutic and preventive strategies for cancer using immuno- modulatory natural compounds:** Cancer cells thrive in human body by developing specific strategies to escape immune surveillance. They induce CD8+ T cell anergy, inhibition of T cell proliferation, and augmentation of regulatory T (Treg) cell numbers and NK cell number as well as function. Hence treatment, which could re-establish immune competence state will help in controlling the disease. Some natural compounds have a potential to overcome tumor induced immune suppression. Ongoing studies in our laboratory have shown that natural compound from herbal plant Andrographis paniculata has ability to negatively modulate cytokines produced by cancer cells, which are known to have immuno-suppressive activities. We also show that it can selectively deplete Treg cells and enhance the proliferation of effector T cells and NK cell. The objective is to further investigate effect of this compound on cellular and molecular mechanisms of cancer cells using syngeneic mouse mammary, ovarian and prostate cancer models and provide preventive and therapeutic modalities for cancer.

**Cancer Health Disparity:** Racial disparities in prostate cancer (PCa) progression and therapeutic efficacy exist betweenAfrican Americans (AA) and European Americans (EA). Precise mechanisms involved in poor prognosis and therapeutic outcome are yet to be defined. But it is apparent that efficacy of standard care in AA patients is poor compared to EA. Therefore, defining the mechanism involved in PCa progression and identification of novel molecular targets that are selective to AA patients is key to reduce PCa health disparities. Role of chemokines in cancer including PCa is well appreciated and chemokine interactions play a crucial role in tumor cell trafficking and development of organ specific metastases. Results from the lab suggest potential role of CCR9-CCL25 in racial disparity associated with PCa aggressiveness and therapeutic outcomes. Our research interest is to further decipher this mechanism of disparity.

**Research Experience:**

I gained expertise in behavioral studies during my MS degree using Apomorphine induced schizophrenic model of rat and developing strategies to enhance the efficacy of Clozapine, a drug that gives symptomatic relief against schizophrenia using Eicosapentanoic acid (EPA) as a supplement, which in turn would decrease the side effects of Clozapine. As a graduate student, I received extensive training and molecular biology and biochemistry studying the role of Poly ADP-Ribose Polymerase and Apoptosis-Inducing factor using Dictyostelium discoideum as a model to develop therapeutic targets for the diseases like cancer, which relies on resisting cell death to overcome therapeutic response. As a post-doctoral fellow in University of Tennessee Health Science Center, I was studying the role of Occludin on the pathophysiology of epithelial cell tight junctions (TJ), since any damage to the dynamic structure of TJs may to pathological conditions including cancer. Due to my enormous experience in behavioral studies, molecular biology and pathophysiology of epithelial cell, I was accepted in cancer research program at Morehouse School of Medicine, where I am applying genomics, proteomics, and bioinformatics approaches to study role of chemokines in cancer progression, immune suppression in cancer-bearing host and decoding crosstalk between tumor and immune system to address disparity and develop therapeutics for cancer using in vitro and in vivo models.

