



Dr. Sulagna Dutta

B.Sc. (Physiology Hons)

M.Sc. (Physiology; Specialization in Immunology & Microbiology)


Ph.D. (Physiology)

Research Internship in Andrology (Cleveland Clinic, USA)

***h* index Scopus 34, Google Scholar 45, Number of Publications >150**

Links: [Scopus](#) | [GoogleScholar](#) | [ResearchGate](#) |

Listed in the World's Top 2% Scientists by the Stanford University Ranking for FOUR consecutive years, 2020 - 2024

 **Ranking: 2nd in Infertility Research in Malaysia and India since 2020-present**

**Assistant Professor (Physiology)
Basic Medical Sciences Department
College of Medicine
Ajman University, UAE**

**Research Scientist
Global Andrology Forum (GAF), American Center for Reproductive
Medicine, Ohio, USA**

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Date of Birth April-18-1987

Key Achievements:

- Published over **150 research articles** and several book chapters
- Current *h-index* in Scopus is **34**, Google Scholar is **45 (on 21.10.2024)**
- Listed in **the World's Top 2% Scientists** by the Stanford University Ranking in **2020-present**
- **Ranked 2nd in Malaysia and India** as 'Infertility' research expert by the *ExpertScape*
- **'Best Researcher Award'** by MAHSA University, Malaysia in 2022
- **'Highest Research Publications Award'** by MAHSA University, Malaysia in 2019
- Obtained several Research Grants including the Fundamental Research Grant Scheme (FRGS), from the Ministry of Education, Malaysia
- International Faculty and Research Collaborator at the American Center for Reproductive Medicine (ACRM), Cleveland Clinic, Ohio, USA
- **Ranked 3rd in M.Sc. in Physiology** (specialization in Immunology), University of Calcutta, India
- **Earned PhD in Physiology** with University Research Fellowship (URF), India
- Qualified the **National Eligibility Test (NET)** by UGC-CSIR, India, in June 2011

EDUCATION

- **Research Internship (Assisted Reproductive Technologies)**, American Center for Reproductive Medicine, Cleveland Clinic, Cleveland, Ohio, USA, 2020
- **Research Internship (Reproductive Medicine)**, American Center for Reproductive Medicine, Cleveland Clinic, Cleveland, Ohio, USA, 2019
- **PhD in Physiology (earned)**, University of Calcutta, India, 2016
- Qualified **National Eligibility Test (NET) for Lectureship**, 2011
- **MSc in Physiology (Specialization: Immunology and Microbiology)**, University of Calcutta, India, 2011 (ranked 3rd with First Class and Grade 'A+' in Physiology)
- **BSc in Physiology (Honors)**, University of Calcutta, 2009 (obtained First Class)

RESEARCH INTEREST

Reproductive Physiology, Male and Female Infertility, Immunology

POSITIONS

Feb 2024- Present	Assistant Professor (Physiology) , Basic Medical Sciences Department, College of Medicine, Ajman University, UAE
Dec 2022- Present	Research Scientist , Global Andrology Forum (GAF), American Center for Reproductive Medicine (ACRM), USA
Sep 2023-Jan 2024	Adjunct Faculty , Manipal Academy of Higher Education (MAHE), Dubai
Aug 2021 - Present	Visiting Scientist , Bharath Institute of Higher Education and Research, India
Jan 2017 – Jan 2022	International Faculty, Mentor and Students' Advisor at Cleveland Clinic, USA

Sept 2020 – Aug 2022	Head of Services (Research) , Faculty of Dentistry, MAHSA University, Malaysia
Jan 2020 - Aug 2022	Head of Research Cluster , System and Cell Biology, MAHSA University
Sep 2020 - Aug 2022	Chief Coordinator, Applied Medical and Dental Sciences , Master of Orofacial Sciences, Faculty of Dentistry, MAHSA University, Malaysia
Mar 2021- Aug 2022	Senior Lecturer (Research Track) , Physiology, MAHSA University, Malaysia
Apr 2018 – Feb 2021	Lecturer (Research Track) , Physiology, MAHSA University, Malaysia
Aug 2019 - 2020	Coordinator , Physiology, DDS Programme - MAHSA University, Malaysia
Aug 2018 - 2020	Coordinator , Physiology, DDS Programme, Penang International Dental College (PIDC) - MAHSA University, Malaysia
May 2017 – Dec 2017	Lecturer , Physiology Unit, Faculty of Medicine, Lincoln University College, Malaysia
Sept 2011 – Dec 2016	Guest Lecturer , Department of Physiology, Serampore College, University of Calcutta, India
Jun 2014 – Nov 2016	Senior Research Fellow (SRF) , University Grants Commission (UGC), Immunology and Microbiology Laboratory, Department of Physiology, University of Calcutta, India
Jun 2012 – Jun 2014	Junior Research Fellow (JRF) , University Grants Commission (UGC), Immunology and Microbiology Laboratory, Department of Physiology, University of Calcutta, India

