

## CURRICULUM VITAE

- 1. Name** Sagar Sengupta
- 2. Date of Birth** 23<sup>rd</sup> June, 1968
- 3. Current Designation** Director, National Institute of Biomedical Genomics, Kalyani,  
West Bengal

**4. Educational Qualification:**

S. No.	Degree	Board/University	Division	Year of Passing	Subjects
1.	Madhyamik (School final)	West Bengal Board of Secondary Studies	First	1983	English, Bengali, Mathematics, Physics, Chemistry, Biology, History, Geography
2.	Higher Secondary	West Bengal Board of Higher Secondary Studies	First	1985	English, Bengali, Mathematics, Physics, Chemistry
3.	B. Sc.	University of Calcutta	Second	1988	Chemistry (Honours), Physics, Mathematics
4.	M. Sc.	University of Calcutta	First (Silver medalist)	1991	Biochemistry
5.	Ph.D.	Indian Institute of Science	Best thesis award	1997	Microbiology and Cell Biology

**5. Professional training:**

S. No.	From	To	Name of organization	Position held	Subject area
1.	07/1996	01/2001	Institut de Genetique et de Biologie Moleculaire et Cellulaire (IGBMC), Strasbourg, France	Post-doctoral Fellow	Cancer Biology
2.	01/2001	09/2004	National Cancer Institute, National Institutes of Health, Bethesda, USA	Visiting Fellow	Cancer Biology

**6. Experience:**

S. No.	From	To	Name of organization	Position held	Scale of Pay
1.	11/2022	Present	National Institute of Biomedical Genomics, Kalyani, India	Director	Level 16, Rs. 205400
2.	07/2018	11/2022	National Institute of Immunology New Delhi, India.	Staff Scientist VII	Level 14 Rs. 182700 GP Rs. 10000
3.	09/2012	07/2018	National Institute of Immunology New Delhi, India.	Staff Scientist VI	Rs. 37400-67000; GP Rs. 8900

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4.	09/2008	09/2012	National Institute of Immunology New Delhi, India.	Staff Scientist V	Rs. 37400-67000; GP Rs. 8700
5.	09/2004	09/2008	National Institute of Immunology New Delhi, India.	Staff Scientist IV	Rs. 15600-39100; GP Rs. 7600

## 7. Honors/ Awards/Fellowship:

S. No.	Year	Honors/ Awards/Fellowship
1.	1991	Silver medallist in M.Sc., University of Calcutta, India.
2.	1997	Best thesis award, Department of Microbiology and Cell Biology, Indian Institute of Science, Bangalore, India.
3.	2011	National Bioscience award for Career Development by Department of Biotechnology, India
4.	2011	Elected as a member of Guha Research Conference
5.	2015	Elected Fellow of the National Academy of Science (NASI)
6.	2017	Elected Fellow of the Indian Academy of Sciences (IASc)
7.	2017	Elected Fellow of the Indian National Science Academy (INSA)
8.	2018	J C Bose Fellowship
9.	2021	Awarded Professor Vishwa Nath Memorial Lecture by INSA
10.	2022	Elected Vice President of Indian Association of Cancer Research
11.	2023	Awarded GK Manna Memorial Lecture Award by All India Congress of Genetics and Genomics
12.	2023	Awarded Lalji Singh Memorial Award Lecture by the Society for Mitochondrial Research & Medicine

## 8. Professional Commitments

### A. Membership in Committees constituted by Granting Agencies

2012-2013	Member of DBT North Eastern Region Twinning Program Task Force
2016-2017	Member of DBT Expert Committee on promotion and Popularization of Biotechnology
2017	Special invitee in SERB Health Science Program Advisory Committee (PAC)
2017	Special invitee in SERB Program Advisory Committee (PAC) for International Cooperation in the area of Life Sciences & Medical Biology
2017	Member of DBT Glue Grant Scheme
2017-2020	Member of Technology Development Board (TDB) project evaluation committee
2012-2018 & 2022-till date	Member of DBT Cancer Biology Task Force
2019-till date	Member of SERB Program Advisory Committee (PAC) on Interdisciplinary Biological Sciences
2020	Special invitee in “Expert Committee” for evaluation of DBT-DFG grant proposals
2020-2021	Member of evaluation committee of proposals received under DBT call on “Setting up Virtual Network Centres on Cancer Immunology and Immunotherapy”
2021	Special invitee in SERB Biophysics, Biochemistry, Molecular Biology and Microbiology Program Advisory Committee (PAC)
2021	Member of SERB-SUPRA screening committee
2021	Member of Search Cum Selection committee meeting of SERB POWER Fellowship
2021-2023	Member of SERB POWER grant committee
2022	Mentor and reviewer of Ramalingaswami Re-entry Fellowship Conclave
2024	Member of screening committee for DBT Research Resources, Service Facilities and Platforms (RRSEP)

