



Dr. Sugata Das Kumar

ASSISTANT PROFESSOR

Department of
Physiology

Details

B/8/H/4, Chaulpatty Road,
Belegkata, Kolkata-700085
India
8017139796
sugatadas89@gmail.com

DATE OF BIRTH

21.06.1989

NATIONALITY

Indian

Skills

Microsoft office

Analytical Thinking and
Problem-Solving Skills

Ability to Work in a Team

Ergonomics Risk Analysis by
Software & manual

Task analysis & Method Study

IBM SPSS Statistics

Minitab Statistical Analysis

Practical application of different
ergonomic and occupational
safety measure tools

Profile

Sugata is a passionate Human Factor Analyst/ Ergonomist and Physiologist with a strong knowledge of bio mechanics in human interaction. Experienced & skilled domain in Occupational safety, human wearability ergonomics, cognitive ergonomics, human-machine interaction, design, anthropometry and work physiology.

Resourceful and dedicated researcher with excellent analytical skills Strong organizational abilities with proven successes managing multiple academic projects. Well-rounded and professional team player dedicated to continuing academic pursuits at a collegiate level.

Employment History

Assistant Professor at Department of Physiology, 'City College', 102/1, Raja Rammohan Sarani, Kolkata-9, under University of Calcutta

DECEMBER 2023- PRESENT

Research Associate at Defence Research and Development Organisation, New Delhi

NOVEMBER 2021- NOVEMBER 2023

Research focus on Bio-Mechanics, Ergonomics, Human Factor Integration and Human Reliability Assistance. Else, Planning, coordinating and executing Lab research. Research article, review paper, case study writing.

Scientific content writer at Ways2Excel, Kolkata

SEPTEMBER 2019 — OCTOBER 2019

Guest Faculty at Institute of Management Study, Kolkata

APRIL 2019 — AUGUST 2019

Research Scholar at University of Calcutta, Kolkata

DECEMBER 2015 — SEPTEMBER 2020

- Established goals by forecasting future research abilities and projecting expected research endeavour for existing and new challenges.

Research Scholar (Course Work) at University of Calcutta, Kolkata

NOVEMBER 2014 — JUNE 2015

Research Assistant at Liver Foundation, West Bengal (A Unit of IPGMER, Kolkata), Kolkata

MARCH 2013 — SEPTEMBER 2013

- Worked to ensure a neat and attractive research environment, and tried to grab research planning & execution.

Research Trainee at Liver Foundation, West Bengal (A Unit of IPGMER, Kolkata), Kolkata

OCTOBER 2012 — FEBRUARY 2013

- Worked to ensure a positive and hassle-free research experience.

Education

Post Doctorate, at Defence Research and Development Organisation, New Delhi-54

NOVEMBER 2021 – NOVEMBER 2023

Ergonomics and Biomechanics

Occupational safety measure by
SPADI, KOSU, NORDIC

Fundamental Ergonomic
Designing with safety measure

Biomechanical Analysis

Anthropometric principles,
Posture Analysis

Occupational Hazards
Assessment

Process Simulation (Jack,
Delmia)

R-software

Bio-python

Hobbies

Drawing, Art Work, Cooking.

Languages

Bengali

Hindi

English

Doctorate, University of Calcutta, Kolkata

DECEMBER 2015 — SEPTEMBER 2020

Thesis title: "An Integrated Occupational and Ergonomic Study on the Evaluation of Health status of Female Construction Workers of West Bengal, India."

M.Sc., Presidency College, Kolkata

AUGUST 2010 — JUNE 2012

Master in Human Physiology, Specialization in Ergonomics, Work Physiology & Occupational Health Management. Securing 67.5%.

B. Sc., Hooghly Mohosin College, Burdwan University, Hooghly

AUGUST 2007 — JUNE 2010

Graduated with Physiology Honours. Aggregate percentage: 71.9% and secured 2nd position in Burdwan University.

12th (Higher Secondary), WBCHSE, Hooghly

JUNE 2007

Stream: Science.