**PEER-REVIEWED RESEARCH PUBLICATIONS (551 citations; H index 16; i10 21)**

1. **H Mir**, J Rajawat, I Vohra, J Vaishnav, A Kadam, R Begum. Signaling interplay between PARP1 and ROS regulates stress-induced cell death and developmental changes in Dictyostelium discoideum. Experimental Cell Research, 2020. 397(2), 112364.
2. I T Saunders, **H Mir**, N Kapur, and S Singh*.* Emodin inhibits colon cancer by altering BCL-2 family proteins and cell survival pathways.Can cell Int **2019. 19,** 98*.*
3. N Kapur, **H Mir**, G Sonpavde; S Jain, S Bae, JW Lillard, Jr., and S Singh. Prostate cancer cells hyper-activate CXCR6 signaling by cleaving CXCL16 to overcome the effect of docetaxel. Cancer Letters **2019**. July; **454**, 1-13.
4. J King, **H Mir**, N Kapur, S Bae, and S Singh. CC chemokines are differentially expressed in Breast Cancer and are associated with the disparity in overall survival. Sci. Rep*.* **2019** Mar; 9(1), 4014*.*
5. **H Mir**, G Kaur, N Kapur, S Bae, JW Lillard, Jr., and S Singh. Higher CXCL16 exodomain is associated with aggressive ovarian cancer and promotes the disease by CXCR6 activation and MMP modulation. Sci Rep. **2019** Feb 21;9(1):2527*.*
6. PP Carriere, N Kapur, **H Mir**, AB Ward, S Singh, Cinnamtannin B-1 inhibits cell survival molecules and induces apoptosis in colon cancer. *Int J Oncology,* 2018;53(4):1442-1454.
7. AB Ward, **H Mir**, N Kapur, DN Gales, PP Carriere, S Singh. Quercetin inhibits prostate cancer by attenuating cell survival and inhibiting anti-apoptotic pathways. World J Surg. Onco, 2018; 16(1) 108.
8. B Manda, **H Mir**, R Gangwar, AS Meena, S Amin, PK Shukla, K Dalal, T Suzuki, RK Rao. Phosphorylation hotspot in the C-terminal domain of occludin regulates the dynamics of epithelial junctional complexes. J Cell Sci, 2018; 131(7)
9. AA Kadam, T Jubin, **H Mir**, R Begum. Potential role of Apoptosis Inducing Factor in evolutionarily significant eukaryote, Dictyostelium discoideum survival. Biochimica et Biophysica Acta (BBA)-General Subjects, 2017; 1861(1): 2942-2955.
10. **H Mir**, N Kapur, R Singh, G Sonpavde, JW Lillard Jr. and S Singh. Andrographolide inhibits prostate cancer by targeting cell cycle regulators, CXCR3 and CXCR7 chemokine receptors. Cell cycle, 2016; 15(6): 819-26.
11. P Shukla, K Chaudhry, **H Mir**, R Gangwar, N Yadav, B Manda, A S Meena, R K Rao Chronic Ethanol Feeding Promotes Azoxymethane and Dextran Sulfate Sodium-Induced Colonic Tumorigenesis by Enhancing Mucosal Inflammation. BMC Cancer, 2016: 16:189.
12. N Kapur, **H Mir**, CE Clark, III, U Krishnamurti, DJ Beech, JW Lillard Jr. and S Singh, Higher CCR6 in colon cancer is associated with advanced disease and supports epithelial to mesenchymal transition. Brit. J Cancer, 2016; 114: 1343–1351.
13. **H Mir**, A S Meena, K Chaudhry, P Shukla, R Gangwar, B Manda, L Shen, J Turner, P Dietrich, I Dragatsis, R K Rao, Occludin deficiency promotes ethanol-induced disruption of epithelial junctions, gut barrier dysfunction and liver damage in mice. Biochimica et Biophysica Acta (BBA)-General Subjects, 2016; 1860 (4): 765-774.
14. R Singh, N Kapur, **H Mir**, N Singh, JW Lillard Jr. and S Singh, CXCR6-CXCL16 axis promotes prostate cancer by mediating cytoskeleton rearrangement via activating Ezrin and αvβ3 integrin clustering. Oncotarget, 2016; 7(6).
15. K K Chaudhry, P K Shukla, **H Mir**, B Manda, R Gangwar, N Yadav, M McMullen, L E Nagy and R K Rao, Glutamine supplementation attenuates ethanol-induced disruption of apical junctional complexes in colonic epithelium and ameliorates gut barrier dysfunction and fatty liver in mice. Journal of Nutr Biochem., 2016; 27: 16-26.
16. K K Chaudhry, G Samak, P K Shukla, **H Mir**, R Gangwar, B Manda, T Isse, T Kawamoto, M Salaspuro, P Kaihovaara, P Dietrich, I Dragatsis, L E Nagy and R K Rao ALDH2 Deficiency Promotes Ethanol-Induced Gut Barrier Dysfunction and Fatty Liver in Mice. Alcoholism: Clinl Exp Res., 2015; 39(8): 1465–1475.
17. **H Mir**, T Alex, J Rajawat, A Kadam and R Begum. Response of Dictyostelium discoideum to UV C and involvement of poly (ADP-ribose) polymerase. Cell Prol., 2015; 48(3): 363–374.
18. **H Mir**, R Singh, G H Klocker, J W Lillard Jr. and S Singh. CXCR6 expression in non- small cell lung carcinoma supports metastatic process via modulating metalloproteinases. Oncotarget, 2015; 6(12): 9985-98.
19. P Gupta, PK Sharma, **H Mir**, R Singh, N Singh, G H Klocker, JW Lillard Jr. and S Singh. CCR9/CCL25 expression in non-small cell lung cancer correlates with aggressive disease and mediates key steps of metastasis. Oncotarget, 2014; 5(20): 10170-9.
20. J Rajawat, T Alex, **H Mir**, A Kadam, R Begum. Proteases involved during oxidative stress induced poly (ADP-ribose) polymerase mediated cell death in D. discoideum. Microbiology, 2014; 160(Pt 6): 1101-11.
21. J Rajawat J, **H Mir**, T Alex, S Bakshi and R Begum. Involvement of poly (ADP-ribose) polymerase in paraptotic cell death of D. discoideum. Apoptosis, 2014; 19: 90-101.
22. **H Mir**, J Rajawat and R Begum. Staurosporine induced poly (ADP-ribose) polymerase independent cell death in D. discoideum. Indian J Exp Biol., 2012; 50: 80-6.
23. A M Kawal, **H Mir,** C K Ramniklal, J Rajawat and R Begum. Structural and evolutionary analysis of PARPs in D. discoideum. Am. J. Infect. Dis., 2011; 7: 67-74.
24. J Rajawat, **H Mir** and R Begum. Differential Role of Poly (ADP-ribose) polymerase in D. discoideum growth and development. BMC Dev. Biol., 2011; 11:14.
25. J Rajawat, I Vohra, **H Mir**, D Gohel and R Begum. Effect of oxidative stress and involvement of poly (ADP-ribose) polymerase (PARP) in Dictyostelium discoideum development. FEBS Journal, 2007; 274: 5611-5618.

