

Dr.Arkajo Majumdar, M.Sc., Ph.D.

❖ Personal Details

Residence:

Simantapally, PO Santiniketan, Dt. Birbhum,
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❖ Current Position:

Assistant Professor (Stage 1), Department of Botany, City College, 102/1 Raja Rammohan Sarani, Kolkata-700009 (under Calcutta University).

❖ Membership details:

- i) Life Member of Indian Society for Plant Physiology (since 2014)
- ii) Life Member of Bengal Botanical Society (since 2018)

❖ Educational qualifications:

Course	University	Year	Subjectsstudied
B.Sc.	Visva-Bharati	2012	Botany (Hons.), Chemistry and Zoology (Subsidiary)
M.Sc.	Visva-Bharati	2014	Botany (specialization: Plant Physiology and Biochemistry)
Ph.D.	Visva-Bharati	2022	Topic: Metabolic Regulation and Signalling of Root Growth in <i>Vigna radiata</i> seedling

❖ Technical, workshop & Academic Training:

1.	Refresher Course (RC)	UGC-HRDC, University of Calcutta	14 days (25 th Feb – 10 th Mar, 2021)
2.	Faculty Induction Programme (FIP)	UGC-HRDC, Mizoram University	21 days (Jul 6 th – Jul 26 th , 2021)

❖ Area of expertise and Research Interest:

1. Root Growth and Development,
2. Plant Signalling Processes
3. Reactive Oxygen Species (ROS) homeostasis
4. Properties of Ca⁺² as second messenger

❖ Awards:

- i) **Outstanding Presentation Award** in 5th Regional Science and Technology Congress, 2023 Organized by WBDSTBT, Government of West Bengal and Maulana Azad College, Kolkata
- ii) **Young Scientist Award** in 1st International Botanical Congress, 2023 organized by Department of Botany, University of Calcutta and Bengal Botanical Society, Kolkata

❖ Publication:

Papers:

- Majumdar, A. and Kar, R.K. (2023).** Polyamines and Their Metabolism Play Pivotal role in ROS-mediated Regulation of Early Root Growth in *Vigna Radiata* (L.) Wilczek. *Journal of Plant Growth Regulation*, 42(6), 1-14. <https://doi.org/10.1007/s00344-023-11050-8> (**I.F. 4.64**)
- Dey, T., Das, S., Majumdar, A. and Kar, R.K. (2021).** Apoplastic reactive oxygen species mediated escape growth of root during illumination in *Vigna radiata* (L.) Wilczek seedlings. *Acta Physiologiae Plantarum*, 43(145). <https://doi.org/10.1007/s11738-021-03313-2>. (**I.F. 2.35**)
- Majumdar, A. and Kar, R.K. (2021).** Transcriptional co-regulation of plasma membrane H⁺-ATPase and NADPH oxidase during root growth. *Plant Gene*, 26(100272), <https://doi.org/10.1016/j.plgene.2021.100272>
- Majumdar, A. and Kar, R.K. (2020).** Chloroplast avoidance movement: a novel paradigm of ROS signalling. *Photosynthesis Research*, 144, 109-121. <https://doi.org/10.1007/s11120-020-00736-9>. (**I.F. 3.57**)
- Majumdar, A. and Kar, R.K. (2019).** Orchestration of Cu-Zn SOD and class III peroxidase with upstream interplay between NADPH oxidase and PM H⁺-ATPase mediates root growth in *Vigna radiata* L. Wilczek. *Journal of Plant Physiology*, 232, 248-256. <https://doi.org/10.1016/j.jplph.2018.11.001> (**I.F. 3.21**)
- Majumdar, A. and Kar, R.K. (2018).** Congruence between PM H⁺-ATPase and NADPH oxidase during root growth: a necessary probability. *Protoplasma*, 255(4), 1129-1137. <https://doi.org/10.1007/s00709-018-1217-1> (**I.F. 3.18**)
- Majumdar, A. and Kar, R.K. (2016).** Integrated role of ROS and Ca⁺² in blue light-induced chloroplast avoidance movement in leaves of *Hydrilla verticillata* (L.f.) Royle. *Protoplasma*, 253(6), 1529–1539. <https://doi.org/10.1007/s00709-015-0911-5>. (**I.F. 3.18**)

Book Chapter:

- Majumdar, A. and Kar, R.K. (2021).** Seed Germination: Explicit Crosstalk Between Hormones and ROS. In: Gupta, D.K. and Corpas, F.J. (eds) *Hormones and Plant Responses*, Springer-Nature, Switzerland pp 67-90. https://doi.org/10.1007/978-3-030-77477-6_3

