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Contact Information

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Education & Training

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| 2005 | Ph.D. Polymer Science/Chemistry/Synthesis, Sri Krsihandavaraya University, Andhra Pradesh, India |
| 1999 | M.Sc. Polymer Science/Drug delivery, Sri Krsihandavaraya University, Andhra Pradesh, India |

University/Appointments

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| 2013-2015 | Assistant Professor (Research track), Department of Pharmaceutical Sciences, College of Pharmacy, University of Tennessee Health Science Center, Memphis, USA |
| 2015-2019. | Assistant Professor (Tenure track)), Department of Pharmaceutical Sciences, College of Pharmacy, University of Tennessee Health Science Center, Memphis, USA |
| 2019-Pre | Associate Professor (Tenured), Nanotechnology and Pharmaceutical Sciences, Department of Microbiology and Immunology, College of Medicine, University of Texas Rio Grande Valley, Edinburg, TX, USA |

Professional Experience

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| 2011-2013 | Staff Scientist, Cancer Biology Research Center, Sanford Research/USD, Sioux Falls, USA |
| 2008-2011 | Postdoctoral Fellow, Cancer Biology Research Center, Sanford Research/USD, Sioux Falls, USA |
| 2007-2008 | Postdoctoral Fellow, Department of Biomedical Engineering, ND-20, Lerner Research Institute Cleveland, OH, USA |
| 2006-2007 | Postdoctoral Fellow, Department of Pharmaceutical Sciences, University of |

Nebraska Medical Center, Omaha, USA
2001-2003 Project Fellow, Dept. of Polymer Science & Technology, Anantapur, India

Research Focus

My laboratory research goal is to study the fate of nanoformulations that leads to novel insights of various biological factors and properties responsible for effective and targeted delivery and treatment. At the translational front, my work focuses on identification of novel therapeutic treatment strategies including development of targeted delivery and immunotherapy systems for therapeutic macromolecules; designing of anti-tumor drug formulations for improving targetability and efficiency; developing novel multi-functional self-assembling polymer materials; and novel applications of these materials for photodynamic, hyperthermia and imaging in cancer therapeutics. The overall goal of my research is to use these studied materials to devise advanced delivery and immunotherapy systems that can be tailored to meet the needs of individual cancer patient. Despite recent advances in diagnostic techniques and treatment modalities, cancer remains the second leading cause of mortality in the United States. Development of resistance to therapeutic drugs is a major obstacle in clinical outcome. Thus, developing novel therapeutic strategies are required in overcoming the heterogeneous functions of tumor drug resistance. Towards this, our research interest includes to investigate improved therapeutic potential of clinical drug(s) using nanotechnology. Additionally, through cancer immunology institute we will generate safe and effective nanoformulations for cancer immunotherapy.

Recent Publications (Out of 115 Peer-reviewed Publications, 9 Book Chapters & 1 Book)

1. Hatami E, Mu Y, Shields DN, Chauhan SC, Kumar S, Cory TJ, Yallapu MM*. Mannose-decorated hybrid nanoparticles for enhanced macrophage targeting. *Biochem Biophys Rep.* 2019 Jan 25;17:197-207. doi: 10.1016/j.bbrep.2019.01.007. eCollection 2019 Mar. PMID: 30723809
2. Gong Y, Chowdhury P, Nagesh PKB, Cory TJ, Dezfuli C, Kodidela S, Singh A, Yallapu MM*, Kumar S*. Nanotechnology approaches for delivery of cytochrome P450 substrates in HIV treatment. *Expert Opin Drug Deliv.* 2019 Jul 24:1-14. doi: 10.1080/17425247.2019.1646725. [Epub ahead of print] PMID: 31328582
3. Khan S, Setua S, Kumari S, Dan N, Massey A, Hafeez BB, Yallapu MM, Stiles ZE, Alabkaa A, Yue J, Ganju A, Behrman S, Jaggi M, Chauhan SC*. Superparamagnetic iron oxide nanoparticles of curcumin enhance gemcitabine therapeutic response in pancreatic cancer. *Biomaterials.* 2019 Jul;208:83-97. doi: 10.1016/j.biomaterials.2019.04.005. Epub 2019 Apr 8. PMID: 30999154
4. Massey AE, Sikander M, Chauhan N, Kumari S, Setua S, Shetty AB, Mandil H, Kashyap VK, Khan S, Jaggi M, Yallapu MM, Hafeez BB, Chauhan SC. Next-generation paclitaxel-nanoparticle formulation for pancreatic cancer treatment. *Nanomedicine.* 2019 Jun 4;20:102027. doi: 10.1016/j.nano.2019.102027. [Epub ahead of print] PMID: 31170509
5. Chowdhury P, Nagesh PKB, Hatami E, Wagh S, Dan N, Tripathi MK, Khan S, Hafeez BB, Meibohm B, Chauhan SC, Jaggi M, Yallapu MM*. Tannic acid-inspired paclitaxel nanoparticles for enhanced anticancer effects in breast cancer cells. *J Colloid Interface*

Sci. 2018 Sep 22;535:133-148. doi: 10.1016/j.jcis.2018.09.072. [Epub ahead of print] PubMed PMID: 30292104.

6. Nagesh PKB, Chowdhury P, Hatami E, Boya VKN, Kashyap VK, Khan S, Hafeez BB, Chauhan SC, Jaggi M, Yallapu MM*. miRNA-205 Nanoformulation Sensitizes Prostate Cancer Cells to Chemotherapy. *Cancers (Basel)*. 2018 Aug 25;10(9). pii: E289. doi: 10.3390/cancers10090289. PubMed PMID: 30149628; PubMed Central PMCID: PMC6162422.
7. Hatami E, Nagesh PKB, Chowdhury P, Chauhan SC, Jaggi M, Samarasinghe AE, Yallapu MM*. Tannic Acid-Lung Fluid Assemblies Promote Interaction and Delivery of Drugs to Lung Cancer Cells. *Pharmaceutics*. 2018 Aug 1;10(3). pii: E111. doi: 10.3390/pharmaceutics10030111. PubMed PMID: 30071698; PubMed Central PMCID: PMC6161105.
8. Nagesh PKB, Hatami E, Chowdhury P, Kashyap VK, Khan S, Hafeez BB, Chauhan SC, Jaggi M, Yallapu MM*. Tannic Acid Induces Endoplasmic Reticulum Stress-Mediated Apoptosis in Prostate Cancer. *Cancers (Basel)*. 2018 Mar 7;10(3). pii: E68. doi: 10.3390/cancers10030068. PubMed PMID: 29518944; PubMed Central PMCID: PMC5876643.
9. Pallabita Chowdhury, Prashanth K.B. Nagesh, Sheema Khan, Bilal B. Hafeez, Subhash C. Chauhan, Meena Jaggi, Murali M. Yallapu*, Development of polyvinylpyrrolidone/paclitaxel self-assemblies for breast cancer, *Acta Pharmaceutica Sinica B*, 2018, 8, 602-614.
10. Dan N, Setua S, Kashyap VK, Khan S, Jaggi M, Yallapu MM*, Chauhan SC*. Antibody-Drug Conjugates for Cancer Therapy: Chemistry to Clinical Implications. *Pharmaceutics (Basel)*. 2018 Apr 9;11(2). pii: E32. doi: 10.3390/ph11020032. Review. PubMed PMID: 29642542.