RESEARCH EXPERIENCE

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- Dec 2022- Present **Research Scientist**, Global Andrology Forum (GAF), American Center for Reproductive Medicine (ACRM), USA
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- Jun 2020 – Dec 2022 **International Research Mentor**, American Center for Reproductive Medicine, Cleveland Clinic, USA
Supervised THREE (3) Research Projects. Research Mentees were from the University of California, USA; University of Mississippi, USA; and Magadh University, India.
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- Aug 2021 - Present **Visiting Scientist**, Bharath Institute of Higher Education and Research, India
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- Sept 2020 – Aug 2022 **Head of Services (Research)**, Faculty of Dentistry, MAHSA University, Malaysia
- Supervised and monitored Faculty Research progress and outcome
 - Conducted Research Clinics and workshops for Faculty and students
 - Procured external research grants (FRGS) and internal grants as Lead Supervisor
 - Co-supervised various research projects
 - Extended international and national research collaborations
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- Nov 2020 **Research Intern (Assisted Reproductive Technologies)**, American Center for Reproductive Medicine, Cleveland Clinic, USA
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- Jul 2019 – Aug 2019 **Research Intern**, American Center for Reproductive Medicine, Cleveland Clinic, USA
- Project Title:** Evaluation of Antioxidant as a Viable Treatment Option in Idiopathic Male Infertility
- Summary:** Male infertility is showing an increasing trend across the world, with a major proportion of the cases being idiopathic. Oxidative stress (OS) is considered one of the major causatives of idiopathic male infertility accounting for 30%-80% of the cases. The antioxidant system plays key roles to maintain the seminal redox balance critical for male reproductive functions. When generation of seminal reactive oxygen species (ROS) overwhelms endogenous antioxidant capacity, OS occurs causing cellular oxidative damage. Thus, antioxidant treatment finds huge relevance in case of idiopathic male infertility or subfertility. However, due to lack of proper detection of OS in male infertility, use of antioxidant in some cases may be arbitrary or lead to overuse. The present article thereby was aimed to find whether antioxidant a viable treatment option in idiopathic male infertility. Results show that antioxidant treatment of 3 months or more have positive impacts over the semen parameters and improvement of sperm functions in infertile patients.
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Jun 2012 –Nov 2016
(Ph. D. Project)

Senior Reserach Fellow (SRF), University Grants Commission (UGC), **Physiology (Immunology and Microbiology)**, University of Calcutta, Kolkata, India.

Dissertation Title: Effects of antibiotics and inhibition of endogenous nitric oxide and prostaglandin production on *Staphylococcus aureus* infection induced septic arthritis in mice

Summary: *Staphylococcus aureus* (*S. aureus*) is an intensely studied organism to cause septic arthritis. Endogenous nitric oxide (NO) and prostaglandins (PG) are involved in the progression of inflammatory diseases. This study aims at using antibiotics to mitigate the bacterial burden in mice infected with pathogenic strain of *S. aureus* which is combined with the in vivo inhibition of NO and PG levels via aminoguanidine (AMG) and meclofenamic acid (MFA) respectively to modulate the inflammatory conditions in bacterial arthritis. Synergy between the drugs was performed via Chequerboard. The clinical signs of septic arthritis were recorded on 3rd, 9th and 15th days post-infection (DPI) by assessing the induction of arthritis and measuring bacterial density (CFU count) in blood, spleen and synovial tissue, serum uric acid, creatinine, NO and cytokines (TNF- α , IFN- γ , IL-6, IL-10) levels, myeloperoxidase (MPO) and lysozyme activities in synovial tissue and histopathological examinations of the synovial joints. *S. aureus* infection showed significant increase in bacterial densities, synovial tissue enzyme activities and blood parameters, which significantly correlated with induction of arthritis. Diminution of *S. aureus* burden in tissues via antibiotics and suppression of inflammation by AMG or MFA may have shown a visibly potent therapeutic remedy to combat septic arthritis.

Jul 2010 –Apr 2011
(M. Sc. Project)

Physiology (Specialization: Immunology and Microbiology), University of Calcutta, India (**Ranked 3rd in University of Calcutta with First Class**)

Dissertation Title: Gentamicine alone or in combination with ascorbic acid modulates *Staphylococcus aureus* infection induced septic arthritis in mice

SUMMARY: To study the effects of gentamicin in combination with ascorbic acid on septic arthritis, mice were infected with *Staphylococcus aureus* (*S. aureus*) followed by gentamicin administration (5mg/kg body weight), after 24 h of infection, that was followed by ascorbic acid administration (20mg/kg body weight), 2-hour post gentamicin treatment. Mice were sacrificed at 3, 9 days' post infection. Combined treatment of infected mice with gentamicin and ascorbic acid eradicates the bacteria from the blood, spleen and synovial tissue and showed a significant gross reduction in arthritis, reduced serum levels of tumor necrosis factor alpha and interferon gamma. *S. aureus* infected mice have demonstrated the disturbed antioxidant status measured in terms of cellular antioxidants like reduced glutathione and anti-oxidant enzymes such as superoxide dismutase and catalase and were ameliorated when the animals were co-treated with Gentamicin along with ascorbic acid.

Oct 2008 –Mar 2009
(B. Sc. Projects)

Honours in Physiology, University of Calcutta, India.

Dissertation Title : Comparative Study on Physiological Parameters of the Tribal People of Araku Valley With Residents of Serampore Town

RESEARCH GRANTS

2019-2022	Fundamental Research Grant (FRGS) (Immunology and Microbiology)	Elucidating the mechanism how neutralization of toll-like receptors- 2 and 4 modulate the severity of inflammation in periodontitis in mice (Principal Investigator) (RM 140,800)
2019-2021	MAHSA University Internal Research Grant (Reproductive Immunology and Microbiology)	Elucidating the mechanism of toll like receptor (TLR)-2, 3 and -4 neutralization in staphylococcus aureus induced bacteriospermia and male reproductive disruption in rats (Principal Investigator) (RM 49,500)
2018-2019	MAHSA University Internal Research Grant (Reproductive Endocrinology)	Crosstalk of Orexin (Hypocretin) and Melatonin in Alteration of Semen Quality in Obese Men (Co-Investigator) (RM 44,010)
2018-2019	MAHSA University Internal Research Grant (Reproduction and Systemic Physiology)	Evaluation of yellow <i>Hibiscus</i> flower and <i>Durian</i> fruit extracts on hepatic and gonadal dysfunctions induced by hypercholesterolemia in male Wistar rats (Co-Investigator) (RM 35,550)

SUPERVISING STUDENTS

Main Supervisor (PhD by Research, MAHSA University: 2022-Present) (03) MAHSA/GSC/vol.1

Project Title: Effect of CRRT on Hemodynamics in Septic Shock Patients with CLS

Main Supervisor (PhD by Research, MAHSA University: 2022-Present) (40) MAHSA/GSC/vol.1

Project Title: The Roles of EphrinB2-EPHB4 Bidirectional Signaling on the TSH-Regulated Expression of RANKL/RANK/OPG System

