

DIVPREET KAUR

PhD Research scholar
Dr. B.R Ambedkar Center for Biomedical Research
University of Delhi, North Campus
New Delhi, India-110007



CAREER OBJECTIVE

As an AACR Global Scholar-in-Training awardee and EACR Ambassador, my passion for cancer research is evident. Combining my robust foundation in biological sciences with profound expertise in structural bioinformatics and computer-aided drug design, I possess a distinct proficiency in bridging the gap between bioinformatics and wet lab experiments. My ambition is to drive innovative approaches that integrate computational analysis with experimental validation. I am seeking a challenging role in the industry where I can play an instrumental part in elucidating answers to pertinent discipline-specific questions, particularly in the field of oncology using my expertise in structural based drug discovery and machine learning approaches. My ultimate goal is to contribute to the development of effective therapies making a lasting impact on patient outcomes and advancing the frontiers of medical science.

EDUCATIONAL CREDENTIALS

Passing Year	Course	Name of the institute	Name of the board	Percentage
Ongoing	PhD	Dr B.R Ambedkar center for Biomedical Research (ACBR)	Delhi university	-
2019	M.Sc Zoology	Department of zoology, SGTB Khalsa college	Delhi university	77.5%
2017	B.Sc Zoology	SGTB Khalsa college	Delhi university	92.11%
2014	Intermediate	Bal Bharati public school, Pitampura, New Delhi	CBSE board	93%
2012	Matric	Bal Bharati public school, Pitampura, New Delhi	CBSE board	Cgpa-9.4

COMPETITIVE EXAMS QUALIFIED

1. Cleared **CSIR NET-JRF** with **All India Rank 63**
2. Cleared **ICMR-JRF** in 2019
3. Cleared **All India National Entrance Test for admission to Ph.D. program** (2019) for Department of Zoology, Department of Biochemistry and Dr. B.R Ambedkar center for Biomedical Research (ACBR), University of Delhi.

4. Cleared All India **Common Entrance Test for admission to PhD program** in School of Computational and Integrative Sciences (SCIS), Jawaharlal Nehru University (2019).

HONORS AND AWARDS

1. Awarded the **European Association of Cancer Research (EACR) Travel Award** to attend the Annual Congress of EACR, held in Rotterdam, Netherlands from 10-13th June, 2024.
2. Awarded the prestigious “**Global Scholar in training award (GSITA)**” by **American Association of Cancer Research (AACR)** for the participation at AACR Annual meeting to be held in San Deigo, California from 5th -10th April,2024.
3. Awarded **\$100 appreciation award by DrugBank Canada** for a research guidance with optimizing drug development pipeline strategies and harnessing the potential of synthetic drug libraries. Contributed to refining their content and aligning it with the latest industry advancements.
4. Awarded a **€1000 Travel Grant** by European Molecular Biology Organization (EMBO) based on the quality of my research abstract to attend an **international workshop** on “**Telomere function and evolution in health and disease**” held in **Troia, Portugal** from 26th September to 1st October 2022.
5. Received **Department of Biotechnology (DBT) Travel award** to attend EMBO Workshop on “**Telomere function and evolution in health and disease**” held in **Troia, Portugal** from 26th September to 1st October 2022.
6. Won a prize of **INR 25000 in Phase-I of the Drug Discovery Hackathon (DDH2020)** for in-silico drug discovery against the Covid-19 virus by Government of India. The project has now secured funding of 2.3 million for Phase-II, which involves synthesis of the lead molecules discovered by our team and proceeding them towards preclinical evaluation studies.
7. Received **CBSE-CSSS scholarship for Higher Education** for 5 years consecutively. (2014-2019)
8. Secured **overall 3rd Position in Post-graduation degree** in Department of Zoology, University of Delhi.
9. Awarded **Dr. Satinder Kaur Memorial Scholarship for being the College Topper** in M.Sc Zoology for both the years from SGTB Khalsa College, University of Delhi. (2017-2019)
10. **Ranked 5th in Delhi University in B.Sc (H) Zoology** and granted direct admission into Masters in Zoology on Merit basis (2014-2017).
11. **Academic topper of Delhi university in the final year** of B.Sc(H) zoology. (2016-2017)
12. Awarded **Gurdial Singh Viridi Memorial Scholarship for being the academic college topper** for two consecutive years of graduation from SGTB Khalsa college. (2015-2017)
13. **Scholar Badge holder** for two consecutive academic years in school.