### B. Membership in Expert Committees

2012-till date	DBT nominee in the Institutional Biosafety Committee for Premas Biotech Pvt. Ltd.
2013-2015	Member of Jawaharlal Nehru University Academic Committee
2014	Member of advisory committee for “Cancer Diagnostic and Research Centre” at Sher-I-Kashmir Institute of Medical Sciences. Srinagar
2015	Member of Laboratory Advisory Committee for National Cancer Institute (NCI), Jhajjar
2017-2019	Non-ex-officio member in the Finance Committee of National Centre for Cell Science (NCCS)
2018-2020	Chairman of the jury for TNQ Inspiring Science Award
2015-2018	DBT nominee in the Institutional Biosafety Committee for Jawaharlal Nehru University
2019	Member of INSA Sectional Committee for Young Scientists
2019	Member of DBT DBT-Research Associate (RA) Program in Biotechnology & Life Sciences
2019-till date	Member of ICMR Fellowship Review Committee
2018-2019	Member of Regional Centre of Biotechnology faculty recruitment committee
2019-2021	Member of Jawaharlal Nehru University purchase committee
2020	Member of University of Delhi faculty recruitment committee
2021-till date	Member of expert committee on CSIR Mission-IndigenMed
2021	Member of Regional Centre of Biotechnology-IIT Delhi Multi-institute faculty interdisciplinary project (MFIRP) proposal evaluation committee
2021-till date	Special invitee to the CCMB Research Council (RC) meeting
2021	Special invitee to the NCCS Research Advisory Panel (RAP) meeting
2021	Member of Faculty Selection Committee IIT-Guwahati
2021	Member of Faculty Selection Committee TIFR Hyderabad
2022	Member of Faculty Selection Committee IIT-Kanpur
2022	Member of Niti Aayog’s DBT Technical Advisory Committee
2022	Member of Advisory Committee for the Shanti Swarup Bhatnagar Prize for Science and Technology in Medical Sciences
2022	Member of NBRC assessment committee
2022	Member of CDFD assessment committee
2022	Member of All India Institute of Medical Science -IIT Delhi Multi-institute faculty interdisciplinary project (MFIRP) proposal evaluation committee
2024-till date	Member of the Scientific Advisory Board of Advanced Research Unit on Metabolism, Development & Aging (ARUMDA)
2024-till date	Member of Monitoring Committee for CSIR-MLP project on T cell immune monitoring for Covid-19
2024	Member of the screening committee for DBT Research Resources, Service Facilities and Platforms (RRSEP)
2024	Member of DBT Sectorial Expert Committee on Biomanufacturing

### C. Institutional Commitments in NII

2007-2022	Chairman of Core Confocal committee
2010-2013	Public Information Officer (PIO)
2011-2013	Chairman of the Consumable Purchase Committee
2011-2015	Member of Radiation Safety Committee
2011-2012	Coordinator for Research Area Panel and Scientific Advisory Committee Meeting
2011-2012	Coordinator for Annual Report
2013-2015	Member of Academic Committee
2014-2017	Member of Computer Committee
2015-2022	Chairman of Radiation Safety Committee
2015-2022	Course work Coordinator
2019-2021	Chairman of Institutional Seminar Committee
2019-2022	Chairman of the Equipment Purchase Committee
2020-2022	Chairman of the Infrastructure and Maintenance Committee
2021	Member of the Faculty Candidate Screening Committee
2021-2022	Member of Institutional Strategies and Working Group.

### D. Editorial responsibilities

2010-till date	Editorial Board member of Genome Integrity
2010-2014	Associate Editor of International Journal of Genomics and Proteomics
2011-2014	Editorial Board member of IRSN Cell Biology
2014-2017	Editorial Board member of International Scholarly Research Notices: Cell Biology
2016-till date	Editorial Board member of Scientific Reports
2021-till date	Editorial Board member of Journal of Biosciences
2021-till date	Editorial Board member of Biochimica et Biophysica Acta - Reviews on Cancer

#### **E. Membership of professional bodies**

2011-till date	Member of Indian Association of Cancer Research
2013-till date	Member of Society of Biological Chemists, India

#### **F. Extramural Grant Reviewer:**

Council of Scientific and Industrial Research (CSIR), India; Department of Biotechnology (DBT), India; Department of Science and Technology (DST), India; Science and Engineering Research Board (SERB), India; Indian Council of Medical Research (ICMR), India; Indo-French Centre for the Promotion of Advanced Research (IFCPAR); French National Research Agency (ANR); Scheme for Transformational and Advanced Research in Sciences (STARS); Board of Research in Nuclear Sciences (BRNS)

#### **G. PhD Thesis Examiner:**

Indian Institute of Science (IISc), India; Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), India; Manipal Academy of Higher Education, India; University of Calcutta, India; University of Delhi, India; University of Hyderabad, India; National University of Singapore, Singapore; Rajiv Gandhi University of Health Sciences, Karnataka, India; Utkal University, India; Academy of Scientific and Innovative Research (AcSIR), India; Homi Bhabha National Institute, India; Jadavpur University; Savitribhai Phule Pune University; Indraprastha University; University of Kashmir; The Maharaja Sayajirao University of Baroda

#### **H. Teaching experience in NII:**

Molecular Biology: Genes & Proteins – 2005-2010 and 2019  
 Advanced Cell Biology: 2012-2022  
 Basic Biology – 2012-2017  
 Laboratory Orientation and Research – 2020-2022

#### **I. Personnel trained:**

Number of Ph.D. students who obtained degree: 11  
 PhD students being mentored at present: 6  
 Post-doctoral fellows mentored in past: 10  
 DST INSPIRE faculty mentored: 1  
 M.Sc. students mentored in past: 9  
 M.Sc. students being mentored at present: 2

#### **I. Invited presentations:**

##### **2023**

1. Invited speaker in "Biological Transactions: From molecules to organisms", Indian Institute of Science, Bangalore, India, 18<sup>th</sup>–21<sup>st</sup> January, 2023.
2. Delivered Prof. G. K. Manna memorial lecture award during 20<sup>th</sup> All India Congress of Genetics and Genomics (AICGG) organized at the Indian Institute of Chemical Biology, Kolkata, 30<sup>th</sup>–31<sup>st</sup> January, 2023.
3. Invited speaker in International symposium "Interdisciplinary approach to Biological Sciences-2023" (IABS-2023), Indian Association for Cultivation of Science, Kolkata, India, 1<sup>st</sup> – 3<sup>rd</sup> February, 2023.

