DR. PREYANGSEE DUTTA

Physician-Researcher | PhD Scholar – Interdisciplinary Health Sciences

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ABOUT ME

Experienced and ambitious professional in diagnosing and treating a wide range of medical conditions. My clinical background has allowed me to directly impact patient lives by delivering compassionate and highest standard of care. I am deeply committed to the well-being of my patients, ensuring they receive the best possible treatment and support.

RESEARCH INTERESTS

My research focuses on understanding the molecular mechanisms and genetic basis of cardiovascular and metabolic diseases. I plan to explore how genetic variations affect physiological processes that link cardiovascular risk with metabolic diseases. This research aims to improve risk prediction and develop personalized treatment strategies. From a clinical perspective, my work seeks to advance the understanding of cardiovascular and metabolic health, paving the way for more effective prevention and treatment approaches.

EDUCATION

PhD – Interdisciplinary Health Sciences

Aug 2024 – Present

The University of Texas at El Paso (UTEP), El Paso, TX

- Focus: molecular mechanisms and genetic basis of cardiovascular and metabolic diseases
- Exploring genetic variations linking cardiovascular risk with metabolic diseases for improved risk prediction and personalized treatment

Bachelor of Homoeopathic Medicine and Surgery (Hons.)

2016 – 2023

Pratap Chandra Memorial Homoeopathic Hospital and College, Kolkata, India

- GPA: 3.46/4 — Felicitated for acquiring second rank among fifty students in final year| WES Approved | Total Credits: 161.0
- First year: Anatomy with Lab (14.0), Physiology and Biochemistry I,II with Lab (14.0), Homeopathic Pharmacy with Lab (7.0)
- Second year: Pathology and Microbiology with Lab (10.5), Forensic Medicine and Toxicology with Lab (7.0), Homeopathic Materia Medica with Lab (7.0), Organon of Medicine with Lab (7.0)
- Third year: Surgery including ENT, Ophthalmology and Dental and Homeopathic Therapeutics with Lab (14.0), Obstetrics and Gynecology, Infant Care with Lab (14.0), Homeopathic Materia Medica with Lab (7.0), Organon of Medicine with Lab (7.0)
- Final year: Practice of Medicine with Lab (14.0), Repertory with Lab (7.0), Homeopathic Materia Medica with Lab (14.0), Organon of Medicine with Homeopathic Philosophy with Lab (10.5), Community Medicine with Lab (7.0)

RESEARCH EXPERIENCE

Doctoral Scholar / Graduate Research Assistant
Aug 2024 – Present

The University of Texas at El Paso (UTEP)

- Investigating molecular mechanisms and genetic basis of cardiovascular and metabolic diseases
- Exploring how genetic variations affect physiological processes linking cardiovascular risk with metabolic diseases
- Contributing to multiple peer-reviewed publications on HPV–CVD links, neuro-immune axis in cardiomyopathy, lipid metabolism, immune checkpoint biology, and microRNA therapeutics

Research Trainee
May 2023 – Aug 2024

Sengupta Lab, Dept. of Genetics, University of Calcutta, Kolkata, India

- Performed study on chromosomal disorders by collecting and interpreting data from pertinent case reports recorded in India, for assembling a national genetic database
- Collected patient samples and managed data to investigate genotype-phenotype correlation in Wilson disease
- Implemented sample preparations and research techniques including qPCR, RFLP, Gel electrophoresis, SDS-PAGE, Western blot, DNA and RNA isolation, basics of cell culture, Sanger sequencing, and primer designing
- Worked on samples for screening of lung cancer patients through PCR techniques
- Used bioinformatics tools including SNPs&GO, PolyPhen-2, Ex-Skip, Mutation Taster, RNAfold, and String
- Analysed published pharmacogenomics data of drugs commonly used in Wilson disease patients

PROFESSIONAL EXPERIENCE

Physician (Private Practice)
Feb 2023 – Present

- Providing 40+ consultations daily across four organizations; diagnosed and treated a wide range of ailments
- Educated patients on better management of chronic ailments and effectiveness of medical care
- Evaluated and monitored the progress of patients and updated medical histories
- Checked lab test results and communicated findings with patients in a professional manner
- Completed physical examinations and adhered to medical standards and procedures