LEADERSHIP AND PROFESSIONAL TRAINING/COURSES

- **Faculty Development program (FDP)** on Cyber security, High performance computing, AI/ML and Gen AI organized by Amazon web services (AWS) and Delhi University computer centre (DUCC) from **4-6 October, 2023**.
- **Elsevier's Researcher Academy on campus workshop** on "Research Essentials: Fundamentals of writing research articles for high impact journals" on **21 November, 2022**.
- **"Workshop on Scientific writing and Research ethics"** organized by Department of Biotechnology (DBT)- Welcome Trust India Alliance, on the **29 June, 2020**.
- **"Science Leadership training workshop"** organized by four premier science academies of India- Indian Academy of Sciences (IAS), Bangalore, Indian National Science Academy (INSA), New Delhi, National Academy of Sciences (NAS), India, Allahabad, and Indian National Young Academy of Sciences (INAYAS), New Delhi **from June 22-28, 2020**.

KEY SKILLS

Research Interest: Targeted Oncology Therapeutics, Structural Bioinformatics, Computer Aided Drug Designing (CADD), Homology Modelling, Sequence analysis, Pharmacophore modelling, Molecular Docking, Molecular Dynamics Simulation (Gromacs), Cheminformatics, Artificial Intelligence and Machine learning, Deep learning.

Programming languages: Proficient in Python, and Basics of R language

Environment: Windows and Linux

Wet Lab Techniques: Polymerase Chain Reaction (PCR), Gel Electrophoresis, SDS-PAGE, Native DNA PAGE, *Drosophila* Handling, Bacterial culture handling, Plasmid Isolation, RNA Isolation, Southern Blotting, Cloning, Transformation, Primer designing, Mammalian Cell culture, Protein Isolation and quantitation, Microscopy, Real time PCR (q-PCR)

ACADEMIC PROJECTS AND RESEARCH EXPERIENCE

- **Investigatory project** in class 12 on "Resistance of antibiotics on bacterial growth by measuring their zone of inhibition."
- **Summer research internship** organized by the cluster innovation center (CIC), Delhi university. Worked under the guidance of Prof. Namita Agrawal, Department of Zoology, University of Delhi on "*Drosophila* as a model organism for neurodegenerative diseases".

M.Sc Dissertation, Department of Zoology, University of Delhi, Delhi.

Advisor: **Prof. Alok Chandra Bharti**

- Worked on "Telomere and Telomerase as the therapeutic treatment of cancer and emergence of its combination therapy" for my dissertation project and presented it.

Research Experience: Dr.B.R Ambedkar Center for Biomedical Research (ACBR), University of Delhi

- Worked as a Junior Research Fellow (JRF) in the lab of Prof. Daman Saluja for 1 year (1st Jan 2020-31st Jan 2021) on “Design and development of anti-cancer lead compounds against a molecular target”.

Ph.D , Dr B.R Ambedkar Center for Biomedical Research (ACBR), University of Delhi, Delhi.

Medical Biotechnology lab and Molecular Modelling and Anticancer Drug development lab

Supervisor: Prof. Daman Saluja **Co-Supervisor:** Prof. Madhu Chopra

- My current PhD project is a collaborative project which involves development of Anticancer lead compounds against a molecular target using computer aided drug designing approach (CADD) and wet lab validation of the leads using in-vitro and ex-vivo assays.
- I am also working on a project based on artificial intelligence and machine learning in advancing the computer aided drug development.
- I have guided Dissertation project of two final year Masters student in Biomedical sciences- Lucky (2021) and Simran (2024)
- Promoted from CSIR JRF-to-SRF in January 2022.
- I have been guiding a PhD student for one of the major objectives of her thesis. (Shelly Aggarwal)
- I have guided two trainees for their research projects in my lab (Krish Mehta from Sri Ventakeshwara college and Manika Kaur from SGTB Khalsa college-2023)