Main Supervisor (PhD Project: 2019-Present) (FRGS/1/2019/SKK08/MAHSA/03/2), Malaysia

Project Title: Elucidating the mechanism how neutralization of toll-like receptors- 2 and 4 modulate the severity of inflammation in periodontitis in mice

Masters of Orofacial Sciences (MAHSA University, Malaysia)

2021-Present: The association of shape anomalies in lateral incisors with maxillary canine impaction cases in the Malaysian population: A retrospective radiographic study using dental panoramic tomographs (DPT)

2020-2021: Periodontal Patient Referral Practice in Malaysia

DDS (MAHSA University, Malaysia)

2022- Present: Elucidating the effects of Toll-like receptor (TLR) 2-neutralization on periodontitis-mediated male reproductive disorders in mice

2021-2022: Association of polycystic ovary syndrome (PCOS) and periodontal diseases in young adults of Malaysia

2020-2021: Perception of Online System of Education and Evaluation differs from that of Face-To-Face Learning among the Dental and Medical Students in Malaysia

2019-2020: Correlation of digit ratio, the embryonic androgen fingerprint, with gingival score.

MBBS (MAHSA University 2020-2021)

Impact of Hibiscus rosa sinensis on hypercholesterolemia induced inflammation in Wistar rats

M.Med.Sc. (Lincoln University College, Malaysia)

Analysing final year Medical Assistant Officer student in KSKBJB on their knowledge of the effectiveness in crisis prevention and intervention for schizophrenia

PUBLICATIONS

1. **Dutta S** (Global Burden of Diseases, GBD Collaborators). Burden of disease scenarios for 204 countries and territories, 2022–2050: a forecasting analysis for the Global Burden of Disease Study 2021. *Lancet*. 2024;403(10440):2204-56.
2. **Dutta S** (Global Burden of Diseases, GBD Collaborators). Global, regional, and national burden of disorders affecting the nervous system, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. *Lancet Neurol*. 2024;23(4):344-81.
3. Srisugamathi G, Thirumurugan A, Samrot AV, Sengupta P, **Dutta S**, Remya RR. Development of nanocellulose-based composite derived from wood waste of *Azadirachta indica* for food packaging application. *Biomass Convers Biorefinery*. 2024;14(20):25083-91.
4. Sengupta P, **Dutta S**, Jegasothy R, Slama P, Cho CL, Roychoudhury S. 'Intracytoplasmic sperm injection (ICSI) paradox' and 'andrological ignorance': AI in the era of fourth industrial revolution to navigate the blind spots. *Reprod Biol Endocrinol*. 2024;22(1).
5. Sengupta P, **Dutta S**, Jegasothy R, Nwagha U. Interdisciplinary Approaches in Male Infertility Research in the Era of Industrial Revolution 4.0: The Imperative for Medical Education Integration. *World J Men's Health*. 2024;42(4):902-5.
6. Sengupta P, **Dutta S**, Irez T. Oxidants and antioxidants in male reproduction: Roles of oxidative and reductive stress. *J Integr Sci Technol*. 2024;12(3).
7. Sengupta P, **Dutta S**, Fallah Hassan M. Polycystic ovary syndrome (PCOS) and oxidative stress. *J Integr Sci Technol*. 2024;12(3).
8. Sengupta P, **Dutta S**, Durairajanayagam D, Agarwal A. Environmental/lifestyle factors and male infertility. *Male Infertility: Management of Infertile Men in Reproductive Medicine*: Elsevier; 2024. p. 49-67.
9. Sengupta P, **Dutta S**. UNITING MINDS AND METHODS: HOW INTERPROFESSIONAL EDUCATION ADVANCES MALE INFERTILITY RESEARCH. *EXCLI J*. 2024;23:92-4.
10. Sengupta P, **Dutta S**. Eco-fertility: examining the climate change-total fertility rate nexus in the context of sustainable developmental goals in a systematic review approach. *Med Rev*. 2024.
11. **Dutta S** (Global Burden of Diseases, GBD Collaborators). Global age-sex-specific mortality, life expectancy, and population estimates in 204 countries and territories and 811 subnational locations, 1950–2021, and the impact of the COVID-19 pandemic: a comprehensive demographic analysis for the Global Burden of Disease Study 2021. *Lancet*. 2024;403(10440):1989-2056.
12. Ray SD, **Dutta S**, Sengupta P, Madhu NR, Das N, Ray S, et al. ELUCIDATION OF ANTI-INFLAMMATORY ACTIVITY OF A NEW CYCLIC ALKALOID COMPOUND FROM ROOT BARK OF *ZIZIPHUS NUMMULARIA* (AUBREV.): IN VITRO, IN SILICO AND IN VIVO STUDIES. *J Microbiol Biotechnol Food Sci*. 2024;13(5).

