Dr. SANJOY SADHUKHAN

Assistant Professor

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Academic Details:

Degree	University/Institute
PhD	Indian Institute of Technology, Kharagpur, India
Master of Science (M.Sc.)	Visva Bharati, Santiniketan, India
Bachelor of Science (B.Sc.)	University of Calcutta, India

Postdoctoral Research Experiences:

1. Postdoctoral Research Associate (2008 – 2013)
   University of Pittsburgh,
   (Children's Hospital of Pittsburgh),
   Pittsburgh, PA 15224, USA.
2. Postdoctoral Research Fellow (2007 – 2008)
   Thomas Jefferson University,
   Philadelphia, PA 19107, USA.

Research Interest:

Current research interest is to understand the molecular mechanism of plant stress and seed priming.

Teaching & Research Experience

10 years of Teaching and 18 Years of Research (Post PhD.)

Administrative and Professional Activities

Ex-Coordinator - Department of Botany, Raiganj University (11-02-2018 to April 2019)
Ex-Convener – AASM Medicinal Garden, Raiganj University, Raiganj
Chairman – Undergraduate and PostGraduate, Board of Studies, Botany, Raiganj

University
Member - Under Graduate and PostGraduate, Board of Studies, Botany, Raiganj University
Paper setter, Moderator & Examiner - Under Graduate and PostGraduate, Botany, Raiganj University
External Examiner - Post Graduate, Botany, University of Gour Banga, Malda

Design of New Curricula and Courses

Both UG and PG courses in Botany at Raiganj University

Membership of the Scientific Community

Life Member of "The Indian Science Congress Association" Membership No # L40200

Publications

#Total Citations: 763; h-index: 12, i10-index: 14
Google Scholar: http://scholar.google.com/citations?user=SbrCYUkAAAAJ&hl=en
ORCID iD: https://orcid.org/0000-0002-2619-8700
https://vidwan.inflibnet.ac.in/profile/260635

Articles

1. Sarkar, A.K., Oraon, S., **Sadhukhan, S.*** (2024) "Comparison of germination parameters and seedling indices of two chilli (*Capsicum annuum* L.) cultivars under saline stress." **Vegetos**. https://doi.org/10.1007/s42535-024-00969-2 [ISSN 0970-4078 (print)] [Citation index: 0] {Impact factor: 0.042}
   *Corresponding author

2. Sarkar, A.K., Oraon, S., Ghosh, S., Ball, K., **Sadhukhan, S.*** (2024) "Rapid GC-MS based Metabolic Profiling of *Capsicum annuum* L. (cv. Bullet) seeds at Different Phases of germination." **Notulae Scientia Biologicae**. 16(2): 11906. https://doi.org/10.15835/nsb16211906 ISSN (print); 2067-3264 (web). [Citation index: 0] {Impact factor: 0.73}
   *Corresponding author

3. Sarkar, A.K., **Sadhukhan, S.*** (2023) "Impact of Salinity on Growth and Development of Plants with the central focus on Glycophytes: an overview". **Bulletin of Environment, Pharmacology and Life Sciences**. 12(7): 235-266. [ISSN: 2277-1808] [Citation index: 1] {Impact factor: 0}
   *Corresponding author

4. Sarkar, A.K., Chaudhuri, S., **Sadhukhan, S.*** (2023) "Mathematical Modeling of Seed Germination Percentage of Some Chilli Cultivars in A Changing Salt Regime". **Advances in Bioresearch**. 14(6):93-103. https://doi.org/10.15515/abr.0976-4585.14.6.93103 [ISSN: 2277-1573] [Citation index: 0] {Impact factor: 0}
*Corresponding author

5. Sarkar, A.K., Oraon, S., Mondal, S., **Sadhukhan, S.*** (2023) "Effect of Salinity on Seed Germination and Seedling Growth of Bullet Cultivar of Chilli (*Capsicum annuum* L)". **Brazilian Journal of Botany**. 46: 513–525. https://doi.org/10.1007/s40415-023-00894-9 [ISSN: 2666-6758] [Citation index: 5] {Impact factor: 1.4}
*Corresponding author

