




**DESHBANDHU COLLEGE**  
**(UNIVERSITY OF DELHI)**  
**KALKAJI, NEW DELHI - 110019**  
**Faculty Details Performa for College Website**

<b>Title</b>	<b>DR. (MRS.)</b>	<b>First Name</b>	<b>RANJANA</b>	<b>Last Name</b>	<b>SETH</b>	<b>Photograph</b>  
<b>Designation</b>	<b>Associate Professor</b>					
<b>Address</b>	<b>37/2 West Patel Nagar, New Delhi-110008</b>					
<b>Phone No. Office</b>	011-26439565, 011-26235542					
<b>Residence</b>	011-25885903 ,011-25884737					
<b>Mobile</b>	+919811760107					
<b>Email</b>	<b><u>seth.ranjana.27@gmail.com</u></b>					
<b>Web-Page</b>	<b>www.deshbandhucollege.ac.in</b>					
<b>Educational Qualifications</b>						
<b>Degree</b>	<b>Institution</b>				<b>Year</b>	
Ph.D.	UNIVERSITY OF DELHI				1986	
M.Phil.	UNIVERSITY OF DELHI				1980	
PG	UNIVERSITY OF DELHI				1979	
UG	UNIVERSITY OF DELHI				1977	
<b>Any other qualification</b>	POST DOCTORAL-CSIR RA (India)				1987-1991	
	POST DOCTORAL (UK)				1991 (6 Months)	
<b>Certificate course in Russian language</b>	UNIVERSITY OF DELHI				1992	
<b>Diploma in Russian language</b>	UNIVERSITY OF DELHI				1993	
<b>Career Profile</b>						
Lecturer in Deshbandhu College - 15/2/1991 Senior Lecturer in Deshbandhu College -15/2/1993 Reader in Deshbandhu College -01/7/1991 Associate Professor in Deshbandhu College from - 2003						
<b>Administrative Assignments</b>						
<ul style="list-style-type: none"> <li>• Worked as the Teacher-in-Charge of the Department of Zoology (2 times) and Convenor (Cultural Committee) and Member of various Staff Council Committees of the college.</li> </ul>						
<b>Areas of Interest/Specialization</b>						

Entomology

### **Subjects Taught**

**Cell Biology, Molecular Biology, Histology, Developmental Biology, Ecology, Non - Chordata, Chordata, Developmental Biology, Histology and Entomology**

### **Research Guidance**

List against each head (If applicable):

1. Supervision of awarded Doctoral Thesis : NA
2. **Supervision of Doctoral Thesis, under progress : Two (2) Vide letter dated 7/05/2019, Faculty of Science, Delhi University**
3. Supervision of awarded M.Phil. dissertations : NA
4. Supervision of M.Phil. dissertations, under progress :NA

### **Publications Profile**

#### **Research Publications:**

#### **Papers published: 14**

1. Seth, R.K., Patil, B.V., Zarin, M., Khan, Z., Hanchinal, S.G., Haveri, R.V., Gopalkrishna, A., and Seth, Ranjana. 2020. Studies on the ontogenic radio-sensitivity in *Callosobruchus* species complex to establish a generic dose of phytosanitary irradiation as a post harvest quarantine treatment for disinfection of pulses. *Radiation Physics and Chemistry*. DOI: 10.1016/j.radphyschem.2020.108686
2. Seth, R. K., Vimal, N., Sengupta, M., Angmo N., Dhal M. K. and Seth Ranjana. 2018. Coupling biorational tactics with radio-genetic F1 Sterility technique for an effective integrated pest management against lepidopteran insects. *Int J Zoo Animal Biol*. 1(4): 000120.
3. Seth, R.K. Zarin, M., Khan, Z. and Seth, Ranjana. 2016. Ionizing radiation as a phytosanitary treatment against *Phenacoccus solenopsis* (Hemiptera: Pseudococcidae). *Florida Entomologist* 99(sp2): 76-87
4. Seth, Ranjana, Zarin, M., Khan, Z. and Seth, R. K. 2016. Towards phytosanitary irradiation of *Paracoccus marginatus* (Hemiptera: Pseudococcidae): Ascertaining the radiosensitivities of all life stages. *Florida Entomologist* 99(sp2): 88-101
5. Seth, Ranjana, Zarin, M., Khan, Z. and Seth, R. K. 2016. Phytosanitary irradiation against *Maconellicoccus hirsutus* (Hemiptera: Pseudococcidae). *Florida Entomologist* 99(sp2): 102- 113.