PUBLICATIONS

1. Identification of Novel Inhibitors of Cancer Target Telomerase Using a Dual Structure-based Pharmacophore Approach to Virtually Screen Libraries, Molecular Docking and validation by Molecular Dynamics Simulations – **Accepted in Journal of Biomolecular structure and Dynamics (IF 4.1)**
2. Targeting telomerase using structure-based drug repurposing approach: A therapeutic strategy to investigate anti-cancer potential of FDA approved drugs. (**Manuscript under submission**)
3. Design and development of machine learning model to identify small molecules as inhibitors of multifarious cancer targets. (**Manuscript under submission**)
4. Harnessing Drug Repurposing to Discover and Validate PCSK9-LDLR Disruptors: A Promising Strategy for Lipid Lowering and Cardiovascular Therapeutic Development. (**Manuscript under submission**).

ACADEMIC MEMBERSHIPS

- **Associate member of the American Association for Cancer Research (AACR)**, the world's oldest and largest professional cancer research association headquartered in Philadelphia, Pennsylvania, USA. (Membership ID: 1250534)
- Member of **European association of Cancer Research (EACR)**.
- Lifetime member of **Indian Association of Oncology (IAO)**.

POSTER PRESENTATION

- Presented my PhD work as a poster at the **Annual Meeting of American Association of Cancer Research (AACR) as a Global Scholar in Training Awardee (GSITA) at San Diego, California from 5-10th April, 2024.**
- Presented my PhD work as a poster at **25th EMBL PhD Symposium** (virtual) held at **Heidelberg, Germany from 20-22 November, 2023.**
- Presented a part of my PhD Research work as a poster at **42nd Annual conference of Indian Association of Cancer Research (IACR) “Bridging basic and translational research to the clinic: Challenges and Opportunities”** organized by ACTREC, Tata Memorial center, Kharghar Mumbai, India from 12th-16th January 2023.
- Presented a part of my PhD Research work as a poster in **International EMBO workshop** on **“Telomere function and evolution in health and disease”** held at **Troia, Portugal** from 26th September to 1st October 2022.
- Presented a research poster at **National Symposium on Frontiers in Biomedical Research (FBR)**, held at ACBR, University of Delhi from 2nd-4th November, 2022.
- Presented a poster in the workshop on ‘DNA Fingerprinting’ under the aegis of Science Setu held at Hindu College, University of Delhi. (2016)
- **Secured 2nd position** in the "On the Spot Poster Making Competition" on the topic "Reproductive Health Issues in India" held at Deshbandhu College, University of Delhi (2016).

CONFERENCES/WORKSHOPS

- Participated and presented my PhD work as a poster at the **Annual Meeting of American Association of Cancer Research (AACR) as a Global Scholar in Training Awardee (GSITA) at San Diego, California from 5-10th April, 2024.**
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- Participated in the **workshop “WiSDom- Women in Scientific Domain”** organized on 13th August, 2022 by **Indian National Young Academy of Sciences (INYNAS).**
- Participated in **International conference on Telomeres and Cancer Biology** hosted by The German Cancer Research Center (DKFZ) in Heidelberg held from 4th to 6th April, 2022.