Junior Doctor – Clinical Internship
Feb 2022 – Feb 2023

Pratap Chandra Memorial Homoeopathic Hospital and College

- Managed patients with several illnesses; examined case studies, vital check-ups, physical examinations, and emergency care
- Worked on developing communication with patients and participated in doubt-clearing sessions with doctors
- Coordinated with fellow interns and assisted senior doctors in handling patients and discussing medical records

Junior Doctor – Clinical Internship
May 2022 – Aug 2022

Bidhannagar Subdivisional Hospital

- Specialization Departments: Medicine, Gynaecology & Obstetrics, Paediatrics, Surgery, Eye, ENT, Dermatology, Homoeopathy, Physical Medicine, Orthopaedics
- Handled and examined 150+ patients daily and elicited their medical history in identifying several health issues
- Executed analysis of several routine investigations and diagnostic images to provide information on patient health status

- Supported doctors in diagnosing various patients; prepared patients for X-rays, ECG, vaccination, and dressing changes
- Collected and documented patient records daily for contributing to a research project using questionnaires and surveys

GRANTS & FUNDING

CHS Dodson Research Grant *Spring 2025*
College of Health Sciences, The University of Texas at El Paso

Dodson Research Grant *Fall 2025*
The University of Texas at El Paso

PEER-REVIEWED PUBLICATIONS

** Joint first authorship | † Corresponding author | IF = Impact Factor*

2026

1. Aziz, F., Chakraborty, A., Saha, D., Dutta, P. Immune effector cell-associated neurotoxicity syndrome: integrative mechanisms, predictive biomarkers, and translational pathways for prevention in CAR T-cell therapy. Frontiers in Neurology, 17, 1739021. *[2026]*
2. Dutta, P., Saha, D. Dysregulated Skeletal Muscle Lipid Handling Drives Myocardial Mitochondrial Dysfunction Through ASK-1 and PPARγ Signaling. Lipidology, 3(1), 5. *[2026]*
3. Saha, A., Dutta, P., Dutta, A., Dutta, T., Sarkar, S., Biswas, A., Sengupta, M. Exploratory associations of candidate modifier variants with disease severity, age at onset, and drug response in three Wilson disease patients sharing the same ATP7B mutation. Molecular Biology Reports, 53(1), 552. *[2026]*

2025

4. Saha, D.*, Dutta, P.*, Rebello, K.R., Shankar, A., Chakraborty, A. Exploring the potential link between human papillomavirus infection and coronary artery disease: a review of shared pathways and mechanisms. Molecular and Cellular Biochemistry, 480(7), 3971–3994. *[IF: 4.3 | Cited by 8 | 2025 | *Joint first authorship]*
5. Saha, D., Dutta, P., Chakraborty, A. The Neuro-Immune Axis in Cardiomyopathy: Molecular Mechanisms, Clinical Phenotypes, and Therapeutic Frontiers. Immuno, 5(4), 45. *[Cited by 3 | 2025]*
6. Dutta, P., Saha, D., Giri, A., Bhatnagar, A.R., Chakraborty, A. Decoding the CD36-centric axis in gastric cancer: insights into lipid metabolism, obesity, and hypercholesterolemia. International Journal of Translational Medicine, 5(3), 26. *[Cited by 3 | 2025]*
7. Saha, D., Dutta, P., Chakraborty, A. Immune Checkpoint Restoration as a Therapeutic Strategy to Halt Diabetes-Driven Atherosclerosis. Biology, 14(12), 1731. *[Cited by 1 | 2025]*
8. Saha, D., Dutta, P., Hussain, T., Chakraborty, A. Dual targeting of miR-33 and miR-92a in atherosclerosis: mechanistic insights, therapeutic potential, and translational challenges. ExRNA, 7(2). *[Cited by 1 | 2025]*
9. Saha, D., Dutta, P., Sengupta, S., Shahid, S., Sengupta, M. Deciphering the burden of chromosomal disorders in India, bridging the gap between clinical reality and documented evidence: a systematic review and meta-epidemiological analysis. The Nucleus, 1–58. *[2025]*

2024

10. Dutta, P.*, Saha, D.*, Earle, M., Prasad, C.P., Singh, M., Darswal, M., Aggarwal, V., Naik, N., Yadav, R., Shankar, A., Chakraborty, A. Unveiling HPV's hidden link: Cardiovascular diseases and the viral intrigue. Indian Heart Journal, 76(1), 1–5. *[IF: 2.4 | Cited by 12 | 2024 | *Joint first authorship]*

