


Bio-Data

1.	Name	:	Dr. Onkar Singh Braich	
2.	Designation	:	Assistant Professor (Fish and Fisheries)	
3.	Department	:	Zoology and Environmental Sciences, Punjabi University, Patiala.	
4.	Date of Birth	:	08-06-1971	
5.	Address for Correspondence	:	Department of Zoology and Environmental Sciences, Punjabi University, Patiala -147002, Punjab, India - 147002.	
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	E-mail		singhonkar@yahoo.com and onkarpscst@gmail.com	
6.	Area of Specialization		Fish and Fisheries, Ornithological Studies, Aquatic Toxicology, Wetland and River Ecology, Conservation and Management.	

7. Academic Qualifications:

Sr. No.	Degree Held	Year	Board/Univ./ Inst.	% of marks	Div./ Rank	Subjects Taken
1	Ph.D. Zoology (Fish & Fisheries)	2002	Panjab University, Chandigarh	-NA-	-NA-	Fish & Fisheries
2	M.Sc. (Hons.) Zoology	1996	-Do-	61%	1st	Cytogenetics, Immuno., Dev. Bio. Biochem., Physio., Env. Bio., Bio Stat., Computers.
3	B.Sc. (Medical)	1994	-Do-	56%	2nd	Zoology Botany Chemistry
4	10+2 Medical	1991	PSEB, Mohali	58%	2nd	Medical Science
5	Matric	1988	-Do-	70%	1st	Math, English, Science, Punjabi, Hindi, Social Studies

8. Membership of Professional Bodies/Organisations/Reviewer of Journals

1. General Secretary, Punjabi University Environment Society since 08-05-2018
2. Member of Academic Council, Punjabi University, Patiala.
3. Nominated as State Level Subject Expert Committee Member in the Subject of Zoology by Deptt. of Higher Education, GoP.
4. Member Expert of Committee formed by office of the Hon'ble Speaker, Punjab Vidhan Sabha, Govt. of Punjab on waters.

5. Member of Centre Governing Committee of Centre for Restoration of Ecosystems of Punjab since 10-12-2021.
6. Member of Grievance Redressal Cell, Punjabi University, Patiala since 3rd July, 2023.
7. Member Scientist from different Biological Disciplines of Institutional Animal Ethics Committee (IAEC) for the purpose of Control and Supervision of Experiments on Animals (CPCSEA), Ministry of Fisheries, Animal Husbandry and Dairying, Govt. of India since 25-11-2022
8. Member Expert of Department of Fisheries, GoP to approve action plans of District Patiala under Pradhan Mantri Matsya Sampada Yojana (PMMSY) for development of fishery.
9. Member of Indian Bird Conservation Network (IBCN) of Bombay Natural History Society, Mumbai.
10. Member of a committee for Gharial re-introduction programme at Harike Wetland, Punjab formed by GoP.
11. Life member of Electron Microscopic Society of India.
12. Life member of Society of Environmental Scientists, India.
13. Member of Board of Studies for Environmental Sciences, Punjab Technical University, Jalandhar.
14. Member of Ethical Committee Baba Ishar Singh College of Pharmacy, Kot-Ise-Khan, Distt. Moga, Punjab.
15. Reviewer of the Journal "Wetlands"
16. Reviewer of the "Journal of Environment Biology"
17. Reviewer of the Journal "Toxicological Reports"

Administrative Experience

1. Warden, Hostel for International Students (From 18-11-2020 to 27-07-2021)
2. Warden, Research Scholar Flats and R - Type Flats (From 18-11-2020 to till date)
3. Warden, Homi Bhabha Hostel since 3rd February, 2021 to till date.
4. Convener of the Committee for taking initiatives to promote Green activities as per NAAC Guidelines since 14-01-2022.
5. Nodal Officer, National Scholarships for Tribal Students since 25th February, 2022.

9. Medals/Awards/Honours/Received

S. No.	Year	Conferences
1.	2023	Co-chaired a Session in a three Days International Conference on the topic " The Growth of Biological Sciences in 21st Century " from 2 nd March to 4 th March, 2023 organized by Faculty of Life Sciences, Punjabi University,