- Participated in **10th Workshop on Bioinformatics and Drug Design: Artificial Intelligence and Machine Learning (ML) Based Methods** held from 21-23 December 2021 at ACBR, University of Delhi.
- Participated in **National symposium on Frontiers in Biomedical Research** organized by DR B.R Ambedkar center for Biomedical Research (ACBR) and Delhi School of Public Health (DSPH) from 2 April-25 June, 2021.
- Presented a part of my PhD Research work at **National Symposium on Frontiers in Biomedical Research (FBR)**, held at ACBR, University of Delhi from 2nd-4th November, 2022.
- Participated in **DBT sponsored National Workshop** under Star College Scheme on “Molecular docking in Drug Design” held on 31st March to 1st April 2021, organized by Department of Microbiology, Ram Lal Anand college, University of Delhi.
- Participated in **International conference on Innovations in Biotechnology and Life Sciences, 2020 (ICIBLS)** organized by Department of Biotechnology, Delhi Technological University (DTU) from 18-20 December 2020.
- Participated in a five-day **National Workshop with Hands on Training** through Virtual Platform on “Bioinformatics and Biostatistics: A Beginner’s guide” organized by Department of Biochemistry, Shivaji College, University of Delhi, under the aegis if DBT sponsored star college scheme from January 16-20, 2021.
- Participated in **International conference** on “Health and Research in current scenario: with special emphasis on COVID-19 virus genomics and pathogenicity” jointly organized by Venkateswara college, University of Delhi and Phixgen Pvt Ltd India on 17th July 2020.
- Participated in “**Online workshop on Scientific writing and Research ethics**” organized by DBT/ Welcome Trust India Alliance on the 29 June, 2020.
- Participated in “**Science Leadership Workshop**” organized by four premier science academies of India- Indian Academy of Sciences (IAS), Bangalore, Indian National Science Academy (INSA), New Delhi, National Academy of Sciences (NAS), India, Allahabad, and Indian National Young Academy of Sciences (INAYAS), New Delhi from June 22-28, 2020.
- Participated in “**Methodologies Virtual Boot camp on Artificial intelligence**” by FAES Academic programme, under the aegis of National Institute of health (NIH) and National institute of nursing research (NINR) held from 3-6 August, 2020. It discussed the impact that artificial intelligence (AI) is going to have on the evolving healthcare environment and overall efforts to improve the quality of care for patients and families. It discussed basic AI principles and ways clinicians can team with data scientists to conduct research to address health-related issues.
- Participated in **Student Symposium** titled “Computational Biology: Connecting Domains of Science” organized by International Society of Computational Biology (ISCB) and Regional student group, held on 22nd November, 2019 at Jawaharlal Nehru University, New Delhi, India.

PERSONAL ATTRIBUTES

- Excellent written and verbal communication skills
- Strong analytical and problem-solving abilities
- Proactive and self-motivated researcher
- Collaborative team player
- Meticulous attention to detail
- Adaptable and resilient
- Excellent organizational skills
- Strong leadership qualities
- Creative and innovative thinking
- Professional and diplomatic in interpersonal interactions
- Strong ethical standards and commitment to scientific integrity

PERSONAL DETAILS

Father's Name : Mr. Harbhajan Singh

Nationality : Indian

Date of Birth : 12-jan-1996

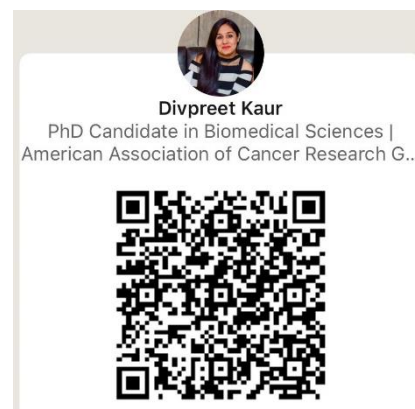
Phone Number : +919013350100

Marital Status : Single

Languages : English, Hindi and Punjabi

Permanent address : BS-200, Shalimar Bagh, New Delhi, India- 110088

Professional contact : <https://www.linkedin.com/in/divpreet-kaur-48582b174/>



REFERENCES

Dr. Daman Saluja (Supervisor)

Former Chairperson, Research Council of University of Delhi

Senior Professor, Dr. B.R Ambedkar Center for Biomedical Research (ACBR)

Former Joint Director, Delhi School of Public Health, Institution of Eminence (IoE)

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Dr. Madhu Chopra (Co-Supervisor)

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DECLARATION

I hereby declare that the information furnished above is true to the best of my knowledge.