

# CURRICULAM-VITAE



थातः ५		T1 . 3.7	ъ .	·	I	D1 .		
Title D	Or.	First Name	Ravi	Last	Toteja	Photo	graph	
				Name				
Designation		Officiating Principal						
Address		Department of Zoology, Acharya Narendra Dev						
		College, University of Delhi, Govindpuri, Kalkaji,						
		New Delhi-110019						
Phone No		011-26294542						
Office								
Residence								
Mobile								
Email/		ravitoteja@andc.du.ac.in						
Web-Page		http://andcollege.du.ac.in/?q=departments/zoology/fa				1		
		culty/5						
Educational Qualifications								
Degree		Institution				Year		
B.Sc.	(H)	University of Delh	i			1992		
Zoology								
M.Sc. University of De			hi			1994		
Zoology								
(Cell Biol.)								
M. Phil.		University of Delh	elhi			1995		
Ph.D.		University of Delhi				2001		
Career Profile								
Instituti	on		Position I	Held Du	ıration		Total	
							Experience	
Acharya	Nare	ndra Dev College	Associate 1 <sup>st</sup> Sept, 2000 to till			20 Years		
(DU)		Professor	dat	te				
IGNOU		Assistant	Fel	b, 2001 to	June	5 Months		
			Professor	20	01			
Deshbandhu College (DU)			Assistant	Au	ig, 2001 to	Sept,	2 Months	
			Professor	20	01			
			(Guest)					
Jamia Millia Islamia University			Assistant	Jul	y, 2002 to	Sept,	3 Months	
			Professor	20	02			
			(Guest)					
Administr	Administrative Assignments							

Vice Principal from February, 2017 to November, 2018

## (2014-2016)

- ➤ Convenor, library Committee
- ➤ Member, Editorial Committee
- ➤ Deputy Superintendent, Foundation Course Evaluation Centre.

#### (2012 - 2014)

- > Secretary, Staff Council.
- > Member, Governing Body of the college.
- > Convenor, Examination Committee.
- ➤ Member of Internal Assessment Committee.

## (2010-2012)

- > Member of Editorial committee.
- > Convenor of add on course "Effective Communication and Personality Development through Theater".
- Convenor of Dramatic Society.
- ➤ Member of committee to develop guidelines for creation of an e-learning portal and online modules on the website.

#### (2008 - 2010)

- ➤ Member of Fellowship committee.
- ➤ Member of Alumni committee.
- ➤ Member of Professional Development of faculty committee.

## (2006-2008)

- ➤ Member of Time table and work load committee.
- ➤ Deputy Superintendent in the college for B category examinations of University of Delhi in 2006.
- ➤ Member of Library committee.
- Convenor of Debating Society.
- ➤ Member of Purchase committee.
- ➤ Member of the Departmental committee for internal assessment.

# Areas of Interest / Specialization

Cell and Molecular Biology, Biotechnology

# Subjects Taught

Molecular Biology and Immunology

#### Research Guidance

Guided various undergraduate students for the college research projects under IEDC, ELITE.

## Ph.D. supervision

- Supervisor for two Ph.D. students
- Co-Supervisor for one Ph.D. students Ph.D. topics:
- Taxonomy, phylogeny and molecular systematics of ciliates from Delhi, India
- Ciliates as cellular tool to assess heavy metal toxicity
- Microorganisms as bioindicators in diverse environment
- Use of ciliates in ecotoxicological studies

#### **Publications Profile**

- 1. **Ravi Toteja**, Lathika Nair, VK Bhasin (**2001**) Genome comparison of progressively drug resistant *Plasmodium falciparum* lines derived from drug sensitive clone. Memoris do Instiuto Oswaldo Cruz, 96(3): 427-433.
- 2. **Ravi Toteja** and Sarita Kumar (2012) "Usefulness of m- devices in education: A survey". Procedia-Social and Behavioral Sciences (67) 538-544.
- 3. Sarita Kumar and **Ravi Toteja (2012)** "Print to Digital: A Study of Students' psychosomatic Cost in Traditional and e-learning' Procedia-Social and Behavioral Sciences (67) 553-560.
- 4. Seema Makhija, Renu Gupta and **Ravi Toteja** (**2015**). Lithium-induced developmental anomalies in the spirotrich ciliate *Stylonychia lemnae* (Ciliophora, Hypotrichida). European Journal of Protistology. 51, 290-298.
- 5. Sripoorna Somasundaram, Jeeva Susan Abraham, Renu Gupta, Seema Makhija and **Ravi Toteja** (2015) Diverse freshwater ciliate fauna from Okhla bird sanctuary, Delhi, India. Global Journal for Research Analysis, 4(9): 37-41.
- 6. Seema Makhija, Renu Gupta, **Ravi Toteja**, Jeeva Susan Abraham and S. Sripoorna (**2015**). Cadmium induced ultrastructural changes in the ciliate, *Stylonychia mytilus* (Ciliophora, Hypotrichida). Journal of Cell and Tissue Research, 15(3): 1-7.
- 7. Sripoorna Somasundaram, Jeeva Susan Abraham, Renu Gupta, Seema Makhija and **Ravi Toteja** (2015) Diverse freshwater spirotrich ciliate fauna from Okhla Bird Sanctuary, Delhi, India. Global Journal for Research Analysis, 4 (9): 37–41.
- 8. Jeeva Susan Abraham, Sripoorna Somasundaram, Shiv Jangra, Khushi Yadav, Simran Singh, Siddhant Zutshi, Bhupender Singh, Jyoti Dagar, Anit Kumar, Anusha Goyal, Muskaan Bhatnagar, Upadhaya M., Ashish Choudhary, **Ravi Toteja**, Renu Gupta, Geetu Gambhir, Seema Makhija (**2016**) Biodiversity and community structure of soil ciliates collected from three different sites of Delhi, India to assess soil quality. Protistology, 10 (2), 5.