		Patiala.
2.	2022	Co-Chaired a session in 16 th International Conference on Humanizing Work and Work Environment from 14 th December to 16 th December, 2022 organized by Department of Sports, Punjabi University, Patiala.
3.	2022	Received Certificate of appreciation for expert evaluator of Rangoli Competition under Ek Bharat Shreshtha Bharat Campaign, Punjabi University, Patiala organized by Deptt. of Pharmaceutical Sciences and Drug Research on 17 th March, 2022.
4.	2022	Received Certificate of appreciation for Coordinator of seven days “Vigyan Sarvatra Pujate - Science Week Festival 2022” from 22 nd February to 28 th February, 2022 organized by Department of Biotechnology, Punjabi University, Patiala in collaboration with Punjab State Council for Science and Technology, Chandigarh catalysed and supported by Vigyan Prasar, Department of Science and Technology (Gol), New Delhi.
5.	2019	Invited as Judge for the Oral Presentation Competition in a State Level Seminar for Undergraduate Students on the topic “Green Technology for Sustainable Development” by Department of Zoology and Biotechnology, Kumari Vidyavati Anad DAV College for Women, Railway Road, Karnal on 22 nd February, 2019
6.	2018	Acted as Rapporteur in two Days National Seminar on 19 th November to 20 th November, 2018 on the topic “ Environmental Changes and its Impact on Faunal Diversity in Indian Agro-Ecosystem ” organized by Department of Zoology, Punjab Agricultural University, Ludhiana.
7.	2017	Chaired a session in an International Conference in Zoological Sciences organized by Deptt. of Zoology and Environmental Sciences, Punjabi University, Patiala from 26 th October, 2017 to 28 th October, 2017.
8.	2017	Appointed as subject Expert to Judge the Inter District Science Exhibition at Government Post-Graduate College, Ambala Cantt. Haryana organized by the Directorate of Higher Education, Haryana on 3 rd February, 2017.
9.	2016	Acted as Poster Evaluator in the one day Conference entitled “ Dr. S.S. Goraya Memorial Seminar on Recent Advances in Animal Reproduction ” organized by Deptt. of Zoology, Panjab Agricultural University, Ludhiana on 12 th October, 2016.
10.	2015	Received Certificate of Appreciation for participation in Asian Waterbird Census – Punjab (Ranjit Sagar Dam) counts held on 23 rd February, 2015.
11	2015	Received Certificate of Appreciation for participation in Asian Waterbird Census – Punjab (Nangal Wildlife Sanctuary) counts held on 18 th January, 2015.

12.	2014	Received Certificate of Appreciation for participation in Asian Waterbird Census – Punjab (Ranjit Sagar Dam) counts held on 19 th February, 2014.
13.	2014	Received Certificate of Appreciation for participation in Asian Waterbird Census – Punjab (Keshopur Miani Community Reserve) counts held on 23 rd January, 2014.
14.	2012	Co-Chaired a Session on 22-11-2012 in a National Symposium “ Frontiers of Wetland, Fishery Science & Aquaculture Research in the New Millennium (Wetland-2012) ” organised by Department of Life Science & Bioinformatics, Assam University, Silchar on November 21 st to 22 nd , 2012.
15.	2012	Organized one day National Seminar to celebrate “ International Day for Biological Diversity – 2012 ” by Deptt. of Zoology and Environmental Sciences, Punjabi University, Patiala on 05-06-2012 funded by Biodiversity Board, Govt. of Punjab and National Biodiversity Authority, Govt. of India.
16.	2011	Organized one day workshop under National Environmental Awareness Campaign (NEAC) Programme of Ministry of Environment and Forests, Govt. of India on the theme “ Biodiversity Conservation ” on 25-03-2011 by department of Zoology and Environmental Sciences, Punjabi University, Patiala.
17.	2011	Nominated as Resource Person under NEAC (National Environment Awareness Campaign) of Ministry of Environment and Forests, Govt. of India by Punjab State Council for Science and Technology, Chandigarh from 2011 onward.
18.	2011	Guest of Honour, Resource Person and Chairman of a Technical session in a State level UGC Seminar on “ Global Warming and Biodiversity Conservation ” organized by Deptt. of Zoology J.C. DAV College, Dasuya, Distt. Hoshiarpur on 27 th and 28 th January, 2011.
19.	2010	Chaired a Technical session in a National level Conference on “ Environment Degradation and its Impact on Human Kind ” organized by Deptt. of Zoology, Punjabi University, Patiala from 19 th November to 20 th November, 2010.
20.	2008	Organized three days training programme for Master Trainers under National Green Corps Programme at Golden Jubilee Conference Hall, Panjab University, Chandigarh from 29 th January to 31 st January, 2008.
21.	2007	Organized one day training programme for Master Trainers by Punjab State Council for Science and Technology, Chandigarh under National Green Corps Programme at MGSIPA Conference Hall, Sector – 26, Chandigarh on 31 st October, 2007.
22.	2007	Guest of Honour at District Level NGC programme organized by District