6. Sarkar, A.K., **Sadhukhan, S.*** (2023) "Unearthing the alteration in plant volatiles induced by arbuscular mycorrhiza: a shield against plant pathogens". **Physiologia Plantarum**. 175(1): e13845. https://doi.org/10.1111/ppl.13845 ISSN (print); 1399-3054 (web). [Citation index: 11] {Impact factor: 6.4}
*Corresponding author

7. Sarkar, A.K., Oraon, S., Mondal, S., **Sadhukhan, S.*** (2022) "Ethno-Pharmacological and Industrial Attributes on the underutilized *Arenga* species in India". **Journal of Food Biochemistry**. 46(12): e14441. https://doi.org/10.1111/jfbc.14441 ISSN (print); 1745-4514 (web). [Citation index: 2] {Impact factor: 3.5}
*Corresponding author

8. Sarkar, A.K., **Sadhukhan, S.*** (2022) "Imperative role of trehalose metabolism and trehalose-6-phosphate signalling on salt stress responses in plants". **Physiologia Plantarum**. 174(1): e13647 https://doi.org/10.1111/ppl.13647 ISSN (print); 1399-3054 (web). [Citation index: 42] {Impact factor: 6.4}
*Corresponding author

9. Chakraborti S., Bera, K., **Sadhukhan, S.**, Dutta, P. (2021) "Bio-Priming of Seeds: Plant Stress Management and its Underlying Cellular, Biochemical and Molecular Mechanisms". **Plant Stress**. 3: 100052. https://doi.org/10.1016/j.stress.2021.100052 ISSN (print); 2667-064X (web). [Citation index: 74] {Impact factor: 6.8}

10. Bera, K., Dutta, P., **Sadhukhan, S.*** (2021) "Seed Priming with Non-ionizing Physical agents: Plant responses and Underlying Physiological Mechanisms". **Plant Cell Reports**. 41:53–73. https://www.doi.org/10.1007/s00299-021-02798-y ISSN: 0721-7714 (print); 1432-203X (web). [Citation index: 41] {Impact factor: 5.3}
*Corresponding author

11. **Sadhukhan, S.** (2019) "Histobiochemical and physicochemical characterization of mutant jute *Corchorus capsularis* CMU 013 with poorly developed fibre". **Bioscience Biotechnology Research Communications**. 12(1): 90-98. http://dx.doi.org/10.21786/bbrc/12.1/12 ISSN: 0974-6455 (print); 2321-4007 (web). [Citation index: 2] {Impact factor: 0}

12. Mandal, P., **Sadhukhan, S.** (2019) "Carbon dioxide the green-house gas and mushroom fruiting". **Review of Research** 8(4) 7020: 1-7. Citation index: 3] {Impact factor: 0}. ISSN: 2249-894X

13. Sarkar, K., **Sadhukhan, S.,** Han, S. S., Vyas, Y. M. (2015) "SUMOylation-disrupting WAS mutation converts WASp from a transcriptional activator to a repressor of NF-κB response genes in T cells". **Blood**. 126(14):1670-82. https://doi.org/10.1182/blood-2015-05-646182 [Citation index: 37] {Impact factor: 21.0}. ISSN: 0006-4971 (print); 1528-0020 (web).

14. Samanta, P., **Sadhukhan, S.,** Basu, A. (2015) "Identification of differentially expressed transcripts associated with bast fibre development in *Corchorus capsularis* by suppression subtractive hybridization". **Planta**. 241(2):371-385. https://doi.org/10.1007/s00425-014-2187-y [Citation index: 23] {Impact factor: 3.6}. ISSN: 0032-0935 (print) 1432-2048 (web).