4. Session chair and invited speaker in Royal Society Yusuf Hamied Workshop for India and the UK, 23<sup>rd</sup>-24<sup>th</sup> February, 2023.
5. Invited speaker in Emerging Materials in Cancer Therapy (EMCT), Indian Institute of Technology & Rubber Technology Centre, Kharagpur, India, 24<sup>th</sup> March, 2023.
6. Invited speaker at the Department of Biochemistry, University of Calcutta, India, 18<sup>th</sup> April, 2023.
7. Delivered Dr. Lalji Singh Memorial Award Lecture during 9<sup>th</sup> Annual Conference of the Society for Mitochondrial Research & Medicine, Centre for DNA Fingerprinting and Diagnostics (CDFD), Hyderabad, India, 22<sup>nd</sup> June, 2023

## 2022

1. Invited speaker in 41<sup>st</sup> Annual meeting of Indian Association of Cancer Research, International Amity Institute of Molecular Medicine & Stem Cell Research (AIMMSCR), Amity University, Noida, India, 2<sup>nd</sup>-5<sup>th</sup> March, 2022.
2. Keynote speaker and for the inauguration of Superresolution Microscope under DST-SATHI, Banaras Hindu University, Banaras, India, 26<sup>th</sup> April, 2022.
3. Invited speaker in iCEN-24, Vaccines and Therapeutics, National Institute of Immunology, New Delhi, India, 16<sup>th</sup> June, 2022.
4. Invited speaker in Biological Research in Frontier Areas Symposium, Bhabha Atomic Research Centre, Mumbai, India, 25<sup>th</sup> July, 2022.
5. Invited speaker in 44<sup>th</sup> All India Cell Biology Conference and International Symposium, Indian Society of Cell Biology, University of Kashmir, Srinagar, Jammu and Kashmir, India, 2<sup>nd</sup>-3<sup>rd</sup> September, 2022.
6. Invited speaker to Tata Institute of Fundamental Research, Hyderabad, India, 11<sup>th</sup> November, 2022
7. Invited speaker in 91<sup>st</sup> Annual meeting of Society of Biological Chemists, Biswa Bangla Convention Centre, Kolkata, India, 8<sup>th</sup> – 11<sup>th</sup> December, 2022.

## 2021

1. Invited speaker in “Mitochondria in Health and Disease – 2021”, Central University of Rajasthan, India, 25<sup>th</sup> February, 2021.
2. Invited speaker in 40<sup>th</sup> Annual meeting of Indian Association of Cancer Research, Institute of Life Sciences (ILS), India, 1<sup>st</sup> March, 2021.
3. Invited speaker at Indian Institutes of Science Education and Research Bhopal, India, 1<sup>st</sup> October, 2021.
4. Invited speaker for Science Setu in Bhaskaracharya College of Applied Science, Delhi, 9<sup>th</sup> November, 2021.
5. Invited speaker at Shiv Nadar University, Delhi NCR, 18<sup>th</sup> December, 2021.

## 2020

1. Invited speaker in Royal Society Yusuf Hamied Workshop for India and the UK, Chicheley Hall, Buckinghamshire, United Kingdom, 9<sup>th</sup>-10<sup>th</sup> January, 2020.
2. Invited speaker in “International Symposium on Genome Instability: from bench to bedside”, Manipal School of Life Sciences, Mahipal, and Erasmus MC, The Netherlands, Mahipal, India, 28<sup>th</sup>-29<sup>th</sup> January 2020.
3. Invited speaker on “Frontiers in Biochemistry and Biotechnology: Strategies to Combat Human Diseases”, Department of Biochemistry, University of Delhi, South Campus, Delhi, India, 12<sup>th</sup>-13<sup>th</sup> February, 2020.
4. Invited speaker in “Emerging Trends in Translation Oncology”, All India Institute of Medical Sciences, New Delhi, India, 14<sup>th</sup>-15<sup>th</sup> February 2020.
5. Invited speaker in 11<sup>th</sup> East Zone Oncology Symposium, Saroj Gupta Cancer Center and Research Institute, Kolkata, India, 22<sup>nd</sup> February, 2020.

## 2019

1. Invited speaker in 7<sup>th</sup> Annual MPAI Conference, ACTREC, Navi Mumbai, India, 12<sup>th</sup>-13<sup>th</sup> January, 2019.
2. Invited speaker in "Biological Transactions: From molecules to organisms", Indian Institute of Science, Bangalore, India, 17<sup>th</sup>-20<sup>th</sup> January, 2019.
3. Invited speaker in national conference on “Cellular and Molecular Basis of Cancer: Molecules to mechanisms”, Savitribai Phule Pune University, Pune, India, 7<sup>th</sup> – 9<sup>th</sup> February, 2019.
4. Invited speaker in Life Science Symposium on “Molecular and Cellular Responses to Stressors and Cancer Therapeutics” Bhabha Atomic Research Centre, Mumbai, India, 28<sup>th</sup>-30<sup>th</sup> March 2019.

5. Invited speaker at South Asian University, New Delhi, India, 12<sup>th</sup> April, 2019.
6. Invited speaker at National Cancer Institute, National Institutes of Health, Bethesda, USA, 29<sup>th</sup> April, 2019.
7. Invited speaker in 18<sup>th</sup> International Workshop on Ataxia Telangiectasia (ATW2019), Houston, USA, 1<sup>st</sup>-4<sup>th</sup> May, 2019.
8. Invited speaker in mini symposium on “Advances in Molecular Oncology”, National Institute of Biomedical Genomics, Kalyani, India, 5<sup>th</sup>-6<sup>th</sup> July, 2019.
9. Invited speaker in 5<sup>th</sup> International Conference on Translational Research: Recent Trends in Pre-translational to translational research, National Centre for Cell Sciences, Pune, India, 7<sup>th</sup>-9<sup>th</sup> September, 2019.
10. Invited speaker in School of Biology Symposium Series on “Biology across Kingdoms”, Indian Institute of Science Education and Research, Thiruvananthapuram, India, 23<sup>rd</sup> September, 2019.
11. Invited speaker in 88<sup>th</sup> Annual meeting of Society of Biological Chemists, BARC, Anushaktinagar, Mumbai, India, 21<sup>st</sup> October- 3<sup>rd</sup> November, 2019.
12. Invited speaker in Guha Research Conference, Jaisalmer, Rajasthan, India, 6<sup>th</sup>-10<sup>th</sup> December, 2019.