6. Hofmeyr, H., Doan, T.T., Indarwatmi, M., Seth, Ranjana and Zhan, G. 2016. Development of a generic radiation dose for the postharvest phytosanitary treatment of mealybug species (Hemiptera: Pseudococcidae). *Florida Entomologist* 99(sp2): 191-196.
7. Seth, Ranjana, and Saxena, D.M. (1991). Impact of acetone on the growth of *Tetrahymena* when used as a solvent for lindane(-HCH). *J. Appl. Zool. Res.* 2(1):9-12.
8. Saini, A., Mathur, Ranjana, and Saxena, D.M. (1990). Bioconcentration of organophosphorus insecticides by the ciliate protozoan, *Tetrahymena thermophila*. *Pesticide Research Journal* 2(2): 123-126.
9. Mathur, Ranjana, and Saxena, D.M. (1989). Influence of HCH isomers on accumulation and toxicity studies in *Saccharomyces cerevisiae*. *J. Environ. Biol.*, 10 (2-suppl) : 227 - 235.
10. Mathur, Ranjana, and Saxena, D.M. (1988). Effect of HCH isomers on cell shape and size of a fresh water ciliate, *Tetrahymena pyriformis*. *J. Advanced. Zool.*, 9 (2):76-78.
11. Mathur, Ranjana, and Saxena, D.M. (1987). Accumulation of Hexachloro-cyclohexane (HCH) isomers by *Tetrahymena pyriformis* under laboratory conditions. *Water, Air and soil Pollution*, 32: 323-327.
12. Mathur, Ranjana, and Saxena, D.M. (1986). Effects of Hexachloro-cyclohexane(HCH) isomers on growth and their accumulation in the blue-green alga, *Anabaena* sp.(ARM 310). *J. Environ. Biol.* 7(4): 239-251
13. Mathur, Ranjana, and Saxena, D.M. (1986). Inhibition of macromolecular synthesis in a ciliate protozoan, *Tetrahymena pyriformis* by Hexachloro-cyclohexane(HCH) isomers. *Acta protozoologica*, 25(4): 397-410.
14. Mathur, Ranjana, Saxena, D.M. and Agarwal, H.C.(1984). Growth of a ciliate protozoan, *Tetrahymena pyriformis* in the presence of different isomers of Hexachloro-cyclohexane(HCH). *Acta protozoologica*, 23: 165-174

#### Conference Organization/Presentations

#### List of Papers presented in International /National Conferences or Symposia

##### Papers presented in conferences : 23

- Tyagi. E., Kochar, M., Keshavam, C.C., Seth, Ranjana, Seth, R.K., Gupta, M. and Singh, Y. 2020. In-silico identification and in-vitro characterization of *Mycobacterium tuberculosis* Rv1985c as a novel nucleoid-associated protein. In: International Conference on Natural Products and Human Health, Deshbandhu College, University of Delhi, Delhi, India (27-29 Feb., 2020).
- Angmo, N., Sengupta, M., Vimal, N., Seth, Ranjana and Seth, R.K. 2020. Influence of scales dislodgement of moths on the efficiency of Inherited sterility technique for suppression of a serious polyphagous pest *Spodoptera litura* (Fabr.) [Lepidoptera: Noctuidae]. In: XVII AZRA International Conference on Frontier Research in Applied

Zoology and Insect Pest Management Strategies: A Way Forward for Food and Nutritional security, UAS Raichur, Karnataka, India. (Feb. 12-14, 2020)