- 9. Seema Makhija, Jeeva Susan Abraham, Sripoorna Somasundaram, **Ravi Toteja**, Renu Gupta (**2016**). Mapping the hidden diversity of free living fresh water ciliates from Delhi region, India. Protistology, 10 (2), 43.
- 10. Sripoorna Somasundaram, Jeeva Susan Abraham, **Ravi Toteja**, Renu Gupta, Seema Makhija (**2016**). Molecular defence mechanisms in spirotrich ciliates to prevent heavy metal toxicity. Protistology, 10 (2), 76.
- 11. Sripoorna Somasundaram, Jeeva Susan Abraham, **Ravi Toteja**, Seema Makhija, Renu Gupta (**2016**). Evaluation of acute toxicity of heavy metals and the activity of antioxidant enzymes in freshwater ciliates. Protistology, 10 (2), 77.
- 12. **Ravi Toteja**, Seema Makhija, S. Sripoorna, Jeeva Susan Abraham and Renu Gupta (2017) Influence of Copper and Cadmium Toxicity on the Activity of an Antioxidant Enzyme, Superoxide Dismutase in Freshwater Ciliates. Indian Journal of Experimental Biology, 55: 694–701.
- 13. Ashish Choudhary, Jeeva Susan Abraham, S. Sripoorna, Manu Sankar, Vikas Ahlawat, Renu Gupta, Seema Makhija, **Ravi Toteja** (2016) Evaluation of the cytotoxic effect of pesticide malathion on freshwater ciliate, *Tetmemena* sp. DU Journal of undergraduate research and innovation, 2 (1): 20–30.
- 14. Ilmas Naqvi, Renu Gupta, Seema Makhija, **Ravi Toteja**, Jeeva S Abraham, S. Sripoorna and Hameed A.El-Serehy (**2016**) Morphology and morphogenesis of a new oxytrichid ciliate, *Notohymena limus* n. sp. (Ciliophora, Oxytrichidae) from Delhi, India. Saudi Journal of Biological Sciences, 23 (6): 789-794.
- 15. Jeeva Susan Abraham, S. Sripoorna, Ashish Choudhary, **Ravi Toteja**, Renu Gupta, Seema Makhija and Alan Warren (**2017**) Assessment of Heavy Metal Toxicity in Four Species of Freshwater Ciliates (Spirotrichea; Ciliophora) from Delhi, India. Current Science, 113 (11): 2141–2150.
- 16. Renu Gupta, Jeeva Susan Abraham, Sripoorna Somasundaram, **Ravi Toteja**, Seema Makhija and Hamed A El-Serehy (**2017**) Taxonomic and Morphogenetic description of freshwater ciliate *Aponotohymena isoautralis* n. sp. (Ciliophora; Oxytrichidae) isolated from Sanjay Lake, Delhi, India. *Acta Protozoologica*, 56: 93-107.
- 17. Sripoorna Somasundaram, Jeeva Susan Abraham, Swati Maurya, Seema Makhija, Renu Gupta and **Ravi Toteja** (2018) Cellular and molecular basis of heavy metal-induced stress in ciliates. Current Science, 114: 1858–1865.
- 18. S. Sripoorna, Jeeva Susan Abraham, Swati Maurya, Hritik Kadian, Juhi Jaiswal, Seema Makhija, **Ravi Toteja** (2017) Ultraviolet B induced protection strategies in unicellular eukaryotic microbes *Blepharisma* sp. and *Notohymena* sp. (Protista). DU Journal of undergraduate research and innovation, 3:60–73.
- 19. Jeeva Susan Abraham, S. Sripoorna, Swati Maurya, Seema Makhija, Renu Gupta, **Ravi Toteja** (2019) Techniques and tools for species identification in ciliates: A review. *International Journal of Systematic and Evolutionary Microbiology*, 003176.
- 20. Jeeva Susan Abraham, Sripoorna Somasundaram, Shiv Jangra, Anit Kumar, Khushi

- Yadav, Simran Singh, Anusha Goyal, Swati Maurya, Geetu Gambhir, **Ravi Toteja**, Renu Gupta, Dileep K. Singh, Hamed A. El-Serehy, Fahad A. Al-Misned, Saleh A. Al-Farraj, Khaled A. Al-Rasheid, Saleh A. Maodaa and Seema Makhija (**2019**) Soil ciliates of the Indian Delhi Region: Their community characteristics with emphasis on their ecological implications as sensitive bio-indicators for soil quality. Saudi Journal of Biological Sciences, 26(6): 1305-1313.
- 21. Sripoorna Somasundaram, Jeeva Susan Abraham, Swati Maurya, **Ravi Toteja**, Renu Gupta and Seema Makhija (**2019**) Expression and molecular characterization of stress-responsive genes (*hsp70* and *Mn-sod*) and evaluation of antioxidant enzymes (CAT and GPx) in heavy metal exposed freshwater ciliate, *Tetmemena* sp. Molecular Biology Reports, 46: 4921-4931.
- 22. Komal Karma, Harpreet Kaur, Jeeva Susan Abraham, Sripoorna Somasundaram, Seema Makhija, **Ravi Toteja**, Alan Warren and Renu Gupta (**2020**). Symposium Report: International Symposium on Ciliate Biology, India Habitat Centre, New Delhi, India, 04–06 April 2018. Journal of Eukaryotic Microbiology, 67: 296-299.
- 23. Renu Gupta, Jeeva Susan Abraham, S. Sripoorna, Swati Maurya, **Ravi Toteja**, Seema Makhija, Fahad A. Al-Misned, Hamed A. El-Serehy (**2020**). Description of a new species of *Tetmemena* (Ciliophora, Oxytrichidae) using classical and molecular markers. Journal of King Saud University-Science (in press).

## **GENEBANK SUBMISSIONS**

- 1. Abraham, J. S., Somasundaram, S., Gupta, R., **Toteja, R**. and Makhija, S. (2015) *Notohymena* sp. SL1 18S rRNA gene, partial sequence. Acc no. KP336402.1.
- 2. Abraham, J. S., Somasundaram, S., Gupta, R., **Toteja, R**. and Makhija, S. (2015) *Pseudourostyla cristata* strain SL2 18S ribosomal RNA gene, partial sequence. Acc. No. KT731104.
- 3. Abraham, J. S., Somasundaram, S., Gupta, R., **Toteja, R**. and Makhija, S. (2015) *Gastrostyla* sp. Y2 18S ribosomal RNA gene, partial sequence. Acc. No. KT780432.
- 4. Somasundaram, S., Abraham, J. S., Gupta, R., Makhija, S. and **Toteja, R**. (2015) *Tetmemena* sp. Y1 18S rRNA gene, partial sequence. Acc no. KP336401.1.
- 5. Somasundaram, S., Abraham, J. S., Gupta, **R., Toteja**, R. and Makhija, S. (2015) *Tetmemena* sp. Y1 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, internal transcribed spacer 2, complete sequence; 28S ribosomal gene, partial sequence. Acc. No. KT731103.
- 6. Somasundaram, S., Abraham, J. S., **Toteja, R.**, Makhija, S. and Gupta, R. (2016) *Tetmemena* sp. Y1 histone H4 gene, partial cds. **Acc. No. KU761846.**
- 7. Abraham, J. S., Somasundaram, S., Makhija, S., **Toteja, R.** and Gupta, R. (2016) *Oxytricha granulifera* 18S ribosomal RNA gene, partial sequence. **Acc. No. KU715983.**
- 8. Makhija, S., Gupta, R., Toteja, R., Abraham, J. S. and Somasundaram,

