

Abhijit SARKAR

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RESEARCH OBJECTIVE

Being a student of Plant Science; my basic objective is to understand – the dynamism of plant's development and adaptability under the ever changing environmental conditions. Plants are the foundation for the advancement of human civilization, and still hold the key too. So, I believe that, a sustainable future can only be possible if we can really understand the sustainable utilization of nature, especially plants; and for that I prefer the integrated 'omics' approach (i.e. – genomics, proteomics, transcriptomics and metabolomics) coupled with bio-informatics for unraveling the mysteries of plant's survival on Earth.

QUALIFICATION OVERVIEW

- At present, enrolled for **Ph.D.** program in **Botany** at **Banaras Hindu University, India** from **2007**. (Under the supervision of Prof. S. B. Agrawal; possible thesis title: **Impact of Ozone on growth and yield of some important crop plants**). *Expected Date of Completion, May/June 2011*.
- Qualified Council for Scientific and Industrial Research organized 'National Eligibility Test' for lecturer ship (**CSIR-NET-LS**) in December, **2006**.
- Completed **Masters of Science (M.Sc.)** in **Botany** (with specialization in – **plant physiology, biochemistry and plant molecular biology**) from **University of Calcutta, India** in **2005**, with 67.6% of marks.
- Completed **Bachelor of Science (B.Sc.)** in **Botany** from **University of Calcutta, India** in **2003**, with 60.5% of marks.

PROFESSIONAL EXPERIENCE

- At present, working as **CSIR-SRF** in Department of Botany, Banaras Hindu University, Varanasi – 221 005, India, from 01st April, 2010
- Worked as **Research Staff (both JRF & SRF)** in Council for Scientific and Industrial Research, New Delhi sponsored project "Impact of Ozone on growth, reproductive development and yield of some important crop plants" from 6th February, 2007 to 31st December, 2009.
- Worked as **Biotechnologist** in Biotechnology Division, **Standard Pharmaceuticals**, Serampur, West Bengal, India for six months after M.Sc. in 2005-2006.

WORK SHOP / TRAINING

- Attained a training on '**Creation and Management of Biological database**', conducted by **Bioinformatics Centre, Sikkim State Council of Science and Technology, Sikkim, India**
- Attained a '**summer course**' on '**Electrophoresis Techniques**', organized by **The Electrophoresis Institute, BioTech - Yrecaud, Salem, India**

SEMINAR / SYMPOSIUM

- **Presentation**
 1. Presented a paper in **13th West Bengal Science and Technical Congress**, organized by WBSBST, West Bengal on 28th February – 1st March 2006.
 2. Presented a paper in **National Seminar on 'Advances in Enzymology'**, organized by Dept. of Plant Science, Bharatidasan University, Tiruchirappalli, India on 9th – 10th March, 2006, and awarded as '**Best Paper Presentation**'.
 3. Presented a paper in **Fourth International Conference on Plant and Environmental Pollution (ICPEP-4)**, organized by International Society for Environmental Botanists and National Botanical Research Institute, Lucknow, India on 8-11 December, 2010.

PUBLICATIONS

- **Research Papers**
 1. Mandal, P., Mishra, T. K., **Sarkar, A.**, Ghosh, A. and Sircar, P. K. 2008. Dynamic peptide profiles of germinating mungbean: in relation to their nature and separation pattern. *Indian Journal of Plant Physiology* 13 (2): 111 – 117.
 2. Kumari, R., Agrawal, S. B., **Sarkar, A.** 2009. Evaluation of changes in oil cells and composition of essential oil in lemongrass *Cymbopogon citratus* (D.C.) Stapf.) due to supplemental ultraviolet-B irradiation. *Current Science* 97(8): 1137-1142.

3. **Sarkar, A** and Agrawal, S.B. 2010. Identification of Ozone Stress in Indian Rice through Foliar Injury and Differential Protein Profile. *Environmental Monitoring and Assessment* 161:205–215.
 4. **Sarkar, A.** and Agrawal, S. B. 2010. Elevated ozone and two modern wheat cultivars: an assessment of dose dependent sensitivity with respect to growth, reproductive and yield parameters. *Environmental and Experimental Botany* 69(3): 328-337.
 5. Singh, A., **Sarkar, A.**, Singh, S., Agrawal, S.B. 2010. Investigation of supplemental ultraviolet-B induced changes in anti-oxidative defense system and leaf proteome level in radish (*Raphanus sativus* L. cv Truthful) plant: an insight to plant defense response under higher oxidative stress. *Protoplasma* 245: 75-83.
 6. **Sarkar. A.**, Rakwal, R., Agrawal, S. B., Shibato, J., Ogawa, Y., Yoshida, Y., Agrawal, G. K. and Agrawal, M., 2010, 'Investigating the impact of elevated levels of ozone on tropical wheat using integrated phenotypical, physiological, biochemical and proteomics approaches. *Journal of Proteome Research* 9: 4565-4584.
 7. Tripathi, R., **Sarkar, A.**, Pandey Rai, S., Agrawal, S. B. 2011. Supplemental Ultraviolet-B and Ozone: Impact on antioxidants, proteome and genome of linseed (*Linum usitatissimum* L. cv Padmini). *Plant Biology* 13: 93-104.
- **Review Papers**
 1. Cho, K., Tiwari, S., Agrawal, S.B., Torres, N.L., Agrawal, M., **Sarkar, A.**, Shibato, J., Agrawal, G.K., Kubo, A., Rakwal, R. 2011. Tropospheric Ozone and Plants: Absorption, Responses and Consequences. *Reviews in Environmental Contamination and Toxicology* (RECT) 212: 61-111.
 - **Book Chapters**
 1. Zargar, S.M., Nazir, M., Cho, K., Kim, D., Jones, O.A.H., **Sarkar, A.**, Agrawal, S. B., Shibato, J., Kubo, A, Jwa, N., Agrawal G. K., Rakwal, R. 2011. Impact of Climatic Changes on Crop Agriculture: OMICS for Sustainability and Next Generation Crops. In: *Sustainable Agriculture and New Bio-Technologies" (OMICS)*. Ed. N. BENKEBLIA. CRC Press (USA) (*in press*).

MEMBER OF DESIGNATED SOCIETIES

- I.C.L.E.I. South Asia.
- INPPO (and Administration, General)

REFEREES

- NATIONAL.

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