- Yadav, P., Arora, S., Singh, Y., Seth, Ranjana and Seth, R.K. 2020. Biorational pest control tactics to integrate with Inherited Sterility technique for suppression of a serious polyphagous pest *Spodoptera litura* (Fabr.) [Lepidoptera: Noctuidae]. In: XVII AZRA International Conference on Frontier Research in Applied Zoology and Insect Pest Management Strategies: A Way Forward for Food and Nutritional security, UAS Raichur, Karnataka, India. (Feb. 12-14, 2020).
- Tyagi, E., Gupta, M., Keshavam, C.C., Kochar, M., Seth, Ranjana, Seth, R.K. and Singh, Y. 2019. Identification and biochemical characterization of *E. coli* *iciA* homolog *rv1985c* in *Mycobacterium tuberculosis* as novel nucleoid-associated protein. 60th Annual Conference of The Association of Microbiologists of India (AMI-2019), Central, University of Haryana, Mahendragarh, Haryana (15-18 Nov.2019).
- Seth, R.K. Vimal, N., Sengupta, M., Angmo, N., Dhal, M.K. and Seth, Ranjana. 2018. Biorational molecules with F1 sterility technique for suppression of Lepidopteran insects: Synergy for enhanced efficacy of Radiogenetic control tactic. In : National conference on Chemistry for Human Health and Environment (CHHE), organized by Green Chemistry Network Centre (GCNC), University of Delhi & Royal society of chemistry (RSC), London North India section in collaboration with National Environmental Science Academy, Delhi (15-16 December, 2018). Awarded first prize for poster presentation
- Seth, R.K., Patil, B.V., Haveri, R. V., Hanchinal, S.G., Zarin, M., Khan, Z. and Seth, Ranjana. 2017. Establishing a generic radiation dose as post harvest phyto-sanitary treatment against bruchid species (Coleoptera: Chrysomelidae) infesting legumes. “Third FAO–IAEA International Conference on Area-wide Management of Insect Pests: Integrating the Sterile Insect and Related Nuclear and Other Techniques”, (IAEA-CN-248), Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture, IAEA, Vienna, Austria (22–26 May 2017).
- Seth, R.K., Khan, Z., Rao, D.K. Zarin, M. and Seth, Ranjana. 2017. Sperm behavior as a key tool ensuring operative efficiency of radio-genetic ‘F1 Sterility technique’ for population suppression of an economically serious Indian pest, *Spodoptera litura* (Fabr.) (Lepidoptera: Noctuidae) in lab and field simulated cages. “Third FAO–IAEA International Conference on Area-wide Management of Insect Pests: Integrating the Sterile Insect and Related Nuclear and Other Techniques”, (IAEA-CN-248), Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture, IAEA, Vienna, Austria (22–26 May 2017).
- Zarin, M. Seth, Ranjana and Seth, R.K. 2016. Bio-efficacy of phytosanitary irradiation against the various ontogenic stages of the Solenopsis mealybug, *Phenacoccus solenopsis* (Homoptera: Pseudococcidae). XXV International Congress of Entomology (ICE 2016), Orlando, Florida, USA (Sept. 25-30, 2016)
- Seth, R.K and Seth, Ranjana. 2016. Light (Visible Range Radiation) Activated Pest Control in Tropical Countries. In: “International Conference on Entomology” at Punjabi University, Patiala (Dec.3-5, 2016).

- Seth, Ranjana, Zarin, M., Zubeda, and Seth, R.K. 2014. Ascertaining the radio-sensitivity of the papaya mealybug, *Paracoccus marginatus* towards setting up phytosanitary irradiation regimen against this tropical quarantine pest. International Symposium on Food Safety and Quality: Applications of Nuclear and Related Techniques - CN-222, IAEA, Vienna (Nov.10-13, 2014)
- Seth, Ranjana, Zarin, M., Zubeda, and Seth, R.K. 2014. Bio-efficacy of ionizing radiation as phytosanitary treatment against mealybug species of quarantine importance, viz., *Phenacoccus solenopsis*, *Maconellicoccus hirsutus* and *Paracoccus marginatus*. Fourth FAO/IAEA Research Co-ordination Meeting on CRP, “Development of generic irradiation doses for quarantine treatment”, IAEA, Vienna (2-6 June 2014).
- Seth, Ranjana, Zarin, M., Zubeda, and Seth, R.K. 2012. Bio-efficacy of gamma radiation as phytosanitary treatment against various ontogenetic stages of the *Solenopsis* mealybug, *Phenacoccus solenopsis* and the Pink hibiscus mealy bug, *Maconellicoccus hirsutus*. Third Research Co-ordination Meeting on CRP, “Development of generic irradiation doses for quarantine treatment”, Buenos Aires, Argentina (15-19 October 2012).
- Zubeda, Zarin, M., Seth, Ranjana, and Seth, R.K. 2012. Influence of ionizing radiation on flight activity of F-1 progeny of sub-sterilized male moths of *Spodoptera litura* (Fabr.) [Lepidoptera : Noctuidae]. In: “International conference on Emerging Frontiers and Challenges in Radiation Biology”, Bikaner, Rajasthan (24-25 Jan, 2012)
- Zarin, M., Seth, Ranjana, Zubeda, and Seth, R.K. 2012. Bioefficacy of gamma radiation on *Phenacoccus solenopsis* (Hemiptera: Pseudococcidae). In: “International conference on Emerging Frontiers and Challenges in Radiation Biology”, Bikaner, Rajasthan (24-25 Jan, 2012)
- Seth, Ranjana, Zarin, M., Zubeda, and Seth, R.K. 2011. Efficacy of gamma radiation as phytosanitary treatment against the *Solenopsis* mealybug, *Phenacoccus solenopsis*. Second Research Co-ordination Meeting on CRP, “Development of generic irradiation doses for quarantine treatment”, Texas A&M University College Station, Texas, 11 to 15 April 2011
- Seth, Ranjana and Seth, R.K. 2009. Development of Generic Irradiation Doses for Phytosanitary Treatment of Mealy Bug Spp. Infesting Agricultural Commodities. First Research Co-ordination Meeting on CRP, “Development of generic irradiation doses for quarantine treatment” Vienna, 5-9 October 2009
- Seth, Ranjana and Wright, S.J.L. (2007) Effect of hydrogen peroxide on growth kinetics and population studies of a ciliate, *Tetrahymena pyriformis*. In: “Intern. Symposium on Ciliate Biology”, SGTB Khalsa College, Delhi Univ. (Feb. 6-7, 2007)
- Seth, Ranjana, Saxena, D.M., and Seth, R.K. (1992). Use of *Tetrahymena pyriformis* as a test organism for assessing the impact of insecticides on non-target organisms. In: 6th International Congress on Invertebrate Reproduction”, Trinity College, Dublin, Ireland (June 26 - July 3, 1992). Seth, Ranjana and Saxena, D.M. (1992). Influence of some factors on the toxicity of  $\gamma$ -HCH to *Tetrahymena pyriformis*. In: “First European Congress of Protozoology”, Reading, UK (April, 5-7, 1992).