15. Sarkar, K., **Sadhukhan, S.,** Han, S. S., Vyas, Y. M. (2014) "Disruption of hSWI/SNF-Complexes in T cells by WAS Mutations Distinguishes X-linked Thrombocytopenia from Wiskott - Aldrich syndrome". **Blood**. 124(23):3409-19. https://doi.org/10.1182/blood-2014-07-587642 [Citation index: 35] {Impact factor: 21.0}. ISSN: 0006-4971 (print); 1528-0020 (web).

16. **Sadhukhan, S.,** Sarkar, K., Taylor, M., Candotti, F., Vyas, Y. M. (2014) "Nuclear Role of WASp in Gene Transcription Is Uncoupled from Its ARP2/3-Dependent Cytoplasmic Role in Actin Polymerization". **The Journal of Immunology**. 193(1):150-60. https://doi.org/10.4049/jimmunol.1302923

[Citation index: 71] {Impact factor: 3.6}. ISSN: 0022-1767 (print) 1550-6606 (web).

17. Samanta, P., Sadhukhan, S.,* Das, S., Joshi, A., Sen S. K., Basu, A., (2011) "Isolation of RNA from Field-Grown Jute (*Corchorus capsularis*) Plant in Different Developmental Stages for Effective Downstream Molecular Analysis." **Molecular Biotechnology**. 49(2): 109-115. https://doi.org/10.1007/s12033-011-9376-8 [Citation index: 20] {Impact factor: 2.4}. ISSN: 1073-6085 (print) 1559-0305 (web).
***P. S.** and **S. S.** contributed equally to this work.

18. Taylor, M. D., **Sadhukhan, S., *** Kottangada, P., Ramgopal, A., Sarkar, K., D'Silva, S., Selvakumar, A., Candotti, F., and Vyas, Y. M. (2010) "Nuclear Role of WASp in the Pathogenesis of Dysregulated T_H1 Immunity in Human Wiskott-Aldrich Syndrome" **Science Translational Medicine**. 2(37), 37ra44 https://doi.org/10.1126/scitranslmed.3000813 [**Cover image**] [Citation index: 131] {Impact factor: 15.8}. ISSN: 1946-6234 (print) 1946-6242 (web).
***M. D. T.** and **S. S.** contributed equally to this work.

19. Das Sarma J., Ciric, B., Marek, R., Sadhukhan, S., Safagh, J., Fitzgerald D., Shindler, K. S., Rostami, A. M. (2009) "Functional Interleukin-17 Receptor A is Expressed in the Central Nervous System Glia and Upregulated in Experimental Autoimmune Encephalomyelitis." **Journal of Neuroinflammation**. 6(1):. https://doi.org/10.1186/1742-2094-6-14 [Citation index: 186] {Impact factor: 9.3}. ISSN: 1742-2094.

20. Sarkar, S., Chorasia, A., Maji, S., **Sadhukhan, S.,** Kumar, S., Adhikari, B. (2006) "Synthesis and Characterization of Gelatin based Polyester Urethane Scaffold", **Bulletin of Materials Science**. 29 (5): 475-484. https://doi.org/10.1007/BF02914078 [Citation index: 24] {Impact factor: 1.9}. ISSN: 0250-4707 (print) 0973-7669 (web).

Book

1. Mandal, P., Tiru, Z., Sarkar, M.P., Chakraborty, A.P., Pal, A., **Sadhukhan, S.**, (2020) Mushroom Culture Technology. **HSRA Publications**. ISBN: 9789390415038.

Book Chapters

1. Ball, K., **Sadhukhan, S.*** (2024) Chromium Toxicity in Plants: An Overview of Plant Signaling. In: Aftab, T. Metals and Metalloids in Plant Signaling. (pp. 143–169. **Springer**. Cham, Switzerland. ISBN: 978-3-031-59023-8 https://doi.org/10.1007/978-3-031-59024-5_8
*****Corresponding author

2. Goswami, R., Bandyopadhyay, B., & **Sadhukhan, S.*** (2024). Exploitation of Potential Extremophiles for Bioremediation of Microplastics: A Biotechnological Approach. In: Shah, M.P. & Dey, S., (Eds.), Trends in Biotechnology of Polyextremophiles. (pp. 377-394. **Springer**. ISBN: 978-3-031-55031-7. https://doi.org/10.1007/978-3-031-55032-4_16
*Corresponding author