**Review**

1. J King, **H Mir**, N Kapur, and S Singh, Racial Differences in Immunological Landscape Modifiers Contributing to Disparity in Prostate Cancer. Cancers, **2019**; 11(12), 1857. *Invited.*
2. **H Mir**, J Rajawat, S Pradhan and R Begum. Signaling molecules involved in the transition of growth to the development of Dictyostelium discoideum. Indian J of Exp. Biol., **2007**; 45: 223-236.

**Invited Book Chapter**

1. **H Mir**, and S Singh, CCL25 signaling in the tumor microenvironment. Advances in Experimental Medicine and Biology (ISSN:0065-2598), **2020** (*In press)*.
2. J King, **H Mir**, and S Singh, Association of Cytokines and Chemokines in Pathogenesis of Breast Cancer. Progress in Molecular Biology and Translational Science, **2017**; 151, 113-136.

**ABSTRACTS and PRESENTATIONS**

1. I T Saunders, D Ezeagwu, N Kumar, **H Mir**, and Shailesh Singh. Emodin enhances e!cacy of Oxaliplatin and 5 Fluorouracil in colon cancer by promoting cell cycle arrest. American Association for Cancer Research, Annual Meeting, 2020. ***This poster was chosen for a travel award.***
2. **H Mir,** N Kapur, J W Lillard, Jr. and S Singh, Andrographolide inhibits prostate cancer by promoting natural killer cell function in murine model. American Association for Cancer Research, Annual Meeting, 2020.
3. **H Mir,** N Kapur, G Sonpavde, S Bae, J W Lillard, Jr. and S Singh, CCL25 neutralization enhances efficacy of Docetaxel in preclinical prostate cancer model. Society for Basic Urology, November 7-10, 2019, New Orleans, LA.
4. **H Mir,** J K Thomas, N Kapur, and S Singh, Association of CXCR6/CXCL16 axis in Triple Negative Breast Cancer and Racial Disparity. 12th AACR Conference on The Science of Cancer Health Disparity in Racial/Ethnic Minorities and the Medically Underserved. September 20-23, 2019, San Francisco, CA.
5. **H Mir,** N Kapur, and S Singh, Ovarian cancer cells overcome the cytotoxic effect of cisplatin by hyperactivating CCR9-mediated signaling in response to cisplatin. American Association for Cancer Research, Annual Meeting, March 29th-3rd April 2019, Atlanta.
6. N Kapur, **H Mir**, and S Singh, Race-specific differences in G-protein decoupling from CCR9 in prostate cancer cells contribute to the differences in docetaxel response. American Association for Cancer Research, Annual Meeting, March 29th-3rd April 2019, Atlanta.
7. J King, **H Mir**, N Kapur, and S Singh, CC chemokines are differentially expressed in Breast Cancer and are associated with racial disparity. American Association for Cancer Research, Annual Meeting, March 29th-3rd April 2019, Atlanta.
8. I Saunders, N Kapur, **H Mir**, and S Singh, Emodin inhibits colon cancer by altering BCL-2 family proteins and cell survival pathways. American Association for Cancer Research, Annual Meeting, March 29th-3rd April 2019, Atlanta.
9. J K Thomas, N Kapur, **H Mir**, D N Gales, J W Lillard, Jr. and S Singh. Antibody microarray analysis of signaling networks regulated by the CCR9/CCL25 axis in triple negative breast cancer. 11th AACR Conference on The Science of Cancer Health Disparity in Racial/Ethnic Minorities and the Medically underserved. November 2-5, 2018, New Orleans, LA.
10. P Mungai, N Kapur, **H Mir** and S Singh. Cinnamtannin B1 inhibits colon cancer by impacting key regulators of apoptosis and cell cycle. Summer Cancer Research Symposium, July 25th, 2018, Birmingham, AL.
11. **H Mir**, N Kapur, JW Lillard, Jr. and S Singh. Role of CXCL16 and ADAM10 in ovarian cancer pathogenesis. American Association for Cancer Research, Annual Meeting, April 13th-18th, 2018, Chicago.
12. I Saunders, N Kapur, **H Mir**, DN Gales, S Singh, Emodin inhibits colon Cancer by modulating apoptotic and cell survival signals. American Association for Cancer Research, Annual Meeting, April 13th-18th, 2018, Chicago.
13. J King, N Kapur, **H Mir**, DN Gales, J W Lillard, Jr. and S Singh. Race-specific differential expression of CCL25 and CCR9 in triple negative breast cancer. American Association for Cancer Research, Annual Meeting, April 13th-18th, 2018, Chicago. **This abstract received minority in cancer research award.**
