

*Sandhya Singh, Ph.D*

## CURRICULUM VITAE

### Personal Information

<b>Name</b>	<b>Sandhya Singh</b>
<b>Academic Position</b>	<b>Assistant Professor</b>
<b>Work address</b>	<b>Amity Institute of Physiology and Allied Sciences Amity University, Sector 125, NOIDA, UP, India</b>
<b>E mail</b>	ssingh42@amity.edu; <b>sandhya_singh1@yahoo.com</b> sanjupbs@gmail.com
<b>Mobile</b>	<b>8297240842</b>

### Field of specialization:

**Cancer Biology, Molecular Biology, Bio- informatics, Stem cell Biology**

### Academic Honors and Awards

- **Extramural funding** from “**Science & Engineering Research Board(SERB), Department of Science & Technology**” for project proposal entitled “**Molecular characterization of cancer stem cell in colorectal cancer**” submitted under **Start Up Research Grant (Young Scientists)** from Nov 2015 – Nov 2018. Sanctioned grant amount 40 Lakhs.
- Selected for the **scholarship by “Department of Biotechnology”, Govt of India** for the course duration of “**Advance Diploma in Bioinformatics**”, University of Pune, 2001- 2002.
- Qualified **ICMR JRF Examination 2001**
- Qualified **CSIR-UGC NET Examination, 2004.**
- **Reviewer** for Tumor Biology, peer reviewed open access journal publishing experimental and clinical cancer research from 2016 - 2018.
- Served as “**Coordinator**” for industrial project entitled “**Evaluation of anti-cancer, anti-inflammatory and anti-asthmatic potential of Probiotics (12 Strains)**” from **March 2018 – March 2019** sanctioned from “**Unique Biotech**” Hyderabad, India

## **Education Qualifications :**

1996-1999	B. Sc (Biosciences)	: <b>Jamia Millia Islamia, New Delhi, India</b>
1999-2001	M.Sc (Biotechnology)	: <b>Indian Institute of Technology, Roorkee, India</b>
2002-2003	P.G. Diploma in Bioinformatics	: <b>Pune University, India</b>
2008-2011	Ph.D (Cancer Biology)	: <b>University of Heidelberg, Germany</b>

## **Employment History**

<b>2019 – Present</b>	<b>Assistant Professor,</b> Institute of Physiology and Allied Sciences Amity University, Sector 125, NOIDA, UP, India
<b>2015-2018</b>	<b>DST Young Scientist,</b> School OF Life Sciences, University of Hyderabad, Telangana, India
<b>2014-2015</b>	<b>Scientist</b> Asian Institute of Gastroenterology, Hyderabad, India
<b>2011-2013</b>	<b>Post-Doctoral Fellow</b> Department Of Dermatology, University of Mannheim, <b>Germany</b>
<b>2007-2011</b>	<b>Ph.D Student</b> Institute of Pathology, Heidelberg University, Germany

## **Publications**

- 1. Dysbiosis Disrupts Gut Immune Homeostasis and Promotes Gastric Diseases**  
Devinder Toor, Mishi Kaushal Wasson, Prashant Kumar, G. Karthikeyan, Naveen Kumar Kaushik, Chhavi Goel, **Sandhya Singh**, Anil Kumar, Hridayesh Prakash.  
**International Journal of Molecular Sciences IF-3.7**
- 2. Low dose radiation (LDR) primed iNOS+ (M1) macrophages modulate angiogenic programming of tumor derived endothelium;** Vinod Nadella, **Sandhya Singh**, Aklank Jain, Manju Jain, Karen M Vasquez, Ashok Sharma, Pranay Tanwar, GK Rath, Hridayesh Prakash.  
**Mol. Carcinogenesis. Impact Factor 3.419**
- 3. GATA4 and LMO3 balance angiocrine signaling and autocrine inflammatory activation by BMP2 in liver sinusoidal endothelial cells;** Olsavszky V, Ulbrich F, **Singh S**, Dielt M, Sticht C, Schmid C D, ZierowJ, Wohlfeil S A, Schledzewski K, Dooley S, GaitantziH, Breitkopf-HeinleinK, GéraudC, Goerdts, Koch PS; **Gene.2017 Sep5; 627: 491- 499; Impact Factor 2.319**