- S. (2016) *Paraurostyla coronata* 18S ribosomal RNA gene, partial sequence. **Acc. No. KU715982.**
- 9. Abraham, J. S., Somasundaram, S., Gupta, R., **Toteja, R.** and Makhija, S. (2017). *Gastrostyla* sp. Y2 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, internal transcribed spacer 2, complete sequence; 28S ribosomal gene, partial sequence. **Acc. No. KX589056.**
- 10. Abraham, J.S., Somasundaram, S., Makhija, S., Gupta, R. and **Toteja, R.** (2017). *Euplotes aediculatus* strain SL3 small subunit ribosomal RNA gene, partial sequence. **Acc. No. KX867113.**
- 11. Abraham, J.S., Somasundaram, S., Gupta, R., **Toteja, R.** and Makhija, S. (2017). *Euplotes woodruffi* strain WB2 small subunit ribosomal RNA gene, partial sequence. **Acc. No. KX867114.**
- 12. Somasundaram, S., Abraham, J.S., **Toteja, R.**, Makhija,S. and Gupta, R. (2017). *Tetmemena* sp. Y1 heat shock protein 70 (hsp70) gene, partial cds; macronuclear. **Acc. No. KY038460.**
- 13. Abraham, J.S., Somasundaram, S., Gupta, R., Makhija, S. and **Toteja, R.** (2017) *Notohymena australis* small subunit ribosomal RNA gene, partial sequence. **Acc. No. MF804419.**
- 14. Somasundaram, S., Abraham, J.S., **Toteja,R.**, Makhija, S. and Gupta, R. (2017) *Euplotes aediculatus* heat shock protein 70 (hsp70) gene, partial cds. **Acc. No. MF804420.**
- 15. Abraham, J.S., Somasundaram, S., Makhija, S., Gupta, R. and **Toteja, R.** (2017) *Oxytricha granulifera* 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and 28S ribosomal RNA gene, partial sequence. **Acc. No. MG206235.**
- 16. Abraham, J.S., Somasundaram, S., Gupta, R., **Toteja, R.** and Makhija, S. (2017) *Sterkiella* sp. small subunit ribosomal RNA gene, partial sequence. **Acc. No. MG206236.**
- 17. Abraham, J.S., Somaundaram, S., Maurya, S., Makhija, S., **Toteja, R.** and Gupta, R. (2018) *Notohymena australis* small subunit ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and large subunit ribosomal RNA gene, partial sequence. **Acc. No. MG827399.**
- 18. Abraham, J.S., Somasundaram, S., Maurya, S., Gupta, R., Makhija, S. and **Toteja, R.** (2018). *Paraurostyla coronata* strain SL6 small subunit ribosomal RNA gene, partial sequence; internal transcribed spacer 1 and 5.8S ribosomal RNA gene, complete sequence; and internal transcribed spacer 2, partial sequence. **Acc. No. MG827375.**
- 19. Abraham, J.S., Somasundaram, S., Maurya, S., Gupta, R., **Toteja, R.** and Makhija, S. (2018) *Euplotes* sp. strain SLS1 small subunit ribosomal RNA gene, partial sequence. **Acc. No. MG827339.**
- 20. Abraham, J.S., Somasundaram, S., Maurya, S., Gupta, R., Makhija, S. and **Toteja, R.** (2018) *Colpoda* sp. strain ANDCS1 small subunit ribosomal RNA gene, partial

- sequence. Acc. No. MG827338.
- 21. Somasundaram, S., Abraham, J.S., Maurya, S., **Toteja, R.**, Makhija, S. and Gupta, R. (2018) *Tetmemena* sp. Y1 superoxide dismutase gene, partial sequence. **Acc. No. MG859289.**
- 22. Gupta,R., Abraham,J.S., Somasundaram,S., Rizvi,S., Bhayana,T., Kajal,K., Dadhich,P., Singh,M., Thakur,S., Yadav,A., Maurya,S., Makhija,S. and **Toteja,R.** (2018). *Blepharisma* sp. small subunit ribosomal RNA gene, partial sequence. **Acc. No. MG832820.**
- 23. Gupta,R., Abraham,J.S., Somasundaram,S., Rizvi,S., Bhayana,T., Kajal,K., Dadhich,P., Singh,M., Thakur,S., Yadav,A., Maurya,S., Makhija,S. and **Toteja,R.** (2018). *Blepharisma* sp. small subunit ribosomal RNA gene, partial sequence; internal transcribed spacer 1 and 5.8S ribosomal RNA gene, complete sequence; and internal transcribed spacer 2, complete sequence; and large subunit ribosomal RNA gene, partial sequence. **Acc. No. MG832821.**
- 24. Abraham, J.S., Somasundaram, S., Maurya, S., **Toteja, R.**, Gupta, R. and Makhija, S. (2019) *Dexiotricha* sp. isolate OBS small subunit ribosomal RNA gene, partial sequence. **Acc. No. MK354012.**
- 25. Abraham, J.S., Somasundaram, S., Maurya, S., **Toteja, R.**, Gupta, R. and Makhija, S. (2019) *Pseudourostyla cristata* isolate OBS4 small subunit ribosomal RNA gene, partial sequence. **Acc. No. MK.354016**
- 26. Abraham, J.S., Somasundaram, S., Maurya, S., **Toteja, R.**, Gupta, R. and Makhija, S. (2019) *Diaxonella* sp. isolate OBS3 small subunit ribosomal RNA gene, partial sequence. **Acc. No. MK354015.**
- 27. Abraham, J.S., Somasundaram, S., Maurya, S., **Toteja, R.**, Gupta, R. and Makhija, S. (2019) *Uroleptus gallina* isolate OBS2 small subunit ribosomal RNA gene, partial sequence. **Acc. No. MK354014.**
- 28. Abraham, J.S., Somasundaram, S., Maurya, S., **Toteja, R.**, Gupta, R. and Makhija, S. (2019) *Blepharisma sinuosum* isolate OBS1 small subunit ribosomal RNA gene, partial sequence. **Acc. No. MK354013.**
- 29. Abraham, J.S., Somasundaram, S., Maurya, S., **Toteja, R.**, Gupta, R. and Makhija, S. (2019) *Anteholosticha* sp. isolate RJ small subunit ribosomal RNA gene, partial sequence; internal transcribed spacer 2, partial sequence. **Acc. No. MK354021.**
- **30.** Abraham, J.S., Somasundaram, S., Maurya, S., Gupta, R., Toteja, R. and Makhija, S. (2019) *Spirostomum minus* isolate OBS7 small subunit ribosomal RNA gene, partial sequence. **Acc. No. MK968523.**
- 31. Abraham, J.S., Somasundaram, S., Maurya, S., Gupta, R., Toteja, R. and Makhija, S. (2019) *Cryptomonas paramecium* isolate OBS6 small subunit ribosomal RNA gene, partial sequence. **Acc. No. MK968522.**
- 32. Abraham, J.S., Somasundaram, S., Maurya, S., Gupta, R., Toteja, R. and Makhija, S. (2019) *Euplotes* sp. OBS1 small subunit ribosomal RNA gene, partial sequence; internal

- transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and large subunit ribosomal RNA gene, partial sequence. **Acc. No. MK990562.**
- 33. Abraham, J.S., Somasundaram, S., Maurya, S., Gupta, R., Toteja, R. and Makhija, S. (2019) *Euplotes aediculatus* isolate FW small subunit ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and large subunit ribosomal RNA gene, partial sequence. **Acc. No. MK990563.**
- 34. Abraham, J.S., Somasundaram, S., Maurya, S., Gupta, R., Toteja, R. and Makhija, S. (2019) *Euplotes* sp. OBS2 small subunit ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and large subunit ribosomal RNA gene, partial sequence. **Acc. No. MK990564.**
- 35. Abraham, J.S., Somasundaram, S., Maurya, S., Gupta, R., Toteja, R. and Makhija, S. (2019) *Pseudourostyla cristata* isolate OBS FW small subunit ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and large subunit ribosomal RNA gene, partial sequence. **Acc. No. MN006033.**
- 36. Abraham, J.S., Somasundaram, S., Maurya, S., Gupta, R., Toteja, R. and Makhija, S. (2019) *Euplotes* sp. isolate OBS2 small subunit ribosomal RNA gene, partial sequence. **Acc. No. MN038061.**
- 37. Abraham, J.S., Somasundaram, S., Maurya, S., Gupta, R., Makhija, S. and Toteja, R. (2019) *Tetmemena* sp. Y1 cytochrome c oxidase subunit 1 (COI) gene. **Acc. No. MN027505.**
- 38. Abraham, J.S., Somasundaram, S., Maurya, S., Makhija, S., Toteja, R. and Gupta, R. (2019) *Euplotes aediculatus* cytochrome c oxidase subunit 1 (COI) gene. **Acc. No. MN027506.**
- 39. Abraham, J.S., Somasundaram, S., Maurya, S., Gupta, R., Toteja, R. and Makhija, S. (2019) *Euplotes* sp. OBS1 cytochrome c oxidase subunit 1 (COI) gene. **Acc. No. MN027507.**
- 40. Somasundaram, S., Abraham, J.S., Maurya, S., Gupta, R., Toteja, R. and Makhija, S. (2019) *Euplotes aediculatus* catalase gene. **Acc. No. MN044623.**
- 41. Somasundaram, S., Abraham, J.S., Maurya, S., Gupta, R., Toteja, R. and Makhija, S. (2019) *Tetmemena* sp. Y1 catalase gene. **Acc. No. MN207909.**
- 42. Abraham, J.S., Somasundaram, S., Maurya, S., Makhija, S., Gupta, R. and Toteja, R. (2019) *Euplotes* sp. OBS2 cytochrome c oxidase subunit 1 (CO1) gene. **Acc. No. MN243924.**

#### **BOOKS**

- Ravi Toteja (2010) "Textbook of Biotechnology" Publisher, Ane Books Pvt Ltd. ISBN 9789380156804.
- Renu Gupta, Seema Makhija and **Ravi Toteja** (2018). *Cell Biology Practical Manual*. Prestige Publishers.

## **BOOK CHAPTER:**

Jasmine Purushothaman, Bindu, L, Seema Makhija, **Ravi Toteja** and Renu Gupta (2017). Protozoa: Ciliophora (Ciliates). In K. Chandra, K.C. Gopi, D.V. Rao, K. Valarmathi and J.R.B. Alfred (Eds.), *Current Status of Freshwater Faunal Diversity in India* (pp 37-54). Zoological survey of India, Kolkata.

#### **E- CHAPTERS**

- 1. **Ravi Toteja** (2008) Introduction to Cell. (http:// nsdl.niscair.res.in/handle /123456789/480), National Science Digital Library created by CSIR organization, National Institute of Science and Communication and Information Resources.
- 2. **Ravi Toteja** (2008) Cell Cycle and its Regulation. http:// nsdl.niscair.res.in/handle /123456789/481), National Science Digital Library created by CSIR organization, National Institute of Science and Communication and Information Resources.
- 3. Developing e-content for the postgraduate students under UGC project of e-pathshala, Department of Zoology, University of Delhi.
- **4.** Developing e-content for papers under NME-ICT Zoology.
- 5. **Ravi Toteja** (2014) *Apoptosis* Uploaded on the site of Virtual Learning Environment, South Campus, University of Delhi.
- 6. **Ravi Toteja** (2014) *Signal Transduction* Uploaded on the site of Virtual Learning Environment, South Campus, University of Delhi.( <a href="http://vle.du.ac.in/mod/resource/view.php?id=11946">http://vle.du.ac.in/mod/resource/view.php?id=11946</a>).

## Conference / Presentations / Workshops

- 1. **Ravi Toteja**, Lathika Nair and V.K Bhasin (1996) "**Detection of drug resistance in** *P. falciparum* by **Polymerase chain reaction**" in International conference on Global Meet on Parasitic Diseases organized by Indian society of Parasitology in New Delhi
- 2. Ravi Toteja, Lathika Nair and V.K Bhasin (1997) "Allele specific PCR for diagnosis of drug resistance in *P. falciparum*: Optimization of PCR cycle" International conference on Global Meet on Parasitic Diseases organized by Indian society of Parasitology in Hyderabad
- 3. Suchi Garg, **Ravi Toteja**, Seema Makhija "**Structural Biology: A tool for drug design**" in National Symposium; Chemistry in Biology: The Future of Life Sciences, 12-13 Feb,