## 2018

1. Invited speaker in “Ingenuity in Biological Sciences”, Gargi College, Delhi, India, 11<sup>th</sup>-12<sup>th</sup> January, 2018.
2. Invited speaker in 3<sup>rd</sup> International symposium "Interdisciplinary approach to Biological Sciences-2018" (IABS-2018), Indian Association for Cultivation of Science, Kolkata, India, 1<sup>st</sup> – 3<sup>rd</sup> February, 2018.
3. Invited speaker in “RECQ2018, International meeting on RECQ Helicase and Related Diseases”, Chiba, Japan, 16<sup>th</sup> – 18<sup>th</sup> February, 2018.
4. Invited speaker at Tohoku University School of Medicine, Sendai, Japan, 19<sup>th</sup> February, 2018.
5. Invited speaker at Tokyo University of Pharmacy and Life Sciences, Hichioji, Tokyo, Japan, 21<sup>st</sup> February, 2018.
6. Invited speaker in Indo-US conference on Transcription, Chromatin Structure, DNA repair and Genomic Instability, Indian Institute of Science, Bangalore, India, 6<sup>th</sup>-10<sup>th</sup> March, 2018.
7. Invited speaker in Genome Biology 2018: Impact on Human Health and Disease, Indian Institute of Science, Bangalore, India, 13<sup>th</sup>-14<sup>th</sup> July, 2018.
8. Invited speaker at Tata Translational Cancer Research Centre, Tata medical Centre, Kolkata, India, 31<sup>st</sup> October, 2018.
9. Invited speaker in 7<sup>th</sup> Asian Forum of Chromosome and Chromatin Biology, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India, 15<sup>th</sup>-17<sup>th</sup> November, 2018.
10. Invited speaker in 7<sup>th</sup> Annual Conference of The Society for Mitochondrial Research and Medicine, India, CSIR-CDRI, Lucknow, India, 28<sup>th</sup> -30<sup>th</sup> November, 2018
11. Invited speaker in Chromosome Stability 2018, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India, 14<sup>th</sup>-18<sup>th</sup> December, 2018.

## 2017

1. Invited speaker to 3<sup>rd</sup> International Conference on Perspective of Cell Signaling and Molecular Medicine, Bose Institute, Kolkata, India, 8<sup>th</sup> – 10<sup>th</sup> January, 2017.
2. Colloquium speaker at Council for Scientific and Industrial Research-Indian Institute of Chemical Biology (CSIR-IICB), Kolkata, India, on 1<sup>st</sup> May, 2017.
3. Invited speaker to 28<sup>th</sup> Mid-Year Meeting of the Indian Academy of Sciences, Indian Institute of Science, Bangalore, India, 30<sup>th</sup> June – 1<sup>st</sup> July, 2017.
4. Invited speaker to NUS-VIT Symposium on “Theranostics in Health and Disease”, VIT, Vellore, India, 20<sup>th</sup> - 22<sup>nd</sup> July 2017.
5. Invited speaker in “International Conference of the Korea Society for Molecular and Cellular Biology (KSMCB), Seoul, Korea, 12<sup>th</sup> – 14<sup>th</sup> September, 2017.
6. Invited speaker to Mitochondria Metabolism Network Meeting, Indian Institutes of Science Education and Research Pune, India, 10<sup>th</sup> – 11<sup>th</sup> November, 2017.
7. Invited speaker in Recent Advances in Genome Integrity and Plasticity, Indian Institute of Science, Bangalore, 4<sup>th</sup>-5<sup>th</sup> December, 2017.

## 2016

1. Invited speaker at Advanced Centre for Treatment, Research and Education in Cancer (ACTREC), Navi Mumbai, India, on 8<sup>th</sup> January, 2016.
2. Invited speaker in 35<sup>th</sup> Annual meeting of Indian Association of Cancer Research, New Delhi, India, 7<sup>th</sup>-10<sup>th</sup> April, 2016.

3. Invited speaker at Cellerant Therapeutics, San Carlos, USA on 26<sup>th</sup> May, 2016.
4. Invited speaker in “RECQ2016-Partnering for Progress”, the 3<sup>rd</sup> International RECQ helicase Conference, Fred Hutchinson Cancer Research Center, Seattle, USA, 28<sup>th</sup> – 30<sup>th</sup> May, 2016.
5. Invited speaker at Department of Biochemistry, Indian Institute of Science, Bangalore, India, on 7<sup>th</sup> October, 2016.
6. Invited speaker to 3<sup>rd</sup> International Conference on Chromosome Stability, Indian Institutes of Science Education and Research Thiruvananthapuram, India, 15<sup>th</sup> – 18<sup>th</sup> December, 2016.
7. Invited speaker in Guha Research Conference, Diu, 8<sup>th</sup>-12<sup>th</sup> December, 2016.

## 2015

1. Invited speaker to mini-symposium International Symposium on current advances in radiobiology, stem cells and cancer research, Jawaharlal Nehru University, New Delhi, India, 19<sup>th</sup> -21<sup>st</sup> February, 2015.
2. Invited speaker to Biosparks, Jawaharlal Nehru University, New Delhi, India, 27<sup>th</sup> -28<sup>th</sup> March, 2015.
3. Invited speaker to 2<sup>nd</sup> Annual Mito Symposium - NIMHANS, Bangalore, India, 22<sup>nd</sup> August, 2015.
4. Invited speaker at University of Toulouse, Toulouse, France on 16<sup>th</sup> September, 2015.
5. Invited speaker at Faculte de medicine de Rennes, Rennes, France on 18<sup>th</sup> September, 2015.
6. Invited speaker at Institute Curie, Paris, France on 22<sup>nd</sup> September, 2015.
5. Invited speaker in 20<sup>th</sup> World Congress on Advances in Oncology and 18<sup>th</sup> International Symposium on Molecular Medicine, Athens, Greece, 8<sup>th</sup>-10<sup>th</sup> October, 2015.
7. Invited speaker in International Conference on Cancer Research: New Horizons, National Centre for Cell Science (NCCS), Pune, India, 19-21<sup>st</sup> November, 2015.
8. Invited speaker in MCB75: from Molecules to Organisms, Department of Microbiology and Cell Biology, Indian Institute of Science, Bangalore, India, 11<sup>th</sup> – 14<sup>th</sup> December, 2015
9. Invited speaker in 14<sup>th</sup> Congress of Federation of Asian and Oceanian Biochemists and Molecular Biologists (FAOBMB) and 84<sup>th</sup> Annual meeting of Society of Biological Chemists, Hyderabad, India, 27<sup>th</sup>-30<sup>st</sup> November, 2015.
10. Invited speaker in “From Molecules to Organisms”, Department of Microbiology and Cell Biology, Indian Institute of Science, Bangalore, India, 11<sup>th</sup>-14<sup>th</sup> December, 2015.