10th, WBBSE, Hooghly

JUNE 2005

Tools & Techniques

- NIOSH Lifting Equation
- Suzanne Rodgers
- Strain Index (Moore & Garg)
- QEC (Quick Exposure Check)
- OWAS
- REBA
- RULA
- ART
- IMAGE ANALYSIS
- VIDEO ANALYSIS
- Biomechanical Postural Analysis (Ergofellow, Ergomaster software)
- Ergonomics lab equipment Handling
- Gait analysis
- Process Simulation (Jack, Delmia)
- Xsens

Academic Project Work

- Occupational & Ergonomic Health Analysis of Female Construction Workers of West Bengal India.
- Analysis of Growth Spurt of Rural School going Children of Bengal: A comparative Study.
- Growth spurt and facial anthropometry: amongst pre-pubertal school going girls of Bengal suburbs.
- A Critical Analysis of Training Induced Improved Performances of Pre-Adolescent Male Athletes of Bengal.

- Study Regarding Common Occupation Hazards Amongst Labours Of Organized Sector Thermal Industry in Comparison To Management Trainees at” Bandel Thermal Power Station” (BTPS)
- Ergonomics of Welding: Investigation of health profile amongst unorganized welders of Kolkata
- Optimization of comfort posture ergonomics and abatement of hazards amongst load-bearers.
- Hidden risk factor assessment and abatement of occupational hazards amongst night-shift workers of unorganized sectors of Bengal.
- Study on Hidden Stress Profile of Under Privileged Female Construction Workers of West Bengal.

Certification:

[Ergonomics for Everyone](#) – Online (Oregon OSHA Public Education)

[Accident Investigation](#) – Online (Oregon OSHA Public Education)

[Hazard Identification and Control](#) – Online (Oregon OSHA Public Education)

[Workplace Ergonomics](#) – Online (Sri Sri University, Endorse by Indian Society of Ergonomics)

[Personal Protective Equipment \(PPE\)](#) – Online (The Knights of Safety™ Academy)

[Manual Handling Operations Awareness](#) – Online (The Knights of Safety™ Academy)

[Fire Safety in Buildings](#) – Online (International Labour Organization)

One month certification on **“Bioinformatics, Genomics, Machine Learning and Big Data Analysis”**-Online by Nextgenhelper, New Delhi (No: NGH_7_22_224)

Published Paper:

1. “Occupational & Ergonomic Health Analysis of Female Construction Workers of West Bengal India” Volume: 3, Issue: 2, ISSN : 2278-0246, April-June 2014 in “International Journal of Analytical, Pharmaceutical and Biomedical Sciences” (IJAPBS). Page: 55-62. [Impact Factor: 0.9961, 2014]
2. “Revisiting Role of Women in Indian Agriculture: An Ergonomic Profile” Accepted in IIT Guwahati HWWC Conference 2014. Released in Conference Proceedings.
3. “Work related health disorders of female agricultural workers correlated with sawing and ploughing in Bengal: An ergonomic profile” Volume 4 Number 5 (May-2016), ISSN: 2347-3215 in “International Journal of Current Research and Academic Review” (IJCRAR). doi: 10.20546/ijcrar. [Impact Factor: 2.519,2016]
4. “Comparison of Lung Related Discomforts among Female Mud Molders and Brick Carriers of Brick Manufacturing Unit of West Bengal, India” Vol.6; Issue: 8; August 2016, ISSN: 2249-9571 in “International Journal of Health Sciences & Research” www.ijhsr.org. [Impact Factor: 3.56, 2016]
5. “Effect of Pesticides on Reproductive Health and an Ergonomic Evaluation amongst Female Agricultural Workers of West Bengal, India” Vol. 6, Issue 4, April 2017, ISSN(Online) : 2319-8753, ISSN (Print) :2347-6710 in “International Journal of Innovative Research in Science, Engineering and Technology” www.ijirset.com [Impact Factor: 7.089, 2017]