- 2010, New Delhi, India, organized by Acharya Narendra Dev College.
- 4. **Ravi Toteja**, Sarita kumar "**Open Educational Resources: Success Stories**" International Conference on Open Paradigms in Education held on 31 January- 2 February, 2011 at India International Centre, New Delhi.
- 5. Prateek Kumar, Kritika Shukla, Parveen Atrish, Jeeva Susan, Seema Makhija and Ravi Toteja (2013) "Use of Bioluminescent Ciliate Sensors as an Alternative Method for Measuring Heavy Metals in Fresh Water Samples" National Conference, Redefining Science Teaching: Future of Education held at University of Delhi South Campus, March 7-9, 2013.
- 6. Monisha Khanna, **Ravi Toteja**, Vikrant Atri (2013) "Screening of soil actinomycetes for antimicrobial compounds" at National Conference on "Redefining Science teaching: Future of education" held at University of Delhi South Campus, March 7-9, 2013.
- 7. S. Sripoorna, Jeeva Susan Abraham, Seema Makhija, Renu Gupta and **Ravi Toteja** (2013) "Ciliate microbial biodiversity at Sanjay Lake, Delhi" in Annual Conference of Association of Microbiologists of India (AMI-2013) held at Maharshi Dayanand Univesity, Rohtak Haryana, November 17-20, 2013
- 8. Jeeva Susan Abraham, S. Sripoorna, **Ravi Toteja**, Renu Gupta and Seema Makhija (2013) "Bio-Monitoring heavy metal pollution in fresh water bodies by single celled eukaryotic microorganisms" in Annual Conference of Association of Microbiologists of India (AMI-2013) held at Maharshi Dayanand Univesity, Rohtak Haryana, November 17-20, 2013.
- 9. Sarita Kumar, **Ravi Toteja** and Charu K Gupta (2014) Creation of E-museum as Open Educational Resource Repository of Organisms for Students of Biological Sciences. International conference 'OCWC Global 2014' Ljubljana, Slovenia, April 23-25, 2014.
- 10. Seema Makhija, Renu Gupta and **Ravi Toteja** (2014) "Diverse freshwater ciliate Fauna from Okhla Bird Sanctuary, Delhi, India. 3<sup>rd</sup> IRCN-BC Workshop held at Royal Holloway, University of London, U.K.
- 11. Renu Gupta, Seema Makhija and **Ravi Toteja** (2014) Soil ciliate (Protozoa, Ciliophora) Diversity in and around Delhi, India. 3<sup>rd</sup> IRCN-BC Workshop held at Royal Holloway, University of London, U.K.
- 12. Jeeva Susan Abraham, Renu Gupta, S. Sripoorna, **Ravi Toteja** and Seema Makhija (2014) Morphology, Morphogenesis and Molecular Phylogeny of Notohymena sp. (Ciliophora; Oxytrichidae) isolated from Sanjay Lake, Delhi, India, 2<sup>nd</sup> Asian congress of Protistology and Ninth Asian Conference on Ciliate Biology organized by Kalyani University, Kalyani, India.
- 13. S. Sripoorna, Seema Makhija, Jeeva Susan Abraham, Renu Gupta and **Ravi Toteja** (2014) Inferring Phylogenetic Position of an Indian Isolate *Tetmemena* sp. (Ciliophora, Oxytrichidae) Using Morphological, Morphogenetic and Molecular Markers. 2<sup>nd</sup> Asian congress of Protistology and Ninth Asian Conference on Ciliate Biology organized by Kalyani University, Kalyani, India.

- 14. **Ravi Toteja,** Seema Makhija, S. Sripoorna, , Jeeva Susan Abraham and Renu Gupta and (2014) Influence of Copper and Cadmium Toxicity on the Activity of an Antioxidant Enzyme, Superoxide Dismutase in Freshwater Ciliates. 2<sup>nd</sup> Asian congress of Protistology and Ninth Asian Conference on Ciliate Biology organized by Kalyani University, Kalyani, India.
- 15. Renu Gupta, Seema Makhija, **Ravi Toteja**, Jeeva Susan Abraham and S. Sripoorna (2014) Oxytrichid ciliate biodiversity from the river Yamuna, Delhi, India. 2<sup>nd</sup> Asian congress of Protistology and Ninth Asian Conference on Ciliate Biology organized by Kalyani University, Kalyani, India.
- 16. Jeeva Susan Abraham, S. Sripoorna, Renu Gupta, **Ravi Toteja** and Seema Makhija (2015). Phylogenetic relationships among the ciliates (class Spirotrichea) isolated from Indian Subcontinent with emphasis on the subclass Stichotrichia inferred from small subunit rRNA gene sequence. 4<sup>th</sup> IRCN-BC Workshop held at Qingdao, China.
- 17. S. Sripoorna, Jeeva Susan Abraham, Renu Gupta, **Ravi Toteja** and Seema Makhija (2015)Taxonomic evaluation of the genus *Tetmemena* sp. by morphological and multiple molecular markers to assess its phylogeny. 4<sup>th</sup> IRCN-BC Workshop held at Qingdao, China.
- 18. Jeeva Susan Abraham, S. Sripoorna, **Ravi Toteja**, Renu Gupta and Seema Makhija. A study on freshwater hypotrich ciliates using morphological and molecular markers: an evolutionary perspective. XL All India Cell Biology Conference and International Symposium on Functional Genomics and Epigenetics held at Jiwaji University, Gwalior, from November 17-19, 2016.
- 19. S. Sripoorna, Jeeva Susan Abraham, **Ravi Toteja**, Renu Gupta and Seema Makhija. Use of ciliates as bioindicators to assess heavy metal pollution in freshwater bodies. XL All India Cell Biology Conference and International Symposium on Functional Genomics and Epigenetics held at Jiwaji University, Gwalior from November 17-19, 2016.
- 20. Renu Gupta, Jeeva Susan Abraham, S. Sripoorna, Sheeba, Tanya Bhayana, Kirti Kajal, Prachi Dadhich, Megha Singh, Sadhika Thakur, Anjali Yadav, Seema Makhija and Ravi Toteja. Insights into the phylogeny of *Blepharisma* sp. using small subunit ribosomal rRNA gene sequences. XL All India Cell Biology Conference and International Symposium on Functional Genomics and Epigenetics held at Jiwaji University, Gwalior, from November 17-19, 2016.
- 21. Jeeva Susan Abraham, Sripoorna Somasundaram, Renu Gupta, **Ravi Toteja**, Hamed A El- Serehy, Seema Makhija. Morphology and molecular taxonomy of ciliates from freshwater bodies in Delhi, India. 15<sup>th</sup> International congress of protistology held at Prague, Czech Republic, from 30<sup>th</sup> July- 4<sup>th</sup> August, 2017.
- 22. Sripoorna Somasundaram, Jeeva Susan Abraham, **Ravi Toteja**, Renu Gupta, Seema Makhija. Cellular and molecular mechanisms to assess heavy metal toxicity in the freshwater ciliate, *Euplotes aediculatus* from Delhi, India. 15<sup>th</sup> International congress of protistology held at Prague, Czech Republic, from 30<sup>th</sup> July- 4<sup>th</sup> August, 2017.