3. Kuntal Bera, **Sanjoy Sadhukhan**, Aparna Gunjal, Ashok Choudhury and Puspendu Dutta (2024). Phytomicrobiome in Modulating Plant-Growth and Stress Resilience: An Insight into the Functions and Emerging Perspectives in Agriculture. In: Javid Parray Microbial bioengineering and climatic stress: Advances in sustainable agroecosystems. (pp. **Elsevier**. Microbiome Drivers of Ecosystem Function. ISBN: 978-0-443-19121-3 https://doi.org/10.1016/B978-0-443-19121-3.00010-7

4. Sarkar, A. K., **Sadhukhan, S.*** (2023). Biochemical and molecular mechanism of melatonin-induced tolerance against salt stress. In: Roy Choudhury A., Advancement of melatonin research in plants: multi-faceted role in regulating development and stress protection. (pp. **CRC Press (Taylor and Francis group).** ISBN: 9781032381558. https://doi.org/10.1201/9781003343752-14
*****Corresponding author

5. Kakan Ball, Subir Ghosh, Kuntal Bera, **Sanjoy Sadhukhan**, and Puspendu Dutta. (2023). Role of Melatonin, a master regulator in modulating ROS and NO in plants during environmental stresses. In: Roy Choudhury A., Advancement of melatonin research in plants: multi-faceted role in regulating development and stress protection. (pp. **CRC Press (Taylor and Francis group).** ISBN: 9781032381558 https://doi.org/10.1201/9781003343752-9

6. Bera, K., Ball, K., Dutta, P., **Sadhukhan, S.*** (2023) Nitric oxide – a small molecule with big impacts on plants under heavy metal stress. In: Aftab, T., Corpas F. J., Gasotransmitters Signaling in Plants under Challenging

Environment. 147-173. **Springer.** ISBN: 978-3-031-43029-9 https://doi.org/10.1007/978-3-031-43029-9_7
*****Corresponding author

7. Sarkar, A. K., **Sadhukhan, S.*** (2023) Health Benefits of Natural Phytochemicals in Hot Chilli (*Capsicum annuum* L.). In: Malik, J. A., Goyal, M. R., Watharkar, R. B., Birwal, P., Plant-based Food Ingredients and Bioactive Compounds: Encapsulation, Functional and Safety Aspects. (pp. 207-235) **Apple Academic Press.** ISBN: 9781774912911 https://doi.org/10.1201/9781003372226-13
*****Corresponding author

8. Bera, K., Ghosh, S., **Sadhukhan, S.,** Dutta, P. (2023) Magneto priming – a novel technique towards improved seed germinability and stress responses: From basics to contemporary advancements. In: Roy Choudhury A., Biology and Biotechnology of Environmental Stress Tolerance in Plants. Volume 3: Agronomic and biotechnological approaches in environmental stress tolerance. (pp. **Apple Academic Press**. ISBN: 9781774912874. Palm Bay, Florida 32905, USA. https://doi.org/10.1201/9781003346401-7

9. Sarkar, A. K., **Sadhukhan, S.*** (2023) Small RNAs – The Big Players in Developing Salt-Resistant Plants. In: Roy Choudhury A., Biology and Biotechnology of Environmental Stress Tolerance in Plants. Volume 3: Agronomic and biotechnological approaches in environmental stress tolerance. (pp. **Apple Academic Press**. ISBN: 9781774912874. Palm Bay, Florida 32905, USA. https://doi.org/10.1201/9781003346401-11
*****Corresponding author

10. Ball, K., **Sadhukhan, S.*** (2023) Epigenetics – the molecular tool in understanding abiotic stress response in plants. In: Roy Choudhury A., Biology and Biotechnology of Environmental Stress Tolerance in Plants. Volume 3: Agronomic and biotechnological approaches in environmental stress tolerance. (pp. **Apple Academic Press**. ISBN: 9781774912874. Palm Bay, Florida 32905, USA. https://doi.org/10.1201/9781003346401-15
*****Corresponding author

