In order of Importance, list of 10 best papers of the applicant highlighting the important discoveries/contributions described in them briefly (Max: 1 MB)

1. Rizvi ZA, Dalal R, Sadhu S, Kumar Y, Kumar S, Gupta SK, Tripathy MR, Rathore DK, **Awasthi A**. High salt diet mediates interplay between NK cells and gut microbiota to induce potent tumor immunity. **Science Advances** **2021,** 7(37):eabg5016. doi: 10.1126/sciadv.abg5016.

*In this publication, we have shown for the first time as to how table salt triggers tumor immunity by enhancing anti-tumor functions of NK cells*

1. Roy, Rizvi ZA, Clarke A, Macdonald F, Pandey A, Zaiss D, Dr. Simon KA, **Awasthi A**. EGFR-HIF1α signaling positively regulates the differentiation of IL-9 producing T helper cells. **Nature Communication** **2021**, 12(1):3182. doi: 10.1038/s41467-021-23042-x

*In this publication, we have demonstrated for the role Areg-EGFR-HIF1alpha in the differentiation and functions of Th9 cells and its anti-tumour functions.*

1. Malik S, Sadhu S, Elesela S, Pandey R, Rathod D, Amanpreet Chawla, Sharma D, Ghosh B, Ahuja V, **Awasthi A**. Transcription factor Foxo1 essential for differentiation of IL-9+ T helper cells. **Nature Communications 2017**, **8(1):815. doi: 10.1038/s41467-017-00674-6.**

*In this publication, we have demonstrated for the role of transcription factor, Foxo1, in the induction of IL-9-roducing T cells and its role in allergic inflammation.*

1. Dardalhon V\*, **Awasthi A\*,** Kwon H, Galileos G, Gao W, Strom TB, Oukka M, Kuchroo VK. IL-4 inhibits TGF-b-induced-Foxp3+T cells and generates a Foxp3- IL-10/IL-9 T cell population. **Nature Immunology 2008; 9:1347-55** [\*Equal first authorship].

*In this publication, we have shown for first time identified the differentiation factor, TGF-beta and IL-4, for the generation of Th9 cells and its role in causing inflammatory bowel disease and optic neuritis*

1. Lee Y\*, **Awasthi A**\*, Yosef N, Quintana F, Xiao S, Kunder S, Regev A, Sobel R, Kuchroo VK. Induction and molecular signature of pathogenic TH17 cells. **Nature** **Immunology 2012; 13:991-9** [**Shared first and** **Co-senior author**].

*In this publication, we have demonstrated and identified the signature of pathogenic and non-pathogenic Th17 cells. Th17 cells were found to be associated with the induction of tissue inflammation in autoimmune diseases.*

1. **Awasthi A**, Carrier Y, Peron JP, Bettelli E, Kamanaka M, Flavell RA, Kuchroo VK, Oukka M, Weiner HL. A dominant function for interleukin 27 in generating interleukin 10–producing anti-inflammatory T cells. **Nature Immunology 2007; 12:1380-9.**

*In this publication, we have identified as to how IL-27 induces type 1 regulatory T cells (Tr1). Tr1 cells produces copious amounts of anti-inflammatory cytokines, IL-10, which is crucial for maintaining immune homeostasis and regulating tissue inflammation in inflammatory diseases.*

1. Thiruvengadam R, **Awasthi A**, Medigeshi GR, Bhattacharya S, Mani S, Sivasubbu S, Shrivastava S, Samal S, Murugesan DR, Desiraju BK, Kshetrapal P, Pandey R, Scaria V, Malik PK, Taneja J, Binayke A, Vohra T, Zaheer A, Rathore D, Khan NA, Shaman H, Ahmed S, Kumar R, Deshpande S, Subramani C, Wadhwa N, Gupta N, Pandey AK, Bhattacharya J, Agrawal A, Vrati S, Bhatnagar S, Garg PK. Cellular Immune Responses are Preserved and may Contribute to Vaccine Effectiveness Despite Reduced Virus Neutralization Against Infection due to SARS-CoV-2 B.1.617.2 Variant. **Lancet Infectious Disease 2021, accepted, in press**

*In this publication, we have identified cellular immune response especially CD4 and CD8 T cell response is critical in controlling covid infection from wild type and delta variants in covishield vaccinated individuals.*

1. Sohail A, Abbas ZA, Ahuja V, **Awasthi A\***, Srikanth CV. DeSUMOylase SENP7 mediated epithelial signalling triggers intestinal inflammation via expansion of Gamma-delta T cell. **Cell Reps 2019**, Dec 10;29(11):3522-3538.e7. doi: 10.1016/j.celrep.2019.11.028. **(\*Co-corresponding author)**

*In this publication, we have identified the role sumoylation in epithelial cells in inflammatory bowel disease. We also found as to how sumoylation leads to disbalance of gamma delta T cells functions that lead to tissue inflammation in inflammatory bowel disease.*

1. Roy S, **Awasthi A.** ATP Triggers Human Th9 Cell Differentiation via Nitric Oxide-Mediated mTOR-HIF1α Pathway. **Front Immunol.** 2019, 10:1120. doi: 10.3389/fimmu.2019.01120.

*In this publication, we have identified the role of cellular ATP and Nitric oxide-mediated activation of mTOR-HIF1 alpha pathway in the generation of human Th9 cells. Th9 cells are found to be critical for regulating the immune response in autoimmune, allergic diseases and cancers.*

1. **Awasthi A**, Riol-Blanco L, Jäger A, Korn T, Pot C, Galileos G, Bettelli E, Kuchroo VK, Oukka M. Cutting Edge: IL-23 receptor reporter mice reveal distinct populations of IL-17 producing cells. **Cutting Edge:** **Journal of Immunology 2009; 182: 5904-08.**

*In this publication, we have generated IL-23 receptor knockout and IL-23R-GFP reporter mice to identify the role of IL-23-IL-23R signalling in the induction of EAE, a mouse model of human disease multiple sclerosis. In this paper we idientified the expression of IL-23R on various immune cells such as alpha beta T cells, gamma delta T cells, dendritic cells, macrophages and double negative T cells. Using the GWAS study, the role of IL-23-IL-23R was found to be associated with many autoimmune diseases like IBD, psoriasis, MS etc.*