- 23. **Ravi Toteja**, Jeeva Susan Abraham, Sripoorna Somasundaram, Geetu Gambhir, Dileep K Singh, Seema Makhija. Soil ciliate (Protozoa; Ciliophora) diversity in and around Delhi, India and its ecological implications. 15<sup>th</sup> International congress of protistology held at Prague, Czech Republic, from 30<sup>th</sup> July- 4<sup>th</sup> August, 2017.
- 24. S. Sripoorna, Jeeva Susan Abraham, Swati Maurya, **Ravi Toteja**, Seema Makhija and Renu Gupta. Use of ciliates in biomonitoring heavy metal pollution. Indian Network for Soil Contamination Research International Conference, Department of Zoology, University of Delhi, Delhi from 26<sup>th</sup>-28<sup>th</sup> September, 2017.
- 25. Renu Gupta, Seema Makhija, Jeeva Susan Abraham, Sripoorna Somasundaram and **Ravi Toteja**. Soil ecosystem an insight into ciliate diversity from Delhi. Indian Network for Soil Contamination Research International Conference, Department of Zoology, University of Delhi, Delhi from 26<sup>th</sup>-28<sup>th</sup> September, 2017.
- 26. Jeeva Susan Abraham, S. Sripoorna, Renu Gupta, **Ravi Toteja**, Swati Maurya, Geetu Gambhir, D. K. Singh and Seema Makhija. Physico-chemical and biological analysis of soil samples collected from different sites in and around Delhi, India. Indian Network for Soil Contamination Research International Conference, Department of Zoology, University of Delhi, Delhi from 26<sup>th</sup>-28<sup>th</sup> September, 2017.
- 27. Jeeva Susan Abraham, S. Sripoorna, Swati Maurya, **Ravi Toteja**, Seema Makhija and Renu Gupta. Phylogenetic study of three spirotrich ciliates using modern biological techniques: an integrated approach. International Symposium on Ciliate Biology (ISCB), University of Delhi from 4<sup>th</sup>-6<sup>th</sup> April (2018) at India Habitat Centre, New Delhi, Delhi, India.
- 28. S. Sripoorna, Jeeva Susan Abraham, Swati Maurya, **Ravi Toteja**, Renu Gupta and Seema Makhija. Molecular characterization of heat-shock protein in ciliates. International Symposium on Ciliate Biology (ISCB), University of Delhi from 4<sup>th</sup>-6<sup>th</sup> April (2018) at India Habitat Centre, New Delhi, Delhi, India.
- 29. Seema Makhija, Swati Maurya, Jeeva Susan Abraham, S. Sripoorna, **Ravi Toteja** and Renu Gupta and Molecular characterization of heat-shock protein in ciliates. International Symposium on Ciliate Biology (ISCB), University of Delhi from 4<sup>th</sup>-6<sup>th</sup> April (2018) at India Habitat Centre, New Delhi, Delhi, India.
- 30. Jeeva Susan Abraham, Renu Gupta, S. Sripoorna, Swati Maurya, Shiv Jangra, Anit Kumar, **Ravi Toteja** and Seema Makhija. Biodiversity of soil ciliates from in and around Delhi, India. International Symposium on Ciliate Biology (ISCB), University of Delhi from 4<sup>th</sup>-6<sup>th</sup> April (2018) at India Habitat Centre, New Delhi, Delhi, India.
- 31. Renu Gupta, Jeeva Susan Abraham, S. Sripoorna, Sheeba, Tanya Bhayana, Kirti Kajal, Anjali Yadav, Bhawana Kumari, Seema Makhija and **Ravi Toteja**. Molecular phylogeny of *Blepharisma* sp. based on sequence analysis of 18S rDNA and ITS gene. International Symposium on Ciliate Biology (ISCB), University of Delhi from 4<sup>th</sup>-6<sup>th</sup> April (2018) at India Habitat Centre, New Delhi, Delhi, India.
- 32. HarshVardhan Sahu, Vanya Garg, Khushboo, S. Sripoorna, Jeeva Susan Abraham, Swati

- Maurya, Seema Makhija, **Ravi Toteja** and Renu Gupta. A study on the process of regeneration in ciliate, *Tetmemena* sp. International Symposium on Ciliate Biology (ISCB), University of Delhi from 4<sup>th</sup>-6<sup>th</sup> April (2018) at India Habitat Centre, New Delhi, Delhi, India.
- 33. S. Sripoorna, Jeeva Susan Abraham, Swati Maurya, Hritik Kadian, Juhi Jaiswal, Seema Makhija and **Ravi Toteja**. Ultraviolet B (UVB) induced changes in eukaryotic microbe, ciliates. International Symposium on Ciliate Biology (ISCB), University of Delhi from 4<sup>th</sup>-6<sup>th</sup> April (2018) at India Habitat Centre, New Delhi, Delhi, India.
- 34. Swati Maurya, Jeeva Susan Abraham, S. Sripoorna, Seema Makhija, Renu Gupta and **Ravi Toteja**. Role of Ciliates to monitor the efficacy of Sewage Treatment Plant: A Review. International Symposium on Ciliate Biology (ISCB), University of Delhi from 4<sup>th</sup>-6<sup>th</sup> April (2018) at India Habitat Centre, New Delhi, Delhi, India.
- 35. **Ravi Toteja**, Seema Makhija, S. Sripoorna, Jeeva Susan Abraham, Swati Maurya and Renu Gupta. Transcriptomic analysis of heavy metal induced changes in gene expression in freshwater ciliates. International Symposium on Ciliate Biology (ISCB), University of Delhi from 4<sup>th</sup>-6<sup>th</sup> April (2018) at India Habitat Centre, New Delhi, Delhi, India.
- 36. Renu Gupta, Jeeva Susan Abraham, S. Sripoorna, Swati Maurya, Ilmas Naqvi, **Ravi Toteja** and Seema Makhija. Faunistic study on the freshwater ciliates of Delhi, India. International Symposium on Ciliate Biology (ISCB), University of Delhi from 4<sup>th</sup>-6<sup>th</sup> April (2018) at India Habitat Centre, New Delhi, Delhi, India.
- 37. Seema Makhija, **Ravi Toteja**, S. Sripoorna, Jeeva Susan Abraham, Swati Maurya and Renu Gupta. An overview of progression of ciliate biology research at University of Delhi. International Symposium on Ciliate Biology (ISCB), University of Delhi from 4<sup>th</sup>-6<sup>th</sup> April (2018) at India Habitat Centre, New Delhi, Delhi, India.
- 38. Sripoorna Somasundaram, Jeeva Susan Abraham, Swati Maurya, **Ravi Toteja**, Seema Makhija, Renu Gupta. Genetic and molecular mechanisms to cope oxidative stress in freshwater ciliates. 5<sup>th</sup> Joint meeting of PSA/ISOP from 29<sup>th</sup> July to 2<sup>nd</sup> August, 2018 at University of British Columbia, Vancouver, Canada.
- 39. Jeeva Susan Abraham, Sripoorna Somasundaram, Swati Maurya, Seema Makhija, **Ravi Toteja**, Renu Gupta. Taxonomic description and molecular phylogeny of three species of genus *Euplotes*: First report from Delhi, India. 5<sup>th</sup> Joint meeting of PSA/ISOP from 29<sup>th</sup> July to 2<sup>nd</sup> August, 2018 at University of British Columbia, Vancouver, Canada.