2023

11. Mishra, A.K., Gupta, A., Dagar, G., Das, D., Chakraborty, A., Haque, S., ..., Saha, D., Dutta, P., Bhatnagar, A.R., Darswal, M., Shankar, A., Singh, M., et al. CAR-T-Cell Therapy in Multiple Myeloma: B-Cell Maturation Antigen (BCMA) and Beyond. Vaccines, 11(11), 1721. MDPI. *[IF: 7.8 | Cited by 42 | 2023]*

12. Chakraborty, A., Dutta, P., Saha, D., Singh, M., Prasad, C.P., Pushpam, D., et al. Chimeric antigen receptor CAR-T therapy on the move: current applications and future possibilities. Current Tissue Microenvironment Reports, 4(3), 29–40. *[IF: 1.1 | Cited by 7 | 2023]*

CONFERENCE PROCEEDINGS & ABSTRACTS

1. Saha, D., Dutta, P., Apaflo, J.N., Labadah, J., Fatahimeiabadi, Z., Villalobos, U., John Tomy, I., & Bajpeyi, S. (2025). Unveiling the Limitations of Continuous Glucose Monitoring: Insights from Fasting and OGTT with Advanced Clustering Analyses. International Journal of Exercise Science: Conference Proceedings, 2(17), Art. 110.

2. Apaflo, J.N., Fatahimeiabadi, Z., John Tomy, I., Villalobos, U., Labadah, J., Saha, D., Dutta, P., & Bajpeyi, S. (2025). Neuromuscular Electrical Stimulation Improved Glycemic Control in Population with Hyperglycemia and Overweight/Obesity. International Journal of Exercise Science: Conference Proceedings, 2(17), Art. 121.

3. Villalobos, U., Apaflo, J., Fatahimeiabadi, Z., Labadah, J., John Tomy, I., Saha, D., Dutta, P., & Bajpeyi, S. (2025). Glucose Peak Time During OGTT: A Marker for Metabolic Health and Insulin Resistance. International Journal of Exercise Science: Conference Proceedings, 2(17), Art. 116.

4. John Tomy, I., Apaflo, J., Fatahimeiabadi, Z., Villalobos, U., Labadah, J., Dutta, P., et al. Effect of Neuromuscular Electrical Stimulation on Glycemic Control in a Population with Hyperglycemia. Physiology, 40(S1), 0975.

HONORS & AWARDS

- Finalist – Poster Presentation, PhD Category | Texas American College of Sports Medicine (TACSM) Annual Meeting, 2025
- Felicitated for acquiring second rank among fifty students in final year — Pratap Chandra Memorial Homoeopathic Hospital and College, 2023

AREAS OF EXPERTISE

- Physiology
- Molecular Biology
- Immunology
- Medicine
- Research
- Cardiology

CERTIFICATIONS & CONTINUING EDUCATION

- Managing Atrial Fibrillation in Primary Care — British Heart Foundation
- Type 2 Diabetes Management — Stanford University School of Medicine
- Managing Atrial Fibrillation — Stanford University School of Medicine
- COVID-19 Training for Healthcare Workers — edX
- Introduction to Food and Health — Stanford University School of Medicine

- Hypertension in Primary Care: Improving Control and Reducing Risk — Stanford University School of Medicine
- 2021 Physician Leadership Virtual Journal Club — Ministry of Health and Family Welfare, Government of India
- International Conference on Tobacco Control and Smoking Cessation — Ministry of Health and Family Welfare, Government of India
- Congenital Hypothyroidism: What Every Primary Care Provider Needs to Know — Stanford University School of Medicine
- Assessment and Diagnosis of Severe AS: The Basics and Evolving Nuances — American College of Cardiology
- Antithrombotic Management of Elderly Patients with Coronary Artery Disease — American College of Cardiology

LANGUAGES

- English — Professional Working Proficiency (TOEFL iBT: 89 | Reading: 21, Listening: 23, Speaking: 23, Writing: 22)
- Bengali — Native Proficiency
- Hindi — Elementary Proficiency

CREATIVE INTERESTS

- Dance: Completed 8 years of training in Bharatanatyam
- Music: Completed 4 years of training in Rabindra Sangeet and Classical Music
- Painting: 2 years of training under expert tutelage

References available upon request