Other publications

Sl.	Name of Journal/ Book/Other	ISSN/ ISBN	Publisher	Volume, Issue	Title of article	Page No.	Year	Authors
1.	Sampan	2395-2342	Sampan Bengali Little Magazine	Volume 8; No. 1 & 2	করুণাময় ক্লোরোপ্লাস্ট	136-146	Feb 2023	Arkajo Majumdar and Rup Kumar Kar
2.	Anandabazar Patrika	N/A	ABP Pvt. Ltd	Editorial Article	‘রস’তবেই দুর্ধর্ষ করোনা	4	2 nd May, 2022	
3.	Science Reporter	0036-8512	CSIR-NISCAIR	Volume 53; No. 9	Sunscreen for Plants	10	Sep, 2016	Arkajo Majumdar

❖ List of Participation in Seminar, Conference and Workshop

- Majumdar, A. and Kar, R.K, (2014). “Signalling In Blue Light Induced Chloroplast Movements In *Hydrilla verticillata* (L.f.) Royle”. Oral presentation (at **Young Scientists’ Award session**), National Conference of Plant Physiology (NCP); Organized by Indian Society for Plant Physiology (ISPP) and Odisha University of Agriculture and Technology (OUAT), Bhubneshwar (from Nov 23rd – Nov 25th, 2014).
- Majumdar, A. and Kar, R.K. (2015). “Novel Feed-Forward Loop Between Two Putative Plasma Membrane Enzymes: NADPH oxidase and H⁺-ATPase”. Poster presentation at International Plant Physiology Congress (IPPC); Organized by ISPP and JNU, New Delhi (from Dec 11th – Dec 14th, 2015).
- Majumdar, A. and Kar, R.K. (2016). “Plasma membrane H⁺-ATPase and NADPH oxidase: functionally harmonized?”. Poster presentation at National Seminar; Organized by Department of Botany, Visva-Bharati, Santiniketan (from March 19th – March 20th, 2016).
- Majumdar, A. and Kar, R.K. (2016). “Orchestration of ROS, pH and IAA in early root growth”. Oral presentation (at **Young Scientists’ Award session**), National Conference of Plant Physiology (NCP); Organized by Indian Society for Plant Physiology (ISPP) and GKVK, Bengaluru (from Dec 8th – Dec 10th, 2016).
- Majumdar, A. and Kar, R.K. (2017). “ROS, pH and IAA: Regulators of early root growth”. Oral presentation at National Seminar; Organized by Department of Botany, Visva-Bharati, Santiniketan (from March 15th – March 16th, 2017).
- Majumdar, A. and Kar, R.K. (2017). “Regulation of early root growth entails synchronization of ROS metabolism and pH modulation”. Poster presentation at National Conference of Plant Physiology (NCP); Organized by Indian Society for Plant Physiology (ISPP) and Indira Gandhi Krishi Vishwavidyalaya, Raipur (from Nov 23rd – Nov 25th, 2017)
- Majumdar, A. and Kar, R.K. (2018). “Integration of ROS homeostasis and sugar metabolism with concurrent activities of limited-substrate oxidases during early root growth”. Poster presentation at International Plant Physiology Congress; Organized by ISPP and CSIR-NBRI, Lucknow (from Dec 2nd – Dec 5th, 2018).
- Majumdar, A. and Kar, R.K. (2019). “Orchestration of ROS Enzymes with PM H⁺-ATPase Mediates Early Root Growth”. Oral presentation at Science Congress (Kolkata Chapter); Organized by Indian Science Congress Association and City College, Kolkata (from Feb 27th – Feb 28th, 2019).
- Majumdar, A. and Kar, R.K. (2023). “Co-ordinations of glucose 6-phosphate dehydrogenase, NADPH oxidase and PM H⁺-ATPase mediates early root growth”. Oral presentation, 5th Regional Science and Technology Congress; Organized by WBDSTBT, Government of West Bengal and Maulana Azad College, Kolkata (from Jan 4th – Jan 5th, 2023). **Received Outstanding Presentation Award.**
- Majumdar, A. and Kar, R.K. (2023). “Synchronization of apoplastic ROS cascade, PM H⁺-ATPase and G6PDH mediates early root growth”. Oral presentation (at **Young Scientists’ Award session**), 1st International Botanical Congress; Organized by Department of Botany, University of Calcutta and Bengal Botanical Society, Kolkata (from Mar23rd – Mar25th, 2023). **Received Young Scientist Award.**