		Education Officer, Fatehgarh Sahib at Govt. Sr. Sec. School, Ghumand Garh on 29 th August, 2007.
23.	2006	Chief Guest on the occasion of ' World Ozone Preservation Day-2006 ' at Shivalik Public School in Mohali and gave a brief lecture on ozone protection.
24.	2001	Invited by the Youth World Water Forum, The Netherlands for poster presentation on 25 th June - 29 th June, 2001.
25.	2000	Recipient of Certificate of Appreciation in " XXIV Annual Conference on Electron Microscopy and Allied Fields " organised by the Electron Microscopic Society of India and Panjab University at RSIC/CIL, Panjab University, Chandigarh from 9-11 April, 2000.
26.	1994	Recipient of Certificate of Appreciation in organizing the All India Congress of Cytology & Genetics organized by Deptt. of Zoology, Panjab University from 29 th September-1 st October, 1994.

Awards

1.	2017	Got First Poster Presentation Award on the paper entitled " Fish fauna of Ranjit Sagar Wetland, Punjab (India) " in one day National Conference entitled " Biodiversity and Sustainable Tourism " on 12-06-2017 organized by Deptt. of Zoology and Environmental Sciences, Punjabi University, Patiala.
2.	2017	Got Second Award on the paper entitled " Status of Fish fauna of Ropar Wetland (Ramsar Site), Punjab (India) " in two days National Conference entitled " Man and Environment " organized by Centre for Swachh Bharat Swasth Bharat, Punjabi University, Patiala from 10-11 March, 2017.
3.	2016	Got Best Poster Award on the paper entitled " Comparative studies on Total Lipid Content (TLC) and fatty Acid Composition (FAC) from the processing waste of Captured and Cultured Fish, <i>Labeo rohita</i> (Hamilton) " in a Golden Jubilee Celebrations National Conference entitled " Evolving New Horizons of Zoological Sciences in Human Welfare " organized by Deptt. of Zoology, Kurukshetra University, Kurukshetra from 23 rd to 24 th November, 2016. P.29.
4.	2016	Got third award in the poster presentation on the paper entitled " Threatened birds of species of Nangal wetland, Punjab in a one day conference on the topic "Biodiversity and Swachh Bharat Mission" organized by Department of Zoology and Environmental Sciences, Punjabi University, Patiala in Collaboration with Centre for Swachh Bharat Swasth Bharat Abhyian Mission, Punjabi University, Patiala on 5 th June, 2016.

10. Scholarships:

S. No.	Type of Fellowship	Name of funding agency	Period	Salary (Rs.) Per month	Nature of duties
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1.	SRF	ICAR, New Delhi	1997- 2001	Rs. 5000/-	Research on Biological Studies on a Fish, Golden Mahseer, <i>Tor putitora</i> (Ham.)
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11. Details of Experience:

Period	Job Description
22-10-09	Presently working as Assistant Professor (Fish and Fisheries) in Deptt. of Zoology and Environmental Sciences, Punjabi University, Patiala since 22-10-2009.
25-07-09 to 21-10-09	Worked as Assistant Professor Zoology at J.C.D.A.V. College, Dasuya, District Hoshiarpur and taught graduate and post graduate classes from 25-07-2009 to 21-10-2009.
18-12-02 to 24-07-09.	Worked as Project Associate (Environment) in Punjab State Council for Science & Technology, Sector-26, Chandigarh from 18-12-2002 to 24-07-09.

12. Published Work (Please specify numbers only):

a. Research Papers **i) National = 23**

ii) International = 23

b. Conference/Seminar Presentation: Presented; contributed:

National: 53

International: 5

Total: 58

Paper Presented: 23

2023	Attended three Days International Conference on the topic “The Growth of Biological Sciences in 21st Century” from 2 nd March to 4 th March, 2023 organized by Faculty of Life Sciences, Punjabi University, Patiala.
2018	Attended two Days National Seminar on 19 th November to 20 th November, 2018 on the topic “Environmental Changes and its Impact on Faunal Diversity in Indian Agro-Ecosystem” organized by Department of Zoology, Punjab Agricultural University, Ludhiana.
2018	Attended and presented a poster in the two day National Conference entitled “Bridging the Gap-Biodiversity and Human Health” organized by Deptt. of Zoology, Panjab University, Chandigarh from 21 st to 22 nd March, 2018.
2017	Presented a paper in an International Conference in Zoological Sciences organized by Deptt. of Zoology and Environmental Sciences, Punjabi University, Patiala from 26 th October, 2017 to 28 th October, 2017.