13. Parua S, Das A, Hazra A, Chaudhuri P, Bhattacharya K, **Dutta S**, et al. Assessing body composition through anthropometry: Implications for diagnosing and managing polycystic ovary syndrome (PCOS). *Clin Physiol Funct Imaging*. 2024.
14. Parnow A, Amani-Shalamzari S, Mohr M, Bagchi S, **Dutta S**, Sengupta P. Association between aerobic performance and physiological responses in Yo-Yo intermittent recovery test level 2, and the futsal-specific intermittent endurance test in trained futsal players. *J Basic Clin Physiol Pharmacol*. 2024.
15. Palani A, Lateef Fateh H, Ahmed DH, **Dutta S**, Sengupta P. Correlation of mediterranean diet pattern and lifestyle factors with semen quality of men attending fertility clinics: A cross-sectional study. *Eur J Obstet Gynecol Reprod Biol*. 2024;302:262-7.
16. Murugesan M, Pandurangan P, Samrot AV, Sengupta P, **Dutta S**, Pandey VK. Correction: Exploring phenolic compound extraction from marine seaweeds of south coast India: in vitro antioxidant and antimicrobial evaluation (*Vegetos*, (2024), 10.1007/s42535-024-00914-3). *Vegetos*. 2024.
17. Murugesan M, Pandurangan P, Samot AV, Sengupta P, **Dutta S**, Pandey VK. Exploring phenolic compound extraction from marine seaweeds of south coast India: in vitro antioxidant and antimicrobial evaluation. *Vegetos*. 2024.
18. Liew FF, **Dutta S**, Sengupta P. Fertility treatment-induced oxidative stress and reproductive disorders. *J Integr Sci Technol*. 2024;12(3).
19. Jin Y, Guo C, Abbasian M, Abbasifard M, Abbott JH, Abdullahi A, et al. Global pattern, trend, and cross-country inequality of early musculoskeletal disorders from 1990 to 2019, with projection from 2020 to 2050. *Med*. 2024;5(8):943-62.e6.
20. Hassan MF, Abdul Kadim H, Al-Yasiry RZ, Hafedh Sagban S, **Dutta S**, Sengupta P. Optimizing ICSI outcomes in women with PCOS: The influence of BMI, hormonal levels, and male fertility parameters. *Horm Mol Biol Clin Invest*. 2024.
21. **Dutta S**, Sengupta P, Samrot AV. Physiological and pathological functions of Reactive Nitrogen Species (RNS) and Reactive Sulphur Species (RSS) on Male Reproductive functions. *J Integr Sci Technol*. 2024;12(3).
22. **Dutta S**, Sengupta P, Liew FF. Cytokine landscapes of pregnancy: mapping gestational immune phases. *Gynecol Obstet Clin Med*. 2024;4(1).
23. **Dutta S**, Sengupta P, Izuka E, Menuba I, Nwagha U. Oxidative and nitrosative stress and female reproduction: Roles of oxidants and antioxidants. *J Integr Sci Technol*. 2024;12(3).
24. **Dutta S**, Nie CW, Sarna A, Hari P, Sengupta P. Second to fourth digit ratio (2D:4D) as the 'anatomical marker' and reproductive 'hormonal fingerprint' in the occurrence dental plaque accumulation. *Horm Mol Biol Clin Invest*. 2024;45(2):41-7.
25. Das S, Chaudhury AB, Dewangan H, Bhattacharya K, Kesh SB, **Dutta S**, et al. Early manifestation of hyperuricemia and its pathophysiological interface with adiposopathy and metabolic syndrome among young adult: Cross-sectional study. *Chem Biol Lett*. 2024;11(1):653-.

26. **Dutta S** (Global Burden of Diseases, GBD Collaborators). Global fertility in 204 countries and territories, 1950–2021, with forecasts to 2100: a comprehensive demographic analysis for the Global Burden of Disease Study 2021. *Lancet*. 2024;403(10440):2057-99.
27. Sengupta P, **Dutta S**, Roychoudhury S, Vizzarri F, Slama P. Revolutionizing semen analysis: introducing Mojo AISA, the next-gen artificial intelligence microscopy. *Front Cell Dev Biol*. 2023;11.
28. Sengupta P, **Dutta S**, Liew FF, Dhawan V, Das B, Mottola F, et al. Environmental and Genetic Traffic in the Journey from Sperm to Offspring. *Biomolecules*. 2023;13(12).
29. Sengupta P, **Dutta S**, Chhikara BS. GENOMES OF EXTINCT HOMININS AND HUMAN REPRODUCTIVE EVOLUTION. *EXCLIJ*. 2023;22:392-4.
30. Sengupta P, **Dutta S**, Chhikara BS. Bioorthogonal chemistry in the reproductive medicine. *Chem Biol Lett*. 2023;10(3).
31. Sengupta P, **Dutta S**, Chakravarthi S, Jegasothy R, Jeganathan R, Pichumani A. Comparative efficacy of ChatGPT 3.5, ChatGPT 4, and other large language models in gynecology and infertility research. *Gynecol Obstet Clin Med*. 2023;3(4):203-6.
32. Sengupta P, **Dutta S**. CHATGPT GUIDANCE FOR REPRODUCTIVE SPECIALISTS: DR. JEKYLL OR MR. HYDE? *EXCLIJ*. 2023;22:911.
33. Sengupta P, **Dutta S**. COVID-19 and hypogonadism: secondary immune responses rule-over endocrine mechanisms. *Hum Fertil*. 2023;26(1):182-5.
34. Parnow A, Hafedh M, Tsunoda I, ..**Dutta S**, et al. Effectiveness of exercise interventions in animal models of multiple sclerosis. *Front Med*. 2023;10.
35. Olumide OB, Godwin AI, Titilayo JO, Christian IO, Etukudoh NS, Uchejeso OM,...**Dutta S**, et al. Assessment of Serum Anti-Müllerian Hormone (AMH) as an Independent Marker for Oligozoospermia and Non-Obstructive Azoospermia in Infertile Nigerian Men. *Biomed PharmacolJ*. 2023;16(1):35-42.
36. **Dutta S** (Global Burden of Diseases, GBD Collaborators). Global Burden of Cardiovascular Diseases and Risks, 1990-2022. *J Am Coll Cardiol*. 2023;82(25):2350-473.
37. Hassan MF, Abdul-Kadim H, Edan BJ, **Dutta S**, Sengupta P. Embryo Quality and Intracytoplasmic Sperm Injection (ICSI) Outcome in Iraqi Women with Polycystic Ovary Syndrome (PCOS): A Cohort Prospective Study. *Biomed PharmacolJ*. 2023;16(2):863-70.
38. **Dutta S**, Sengupta P, Bagchi S, Chhikara BS, Pavlík A, Sláma P, et al. Reproductive toxicity of combined effects of endocrine disruptors on human reproduction. *Front Cell Dev Biol*. 2023;11.
39. **Dutta S**, Sengupta P. Impact of industrial revolution 4.0 on reproductive health and infertility management. *Gynecol Obstet Clin Med*. 2023;3(2):79-81.
40. Bhattacharya K, Sengupta P, **Dutta S**, Syamal AK. Optimization of estrogen dosage for uterine receptivity for implantation in post-coital bilaterally ovariectomized mice. *Mol Cell Biochem*. 2023;478(2):285-9.