6. "Effect of natural resources on reproductive health and oxidative stress of female construction workers, west Bengal, India." *Int. J. Adv. Res.* 5(7), 661-667, published: July 2017, ISSN: 2320-5407 in *International Journal of Advanced Research (IJAR)*, www.journalijar.com. [Impact Factor: 6.896,2017]
7. "Mitigation of hidden cardiovascular risk factors amongst pre-adolescent male athletes of Kolkata, West Bengal: a novel combination of yoga & nutraceuticals" *EJPMR* 2018, 5(5), 487-495. Article Accepted on 01/05/2018. *European journal of pharmaceutical and medical research*. ISSN: 2394-3211 [Impact Factor: 4.897, 2018]
8. "Chronic effect of welding fumes on respiratory system of welders, Kolkata: a comparative study" *ejpmr*, 2019,6(10), 539-544, Article Accepted on 22/09/2019, [SJIF Impact Factor: 6.222, 2019]
9. "Occupational risk assessment and abatement of hazards amongst load bearers of Kolkata" *Int. J. Adv. Res.* 7(9), 601-606, published: September 2019 in *International Journal of Advanced Research (IJAR)*, www.journalijar.com. [Impact Factor: 7.08, 2019]
10. "Assessment of Hidden Risk Factors amongst Night Shift Security Personnel in Kolkata, West Bengal: A Comparative Study" 2020 *IJRAR*, Volume 7, Issue 2. Published: April 2020. *International journal of research and analytical reviews*. [Impact Factor: 5.78, 2019]
11. "Alleviation of occupational risk factors of the underground coal mine workers of Raniganj, West Bengal: An interventional study" June 2020, *IJMPS*, Vol 10, Issue 3. *International Journal of Medicine and Pharmaceutical Sciences (IJMPS)*. [Impact Factor: 7.8387, 2020]
12. "Effect of coffee on stress management amongst manual material handling workers of West Bengal: an interventional attempt" July 2020, Vol 7, Issue 3. *International Journal of Research and Analytical Reviews (IJRAR)*. [Impact Factor: 5.75, 2020]
13. "Prevalence of vibration induced occupational health evaluation amongst welders of Kolkata, West Bengal" July 2020, Vol 7, Issue 7. *Journal of Emerging Technologies and Innovative Research (JETIR)*. [Impact Factor: 5.87, 2020]
14. "Importance of schedule exercise programme for night shift workers of Kolkata: A validated operational attempt" August 2020, Vol 5, Issue 8. *International Journal of Scientific Development and Research – (IJS DR)* [Impact Factor: 5.47, 2020]
15. "Vibration Exposure Assessment of Road Construction Workers of Kolkata: An Ergo-Physiological Analysis" December 2022, Volume 9, Issue 3. *International Journal of Research and Analytical Reviews (IJRAR)* [Impact Factor: 7.17, 2022]
16. "A Prevalence Study of Cardiac Risk Assessment of Female Construction Workers of Bengal, India: A Meta-Analysis" August 2022, Volume 11, Issue 4. *International Journal of Life Sciences (IJLS)* [Impact Factor: SJIF -6.43, 2022]
17. "Evaluation of wearability, kinetic and Kinematic changes during wearing of three-layered extreme cold weather clothing: A Pilot Study" June 2023. *Ergonomics in Design (EID) SAGE Publication*, 10648046231185478. [Impact Factor: 1.5, 2023]
18. "Prospects and retrospects of occupational hazards amongst healthcare workers". January 2023, Volume 43, Issue 1. *Journal: Biomedicine*. [Impact Factor: 4.75, 2023]

