

SIDDHARTH RAI

Varanasi, India

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Websites:

{ **Personal:** <https://www.vidwaanforever.com>
Work: <https://www.tbtlabbhu.com> }

PROFILE

I am a self-motivated researcher currently active in the field of tumor biology. After completing my post-graduation as a Master of Science student in Biochemistry, I joined the [Tumor Biomarker and Therapeutics \(TBT\) Lab](#), BHU as a PhD scholar under the supervision of **Dr. Ajay Kumar**, Associate Professor, Department of Zoology, BHU.

I am also the **Co-founder and Chief Editor of the science website** [VIDWAAN.forever](#), through which I have developed leadership qualities and have gained 2+ years of experience in content writing and have written 30+ science articles and reviews. Apart from writing science articles, I have a particular inclination towards poetry. Dedication, flexibility in learning new things, and good communication skills are some of my key strengths.

Research Motives and Interests:

My current intention as a research scholar is to culminate the several regulatory pathways involved in the development and progression of cancer cells. By deciphering the pathways by which cancer cells defend themselves against the immune responses (and also mimic the normal cellular properties of healthy cells, thus preventing immune targeting) from the host, we shall be creating a targeted approach for treating cancer. Elucidation and understanding of the underlying mechanisms of these features of cancer, shall provide valuable insights into the treatment regimens of cancer, with respect to cancer immunology.

EDUCATION

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| <p>2020-2022 MASTER OF SCIENCE, BIOCHEMISTRY Institute of Science, Banaras Hindu University CGPA – 8.92/10 <u>Dissertation topic-</u> Review on ‘Challenges in vaccine development for Filariasis’</p> | <p>2017-2020 BACHELOR OF SCIENCE, ZOOLOGY Institute of Science, Banaras Hindu University CGPA – 7.46/10</p> |
| <p>2014-2015 SENIOR SECONDARY EDUCATION Sunbeam English School Bhagwanpur, Varanasi Percentage: 84.25%</p> | <p>2012-2013 SECONDARY EDUCATION Sunbeam English School Bhagwanpur, Varanasi CGPA: 8.8/10</p> |

AWARDS AND SCHOLARSHIPS

NOVEMBER 2022

QUALIFIED CSIR-NET JRF 2022 (LIFE SCIENCES)

PERCENTILE SCORE – 98.9075406; AIR – 142

FEBRUARY 2022 & 2023

QUALIFIED GATE XL 2022 & 2023 IN LIFE SCIENCES (XL)

MAY 2022

AWARDEE FOR ‘ANNIE BESANT FELLOWSHIP’

Exclusive fellowship for meritorious students who are in the top five percentile with a minimum 8.5 CGPA.

Secured – 8.92 CGPA

JUL-SEP 2021

TOPPER OF THE COURSE ‘CELL CULTURE TECHNOLOGIES’ BY NPTEL

Awarded with **Gold certificate** for securing 91% in the course offered by IIT Kanpur.

JAN-APR 2021

TOPPER OF THE COURSE ‘ESSENTIALS OF BIOMOLECULES: NUCLEIC ACIDS AND PEPTIDES’ BY NPTEL

Awarded with certificate for **securing 95%** in the course offered by IIT Guwahati.

PROFESSIONAL MEMBERSHIPS

1. **Early Career Member** at **European Association for Cancer Research (EACR)**
 2. **Associate Member** of the **American Association for Cancer Research (AACR)**
 3. **Member** of the **European Haematology Association (EHA)**
 4. **Member** of the **Indian Immunology Society (IIS)**
 5. **Member** of the **International Eosinophil Society (IES)**
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EXPERIENCES

1. **Co-founder and Chief Editor** at **VIDWAAN.forever** (www.vidwaanforever.com)
[2020 - Present]

VIDWAAN is an exclusive science website (with more than 200 subscribers) which hosts more than 100 articles on various topics of science and related scientific niches.

Work Samples:

- Filariasis: A neglected tropical disease [[Click here](#)]
- Cannibalism: Sacrifice to survival [[Click here](#)]
- The Autistic Brain: ‘Uniquely Human’ [[Click here](#)]
- The Khan Younis Zoo: World’s Worst Zoo [[Click here](#)]

More of such articles can be found at VIDWAAN.forever

2. **Core committee member** of the Organizing Team of **International Symposium on ‘Recent Advances in Disease Biology and Emerging Therapeutics’, RADBET-2025**, organized by Department of Zoology, **Banaras Hindi University**.

3. **Member** of the Organizing Team for the **Technology Vision 2047 National Consultative Meeting, 2023, Technology Information**, by the **Forecasting and Assessment Council, DST, New Delhi**
4. **Performed field study and examined patients suffering from lymphatic filariasis.** The field study was performed at the Varanasi Centre of National Centre for Disease Control, during IVth semester dissertation project.

TECHNIQUES & SKILLS

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|---|---|
| Wet Laboratory Techniques | 1. Handling and maintenance of laboratory mice: <ul style="list-style-type: none"> • Handling, breeding (weaning), numbering and maintenance of mice • Surgical Techniques: Ovariectomy & Orchidectomy |
| | 2. Cell Culture Techniques: Culturing of adherent and suspension cell lines in their respective media. Assessment of cytotoxicity assays via techniques such as Trypan Blue exclusion and MTT assay. Preparation of RPMI-1640 (for suspension cell lines) and DMEM (for adherent cell lines) media. Proficiency in apoptosis estimation techniques (including Wright-Giemsa, Annexin-V/PI and DAPI staining). |
| | 3. Protein Biochemistry: Protein extraction, estimation; chromatography |
| | 4. Spectroscopy/Biophysical Techniques: UV-Vis spectroscopy, Fluorescence microscopy, flow cytometry. |
| | 5. Molecular Biology: Electrophoresis (SDS PAGE, Agarose Gel Electrophoresis), Western Blotting, reverse transcriptase and real-time PCR. |
| Dry Laboratory Techniques | 6. In-silico Techniques: AutoDock Vina, Chimera, Discovery Studio |
| | 7. Primer Designing with In-silico PCR validation |
| Additional Skills & Responsibilities | 8. TBT Lab Official Website: (www.tbtlabbhu.com) Creation, management and updation of the official website of the Tumor Biomarker and Therapeutics (TBT) Lab, Department of Zoology, BHU. |
| | 9. RADBET 2025 Official Webpage: (https://www.tbtlabbhu.com/radbet-2024) Creation and updation of the official webpage of the International Symposium on 'Recent Advances in Disease Biology and Emerging Therapeutics', RADBET-2025, organized by Department of Zoology, BHU. |

CONFERENCES/SYMPOSIUMS/WORKSHOPS

1. Attended Symposium on “*Droplets and Condensates in Biological Systems*” at CSIR-IGIB, New Delhi (2023)
2. Participated in the “*International Symposium and Workshop on Recent Trends in Proteomics*”, Department of Zoology, BHU from 17th-23rd February 2025.

RESEARCH PUBLICATIONS

- Tiwari, Rajan Kumar, Shiv Govind Rawat, **Siddharth Rai**, and Ajay Kumar. "Stress regulatory hormones and cancer: the contribution of epinephrine and cancer therapeutic value of beta blockers." *Endocrine* (2025): 1-28. (IF: 3.0)

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