Brief Resume

Dr. Santosh Vermais working as an Assistant Professor in the Department of Molecular Medicine & Biotechnology, Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS), Lucknow, U.P. India. He received his postdoctoral training at Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), National Institutes of Health (NIH), USA. He also worked as an Assistant Instructor in the Department of Molecular Biology, UT Southwestern Medical Center (UTSW), Dallas, Texas, USA. During his scientific research career, Dr. Verma has been trained on diverse aspect of membrane fusion involved in many key biological processes (virus-entry mechanism, cell-fusion in development & drug delivery). His current main area of research is to focus membrane remodeling during cell-fusion in development and virus-entry mechanism with potential translational interventions in health and disease.

Research Interest: Membrane remodeling during virus-infection, and Cellular shaping during cell-fusion in development.

Name	:	Dr. Santosh Kumar Verma
Position	:	Assistant Professor
Address	:	Department of Molecular Medicine & Biotechnology, Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS) 4th Floor, PMSSY Building Raebareli Road, Lucknow, Uttar Pradesh – 226014 India
Date of Birth	:	26th June 1978
Marital Status	:	Married
Phone Number	:	0522-2495641 (Office)
Email	:	santoshkv@sgpgi.ac.in / verma2santosh@gmail.com

Professional Qualifications & Experience

Academic Qualifications

Degree	Year	Subject	University/Institution
BSc	2000	Chemistry, Botany, Zoology	DDU Gorakhpur University / St. Andrews College, Gorakhpur, India
MSc	2002	Biotechnology	Indian Institute of Technology (IIT), Roorkee, India
PhD	2008	Biochemistry	University of Delhi, India

Professional& Research Experience

Positions held	Name of the Institute	From	To
Assistant Professor, Department of Molecular Medicine & Biotechnology	SGPGIMS, Lucknow, India	March 2019	Till date
Assistant Instructor (Faculty appointment), Department of Molecular Biology	UT Southwestern Medical Center, Dallas, Texas, USA	August 2018	March 2019
Visiting Postdoctoral Fellow, Section on Membrane Biology	NICHD, National Institutes of Health (NIH), Bethesda, USA	November 2011	November 2017

Assistant Professor, Center for Biotechnology	University of Allahabad, India	March 2009	October 2011

Membership of Scientific Societies

- Life member, Indian Society of Cell Biology
- Regular Member, Indian Society for Developmental Biologist (InSDB)

Adhoc Reviewer

Ad-hoc reviewer for manuscripts submitted to Journal of Biological Chemistry (JBC); Journal of Visualized Experiments (JoVE); International Journal of Oral Science (IJOS), *Nature Publishing Group (NPG)*; PeerJ Life & Environment

Awards & Honors

S.N.	Name of Award	Awarding Agency	Year
1	NIH-FARE 2015 Award	NIH-Fellow Committee, the Scientific Directors, NIH-OITE, USA	2015
2	Postdoctoral Visiting Fellowship	NICHD, NIH, USA	2011
3	International Travel grant	ICMR, Govt. of India	2010
4	International Travel grant	DST, Govt. of India	2009
5	Availed Junior Research Fellowship and Senior Research Fellowship, after qualifying national level entrance examination for the award of ICMR-JRF-2002	ICMR, Govt. of India	2002
6	Certificate of GATE-2002 conducted by MHRD, Govt. of India	MHRD, Govt. of India	2002

Research Grants:

Extramural:

1. Department of Biotechnology, Govt. of India funded (2020-2022); Role-Project Coordinator and Principal Investigator;Title:- Identifying therapeutic targets for blocking infection of highly pathogenic SARS-CoV-2 at an early stage: developing novel screening assay with minimal bio-hazard risk. **(Ongoing)**

Intramural

1. Intramural Research Grant, SGPGIMS Lucknow (2020-2022); Role: Principal Investigator**;** Comparison of cytotrophoblast cell-fusion markers in placenta of early and term gestation (A Pilot study) **(Ongoing)**

2. Intramural Research Grant, SGPGIMS Lucknow (2019-2021); Role: Principal Investigator**;** Title:-Gene expression analysis during trophoblast cell fusion process **(Ongoing)**

Publications& Patents

Articles & Reviews

1. Tiwari S., Kumar V., Randhawa S., and **Verma S.K.** (2020) Preparation and characterization of Extracellular Vesicles. ***Am J ReprodImmunol*** **Oct28;e13367**

2. Awasthi M. *****, Gulati S. *****, Sarkar D.P., Tiwari S., Kateriya S., Ranjan P.[†], and **Verma S.K.** [†]**(2020)**TheSialoside-Binding Pocket of SARS-CoV-2 Spike Glycoprotein Structurally Resembles MERS-CoV. ***Viruses,*****12(9):E909 (* Equal co-first author) (†corresponding author)**

3. Uygur B., Leikina E., Melikov K., Villasmi R., **Verma S.K.**, Vary C.P.H., Chernomordik L.V. **(2019)**Interactions with muscle cells boost fusion, stemness and drug resistance of prostate cancer cells***Mol. Cancer Res.,*** **17(3): 806-820**

4. **Verma S.K.,** Leikina E., Melikov K., Gebert C., Kram V., Young M.F., Uygur B., and Chernomordik L. V. **(2018)** Cell-surface phosphatidylserine regulates osteoclast precursor fusion ***J. Biol. Chem.,*** **293 (1): 254-270**