41. Bhattacharya K, **Dutta S**, Sengupta P, Bagchi S. Reproductive tract microbiome and therapeutics of infertility. *Middle East Fertil Soc J*. 2023;28(1).
42. Acharyya S, **Dutta S**, Sengupta P. Adipokines as immune modulators in inflammation mediated male infertility. *J Integr Sci Technol*. 2023;11(4).
43. Yasmin A, Roychoudhury S, Paul Choudhury A, Ahmed ABF, **Dutta S**, Mottola F, et al. Polycystic Ovary Syndrome: An Updated Overview Foregrounding Impacts of Ethnicities and Geographic Variations. *Life*. 2022;12(12).
44. Singbal K, Shan MKW, **Dutta S**, Kacharaju KR. Cention N Compared to Other Contemporary Tooth-Colored Restorative Materials in Terms of Fluoride Ion Releasing Efficacy: Validation of a Novel Caries-Prevention-Initiative by the Ministry of Health, Malaysia. *Biomed Pharmacol J*. 2022;15(2):669-76.
45. Sengupta P, Roychoudhury S, Nath M, **Dutta S**. Oxidative Stress and Idiopathic Male Infertility. *Advances in Experimental Medicine and Biology: Springer*; 2022. p. 181-204.
46. Sengupta P, **Dutta S**, Slama P, Roychoudhury S. COVID-19, Oxidative Stress, and Male Reproductive Dysfunctions: Is Vitamin C a Potential Remedy? *Physiol Res*. 2022;71(1):47-54.
47. Sengupta P, **Dutta S**, Roychoudhury S, D'souza UJA, Govindasamy K, Kolesarova A. COVID-19, Oxidative Stress and Male Reproduction: Possible Role of Antioxidants. *Antioxidants*. 2022;11(3).
48. Sengupta P, **Dutta S**, Karkada IR, Chinni SV. Endocrinopathies and male infertility. *Life*. 2022;12(1).
49. Sengupta P, **Dutta S**, Alahmar AT. Reductive Stress and Male Infertility. *Advances in Experimental Medicine and Biology: Springer*; 2022. p. 311-21.
50. Sengupta P, **Dutta S**. N-acetyl cysteine as a potential regulator of SARS-CoV-2-induced male reproductive disruptions. *Middle East Fertil Soc J*. 2022;27(1).
51. Sengupta P, **Dutta S**. Chemosterilization in Male: 'Past and Present' in Reproductive Biology. *Biomed Pharmacol J*. 2022;15(1):1-4.
52. Sengupta P, **Dutta S**. Panax ginseng as reproductive medicine in male infertility: with a brief focus on 'herb-drug' interaction. *Chem Biol Lett*. 2022;9(1).
53. Sengupta P, Choudhury H, **Dutta S**, Jacob S, Kesharwani P, Gorain B. Current Strategies in Breast Cancer Therapy: Role of Epigenetics and Nanomedicine. *Part Part Syst Charact*. 2022;39(7).
54. Pateel DGS, Gunjal S, **Dutta S**. Association of salivary statherin, calcium, and proline-rich proteins: A potential predictive marker of dental caries. *Contemp Clin Dent*. 2022;13(1):84-9.
55. **Dutta S**, Sengupta P, Roychoudhury S, Chakravarthi S, Wang CW, Slama P. Antioxidant Paradox in Male Infertility: 'A Blind Eye' on Inflammation. *Antioxidants*. 2022;11(1).
56. **Dutta S**, Sengupta P, Das S, Slama P, Roychoudhury S. Reactive Nitrogen Species and Male Reproduction: Physiological and Pathological Aspects. *Int J Mol Sci*. 2022;23(18).
57. **Dutta S**, Sengupta P, Chakravarthi S. Testicular immune tolerance and viral infections. *Translational Autoimmunity: Challenges for Autoimmune Diseases: Volume 5*. 5: Elsevier; 2022. p. 169-81.

58. **Dutta S**, Sengupta P, Chakravarthi S. Oxidant-Sensitive Inflammatory Pathways and Male Reproductive Functions. *Advances in Experimental Medicine and Biology*: Springer; 2022. p. 165-80.
59. **Dutta S**, Sengupta P. The Role of Nitric Oxide on Male and Female Reproduction. *Malays J Med Sci*. 2022;29(2):18-30.
60. **Dutta S**, Sengupta P. Yoga as the 'Complementary, Holistic, and Integrative Medicine' of Infertility. *Biomed Pharmacol J*. 2022;15(1):5-8.
61. **Dutta S**, Sandhu N, Sengupta P, Alves MG, Henkel R, Agarwal A. Somatic-Immune Cells Crosstalk In-The-Making of Testicular Immune Privilege. *Reprod Sci*. 2022;29(10):2707-18.
62. **Dutta S**, Gorain B, Choudhury H, Roychoudhury S, Sengupta P. Environmental and occupational exposure of metals and female reproductive health. *Environ Sci Pollut Res*. 2022;29(41):62067-92.
63. Das S, Guha P, Nath M, Das S, Sen S, Sahu J, et al. A Comparative Cross-Platform Analysis to Identify Potential Biomarker Genes for Evaluation of Teratozoospermia and Azoospermia. *Genes*. 2022;13(10).
64. Choudhury BP, Roychoudhury S, Sengupta P, Toman R, **Dutta S**, Kesari KK. Arsenic-Induced Sex Hormone Disruption: An Insight into Male Infertility. *Advances in Experimental Medicine and Biology*: Springer; 2022. p. 83-95.
65. Chaudhuri GR, Das A, Kesh SB, Bhattacharya K, **Dutta S**, Sengupta P, et al. Obesity and male infertility: multifaceted reproductive disruption. *Middle East Fertil Soc J*. 2022;27(1).
66. Bhattacharya K, Saha I, Sen D, Bose C, Chaudhuri GR, **Dutta S**, et al. Role of anti-Mullerian hormone in polycystic ovary syndrome. *Middle East Fertil Soc J*. 2022;27(1).
67. Banerjee M, Pal R, **Dutta S**. Risk of incident diabetes post-COVID-19: A systematic review and meta-analysis. *Prim Care Diabetes*. 2022;16(4):591-3.
68. Akhigbe RE, Hamed MA, **Dutta S**, Sengupta P. Influence of ejaculatory abstinence period on semen quality of 5165 normozoospermic and oligozoospermic Nigerian men: A retrospective study. *Heal Sci Rep*. 2022;5(5).
69. Akhigbe RE, **Dutta S**, Hamed MA, Ajayi AF, Sengupta P, Ahmad G. Viral Infections and Male Infertility: A Comprehensive Review of the Role of Oxidative Stress. *Front Reprod Health*. 2022;4.
70. Sengupta P, Hasan MF, **Dutta S**, Jegasothy R, Chhikara BS. Orexins: The 'multitasking' neuropeptides in the energy metabolism and immune regulation of male reproduction. *Chem Biol Lett*. 2021;8(4):202-12.
71. Sengupta P, **Dutta S**, Karkada IR, Akhigbe RE, Chinni SV. Irisin, Energy Homeostasis and Male Reproduction. *Front Physiol*. 2021;12.
72. Sengupta P, **Dutta S**, Chhikara BS. Immunoendocrine regulation of energy homeostasis and male reproduction. *Chem Biol Lett*. 2021;8(4):141-3.
73. Sengupta P, **Dutta S**. Coronavirus Disease-19 (COVID-19) and Modern Lifestyle Diseases. *Biomed Pharmacol J*. 2021;14(4):2245-7.
74. Roychoudhury S, Das A, Sengupta P, **Dutta S**, Roychoudhury S, Kolesarova A, et al. VIRAL PANDEMICS OF TWENTY-FIRST CENTURY. *J Microbiol Biotechnol Food Sci*. 2021;10(4):711-6.