## 2014

1. Invited speaker in 38<sup>th</sup> Mahabaleshwar Seminar Series entitled “Meeting on Mitochondria, Metabolism and Bioenergetics”, Mahabaleshwar, Maharashtra, India, 27<sup>th</sup>-30<sup>th</sup> January, 2014.
2. Invited speaker in 2<sup>nd</sup> International Conference on Angiogenesis: Theragnostics in Cancer and Cardiovascular Diseases, KIIT, Bhubaneswar, India, 2<sup>nd</sup> -4<sup>th</sup> February, 2014.
3. Invited speaker in “International Conference on Cellular and Molecular Mechanisms of Disease Processes”, University of Kashmir, Srinagar, India, 13<sup>th</sup>-16<sup>th</sup> April, 2014.
4. Invited speaker at All India Institute of Medical Sciences (AIIMS), New Delhi, India, October 13<sup>th</sup>, 2014.
5. Invited speaker to 2<sup>nd</sup> International Conference on Chromosome Stability, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangaluru, India, 14<sup>th</sup> – 17<sup>th</sup> December, 2014.
6. Invited speaker to mini-symposium “The Impact of Genome Instability on Cancer and Aging”, Annual General Body Meeting, Indian National Science Academy, Goa, India, 19<sup>th</sup> December, 2014.

## 2013

1. Invited speaker in 32<sup>th</sup> Annual meeting of Indian Association of Cancer Research, Delhi University, India, 13<sup>th</sup>-16<sup>th</sup> February, 2013.
2. Invited speaker in Microbiology and Cell Biology Department Alumni Symposium, Indian Institute of Science, Bangalore, India, February 16<sup>th</sup>, 2013.
3. Invited speaker in Transcription meeting 2013, Indian Institute of Chemical Biology, Kolkata, India, 3<sup>rd</sup>-5<sup>th</sup> March, 2013.
4. Invited speaker in mini-symposium "Ubiquitin System and Cellular Processes", Indian Institutes of Science Education and Research Mohali, India, 17<sup>th</sup>-18<sup>th</sup> October, 2013.
5. Invited speaker in the "International Conference on Biotechnology", Guru Gobind Singh Indraprastha University, Delhi, India, 22<sup>nd</sup>-24<sup>th</sup> October, 2013.
6. Invited speaker in Life Science Symposium (LSS-2013) on “Current Advances in Immunobiology and Cancer”, Bhabha Atomic Research Centre, Mumbai, India, 28<sup>th</sup>-30<sup>th</sup> November, 2013.

7. Invited speaker in 82<sup>nd</sup> Annual meeting of Society of Biological Chemists, India, University of Hyderabad, Hyderabad, India, 2<sup>nd</sup>-5<sup>th</sup> December, 2013.
8. Invited speaker in Guha Research Conference, Araku Valley and Visakhapatnam, Andhra Pradesh, India, 6<sup>th</sup>-10<sup>th</sup> December, 2013.

## 2012

1. Invited speaker in 14<sup>th</sup> International Workshop on Ataxia Telangiectasia (ATW2012), New Delhi, India, 8<sup>th</sup>-11<sup>th</sup> February, 2012.
2. Invited speaker in 37<sup>th</sup> Annual Conference of Environmental Society of India, KIIT University, Bhubaneswar, India, 24<sup>th</sup> – 26<sup>th</sup> February, 2012.
3. Invited speaker at the National Cancer Institute, National Institutes of Health, Bethesda, USA, 26<sup>th</sup> March, 2012.
4. Invited speaker at Institute Curie, Paris, France, 21<sup>th</sup> June, 2012.
5. Invited speaker to the 2<sup>nd</sup> Annual Conference of the Society of Mitochondrial Research and Medicine-India, Central University of Gujarat, Gandhinagar, India, 2<sup>nd</sup>-3<sup>rd</sup> November, 2012.
6. Invited speaker in Carcinogenesis 2012, Delhi, India, 19<sup>th</sup>-21<sup>th</sup> November, 2012.
7. Invited speaker at Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore, India, 6<sup>th</sup> December, 2012.
8. Invited speaker in Bioworld 2012: Proteins in diseases and disorders, IIT Delhi, Delhi, India, 10<sup>th</sup>-12<sup>th</sup> December, 2012.

## 2011

1. Invited speaker in 30<sup>th</sup> Annual meeting of Indian Association of Cancer Research, Indian Institute of Chemical Biology, Kolkata, India, 6<sup>th</sup>-9<sup>th</sup> February, 2011.
2. Invited speaker in Life Science Symposium (LSS-2011) on “Advances in molecular and cell biology of stress response”, Bhabha Atomic Research Centre, Mumbai, India, 12<sup>th</sup>-14<sup>th</sup> October, 2011.
3. Invited speaker in the conference titled Aging and Age-Related Disorders, National Institute of Immunology, New Delhi, India, 3<sup>rd</sup>-4<sup>th</sup> March, 2011.
4. Speaker in Guha Research Conference, Khimsar, Rajasthan, 1<sup>st</sup> -5<sup>th</sup> December, 2011.