14. DN Gales, **H Mir**, N Kapur, JW Lillard, Jr. and S Singh. ADAM10 promotes breast cancer via CXCL16 constitutive cleavage and CXCR6 signaling. American Association for Cancer Research, Annual Meeting, April 13th-18th, 2018, Chicago.
15. N Kapur, **H Mir**, G Sonpavde and S Singh. CXCR6-directed therapeutic approach potentiates efficacy of docetaxel in prostate cancer. American Association for Cancer Research, Annual Meeting, April 13th-18th, 2018, Chicago.
16. **H Mir**, N Kapur, G Sonpavde and S Singh, Andrographolide inhibits epithelial to mesenchymal transition in prostate cancer. Society for Basic Urology, November 9-12, 2017, Tampa, FL.
17. N Kapur, **H Mir,** G Sonpavde and S Singh Effect Of CXCR6/CXCL16 Axis On Efficacy Of Docetaxel in Prostate Cancer. Society for Basic Urology, November 9-12, 2017, Tampa, FL. **This abstract received travel award.**
18. PK Shukla, KK Chaudhry, **H Mir**, R Gangwar, N Yadav, B Manda, AS Meena, R.K. Rao Potential role of mucosal inflammation and histone modifications in alcohol-mediated promotion of colonic tumorigenesis in mice. Alcohol, 2017; 59: 75-76.
19. **H Mir**, N Kapur, G Sonpavde, S Singh, Andrographolide inhibits prostate cancer by suppressing cytokine involved in promoting epithelial to mesenchymal transition. Cancer Research Symposium, July 26th, 2017, Auburn, AL. **Received second prize.**
20. **H Mir**, N Kapur, G Sonpavde, S Singh, Andrographolide inhibits prostate cancer by suppressing cytokine involved in promoting epithelial to mesenchymal transition. American Association for Cancer Research, Annual Meeting, April 1-5, 2017, Washington D.C.
21. N Kapur, **H Mir**, G Sonpavde, S Singh, Race specific hyper-activation of CCR9-mediated survival signals and its impact on efficacy of Docetaxel in prostate cancer. American Association for Cancer Research, Annual Meeting, April 1-5, 2017, Washington D.C.
22. P P Carriere, **H Mir**, N Kapur, S Singh, Anti-proliferative effects of cinnamon extract in colon cancer. American Association for Cancer Research, Annual Meeting, April 1-5, 2017, Washington D.C.
23. A B Ward, **H Mir**, N Kapur, S Singh, Quercetin inhibits prostate cancer by modulating ROS and key regulators of apoptosis and cell survival. American Association for Cancer Research, Annual Meeting, April 1-5, 2017, Washington D.C.
24. I T Saunders, N Kapur, **H Mir**, S Singh, Emodin exerts its anticancer effect on colon cancer cells by inhibiting proliferation and inducing apoptosis. American Association for Cancer Research, Annual Meeting, April 1-5, 2017, Washington D.C.
25. **H Mir**, N Kapur, R Singh, G Sonpavde, JW Lillard, Jr. and S Singh. Andrographolide prevents prostate cancer by targeting CXCR3/CXCR7 and regulators of cell cycle. American Association for Cancer Research, Annual Meeting, April 16-20, 2016, New Orleans, LA.
26. N Kapur, **H Mir**, C E Clark III, U Krishnamurti, D J Beech, J W Lillard Jr., and S Singh. CCR6 associates with colon cancer metastasis. American Association for Cancer Research, Annual Meeting, April 16-20, 2016, New Orleans, LA.
27. **H Mir**, N Kapur, R Singh, JW Lillard, Jr. and S Singh. Higher expression of CCR9 in African American patients correlates with racial disparity of prostate cancer. Eighth AACR Conference on the Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved, Nov. 13 - 16, 2015, Atlanta, Georgia. **Received Scholar-in-training award.**
28. N Kapur, **H Mir**, R Singh, JW Lillard, Jr. and S Singh. Racial Differences in CCR9- mediated Molecular Signature in Prostate Cancer. Eighth AACR Conference on the Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved, Nov. 13 - 16, 2015, Atlanta, GA. **First author received Scholar-in-training award.**
29. **H Mir**, N Kapur, R Singh and S Singh. Andrographolide inhibits prostate cancer by modulating CXCR3/CXCR7 and cell cycle. SBUR, 2015 Fall Symposium, Nov12-15, 2015 Fort Lauderdale, FL.