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81. **Dutta S**, Sengupta P, Jegasothy R, Akhigbe RE. Resistin and visfatin: 'connecting threads' of immunity, energy modulations and male reproduction. *Chem Biol Lett.* 2021;8(4):192-201.
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122. **Dutta S**, Majzoub A, Agarwal A. Oxidative stress and sperm function: A systematic review on evaluation and management. *Arab J Urol.* 2019;17(2):87-97.
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136. Sengupta P, **Dutta S**, Krajewska-Kulak E. The Disappearing Sperms: Analysis of Reports Published Between 1980 and 2015. *Am J Men's Health.* 2017;11(4):1279-304.
137. **Dutta S**, Sengupta P. Men and mice: Relating their ages. *Life Sci.* 2016;152:244-8.
138. **Dutta S**, Bishayi B. Combination treatments using vancomycin with immunomodulators to modulate Staphylococcal arthritis. *Asian J Pharm Clin Res.* 2016;9(2):243-52.
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AUTHOR OF BOOK CHAPTERS

1. Sengupta P, **Dutta S**, Saleh R. Assessment of Seminal Oxidative Stress. In: *Human Semen Analysis: From the WHO Manual to the Clinical Management of Infertile Men 2024*. Cham: Springer International Publishing.
2. Sengupta P, **Dutta S**, Samrot AV. Sperm DNA Fragmentation Testing in Infertility. In: *Genetic Testing in Reproductive Medicine 2024 Mar 1* (pp. 47-66). Singapore: Springer Nature, Singapore.
3. **Dutta S**, Sengupta P, Chakravarthi S. Testicular immune tolerance and viral infections. In: *Translational Immunology Book Series*. Elsevier **2023**.
4. **Dutta S**, Sengupta P. Sperm DNA fragmentation testing. In: *Genetic testing in reproductive medicine (1st Edition, Taylor & Francis)*. Eds: Rajender Singh. **2022**.
5. **Dutta S**, Sengupta P, Chakravarthi S. Oxidant-sensitive inflammatory pathways and male reproductive functions. In: *Advances in Experimental Medicine and Biology*. Editors, Kesari K, Roychoudhury S. Springer Nature, Switzerland, **2022. Impact Factor 3.65**.
6. Sengupta P, **Dutta S**, Alahmar A. Reductive stress and male infertility. In: *Advances in Experimental Medicine and Biology*. Editors, Kesari K, Roychoudhury S. Springer Nature, Switzerland, **2022. Impact Factor 3.65**.
7. Sengupta P, **Dutta S**, Roychoudhury S. Oxidative Stress and Idiopathic Male Infertility. In: *Advances in Experimental Medicine and Biology -Volume One*, 181. Editors, Kesari K, Roychoudhury S. Springer Nature, Switzerland, **2022. Impact Factor 3.65**.
8. **Dutta S**, Sengupta P, Chakravarthi S. Testicular immune tolerance and viral infections. In: *Translational Immunology Book Series*. Elsevier **2022**.

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9. **Dutta S**, Agarwal A. Obesity. In: Male Infertility: Contemporary Clinical Approaches, Andrology, ART and Antioxidants, Eds. Parekattil SJ, Esteves SC, and Agarwal A. 2nd Edition, Springer Nature, **2020**.

 10. **Dutta S**, Henkel R, Sengupta P, Agarwal A. Physiologic functions of ROS in sperm functions. In: Male Infertility: Contemporary Clinical Approaches, Andrology, ART and Antioxidants. Editors, SJ Parekattil, SC Esteves, A Agarwal. Springer, **2020**.

 11. Gorain B, Sengupta P, **Dutta S**, Pandey M, Choudhury H. Pharmacology of histamine, and its receptors and antagonists in the modulation of Physiological functions. In: Frontiers in Pharmacology of Neurotransmitters. Editors, P Kumar, PK Deb, Springer Nature, Singapore, **2020**.

 12. Gorain B, **Dutta S**, Nandy U, Sengupta P, Nandy U, Dutta S, Choudhury H. Pharmacology of epinephrine (adrenaline), nor-epinephrine (nor-adrenaline) and their receptors. In: Frontiers in Pharmacology of Neurotransmitters. Editors, P Kumar, PK Deb, Springer Nature, Singapore, Springer, **2020**.