## 2010

1. Invited speaker at Centre for DNA Fingerprinting and Diagnostics (CDFD), Hyderabad, India, 9<sup>th</sup> April, 2010.
2. Invited speaker in 79<sup>th</sup> meeting of Annual Society of Biological Chemists, Indian Institute of Science, Bangalore, India, 13<sup>th</sup>-15<sup>th</sup> December, 2010.

## 2009

1. Invited speaker in International Symposium on Frontiers in Molecular Medicine, Jawaharlal Nehru University, New Delhi, India, 13<sup>th</sup>-14<sup>th</sup> February, 2009.
2. Invited speaker in 28<sup>th</sup> Annual meeting of Indian Association of Cancer Research, Indian Institute of Science, Bangalore, India, 21<sup>st</sup>-24<sup>th</sup> February, 2009.

## 2008

1. Invited speaker in Eighth International Conference of Anticancer Research, Kos, Greece, 17<sup>th</sup>-22<sup>nd</sup> October, 2008.

## 2007

1. Invited speaker in LHC Workshop, National Cancer Institute, National Institutes of Health, USA, 7<sup>th</sup>-8<sup>th</sup> June, 2007.
2. Invited speaker in International Symposium on Cancer Biology, National Institute of Immunology, New Delhi, India, 14<sup>th</sup>-16<sup>th</sup> November, 2007.

## 2006



1. Invited speaker in Human Genomics and Public Health and the XXXI Annual Conference of Indian Society of Human Genetics -2006, Jawaharlal Nehru University, New Delhi, India, 27<sup>th</sup> Feb - 1<sup>st</sup> March, 2006.
2. Invited speaker in Satellite Symposium on Cancer Research National Institute of Immunology, New Delhi, India, 10<sup>th</sup>-11<sup>th</sup> April, 2006.

## **2005**

1. Invited speaker in Bloom Syndrome Workshop, National Cancer Institute, National Institutes of Health, USA, 7<sup>th</sup>-8<sup>th</sup> April, 2005.

## 9. Research Support:

### A. Ongoing Research Support

1. Grant agency: Council of Scientific and Industrial Research (CSIR), India  
Role: PI  
Title of the project and Reference number: Determine the mechanism of the turnover of the key mitochondrial helicase, RECQL4, inside the organelle (27/0387/23/EMR-II)  
Period of support: 14.07.2023 to 13.07.2026  
Total amount of support: Rs. 27.74 lakhs
2. Grant agency: Indo-French Centre for Promotion of Advanced Research (IFCPAR/CEFIPRA)  
Role: PI  
Title of the project and Reference number: Identify, characterize and determine the in vivo efficacy of small molecules using a synthetic lethality screen which targets the major DNA repair pathways in colon and lung cancer (IFC/6803-1/2022)  
Period of support: 12.06.2023 to 11.06.2026  
Total amount of support: Rs. 83.49 lakhs
3. Grant agency: Department of Biotechnology (DBT), India  
Role: PI  
Title of the project and Reference number: Determining the mechanism and consequences of inter-regulation between two tumor suppressors: p53 and BLM helicase (BT/PR41739/BRB/10/1974/2021)  
Period of support: 18.10.2022 to 17.10.2025  
Total amount of support: Rs. 91.837 lakhs
4. Grant agency: Science and Engineering Research Board (SERB), India  
Role: Co-PI  
Title of the project and Reference number: microRNA nanotherapeutics for glioblastoma (CRG/2020/004640)  
Period of support: 18.03.2021 to 17.03.2024  
Total amount of support: Rs. 14.58 lakhs
5. Grant agency: Board of Research in Nuclear Sciences (BRNS), India  
Role: PI  
Title of the project and Reference number: Understanding the mechanism by which BLM helicase regulates ATM mediated response to ionizing irradiation (58/14/17/2021-BRNS)  
Period of support: 31.11.2021 to 30.11.2024  
Total amount of support: Rs. 42.136 lakhs
6. Grant agency: Science and Engineering Research Board (SERB), India  
Role: PI  
Title of the project and Reference number: Determine whether mitochondrial helicase RECQL4 affects SIRT3 activity by regulating OXPHOS Complex I stability and assembly (CRG/2020/000125)  
Period of support: 21.01.2022 to 20.01.2025  
Total amount of support: Rs. 71.25 lakhs

### B. Completed Research Support

1. Grant agency: Department of Biotechnology (DBT), India  
Role: PI  
Title of the project and Reference number: Determining the role of BLM helicase during signal transduction in humans (BT/PR5936/BRB/10/408/2005)  
Period of support: 23.01.2006 to 22.01.2009  
Total amount of support: Rs. 32.046 lakhs