4. **Bach2 repression mediates Th17 cell induced inflammation and associates with clinical features of advanced disease in chronic pancreatitis;** M. Sasikala, Ravikanth VV, Murali Manohar K, Neha Deshpande, **Sandhya Singh**, PavanKumarP, R.Talukdar, SudipGhosh, MohsinAslam, GV.Rao, R.Pradeep,D. NageshwarReddy; **United European Gastroenterology Journal**, 6(2)1–11, 2018; **Impact factor 3.673**
5. **GATA4-dependent organ-specific endothelial differentiation controls liver development and embryonic hematopoiesis;**Cyrill Géraud, Philipp S. Koch, Johanna Zierow, Kay Klapproth,Katrin Busch,Victor Olsavszky, Thomas Leibing ,Alexandra Demory, Friederike Ulbrich , Miriam Dielt, VictorOlsavszky, ThomasLeibing, AlexandraDemory, FriederikeUlbrich, Miriam Dielt, **SandhyaSingh**, CarstenSticht, KatjaBreitkopf-Heinlein, KarstenRichter, Sanna- Maria Karpinnen, Taina Pihlajaniemi, Bernd Arnold, Hans-Reimer Rodewald, Hellmut Augustin, Kai Schledzewski, Sergij Goerd; *Journal Of Clinical Investigation*, 2017;127(3):1099–1114; **Impact factor13.251**
6. **Macrophages directed approaches are paramount for effective cancer immunotherapies;** Vinod Nadella, **Sandhya Singh**, Hridayesh Prakash;*Integrative CancerScienceandTherapeutics*,2016doi10.15761/ICST.1000189
7. **CD14/TLR4 priming potentially recalibrates and exerts anti-tumor efficacy in tumor associated macrophages in a mouse model of pancreatic carcinoma;** Hridayesh Prakash, Vinod Nadella, **Sandhya Singh**, Hubertus Schmitz-Winnenthal; **Sci. Rep.6, 31490; doi:10.1038/srep31490(2016);ImpactFactor4.259**
8. **Large-scale N- terminal deletions but not point mutations stabilize beta-cateninin small bowel carcinomas, suggesting divergent molecular pathways of small and large intestinal carcinogenesis;** Breuhahn K\*, **Sandhya Singh\***, Schirmacher P, Bläker H; *Journal of Pathology* 2008 Jul; 215(3):300-7. **(Shared First Authorship) Impact factor 6.253**
9. **Coding microsatellite instability analysis in microsatellite unstable small intestinal adenocarcinoma identifies MARCKS as a common target of inactivation;** Michel S, Kloor M, **Sandhya Singh**, GdyniaG, RothW, Von Knebel Doeberitz M, Schirmacher P, Bläker H; *Molecular Carcinogenesis* 2010, Feb; 49(2):175-82. **Impact Factor 3.419**
10. **Small bowel adenocarcinomas in celiac disease follow the CIM-MSI pathway;** Bergmann F, **Sandhya Singh**, Michel S, Kahlert C, Schirmacher P, Helmke B,Von Knebel DoeberitzM, KloorM, BläkerH; *OncologyReports*.2010, Dec; 24(6):1535-9. **(Shared First Authorship) Impact Factor 2.662**
11. **Oxygenation by cyclooxygenase-2(cox-2) of 3Hydroxyeicostetraenoicacid(3-HETE), a fungal mimetic of arachidonic acid, produce a cascade of novelbioactive3-hydroxy- eicosanoids;**Roberto Ciccoli, Shakti Sahi, **Sandhya Singh**, Hridayesh Prakash, Maria-Patapia Zafiriou, Ganchimeg Ishdorj, JohanL.F.Kock, Santosh Nigam; **Biochemical Journal**, 390, 737–747, 2005. **Impact Factor 4.396**

## **Book Chapter**

- **Differential Wnt/Wingless Dysregulation in Intestinal cancers**", by **Sandhya Singh**, Scholar Press(December2014), Germany bearing **ISBN978-3-639-66759-2**
- A chapter on **"Intestinal stem cell in homeostasis and cancer"** by **Sandhya Singh**, Sasikala M., Rao G.V., Reddy D.N. (2016) in Research series book "Regenerative medicine – From Protocol to Patient" edited by "Gustav Steinhoff" Springer International Publishing, Switzerland, **ISBN:978-3-319-27608**
- A Chapter on **"Natural Products Targeting Clinically Relevant Enzymes of Eicosanoid Biosynthesis implicated in inflammation and cancer"** by GorlaV. Reddy, NagendraS. Yarla, Shobha Ediga, Dinesh K. Tiwari, Naresh Kumar, **Sandhya Singh**, Vasundhra Bhandari, Anupam Bishayee, Chintalapally V.Rao, and Pallu Reddanna in book entitled "Natural Products Targeting Clinically Relevant Enzymes", edited by PaulaB. Andrade, Patricia Valentao, David M. Pereira. Wiley Publisher, USA, **ISBN:978-3-527- 34205-1**
- A Chapter on **"Macrophage Polarization Is Decisive for Chronic Bacterial Infection-Induced Carcinogenesis"** by Mishi Wasson, Sonia Kapoor, Manoj Garg, Sandhya Singh and Hridayesh Prakash in book entitled **"Macrophage at the Crossroads of Innate and Adaptive Immunity"**. Intech Open Publisher, London, UK. (<https://www.intechopen.com/online-first/macrophage-polarization-is-decisive-for-chronic-bacterial-infection-induced-carcinogenesis>)