19. "Biomechanical responses on specific load carriage and positive gradient walking: a pilot study"- March 2024, Volume-68, Issue-1 -at 'Indian Journal of Physiology and Pharmacology' (Scopus Indexing)
20. "Physiological and Metabolic responses during military load carriage activities with varying speed, gradient and terrain: A systemic Review"- Under Review at 'Indian Journal of Physiology and Pharmacology' (Scopus Indexing)
21. "Effect of wearing high heel and flat footwear on balance and stability dynamics: a kinetic study "June 2024, Volume-68, Issue-2 -at 'Indian Journal of Physiology and Pharmacology' (Scopus Indexing)
22. "Foot Dimension among Indian Population: A Pilot Study", July 2024; Volume 13, Issue 3 at International Journal of PHYSICAL EDUCATION, FITNESS AND SPORTS
23. "Anthropometric Parameters of the Right and Left Foot among Indian Adults: A Pilot Study", October 2024; Volume 17, Issue 4 at Al Ameen J Med Sciences.
24. "Kinetics assessment of foot injury risk during vertical jump from varying heights in barefoot condition", 2024; Volume 18, Issue 3 at Journal of Foot and Ankle.
25. "Risk of Injury Prediction during Landing from 33 cm Height: Kinetic Approach for Sports Application" in at 'Indian Journal of Physiology and Pharmacology' (Scopus Indexing) Indian J Physiol Pharmacol. 2025; 69:232-40.doi: 10.25259/IJPP_467_2024
26. "Assessment of Kinetic Responses and Risk of Injury during Drop Landings from 33 cm and 49 cm Heights: A Comparative Study with and Without Sports Shoe Condition" (Under Review) in at 'Defence Life Science Journal' (Scopus Indexing)
27. "Comparative analysis of foot anthropometric parameters among Indian adults: A Pilot Study" Anthropometric parameters of right and left foot among Indian adults: A pilot study. Al Ameen J Med Sci 2024; 17(4): 284-293.
28. Variation of Foot Anthropometric Dimension on Different Foot Types among Indian School-Going Children: A Pilot Study. [In Press] at Journal of Krishna Institute of Medical Science, (2025).
29. Morphometric Analysis of Key Foot Dimensions Across Selected Shoe Sizes in Young Indian Adults: A Pilot Study. International Journal of Physical Education, Fitness and Sports, 14(4), 85–98. <https://doi.org/10.54392/ijpefs25474>.
30. Exploring the Impact of BMI on Foot Anthropometric Dimensions: A Pilot Study. International Journal of Physical Education, Fitness and Sports, 15(1), 82–92. <https://doi.org/10.54392/ijpefs2617>

Book chapter:

- 1.Das Kumar Sugata, (2025). Challenges and innovation in footwear manufacturing: a global and Indian perspective. "In": Footwear Innovation from Conceptual Design Through to Advanced Manufacturing Techniques. P. 77–81. [ISBN: 978-0-443-26751-2] [Footwear Innovation. DOI: <https://doi.org/10.1016/B978-0-443-26751-2.00023-X>], © 2026 Elsevier Inc
- 2.Sugata Das Kumar, Kamalpreet Sandhu, Madhusudan Pal (2025), Effect of heel height of female footwear on kinetic responses during walking. "In": Footwear

Innovation from Conceptual Design Through to Advanced Manufacturing Techniques. P. 181-190. [Footwear Innovation. DOI: <https://doi.org/10.1016/B978-0-443-26751-2.00017-4>], © 2026 Elsevier Inc

3.Das Kumar Sugata, (2025). Importance of footwear in different sectors. "In": Footwear Innovation from Conceptual Design Through to Advanced Manufacturing Techniques. P. 251–254. [ISBN: 978-0-443-26751-2] [Footwear Innovation. DOI: <https://doi.org/10.1016/B978-0-443-26751-2.00022-8>], © 2026 Elsevier Inc

4.Das Kumar Sugata & Modak Majumder Titlee (2026). Musculoskeletal Integration: Movement, Mechanics, and Functional Recovery. "In": Practice-Based Physiology in Allied Health Sciences: From Evidence to Clinical Application. In Press, Elsevier.