#### **NATIONAL CONFERENCE PAPERS**

- 40. Prateek Kumar, Kritika Shukla, Parveen Atrish, Jeeva Susan Abraham, Seema Makhija and Ravi Toteja (2013) Use of Bioluminescent Ciliate Sensors as an Alternative Method for Measuring Heavy Metals in Fresh Water Samples. National Conference, Redefining Science Teaching: Future of Education held at University of Delhi South Campus, March 7-9, 2013.
- 41. Ashish Choudhary, Manu Sankar, Vikas Ahlawat, Jeeva Susan Abraham, S. Sripoorna,

- Seema Makhija and **Ravi Toteja** (2015). A low cost microbiotest for detecting insecticides by exploring behavioural and ecotoxicological response of freshwater ciliates. Recent trends in Biology organized by Department of Zoology, Maitreyi College, University of Delhi, New Delhi, India.
- 42. Renu Gupta, Jeeva Susan Abraham, S. Sripoorna, Bhawana Kumari, Shivangani Lohani, Divya Ojha, Ranjeeta Bhujbal, Seema Makhija and **Ravi Toteja** (2015) Elucidation of phylogenetic status of *Blepharisma* sp. from Delhi, India: Congruence of classical and molecular markers. Recent trends in Biology organized by Department of Zoology, Maitreyi College, University of Delhi, New Delhi, India.
- 43. Shiv Jangra, Khushi, Simran, Sidhanth Zutshi, Bhupender Singh, Jyoti Dagar, Anit Kumar, Anusha Goyal, Muskan Bhatnagar, Meenu Upadhaya, Jeeva Susan Abraham, S. Sripoorna, Ashish Choudhary, **Ravi Toteja**, Seema Makhija, Geetu Gambhir and Renu Gupta (2016) A Study on physico-chemical analysis of soil samples collected from various sites in and around Delhi. National Symposium on Man-Made diseases: an urban menace organized by Department of Zoology, Maitreyi College, University of Delhi, New Delhi, India.
- 44. Shiv Jangra, Khushi, Simran, Sidhanth Zutshi, Bhupender Singh, Jyoti Dagar, Anit Kumar, Anusha Goyal, Muskan Bhatnagar, Meenu Upadhaya, Jeeva Susan Abraham, S. Sripoorna, Ashish Choudhary, **Ravi Toteja**, Seema Makhija, Geetu Gambhir and Renu Gupta (2016) Ciliate diversity as a cellular tool to assess soil quality. National Symposium on Man-Made diseases: an urban menace organized by Department of Zoology, Maitreyi College, University of Delhi, New Delhi, India.
- 45. Shiv Jangra, Khushi, Simran, Sidhanth Zutshi, Bhupender Singh, Jyoti Dagar, Anit Kumar, Anusha Goyal, Muskan Bhatnagar, Meenu Upadhaya, Jeeva Susan Abraham, S. Sripoorna, Ashish Choudhary, **Ravi Toteja**, Seema Makhija, Geetu Gambhir and Renu Gupta (2016) Community characteristics of soil ciliates collected from three different sites in Acharya Narendra Dev College, University of Delhi. Proceedings on second national symposium on Environment: Greener Future and Awareness, Department of Zoology, Deshbandhu college, University of Delhi, New Delhi, India, March 19, 2016.
- 46. Pranjal Sharma, Deepika Joshi, Swati Maurya, Jeeva Susan Abraham, S. Sripoorna, Ravi Toteja, Renu Gupta, **Seema Makhija** (2019) Ciliates as bioindicators of Leachate at Health: Future Prespective. Biotechnology in present era: Impact on human life and environment held at Maitreyi College, University of Delhi.
- 47. Ruchika Bhardwaj, Deepanshu Vats, Rajanshi Mishra, Naeem Ahmed, Shushank ,MustabinAhmed, Swati Maurya, S. Sripoorna, Jeeva Susan Abraham, Ravi Toteja, Renu Gupta, **Seema Makhija** (2019) Insight into the Genome of ciliate, *Colpoda*spto assess its role in environmental biomonitoring at Health: Future Prespective. Biotechnology in present era: Impact on human life and environment held at Maitreyi College, University of Delhi.

## SYMPOSIUMS/WORKSHOPS/CONFERENCES ATTENDED/PARTICIPATED/ORGANIZED

- 48. Member of the organizing committee for National symposium on "Biotechnology: Expanding Horizons" organized by Acharya Narendra Dev College and held at INSA auditorium in 2002.
- 49. Coordinator of a ten days workshop "Understanding complexities of life from molecules to system: Concepts and tools" for undergraduate students of Biology held in the college from 12<sup>th</sup> to 23<sup>rd</sup> May, 2008.
- 50. Coordinator of four days **Biology Laboratory Course Workshop**, B.Sc. Programme LSIII, organized by Institute of Lifelong Learning, University of Delhi and CPURT (Centre for Undergraduate Research and Training) Acharya Narendra Dev College from 21-24 October, 2008.
- 51. Participated in 5 days "Wikied'09" Workshop, organized by Acharya Narendra Dev College and CEMCA from January 8-12, 2009.
- 52. Participated in 6 days **Easy Now Workshop on Multimedia Content Development,** organized by Acharya Narendra Dev College and CEMCA from 20<sup>th</sup> 25 April, 2009.
- 53. Participated in the workshop for **Preparation of online quizzes on Life sciences subjects**, organized by Institute of Life Long Learning (ILLL), University of Delhi in April 13<sup>th</sup>, 2009.
- 54. Organizing secretary for the 4 days workshop on **Open Educational Resources and Easy Now** for college teachers and students, organized at Acharya Narendra Dev College from 12<sup>th</sup> May to 15<sup>th</sup> May, 2009.
- 55. Resource Person for the 3 days workshop on **Open Educational Resources** for school teachers, organized at Sri Ram School, Vasant Vihar from 16<sup>th</sup> May to 18<sup>th</sup> May, 2009.
- 56. Participated in 3 days workshop on DRUPAL for constructing and maintaining website, organized by Acharya Narendra Dev College January, 2010 organized by Acharya Narendra Dev College, University of Delhi at India International Centre, New Delhi.
- 57. Part of the Organizing Committee of 2-days National Symposium on "Chemistry in Biology: The Future of Life Sciences", Feb. 12-13, 2010; organized by Acharya Narendra Dev College, University of Delhi at India International Centre, New Delhi.
- 58. Rapporteur of the session on **Structural Biology** in National Symposium; Chemistry in Biology: The Future of Life Sciences, 12-13 Feb, 2010, New Delhi, India. Organized by Acharya Narendra Dev College, University of Delhi at India International Centre, New Delhi.
- 59. Facilitator of three day **OER** workshop on creating e content organized by CEMCA at Teerathankar Mahaveer University, UP on September 3-5, 2010.
- 60. Member of the organizing committee for International Conference on **Open Paradigms** in **Education** held on 31 January- 2 February, 2011 at India International Centre, New Delhi, Organized by Acharya Narendra Dev College.