2. Grant agency: Department of Science and Technology (DST), India  
Role: PI  
Title of the project and Reference number: Investigating the role of BLM helicase and signal transducer, 53BP1, during homologous recombination in human (SR/SO/HS-24/2005)  
Period of support: 15.11.2006 to 14.11.2009  
Total amount of support: Rs. 21.240
3. Grant agency: Department of Biotechnology (DBT), India  
Role: Co-PI  
Title of the project and Reference number: Establishment of an advanced microscopy cum flow cytometry unit (BT/PR9014/INF/22/68/2007)  
Period of support: 03.09.2007 to 02.09.2010  
Total amount of support: Rs. 480 lakhs
4. Grant agency: National Institutes of Health (NIH), USA  
Role: PI  
Title of the project and Reference number: Regulatory mechanisms for BLM helicase (1 R01 TW007302-01A1)  
Period of support: 01.08.2006 to 31.05.2011  
Total amount of support: \$ 250,000
5. Grant agency: Department of Biotechnology (DBT), India  
Role: PI  
Title of the project and Reference number: Determining the role of BLM helicase in DNA damage signal recognition and transduction due to double strand breaks in human (BT/PR9598/Med/30/33/2007)  
Period of support: 18.09.2008 to 17.09.2011  
Total amount of support: Rs. 48.09 lakhs
6. Grant agency: Council of Scientific and Industrial Research (CSIR), India  
Role: PI  
Title of the project and Reference number: Investigating how BLM helicase regulates RAD54 functions during recombination in human [37(1348)/08/EMR-II]  
Period of support: 18.12.2008 to 17.12.2011  
Total amount of support: Rs. 19.26 lakhs
7. Grant agency: Department of Biotechnology (DBT), India  
Role: PI  
Title of the project and Reference number: Tumor Suppressor BLM helicase mediated regulation of expression and function of oncogene during neoplastic transformation (BT/PR11258/BRB/10/645/2008)  
Period of support: 26.03.2010 to 25.03.2013  
Total amount of support: Rs. 59.32 lakhs
8. Grant agency: Department of Science and Technology (DST), India  
Role: PI  
Title of the project and Reference number: Investigating the functions of Rothmund-Thomson Syndrome protein, RECQL4 helicase and p53 in the mitochondria (SR/SO/BB-08/2010)  
Period of support: 19.11.2010 to 18.11.2013  
Total amount of support: Rs. 37.08 lakhs
9. Grant agency: Council of Scientific and Industrial Research (CSIR), India  
Role: PI  
Title of the project and Reference number: Investigating the functions of BLM helicase phosphorylation at Thr182 (37(1541)/12/EMR-II)  
Period of support: 02.04.2012 to 01.04.2015  
Total amount of support: Rs. 26.34 lakhs

10. Grant agency: Indo-French Centre for the Promotion of Advanced Research (IFCPAR) and Centre Franco- Indien pour la Promotion de la Recherche Avancee (CEFIPRA)  
Role: PI  
Title of the project and Reference number: Genome-wide recruitment profiling of BLM after DNA damage (IFC/4603-A/2011/1250)  
Period of support: 01.11.2011 to 31.10.2015  
Total amount of support: Rs. 41.17 lakhs
11. Grant agency: Department of Biotechnology (DBT), India  
Role: PI  
Title of the project and Reference number: Determine the kinases that regulate the stability of BLM helicase during mitosis using an unbiased siRNA library based whole genome approach (BT/PR3148/AGR/36/706/2011).  
Period of support: 23.08.2012 to 22.08.2015  
Total amount of support: Rs. 98.76 lakhs
12. Grant agency: Science and Engineering Research Board (SERB), India  
Role: PI  
Title of the project and Reference number: Determining the roles of mitochondrial bioenergetics and replication in the cancer phenotype of Rothmund Thomson Syndrome (RTS) patients (SR/SO/BB-0124/2013)  
Period of support: 25.06.2014 to 24.06.2017  
Total amount of support: Rs. 52.24 lakhs
13. Grant agency: Department of Biotechnology (DBT), India  
Role: PI  
Title of the project and Reference number: Investigating the Mechanisms of Recruitment of DNA Damage Response Factors to the Sites of Stalled Replication (BT/PR7320/BRB/10/1161/2012).  
Period of support: 16.10.2014 to 15.10.2017  
Total amount of support: Rs. 75.01 lakhs
14. Grant agency: Council of Scientific and Industrial Research (CSIR), India  
Role: PI  
Title of the project and Reference number: Investigating whether BLM helicase regulates the functions of multiple oncogenic Fbw7 substrates by enhancing their turnover [37(1699)/17/EMR-11]  
Period of support: 01.05.2017 to 31.04.2020  
Total amount of support: Rs. 28.68 lakhs
15. Grant agency: Department of Biotechnology (DBT), India  
Role: PI  
Title of the project and Reference number: Investigating the mechanism by which a newly identified E3 ligase degrades tumour suppressor p53 during DNA damage (BT/PR23545/BRB/10/1593/2017)  
Period of support: 21.03.2018 to 20.03.2021  
Total amount of support: Rs. 68.684 lakhs
16. Grant agency: Department of Biotechnology (DBT), India  
Role: PI  
Title of the project and Reference number: Investigating the role of BLM helicase as a global tumor suppressor: understanding its regulatory loops and using the knowledge for therapeutic and clinical applications in cancer biology (BT/MED/30/SP11263/2015). Designated as a Unit of Excellence in Cancer Biology with 6 other co-PIs.  
Period of support: 26.03.2015 to 25.03.2021  
Total amount of support: 4.52 Crores
17. Grant agency: Science and Engineering Research Board (SERB), India  
Role: PI  
Title of the project and Reference number: Determining whether ubiquitylation of proteins on

mitochondrial outer membrane negatively controls their entry into the organelle (EMR/2017/000541)

Period of support: 25.10.2018 to 24.10.2021

Total amount of support: Rs. 29.80 lakhs

18. Grant agency: Department of Biotechnology (DBT), India

Role: PI

Title of the project and Reference number: Usage of CRISPR generated isogenic model systems to identify and validate small molecules which can reverse drug resistance (BT/PR27681/GET/119/269/2018)