- Mathur, Ranjana and Saxena , D.M. (1989). Hexachloro-cyclohexane(HCH) isomers : Effect on accumulation by Tetrahymena pyriformis In: “VIII Intern. Congress of Protozoology, Tsukuba, Japan (July 10-17, 1989).
- Saxena, D.M., Mathur, Ranjana , and Saini,A.(1989). Cytotoxicological impact of various insecticides on certain non-target micro- organisms. In: “VIII Intern. Congress of Protozoology, Tsukuba, Japan (July 1017, 1989). Saxena , D.M., Mathur, Ranjana and Saini, A. (1985).Cellular aspects of pesticide pollution using microorganisms as model system. In: “VII Intern. Congress of Protozoology”, Nairobi, Kenya (June 22-29, 1985).

## Research Projects (Major Grants/Research Collaboration)

### Research Grant

**International Project: International Atomic Energy Agency (IAEA) sponsored project (IAEA Research Contract No. 15852/RB, entitled, “Development of generic irradiation doses for phytosanitary treatment of mealy bug spp. infesting agricultural commodities”, under IAEA CRP D62008, “Development of generic irradiation doses for quarantine treatment”, awarded for 2009-2015 with a grant of Euros 40,000.**

Foreign Scientific Visits for International Symposia and IAEA Research Coordination Meetings: Seven (7)

### Association With Professional Bodies

- Life member of Association of Entomologists (2015).
- Advisor, Staff Selection Commission, Govt. of India

### Other Activities

#### Participation in Symposia & Academics related activities ( last five years )

- Attended the online workshop entitled “Role of a Citizen in biodiversity Conservation” organized by the Department of Zoology, Deshbandhu College, University of Delhi on May 13, 2020.
- Participated and acted as a member of the Organizing Committee for the “International Conference on Natural Products and Human Health” held at Conference Centre , University of Delhi from February 27 – 29 ,2020.
- Participated and acted as a member of the Organizing Committee of the Third national Symposium on “ Environment : Challenges Generation Next “ held at Deshbandhu College on March 31,2017

- Participated and acted as a member of Organizing Committee for 'Second National Symposium on Environment: Greener future and Awareness' held at Deshbandhu College, Kalkaji, New Delhi on March 19, 2016.
- Participated and acted as a member of Organizing Committee for 'National Symposium on " Reproductive Health in India: Concerns and Awareness"' held at Deshbandhu College, Kalkaji, New Delhi on Feb 12, 2016
- Participated and acted as a member of the Organizing Committee for the National Symposium on "Vector Biology and Vector Management" held at Deshbandhu College on Feb12,2015
- Participated as an Organizing Member in the 'Inspire Internship Program- 2015' held at Deshbandhu College, University of Delhi from Dec 14-18, 2015
- Participated in "Workshop on Insect taxonomy", organized by Department of Zoology & Environment, Punjabi University, Patiala (March 9, 2015)
- Attended and was a member of the Organizing Committee for the National Symposium on Environment: Challenges and Awareness held at Deshbandhu College on November 5, 2014.

Signature of Faculty Member