Life Membership

The Physiological Society of India: PSI-LM943

Indian Association of Biomedical Scientists: 1277/2024

Indian Society of Ergonomics: L-537

Key Responsibilities:

- Project Supervisor in Comprehensive Action for Metabolic Health & Well-being- Integration of Diabetes Intervention with a Liver Health Program, Areas of Activity: Birbhum
- Development of a Hepatitis patient advocacy platform and empowering patients for comprehensive social security - from clinic to the doorstep, Areas of Activity: Nadia, Birbhum, Purulia, Sunderbans, Berhampore, Kolkata and Massanjore
- HCV in India: - Face and Action, Areas of Activity: Kolkata, Delhi, Mumbai, Bhopal, Ludhiana, Chandigarh, Hyderabad, Guwahati, Manipur, Kalikat and Vellore.
- Research and Development in DIPAS(DRDO), Ergonomics Department.

Attended Seminars & Symposia:

- INSA award Lectures & Panel Discussion on "Bimolecular Research and Informatics: Future in India" organized at Presidency University by DBT Centre for Bioinformatics, 2012
- UGC Sponsored State Level Workshop on "Application of Statistics in Biology & Clinical Research" organized by: Hooghly Mohsin College in collaboration with: R.G. Kar Medical College, Kolkata.
- 4th Kolkata Liver Meeting, Dec 2012 at Taj Bengal, Kolkata
- Indian Society of Gastroenterology Conference (ISG CON), Feb 2013 at Oberoi Grand, Kolkata
- National Symposium entitled "Modern Trends in Biological Sciences" organized by: Physiological Institute, Presidency University, Kolkata, held on 21st Feb 2014.
- National Science Day on "Fostering Scientific Temper" organized by ISCA Kolkata Chapter on 28th Feb 2014 at ISCA auditorium.
- Ergonomics provides essential tool & techniques for industries- An approach towards better work culture & work efficiency- Two days' workshop on Ergonomics, organized by

Department of Mining Engineering,
IEST Shibpur on 29th & 30th Jan 2016.

- One Day Webinar “Effect of Yoga in Sports Performance during COVID 19” organized by Physiological Society of India & Department of Sports Science, University of Calcutta, August 2020.
- Online Certification Course in Workplace Ergonomics offered by Sri Sri University, Endorse by Indian Society of Ergonomics, August 2020.
- One Day National Webinar “Development & Maintenance of Physical & Mental Wellness during COVID-19 Pandemic” organized by Department of Physiology, Midnapore College, August 2020.
- One Day Seminar on “Human Factor Integration”, organised by Department of Integrated Physiology and Soldier Support (IPS)(Formerly Ergonomics), Defence Institute of Physiology and Allied Sciences (DIPAS), DRDO, Delhi. June, 2022.
- “Human Factor Engineering at Military Platform” for 2 days, organised by Defence Institute of Physiology and Allied Sciences (DIPAS), DRDO, At DRDO Bhawan, New Delhi. March, 2023.
- National Conference on Empowering Health Challenges and Solution” Indian Association of Biomedical Scientists (IABMS), **Award winner of “Mrs Thangam Vasudevan Award”-November 2024.**
- International Conference of Human Work and Work Environment (HWWE)- December 2024: **Lead lecturer and Chairperson in “Biomechanics and human factor.**
- **Lead Speaker** at HORIZON 2025 – Global Summit on “Holistic Optimizations Rallying Initiatives and Zenith of Nurturing Healthcare and SDG Attainment”, scheduled from 22nd to 24th December 2025 at the Sri Sri University (SSU) campus, Cuttack, Odisha, India.

Personal Details

Marital Status: Married

Gender: Female

Extra-curricular activities

Course in Multimedia (2010)

Studentship in Structural Analysis of Brachiostoma Floridae with mature & precursor sequence of miRNA, Bio Informatics (2012).

Teaching for JEE (Biology) for Lakshyaved, Kolkata (Initiative of Liver Foundation, West Bengal)

School and Community advocacy program for Liver Health, General Health and Hygiene and Hepatitis.

Anti-Spitting Campaign at JNM Hospital at Kalyani.

Declaration

I consider myself familiar with above mentioned aspects. I am also confident of my ability to work. I hereby declare that the information furnished above is true to the best of my knowledge.