 13. Sengupta P, **Dutta S**, Wang CW, Ma ZF. Mulberry fruits: Characteristic constituents and health benefits. In: Asian Berries: Health Effects. CRC Press, **2020**.

 14. Leisegang K, **Dutta S**. Lifestyle Management Approach. Eds. Rizk B, Agarwal A, Sabanegh E Jr. In: Male Infertility in Reproductive Medicine: Diagnosis and Management, CRC Press, **2019**.

 15. Sengupta P, **Dutta S**. Chapter 99: Metals. In 'Encyclopedia of Reproduction', Volume 1 - Male Reproduction. Elsevier, USA, January **2018**.

 16. **Dutta S**, Sengupta P. Chapter 4: Common foods and functional foods: their association with cancer. In 'Functional Foods and Cancer: Cancer Biology and Dietary Factors', First Edition, Textbook, Volume 3. Martirosyan DM and Zhou JR. ISBN-13: 978-1975761462, ISBN-10: 978-1975761462. Functional Food Centre, USA, September **2017**.
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RESEARCH, ACADEMIC AWARDS / ACHIEVEMENTS

- 2020-2024**
- **Listed in the World's Top 2% Scientists by the Stanford University Ranking 2020-2024 (For Consecutive Five Years)**
 - **Award of Recognition for Scientific Contribution in Andrology Research by Turkish Andrology Society in 2024**
 - **Rank 2nd in Malaysia and India as Infertility (also in sub-speciality of Male Infertility) Research Expert**, by the *Expertscape* World Ranking
-
- 2021**
- Award in category of '**Best Researchers**', MAHSA University, Malaysia
- Received the award of 'Most popular clinical science review' from Springer for the article '**SARS-CoV-2 and Male Infertility: Possible Multifaceted Pathology**' published by the *Reproductive Sciences* in 2020
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- 2020**
- Certificate of Appreciation**, International Research Mentorship, American Center for Reproductive Medicine, Cleveland Clinic, USA
-
- 2019**
- Certificate of Excellence**, Research Internship, American Center for Reproductive Medicine, Cleveland Clinic, USA
- Award for second highest number of Publications** in 2019 by MAHSA University.
- Award for supervising the 2nd Best Presentation** by Medical Students at MUASRM 2019, UKM, Malaysia.
-
- 2012**
- Awarded with **University Research Fellowship (URF)** by UGC, India, effective since 27th July, 2012.
-
- 2011**
- Qualified in the joint CSIR-UGC (National Eligibility Test) NET Examination for Lectureship on June, 2011** – from Council of Scientific and Industrial Research (CSIR), India.
- Ranked **3rd with First Class in University of Calcutta, in M. Sc. (Physiology)** in 2011.

CONFERENCES (selected)

2024 **As Invited Speaker** presented talk on 'Deciphering Sperm DNA Fragmentation (SDF): Techniques for Measurement, Interpretation, and Intervention' at Turkish Andrology Society Meeting in May, 17-18, 2024 at Eskisehir, Turkey.

2023 **Interdisciplinary Urology Care Consortium (IUCC)** to be held on the 6th & 7th May, 2023 Conrad Etihad Towers, Abu Dhabi, United Arab Emirates.

2021 Uchejeso OM, **Dutta S**, Sengupta P, Olumide OB, Godwin AI, Titilayo JO, Christian IO, Etukudoh NS, Temitope ST. Serum Anti-Mullerian Hormone (AMH) is not an independent marker for oligospermia and azoospermia in Nigerian men. International Conference of Indian Society for Study of Reproduction and Fertility (ISSRF), February **2021**

Sengupta P, **Dutta S**, Muhamad S, Ramli R, Nasir A. Sociodemographic factors and semen quality in Malaysian men. International Conference of Indian Society for Study of Reproduction and Fertility (ISSRF), February **2021**

2020 **Invited Speaker and Immunologist** in Medical Webinar on COVID-19, entitled '*Sanitization and Sterilization*', organised by Rungta College of Dental Sciences and Research, India, in June **2020**.

Invited lecture on 'Yoga and Pregnancy' in the Two-day International Webinar on 'Yoga: the holistic approach to Physiological and Psychological Homoeostasis' held on 17th and 18th October, **2020**.

Participated in International Conference/Virtual Symposium on Drug Discovery and Translational Medicine (ICDDTM21) (MMA, MPS, MMC) on 17th November **2020**

Participated in a online webinar on 'A Clinician's Perspective: Collaboration in Research and its Impact' by John Wiley & Sons on 24th November **2020**

Participated in a online webinar on 'The Research Grant Applications Guide' by John

Wiley & Sons on 22nd October **2020**

Participated in a online webinar on 'Improving Research Integrity: Managing and Sharing Research Data' by John Wiley & Sons on 6th October **2020**

Participated in a online webinar on 'COVID-19 search strategies in PharmaPendium: Focus on drug safety and efficacy' by BrightTalk on 10th September **2020**

Participated in a online webinar on 'Text mining as a solution: Find disease-related genetic variation in literature' by BrightTalk on 2nd September **2020**

2018

1st Malaysian Men's Health Conference, at the Research Management & Innovation Complex University of Malaya, 13-14th August **2018**.

Darbandi S, Darbandi M, Agarwal A, **Dutta S**, Sengupta P, Sadheghi M, Akhondi M. Oxidative stress induced alterations in seminal plasma antioxidants : is there any association with Keap1 gene methylation in human spermatozoa. Oral Presentation, **American Society for Reproductive Medicine (ASRM) 2018** Scientific Congress and Expo : 'Focus on the next generation', Denver, Colorado, United States, 6-10 October, 2018.

2017

Attended a Lecture in Physiology by Prof Waltar F. Boron on 'Cross-organ principles in Physiology' at Faculty of Medicine, University Malaya on 18th August, **2017**.