11. Ghosh, S., Bera, K., Dutta, P., **Sadhukhan, S.*** (2023) "Seed priming and seedling pre-treatment in regulating secondary metabolism for stress tolerance". In: Roy Choudhury A., Biology and Biotechnology of

Environmental Stress Tolerance in Plants. Volume 1: Secondary metabolites in environmental stress tolerance. (pp. **Apple Academic Press**. ISBN: 9781774912836. Palm Bay, Florida 32905, USA. https://doi.org/10.1201/9781003346173-14
*****Corresponding author

12. Sarkar, A. K., **Sadhukhan, S.*** (2023) Role of *Cannabis sativa* L. in the Cosmetic Industry: Opportunities and Challenges. In: Lone, R., Mir, A., Manzoor, J., *Cannabis sativa* Cultivation, Production, and Applications in Pharmaceuticals and Cosmetics. (pp. **IGI Global**. ISBN: 9781668457184. https://doi.org/10.4018/978-1-6684-5718-4.ch006
*****Corresponding author

13. Ball, K., Tiru, Z., Chakraborty, A.P., Mandal, P., **Sadhukhan, S.*** (2022) Heavy Metal Toxicity and Phytoremediation by the Plants of Brassicaceae Family: A Sustainable Management. In: Aftab, T., Sustainable Management of Environmental Contaminants: Eco-friendly Remediation Approaches. (pp. **Springer.** Cham. https://doi.org/10.1007/978-3-031-08446-1_8 ISBN: 978-3-031-08446-1
*****Corresponding author

14. Sarkar, A. K., **Sadhukhan, S.*** (2022) Proteomics – A Powerful tool for understanding Saline Stress Response in Germinating Seed. In Roy, S., et al., Plant Stress: Challenges and Management in the New Decade. (pp. **Springer/IEREK** Book series ISBN: 978-3-030-95364-5 https://doi.org/10.1007/978-3-030-95365-2_24
*****Corresponding author

15. Bera, K., Dutta, P., **Sadhukhan, S.*** (2022) Plant responses under abiotic stress and mitigation options towards agricultural sustainability. In Roy, S., et al., Plant Stress: Challenges and Management in the New Decade. 1-26. **Springer/IEREK** Book series ISBN: 978-3-030-95364-5 https://doi.org/10.1007/978-3-030-95365-2_1
*****Corresponding author

16. Sarkar, A.K., **Sadhukhan, S.***(2021) Bioremediation of Salt Affected Soil through Plant-based Strategies. In: Malik J. Advances in Bioremediation and Phytoremediation for Sustainable Soil Management. 81-100. **Springer Nature** Switzeland AG. https://doi.org/10.1007/978-3-030-89984-4_5. Hardcover ISBN: 978-3-030-89983-7; eBook ISBN: 978-3-030-89984-4

*****Corresponding author

17. Tiru, Z., Mandal, P., Chakraborty, A.P., Pal, A., **Sadhukhan, S.**, (2021) Fusarium Disease of Maize and Its Management through Sustainable Approach. In: Mirmajlessi S.M. Fusarium - An Overview on Current Status of the Genus. (pp. http://dx.doi.org/10.5772/intechopen.100575 ISBN 978-1-83968-736-5

18. Goswami, R., Bandyopadhyay, B., & **Sadhukhan, S.*** (2022). Thermophilic Bacterial Exopolysaccharides: From Bio-Physicochemical Characterization to Biotechnological Applications. In: A. Gunjal, R. Thombre, & J. Parray (Ed.), Physiology, Genomics, and Biotechnological Applications of Extremophiles (pp. 334-361). **IGI Global**. Hershey, PA 17033-1240, USA. http://doi:10.4018/978-1-7998-9144-4.ch016 ISBN13 Softcover: 9781799891451; EISBN13: 9781799891468
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