30. AB Ward, **H Mir**, N Kapur, S Singh. Quercetin inhibits prostate cancer by modulating molecules involved in apoptosis and cell proliferation. American Association for Cancer Research, Annual Meeting, April 18-22, 2015, Philadelphia, PA.
31. J King, **H Mir**, N Kapur, S Singh. Improving Therapeutic Efficacy of Docetaxel in Breast Cancer. American Association for Cancer Research, Annual Meeting, April 18-22, 2015, Philadelphia, PA.
32. P. Carriere, **H Mir**, N Kapur, R Singh, GP Sonpavde, JW. Lillard, Jr, and S Singh. CCR9/CCL25 mediates epithelial-mesenchymal transition in prostate cancer. American Association for Cancer Research, Annual Meeting, April 18-22, 2015, Philadelphia, PA. **First author received minority in cancer research award.**
33. **H Mir**, N Kapur, R Singh, GP Sonpavde, JW Lillard, Jr. and S Singh. Andrographolide inhibits prostate cancer by modulating chemokine and cytokines. American Association for Cancer Research, Annual Meeting, April 18-22, 2015, Philadelphia, PA.
34. N Kapur, **H Mir**, R Singh, S Singh. CCR6-mediated molecular mechanisms involved in colon cancer. American Association for Cancer Research, Annual Meeting, April 18-22, 2015, Philadelphia, PA.
35. I Saunders, **H Mir** and S Singh. Anti-Proliferative and Pro-apoptotic Effect of Emodin on Colon Cancer Cells. MSM/UAB/TU U54 Partnership Cancer Research Summer Training, July 2015 at Tuskegee University, Tuskegee, AL.
36. J King, **H Mir** and S Singh. Enhancing Chemotherapeutic Efficacy on Breast Cancer using Apigenin. MSM/UAB/TU U54 Partnership Cancer Research Summer Training, July 2015 at Tuskegee University, Tuskegee, AL. **First author received second prize.**
37. B Manda, F Giorgianni, R Gangwar, **H Mir**, S Beranova, R K Rao. Epithelial specific microtubule associated protein, MAP7, interacts with occludin by a tyrosine phosphorylation-dependent mechanism and regulates tight junction dynamics. Digestive Disease Week, 2015.
38. AB Ward, P Gupta, G Kaur, **H Mir**, JW Lillard Jr., and S Singh. The effects of Quercetin on prostate cancer. American Association for Cancer Research, Annual Meeting, April 5-9, 2014, San Diego, CA.
39. P Gupta, AB Ward, **H Mir**, G Kaur, WE Grizzle, JW Lillard Jr. and S Singh. Potential role of CXCR6-CXCL16 in prostate cancer progression and chemotherapeutic efficacy. American Association for Cancer Research, Annual Meeting, April 5-9, 2014, San Diego, CA.
40. **H Mir**, P Gupta, R Singh, PK Sharma, G Kaur, AB Ward, WE Grizzle, JW Lillard Jr. and S Singh. Clinical and biological significance of CXCR6 in lung cancer. American Association for Cancer Research, Annual Meeting, April 5-9, 2014, San Diego, CA.
41. K K Chaudhry, **H Mir**, B Manda, R Gangwar, R K Rao . L-Glutamine attenuates ethanol- induced disruption of tight junctions (TJs) and adherens junctions (AJs) in mouse colonic epithelium and ameliorates gut barrier dysfunction and liver injury. Digestive Disease Week 2014.
42. K K Chaudhry, G Samak, R Gangwar, **H Mir**, B Manda, T Isse, T Kawamoto, M Salaspuro, P Kaihavaara, R K Rao. Aldehyde dehydrogenase (ALDH2) deficiency exacerbates ethanol-induced disruption of tight junctions (TJs) and adherens junctions (AJs) in mouse colonic epithelium and enhances gut barrier dysfunction and liver injury. Digestive Disease Week, 2014.
43. R Gangwar, G Samak, K K Chaudhry, **H Mir**, B Manda, N Kumari, R K Rao. Chronic restraint stress exacerbates ethanol-induced gut permeability and liver injury. European Society for Biomedical Research on Alcoholism, 2013.
44. **H Mir**, R Gangwar, K K Chaudhry, B Manda, L Shen, J R Turner, P Dietrich, I Dragatsis, R K Rao. Occludin deficiency exacerbates ethanol-induced colonic barrier dysfunction and liver damage. Experimental Biology conference, 2013, Boston, MA.
45. **H Mir**, J Rajawat and R Begum. Staurosporine induced cell death in D. discoideum is independent of PARP. International conference on Molecular Medicine, 9th-11th January,