5. **Verma S.K.** Chernomordik L. V. and Melikov K. **(2018)** An improved metrics for osteoclast multinucleation***Sci. Rep.,*** **8(1): 1768**

6. **Verma S.K.,** Leikina E., Melikov K. and Chernomordik L. V. **(2014)** Late stages of synchronized macrophage fusion in osteoclast formation depends on dynamin ***Biochem. J.,*** **464:** 293-300

7. Leikina E., Melikov K., Sanyal S., **Verma, S. K.**, Eun B., Gebert C., Pfeifer K., Lizunov V.A., Kozolov M.M., And Chernomordik L. V. **(2013)** Extracellular annexins and dynamin are important for sequential steps in myoblast fusion ***J. Cell Biol.,*** **200:** 109-123

    - Journal highlighted this study as "In Focus" article entitled as 'The Two stages of cell fusion' ***J. Cell Biol.,*** **(2013) 200:** 3

    - "Primary myoblast fuse to form multinucleated myotubes" presented as Cover Page Illustration ***J. Cell Biol.,*** **(2013) 200** (1)

8. Krishnan, A.*, **Verma, S. K.***, Mani P., Gupta, R., Kundu, S. and Sarkar, D. P. **(2009)** A histidine switch in hemagglutinin-neuraminidase triggers Paramyxovirus-cell membrane fusion ***J. Virol.,* 83:**1727-1741 **(* Equal co-first author)**

9. **Verma, S. K.***, Mani, P.*, Sharma, N. R.*, Krishnan, A., Kumar, V.V., Reddy, B. S., Chaudhuri, A., Roy, R.P. and Sarkar, D.P. **(2005)** Histidylated lipid-modified Sendai viral envelopes mediate enhanced membrane fusion and potentiate targeted gene delivery ***J. Biol. Chem.,* 280:** 35399– 35409 **(* Equal co-first author)**

Preprint publications

1. Awasthi M. *, Gulati S. *, Sarkar D.P., Tiwari S., Kateriya S., Ranjan P.†, and **Verma S.K. †(2020)**N-terminal domain (NTD) of SARS-CoV-2 spike protein structurally resembles MERS-CoV NTD sialoside-binding pocket.*Research Square***(* Equal co-first author) (†corresponding author)**

2. Kumar V., Mishra S., Sharma R., Agarwal J., Ghoshal U., Khanna T., Sharma L.K., **Verma S.K.**, and Tiwari S. **(2020)** Development of RNA-based assay for rapid detection of SARS-CoV-2 in clinical samples. ***bioRxiv***

Any Other Achievements:

- **Scientific Blog article (Scientific Outreach programme):** Scientific blog article entitled as, "Sugars as an alternate receptors for SARS-CoV-2" related to our COVID-19 research contribution published in journal "*viruses*" published online on SCICOUP (https://scisoup.org/) (8th Dec. 2020)

- Invited Speaker: Medical Ethics in the time of COVID-19 Pandemic (Medical Ethics Seminar-IV) "Care in COVID-19: Patient's Perspective", SGPGIMS, Lucknow (3rd October, 2020)

Research Presentation (Invited Talk/Oral Presentations):

1) Resource Person in Seven(7) day workshop on "Research Methodology & Innovations in Life Sciences", Department of Biotechnology, IPR Cell & Centre for Genomics and Bioinformatics, DDU Gorakhpur University (25th June – 1st July 2021)

2) Medical Ethics in the time of COVID-19 Pandemic (Medical Ethics Seminar-IV) "Care in COVID-19: Patient's Perspective", SGPGIMS, Lucknow (3rd October, 2020)

3) Invited lecture at National Seminar on "Omics for Food, Health and Environment" (OFHE-2020), Department of Biotechnology, DDU Gorakhpur University (14-15th February 2020)

4) Invited talk at CSIR-Institute of Genomics and Integrative Biology, New Delhi (January 16th, 2018)

5) Invited talk in School of Biotechnology, Jawaharlal Nehru University, New Delhi (January 18th, 2018)

6) Invited talk in Department of Biochemistry, University of Allahabad (February 2nd, 2018)

7) Invited talk in Department of Biotechnology, DDU Gorakhpur University, (April 25th, 2018)

8) Invited talk in Department of Molecular Biology, UT Southwestern Medical Center, Dallas, Texas, USA (September 22nd, 2017)

9) Delivered oral presentation at American Society for Bone and Mineral Research (ASBMR) 2016 Annual Meeting, September 16-19, 2016 at the Georgia World Congress Center in Atlanta, Georgia, USA

10) Delivered oral talk (among top six selected NICHD fellow talk's) in 12th Annual NICHD Meeting, NICHD, NIH, Washington DC, April 22nd 2016

11) Platform presentation at 60th Annual Biophysical Society Meeting, Los Angeles, California Feb 27th – March 2nd 2016

12) Oral lecture at "National Conference on EMERGING TRENDS IN BIOCHEMISTRY" from 23rd -24th January, 2010 organized by Department of Biochemistry, University of Allahabad, Allahabad

13) Delivered lecture at "5th World Congress on Cellular & Molecular Biology (WCCMB, 2009)" from 2nd – 6th November, 2009 organized jointly by Devi Ahilya University, Indore, Madhya Pradesh, India& World Society of Cellular & Molecular Biology, France