## **Presentation in Various National / International Conferences**

- **Sandhya Singh**, Debopriya Chakraborty, Adithya Chedere, Pallu Reddanna. **Dysregulation of Eicosanoid signalling pathway in Colorectal Cancer**, at **6th International Conference on Molecular Signalling (ICMS2018)**, School of Life Sciences, University of Hyderabad from **8<sup>th</sup> -10<sup>th</sup> Feb, 2018**.
- **Sandhya Singh**, T. Sreelatha, Debopriya Chakraborty, K V V Narasimha Raju, M.Srinivasulu, Pallu Reddanna, "Primary 2D and 3D Colorectal Cancer Cell to establish colorectal cancer cell lines from Indian patients with Cancer Stem Cells properties." at **Bioquest 2017**, School of Life Sciences, University of Hyderabad from 12<sup>th</sup>-13<sup>th</sup> Oct, 2017.
- **Sandhya Singh**, Dinesh Kumar Tiwari, Priyanka Voori Giri, and P. Reddanna, **"Immunotherapeutic targeting of cancer stem cell: A magic bullet with potential for cure"**, **Bioquest 2016**, School of Life Sciences, University of Hyderabad from **20<sup>th</sup> -21<sup>st</sup> Oct, 2016**.
- V Sharanya, UA Steffie, **Sandhya Singh**, G.V. Rao, Pradeep Rebala, Sundeep Lakhtakia, Nageshwar D. Reddy, Mitnala Sasikala, VV Ravi Kanth, **"Fewer Beta-catenin and APC Mutations Coupled With c-Myc Up-Regulation Independent of WNT Activation Associate With Lesser Prevalence of Polyps and Alternate Pathways in Indian Colorectal Cancer."** **Digestive Disease Week 2016**, May 22–24, 2016, Gastroenterology 2016, 150(4), S-367.
- **Sandhya Singh\***, V Sharanya, Govardhan Bale, M. Sasikala, Hrushikesh P Chaudhari, Sundeep Lakhtakia, G.V. Rao, D. Nageshwar Reddy, **"Evidence for alternate pathways involved in colorectal cancer(CRC) pathogenesis suggests lack of 'Polyp' and 'Adenoma Carcinoma Sequence' in Indian Patients"** for **YOUNG INVESTIGATOR AWARD SESSION, Annual Conference of Indian Society of Gastroenterology**, Indore from Nov 19-22, 2015.

- Mitnala Sasikala, Murali M. Kuruva, **Sandhya Singh**, Pavan K. Pondugula, Mamatha R. Kuncharam, Rupjyoti Talukdar, venkat Rao Guduru, Pradeep Rebala, Nageshwar D. Reddy " **Tu1895 Bach2 Repression Enhances Th17 Cell Axis in Chronic Pancreatitis**" **Digestive Disease Week 2015**, May 16 - 19, 2015; Washington, DC, Gastroenterology 2015, 148(4), S-930.
- V Sharanya, **Sandhya Singh\***, Govardhan Bale, M. Sasikala, G.V. Rao, D. Nageshwar Reddy, "**c-Myc and  $\beta$  catenin upregulation independent of wnt pathway suggests alternative mechanism of colorectal carcinogenesis in Indian Patients.**" **Oral Presentation at International conference on "Biochemistry, Nutrition and Pharmacy in human welfare: Recent trends and future challenges"** Osmania University, Hyderabad from Sept 3 – 5, 2015. **\*Corresponding Author**