2011. Selected as best poster and for publication.

1. **H Mir**, J Rajawat, I Vohra, P Sharma, M Vachhani and R Begum. Involvement of Poly ADP-ribose polymerase (PARP) and Apoptosis Inducing Factor (AIF) in starvation induced cell death in D. discoideum. XXXIII All India Cell Biology Conference 10-13th December, 2009 at Central University of Hyderabad.
2. **H Mir**, I Vohra, J Rajawat, K Patel and R Begum. Response of D. discoideum to UV-C and involvement of Poly (ADP-ribose) polymerase. National symposium for Young Explorers in Indian Biology (YEIB) TIFR, Mumbai, 14-16th September 2009. **Won travel award for Poster presentation.**
3. National Symposium on miRNA conducted by Society of Biological Chemists, Vadodara, India, December 2008.
4. **H Mir**, J Rajawat, J Davda, I Vohra I, M Arora and R Begum R. Role of Poly (ADP) ribose polymerase in UVC induced cell death in D. discoideum. International symposium of developmental biology held on 18-19th October, 2007, Agra.
5. National Symposium on Apoptosis and Cancer, organized at Department of Biochemistry, The Maharaja Sayajirao University of Baroda, December 28-29, 2007.
6. International Symposium on Cellular Signaling during Development, Agra, India. October 18-19, 2007.
7. International Symposium on Cellular Signaling during Development, Pune, India.

November 23-25, 2006.

1. National Symposium conducted by Society of Biological Chemists, Vadodara, India, December 2006.
2. Seminar on Modern Biology – Facets and Prospects jointly organized and conducted by Department of Biochemistry, The Maharaja Sayajirao University of Baroda and Department of Biological Sciences, TIFR, Mumbai. October 10-11, 2005.
3. I Vohra, D Khanna, H Mir, R Begum. Effect of oxidative stress on Dictyostelium discoideum growth, development and cell death. Developmental biology on 22-24 November, 2005, University of Kalyani, Kalyani, West Bengal.

**Oral Presentations**

1. Andrographolide inhibits prostate cancer by modulating chemokine and cytokines. Curtis Parker symposium for students, Morehouse school of Medicine, 10thFeb, 2016.