- 61. Member of the organizing committee for organizing one day seminar on "**Teaching redefined: Open access to education**", Sponsored by INASP, UK, held at Acharya Narendra Dev College on November 1, 2011.
- 62. Member of the organizing committee for organizing two days workshop on **Hands on Training, Molecular Phylogenetics: Understanding Evolutionary Histories**, (Workshop for Students) on 15, 16 June 2011, organized in Acharya Narendra Dev College.
- 63. Facilitator of OER workshop organized by Mumbai University to "Create e contents on economics and soft skills" held at Mumbai University, Mumbai on October 16-19, 2011.
- 64. Facilitator of OER workshop organized by Mumbai University to 'Create e contents on economics and soft skills" held at Acharya Narendra Dev College, Delhi on November 29, 30 and December 1,2, 2011.
- 65. Attended one day workshop on "Animal Welfare and Alternative Models" held at IGIB on July 1, 2012.
- 66. Attended two day Academic Congress "Enabling the Young: Rethinking Education" Organized by University of Delhi, held at University of Delhi on September 6-7, 2012.
- 67. Attended one day seminar on "Use of Animals in Education and Research" held at Department of Zoology, University of Delhi on October 20, 2012.
- 68. Facilitator in **OER** workshop organized by Apeejay Staya University, Haryana for creating E contents on November 22, 2012.
- 69. **Member of Organizing committee** of National Conference '**Redefining Teaching Science: Future of Education**' held at Conference Room, UDSC, March 7-9, 2013.
- 70. Participated in the National symposium on **Vector biology and vector management** (Innovation Project, DU) held at Deshbandhu College, University of Delhi, on June 21, 2013.
- 71. **Attended** re-launch of '**Creative Commons India**' held on November, 12, 2013 at India Islamic Centre, Lodhi Road, New Delhi.
- 72. Participated in the 54<sup>th</sup> Annual conference on "**Frontier Discoveries and Innovations in Microbiology and its interdisciplinary relevance (FDMIR-2013)**" of Association of Microbiologists of India, held at MDU, Rohtak Haryana, November 17-20, 2013.
- 73. Organizing member of one day workshop for Biology faculty and UG students, **CUBE Delhi 2014**, (Collaborative Undergraduate Biology education) Organized by Acharya Narendra Dev College in collaboration with Homi Bhabha Centre for Science education HBCSE, TIFR, February 7, 2014.

## Research Projects (Major Grants/Research Collaboration)

1. "A study on heavy metal induced stress response at cellular and molecular level in ciliates for the development of a potential biosensor". Sanctioned by Department of

- Science & Technology.
- 2. "Stress induced induction of metallothioneins (MTs) gene in ciliates and its use as biomarker to assess environmental pollution". Sanctioned by University Grants Commission.
- 3. "Use of Bioluminescent Ciliate Sensors as an Alternative Method for Measuring Heavy Metals in Fresh Water Samples". Sanctioned by Innovative Entrepreneurship Development Cell of Department of Science & Technology.
- 4. A low cost microbiotest for detecting insecticides by exploring behavioral and ecotoxicological response of fresh water ciliates. Submitted to Innovative Entrepreneurship Development Cell of Department of Science & Technology.

#### Awards and Distinctions

- Awarded Meritorious Teachers' award instituted by GNCT, Delhi in 2016
- Co-authored a paper awarded as the **Best Oral Presentation** for the research paper entitled "Inferring Phylogenetic Position of an Indian Isolate *Tetmemena* sp. (Ciliophora, Oxytrichidae) Using Morphological, Morphogenetic and Molecular Markers" at 2<sup>nd</sup> Asian congress of Protistology and Ninth Asian Conference on Ciliate Biology organized by Kalyani University, Kalyani, India (2014).
- ➤ Co-authored a paper awarded as the **Best Poster Presentation** entitled "Oxytrichid ciliate biodiversity from the river Yamuna, Delhi, India" at 2<sup>nd</sup> Asian congress of Protistology and Ninth Asian Conference on Ciliate Biology organized by Kalyani University, Kalyani, India (2014).
- ➤ Co-authored a paper awarded as the **Best Poster Presentation** entitled, "Phylogenetic study of three spirotrich ciliates using modern biological techniques: an integrated approach" at International Symposium on Ciliate Biology (ISCB) organized by Delhi University colleges, Delhi, India (2018).

#### Association With Professional Bodies

- ➤ Member of the organizing committee of 9<sup>th</sup> Asian Congress on Ciliate Biology and 2<sup>nd</sup> Asian Congress of Protistology to be held at University of Kalyani, West Bengal (2014)
- ➤ Member of International Society of Protistologists (ISOP)
- ➤ Member of Indian Society of Cell Biology
- ➤ Member of Indian Network for Soil Contamination Research (INSCR)

#### Other Activities

As convenor of "Niche", Zoological society of the college, published "**Probe**", the third edition of the society magazine and organized a Zoological Fest 'Oikos' in which

- various Intercollegiate competitions like Science Quiz, Rangoli, Poster making etc. were held in 2006-07. The society also organized a lecture on 'Role of ciliate in waste water management' by Prof Allen Warren, from the London Museum of Natural History, on 18 December 2006 for undergraduate students.
- ➤ Organized an **Educational tour** to Simla and Kulu & Manali, Himachal Pradesh for B.Sc. (Hons.) Zoology students in 2007 for collection of various species of insects.
- ➤ Organized **Educational tours** to Zoological Park, Biodiversity Park and Centre for Advanced Studies in Zoology, University of Delhi for B.Sc. (Hons.) Zoology, B.Sc. Foundation, B.Sc. Life Sciences and Applied Life sciences students in 2006-08 to study *Ex-situ* conservation of animals, diversified flora and fauna, tissue culture techniques and methods of animal breeding.
- ➤ Organized a lecture on "Silk Mark" by Central Silk Board, New Delhi for the benefit of students of Applied Life Sciences in 2008 educating them of the importance of "Silk Mark" in assuring the quality of silk fabrics and products.
- As Convenor of the theatrical society of the college, organized a play on *Sau Mai Laga Dhaga... and Yeh Daag Daag Ujalla* in 2011 and 2012 respectively by the students of the college at Sri Ram Centre, Mandi House, New Delhi.

Signature of Faculty Member