### Participation in various National /International Conferences

- Symposium on **"World Laboratory Animal Welfare Day"** conducted by **ICMR-National Institute Of Nutrition, Hyderabad.**
- International conference and workshop on **"Basic and Therapeutic Applications of Pluripotent Stem Cells"** funded by MHRD-Global Initiative on Academic Network held at **Dept of Biochemistry and Animal Biology, University of Hyderabad, School of Life Sciences, University of Hyderabad**, July 17<sup>th</sup>-25<sup>th</sup>, 2017.
- International conference and workshop on **"Lipid signaling in Health and Diseases"** in Plants and Animals funded by MHRD-Global Initiative on Academic Network held at **Department of Plant Sciences, School of Life Sciences, University of Hyderabad**, December 5<sup>th</sup>-15<sup>th</sup>, 2016.
- International conference and workshop on **"Immunologicals in Animal And Human Health"** funded by MHRD-Global Initiative on Academic Network held at **School of Life Sciences, University of Hyderabad**; 4<sup>th</sup>-16<sup>th</sup> July, 2016
- International conference and workshop on **"Cancer Drug Discovery and Development"** funded by MHRD-Global Initiative on Academic Network held at **Department of Biochemistry and Animal Sciences, University of Hyderabad**; 22<sup>nd</sup>-28<sup>th</sup> June, 2016.
- International conference and workshop on **"Structure based drug designing and application to infectious disease"**; **School Of Life Sciences, University of Hyderabad, Hyderabad**; 1<sup>st</sup>-5<sup>th</sup> Feb, 2016.
- **Annual Conference of Indian Society of Gastroenterology, Indore, India** from Nov 19<sup>th</sup>-22<sup>nd</sup>, 2015.
- International Symposium on **"Inflammatory Bowel Disease"** organized by **Asian Institute of Gastroenterology held at Hotel Trident, Hitec City, Hyderabad**; 22<sup>nd</sup> - 24<sup>th</sup>, August 2014.
- Annual conference **"IHPBA INDIA 2015 Benign HPB Diseases"** organized by **Asian Institute of Gastroenterology; Hotel Taj Krishna, Hyderabad**; 27<sup>th</sup> Feb-1<sup>st</sup> Mar, 2015.
- **International Vascular Biology Meeting"** at **Wiesbaden, Germany**; June 2-5, 2012.
- Poster Presentation in **"Wntsymposium2010"** held at **DKFZ, Heidelberg, Germany**; 25<sup>th</sup>- 26<sup>th</sup> October, 2010
- International Symposium on **"Building the Brain"**; **National Brain Research Center, Gurgaon, India**; 15<sup>th</sup> -18<sup>th</sup> December, 2003. International Symposium on **"Current Excitement in Biology"**; **Center for Cellular and Molecular Biology, Hyderabad**, 24<sup>th</sup>-29<sup>th</sup> November, 2002.

- International Conference on **“Challenges in Malaria and Prospects for Research”** at
- **SCOPE Convention Centre, Lodi Road, New Delhi, India; 29<sup>th</sup> – 31<sup>st</sup> October, 2002.**
- Symposium on **“Parasite Bioinformatics”** held at **Center of Bio-informatics, Pune University, Pune, India** in December 2001, Pune India

### Workshops Attended

- UNIBRAL Program between the Universidade Federal de Ceara, Brazil and the Charite Universitatmedizin Berlin Summer course in **“Immunology of Infection”** from 17<sup>th</sup> July 2007 to 26<sup>th</sup> July 2007 at **Institute for Mikrobiologie and Hygiene, Hindenburgdamm 27, Berlin, Germany.**
- Lecture Series and tutorials on **“Molecular Principles of Cancer Development”** for summer semester 2009 of “Master program in Molecular Biosciences” with Cancer Biology as major organized by the **Faculty of Biosciences, University of Heidelberg, Germany.**
- Practical course on **“Translational Oncology”** and **“Maintenance of Genome Biosciences”** with Cancer Biology as major organized by the **Faculty of Biosciences, University Heidelberg, Germany** from 13<sup>th</sup> Oct 2008 to 31<sup>st</sup> Oct 2008.
- **Strategies for a Successful Doctorate: Project Management–Social Skills–Time Management”** conducted by the Department of Key Competencies in cooperation with the **Graduate Academy of the University of Heidelberg, Germany** on 11<sup>th</sup>, 12<sup>th</sup> and 19<sup>th</sup> of March 2010.
- **Scientific Writing in the Natural and Life Sciences”** conducted by the Department of Key Competencies in cooperation with the **Graduate Academy of the University of Heidelberg, Germany** on 27<sup>th</sup> and 28<sup>th</sup> of January 2011
- **Save time–Use endnote to effectively manage your literature”**, organized by **University of Heidelberg, Germany** on 9<sup>th</sup> July 2011, Heidelberg
- **Presenting Research Results”** conducted by Department of Key Competencies in cooperation with the **Graduate Academy of the University of Heidelberg, Germany** from 30<sup>th</sup> June–1<sup>st</sup> July, 2011.
- **Science & Communication Workshop”** conducted by **Welcome DBT India Alliance** from 26–28 March 2014, Hyderabad, India.
- Workshop on **“Institutional Ethics Committee (IEC)”** conducted by **School of Medical Sciences, University of Hyderabad, India** on 1<sup>st</sup> April 2016.



Dr. Sandhya Singh