Period of support: 13.09.2018 to 12.03.2022

Total amount of support: Rs. 86.796 lakhs

## 10. Bibliography

### # Publications as corresponding author

- # 1. Hussain M, Mohammed A, Saifi S, Priya S, **Sengupta S** (2023). Hyper-ubiquitylation of DNA helicase RECQL4 by E3 ligase MITOL prevents mitochondrial entry and potentiates mitophagy. *J. Biol Chem.* 299(9):105087. PMID: 37495109
2. Kar A, Jain D, Kumar S, Rajput K, Pal S, Rana K, Kar R, Jha SK, Medatwal N, Yavvari PS, Pandey N, Mehta D, Sharma H, Bhattacharya D, Pradhan MK, Sharma RD, Srivastava A, Agrawal U, Mukhopadhyay A, **Sengupta S**, Patil VS, Bajaj A, Dasgupta U (2023). *Sci Adv.* 9(26): eadf2746. PMID: 37390205
3. Mondal I, Fatima SW, Priya S, **Sengupta S**, Khare SK, Kulshreshtha R (2023). Transglutaminase-Polyethyleneimine Nanoflowers Mediated Cellular Delivery of Anti-miR-210 for Effective Glioblastoma Therapy. *ACS Biomater Sci Eng.* 9(5): 2558-2571. PMID: 37067339
- # 4. Hussain M, Saifi S, Mohammed A, **Sengupta S** (2022). Protocol to detect in vitro and in cell ubiquitylation of mitochondrial DNA polymerase gamma by mitochondrial E3 ligase MITOL. *STAR Protoc.* 3(4):101710. PMID: 36136752
- # 5. Priya S, Kaur E, Kulshreshtha S, Pandit A, Gross I, Kumar N, Agarwal H, Khan A, Shyam R, Bhagat P, Prabhu JS, Nagarajan P, Deo SVS, Bajaj A, Freund JN, Mukhopadhyay A, **Sengupta S** (2021). CDX2 inducible microRNAs sustain colon cancer by targeting multiple DNA damage response pathway factors. *J Cell Sci.* 134(15): jcs258601. PMID: 34369561
6. Sreekanth V, Pal S, Kumar S, Komalla V, Yadav P, Shyam R, **Sengupta S**, Bajaj A (2021). Self-assembled supramolecular nanomicelles from bile acid-docetaxel conjugate are highly tolerable with improved therapeutic efficacy. *Biomater Sci.* 9(16): 5626-5639. PMID: 34254078
- # 7. Kaur E, Agrawal R, **Sengupta S** (2021). Functions of BLM helicase in cells: is it acting like a double-edged sword? *Front Genet.* 12:634789. PMID: 33777104
- # 8. Hussain M, Mohammed A, Saifi S, Khan A, Kaur E, Priya S, Agarwal H, **Sengupta S** (2021). MITOL-dependent ubiquitylation negatively regulates the entry of PolyA into mitochondria. *PLoS Biol.* 19(3): e3001139. PMID: 33657094
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10. Rajarajan S, Anupama CE, Jose B, Correa M, **Sengupta S**, Prabhu JS (2020). Identification of colorectal cancers with defective DNA damage repair by immunohistochemical profiling of mismatch repair proteins, CDX2 and BRCA1. *Mol Clin Oncol.* 13(5): 57. PMID: 32953111
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- # 13. Tripathi V, Kaur E, Kharat SS, Hussain M, Damodaran AP, Kulshreshtha S, **Sengupta S** (2019). Abrogation of FBW7 $\alpha$ -dependent p53 degradation enhances p53's function as a tumor suppressor. *J Biol Chem.* 294(36):13224-13232. PMID: 31346036.
- # 14. Priyadarshini R, Hussain M, Attri P, Kaur E, Tripathi V, Priya S, Dhapola P, Saha D, Madhavan V, Chowdhury S, **Sengupta S** (2018). BLM potentiates c-Jun degradation and alters its function as an oncogenic transcription factor. *Cell Rep.* 24(4):947-961. PMID: 30044990.

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- # 18. Kumari J, Hussain M, De S, Chandra S, Modi P, Tikoo S, Singh A, Sagar C, Sepuri NB, **Sengupta S** (2016). Mitochondrial functions of RECQL4 are required for the prevention of aerobic glycolysis dependent cell invasion. *J Cell Sci.* 129(Pt 7): 1312-1318. PMID: 26906415
- # 19. Kharat SS, Tripathi V, Damodaran AP, Priyadarshini R, Chandra S, Tikoo S, Nandhakumar R, Srivastava V, Priya S, Hussain M, Kaur S, Fishman JB, **Sengupta S** (2016). Mitotic phosphorylation of Bloom helicase at Thr182 is required for its proteasomal degradation and maintenance of chromosomal stability. *Oncogene* 35(8): 1025-1038. PMID: 26028025
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- # 21. Singh M, Kundu S, Reddy MA, Sreekanth V, Motiani RK, **Sengupta S\***, Srivastava A\*, Bajaj A\* (2014). Injectable small molecule hydrogel as a potential nanocarrier for localized and sustained *in vivo* delivery of doxorubicin. *Nanoscale* 6(21): 12849-12855 (\* denotes co-corresponding authors). PMID: 25227567
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- # 23. Gupta S, De S, Srivastava V, Hussain M, Kumari J, Muniyappa K, **Sengupta S** (2014) RECQL4 and p53 potentiate the activity of polymerase  $\gamma$ A and maintain the integrity of the human mitochondrial genome. *Carcinogenesis* 35(1): 34-45. PMID: 24067899
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- # 25. Chandra S, Priyadarshini R, Madhavan V, Tikoo S, Hussain M, Mudgal R, Modi P, Srivastava V, **Sengupta S** (2013) Enhancement of c-Myc degradation by BLM helicase leads to delayed tumor initiation. *J Cell Sci.* 126(Pt 16): 3782-3795. PMID: 23750012
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## 11. Patents

1. Methods for decreasing resistance to chemotherapy. (U.S. National Stage Application No. 63/426,360)
2. DNA damage dependent microRNA signature for cancers, methods and uses related thereto (Indian patent application number 202011022661, PCT Application number PCT/IN2020/050776; U.S. National Stage Application No. 17/998,888)
3. BLM mediated reactivation of Fbw7 $\alpha$  mutants in cancer (PCT application number PCT/IB2019/054952)
4. Conjugated anti-proliferative drug nano-particles and process for preparation thereof (PCT application number PCT/IN2017/050253)
5. RECQL4/RECQL4 variant – p53 complex for altered mitochondrial function in Rothmund-Thomson Syndrome (European patent number 239892 granted on 29/04/2015, India Patent number 362277 granted on 20/03/2021, US National Phase Application Serial No. 13/318,667)