Participated in **Teacher's Prize in Physiology**, 2017, organized by **Malaysian Society of Physiology and Pharmacology (MSPP)** at Faculty of Medicine, University Technology MARA (UiTM) on 11st August, **2017**.

2015

Presented Poster entitled 'Vancomycin alone or in the presence of aminoguanidine modulates *S. aureus* infection induced septic arthritis in mice' in the **Immunocon Conference 2015**, Patna.

Participated at **International Conference on Molecules to System Physiology-100 Years Journey- ICMSP 100- Closing ceremony** at University of Calcutta on August 28,

2015.

2013 Presentation entitled '*Immune Responses Contribute to Hypertension*' in the National Seminar, Socio-Medical **National Seminar on Hypertension and its complications**, by Indian Medical Association, on July 27, **2013**.

Participated at the **National Science Day symposium** on February 28, **2013**, organized by ISCA (Indian Science Congress Association).

2012 Presented Poster entitled 'Studies on the effects of meclofenamic acid (MFA) ON *Staphylococcus aureus* induced bacterial arthritis in mice' in the **AMI Conference**, Bhubaneswar, November, **2012**.

Presented Poster entitled 'Studies on the effects of aminoguanidine on *Staphylococcus aureus* induced bacterial arthritis in mice' at the **1st International Meet on Advanced Studies on Cell Signaling Network (CeSiN)** at IICB, Kolkata, September, **2012**.

Participated at the seminar organized by **Indian Academy of Neuroscience (IAN)** on September 11, **2012** at University College of Science and Technology.

Participated at symposium, '**World Environment Day**', organized by **Indian Science Congress Association (ISCA)** on June 5, **2012**.

2011 Presented Poster at the **International Conference on Molecules to System Physiology, 2011**, at the department of Physiology, University of Calcutta.

2010 Presented in the **Seminar on Use of Cosmetics, National Environment Science Academy (NESA)**, West Bengal Chapter, at Bose Institute Auditorium on September 18, **2010**.

2009 Participated in the **DST (W.B.) sponsored National Conference** on Biodiversity organized by the Bio-Science Departments of Serampore College, February 13 and 14, **2009**.

CONFERENCES / WORKSHOPS ORGANISED

2022 **Invited Judge**, MAHSA International Dentistry Conference (MiDent) organised by Faculty of Dentistry, MAHSA University, Malaysia

2021 **Head of Scientific Committee** in the MAHSA International Dentistry Conference (MiDent) organised by Faculty of Dentistry, MAHSA University, Malaysia, September 2021

Organizing Committee Member in 'Thesis Writing Workshop', Faculty of Dentistry, MAHSA University, October 2021

Organizing Committee Member in the 10th MAHSA Dental Student's Research Colloquium (MDSRC), at MAHSA University, June 2021

2020 **Organizing Committee Member in the 9th MAHSA Dental Student's Research Colloquium (MDSRC)**, at MAHSA University, March 2020

2019 **Scientific and Media Committee Member in the National Dental Students' Scientific Conference (NDSSC)**, hosted by MAHSA University Malaysia, April 2019.

CONTINUOUS PROFESSIONAL DEVELOPMENT

Online **ART Training in Sperm Morphology** by the American Center for Reproductive Medicine (ACRM), Cleveland Clinic, Ohio, USA, 2023

Completed the **Nature Masterclass** on 'Focus on Peer Review' on 29th April 2020

Completed a TWO (2) weeks online course on '**Presenting your work with impact**' by University of Leeds and Institute of Coding under Future Learn platform in **2020**.

Completed a TWO (2) weeks online course on '***Collaborative working in a remote team***' by University of Leeds and Institute of Coding under Future Learn platform in **2020**.

Completed a FOUR (4) weeks online course on '***Leading culturally diverse teams in the workplace***' by Deakin University and Deakin Business School under Future Learn platform in **2020**.

Completed a TWO (2) weeks online course on '***Communication and interpersonal skills at work***' by University of Leeds and Institute of Coding under Future Learn platform in **2020**.

Completed a FOUR (4) weeks online course on '***English for Healthcare***' by King's College London under Future Learn platform in **2020**.

Completed a TWO (2) weeks online course on '***Bacterial genomes: from dna to protein function using bioinformatics***' by Wellcome Genome Campus Advanced Courses and Scientific Conferences under Future Learn platform in **2020**. The Royal College of Pathologists (RCPATH) has accredited this course for **10 Continuing Professional Development (CPD)** credits.

Completed a TWO (2) weeks online course on '***COVID-19: helping young people manage low mood and depression***' by University Of Reading under Future Learn platform in **2020**.

Completed a THREE (3) weeks online course on '***COVID-19: tackling the novel coronavirus***' by London School of Hygiene & Tropical Medicine and UK Public Health Rapid Support Team under Future Learn platform in **2020**.

Completed a TWO (2) weeks online course on '***Wellbeing and resilience at work***' by University of Leeds and Institute of Coding under Future Learn platform in **2020**.

Completed a TWO (2) weeks online course on '***Decision making: how to choose the right problem to solve***' by University of Leeds and Institute of Coding under Future Learn platform in **2020**.

Completed a TWO (2) weeks online course on '***Work-life balance and the impact of remote working***' by Coventry University under Future Learn platform in **2020**.

Completed a TWO (2) weeks online course on '***Get creative with people to solve problems***' by University of Leeds and Institute of Coding under Future Learn platform in **2020**.

Completed a TWO (2) weeks online course on '***Transforming digital learning: learning design meets service design***' by Deakin University under Future Learn platform in **2020**.

Completed a TWO (2) weeks online course on '***How to teach online: providing continuity for students***' under Future Learn platform in **2020**.

PROFESSIONAL AFFILIATIONS

Life Memberships

Immunological Society of India

Indian Science Congress Association (ISCA)

Physiological Society of India, Kolkata (PSI)

Annual Memberships

European Society of Human Reproduction and Embryology (ESHRE) (Membership No.-E-20-06568)

Malaysian Society for Physiologists and Pharmacologists (MSPP)