2017	Chaired a session in an International Conference in Zoological Sciences organized by Deptt. of Zoology and Environmental Sciences, Punjabi University, Patiala from 26 th October, 2017 to 28 th October, 2017.
2016	Attended and delivered invited talk in the two day National Conference entitled " Evolving New Horizons of Zoological Sciences in Human Welfare " organized by Deptt. of Zoology, Kurukshetra University, Kurukshetra from 23 rd to 24 th November, 2016.
2016	Presented poster in the one day Conference entitled " Dr. S.S. Goraya Memorial Seminar on Recent Advances in Animal Reproduction " organized by Deptt. of Zoology, Punjab Agricultural University, Ludhiana on 12 th October, 2016.
2016	Delivered oral presentation on the topic " Pollution as potential threat to valuable fish diversity in Harike Wetland (Ramsar Site), Pujnab (India) " on 8 th October, 2016 at "UGC sponsored National Conference on Emerging Trends in Biotechnology: A Paradigm to Cleaner and Greener India" organized by Department of Biotechnology, GSSDGS Khalsa College, Patiala.
2016	Delivered invited talk on the topic " Status of Wetlands in Punjab " on 02-02-2016 organized by Pushpa Gujral Science City, Kapurthala.
2016	Delivered invited talk on the topic " Wetland Conservation in Punjab " on 22-01-2016 in a National Conference on the Topic " Emerging Trends in Biological & Agricultural Sciences " organized by DAV College, Abohar, Punjab.
2015	Presented poster in a National Conference on " Translating Biodiversity Research into Deliverables for Human Welfare " organized by Department of Zoology, Centre for Advanced Studies (UGC), Panjab University, Chandigarh on March19-20, 2015.
2015	Attended National Seminar Cum Workshop " Trends in Animal Behaviour Research " organized by Department of Zoology, MCM DAV College for Women, Sector 36-A Chandigarh. on 02-03-2015.
2015	Attended " 31st International Punjabi Development Conference " on organized by Department of Punjabi Language Development Punjabi University, Patiala (Punjab) from 14-01-2015 to 16-01-2015.
2014	Delivered invited Talk on the topic " Fish Diversity of Ranjit Sagar Wetland (National Wetland) Punjab, India " on 31 st October, 2014 at International Symposium on "Biodiversity: Status, Utilization and Impact of Challenging Climatic Conditions" organized by Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh in Collaboration with the Indian Academy of Environmental Sciences, Haridwar, Uttarakhand, India.
2014	Delivered invited Talk on the topic " Structural alterations by accumulation of heavy metal pollutants in scales of different fish species from Harike wetland (Ramsar Site), India " on 15 th September, 2014 at 3 rd International Conference on Hydrology and

	Meteorology at Hyderabad International Convention Centre, Hyderabad, India.
2014	Delivered invited talk on the topic "Fish Biodiversity of Wetlands of Punjab" on 2 nd February, 2014 during the celebration of World Wetland Day organized by Punjab State Council for Science and Technology, Chandigarh at Harike, Distt. Tarn Taran.
2013	Delivered invited talk on the topic "Status of Wetlands of Punjab" on 05-02-2013 organized by Punjab Technical University Giani Zail Singh Campus, Bathinda (Punjab).
2012	Delivered invited talk on the topic "Wetland Conservation and Management" on 14-06-2012 organized by World Wide Fund (WWF) at Harike, Distt. Tan Taran.
2012	Lecture delivered in a National symposium on "Frontiers of Wetland, Fishery Science & Aquaculture Research in the New Millennium (Wetland-2012)" organized by Department of Life Science & Bioinformatics, Assam University, Silchar on November 21 st to 22 nd , 2012
2012	Co-Chaired a Session on 22-11-2012 in a National Symposium "Frontiers of Wetland, Fishery Science & Aquaculture Research in the New Millennium (Wetland-2012)" organized by Department of Life Science & Bioinformatics, Assam University, Silchar on November 21 st to 22 nd , 2012.
2012	Plenary lecture delivered in a National Seminar on "Status of Environment & Biodiversity : R10+20 and Role of Space Technology" organized by Department of Zoology & Environmental Sciences, Gurukula Kangri, University, Haridwar from 2 nd to 3 rd November, 2012.
2012	Attended National Conference on "Innovations in Modern Biology" organized by Department of Zoology, Meerut College of Meerut from 16-03-2012 to 17-03-2012.
2011	Guest of Honour, Resource Person and Chairman of a Technical session in a State level UGC Seminar on "Global warming and Biodiversity Conservation" organized by Deptt. of Zoology J.C. DAV College, Dasuya, Distt. Hoshiarpur on 27 th and 28 th January, 2011.
2011	Participated in a one day training workshop on "Exploring New Vistas in Biodiversity and Research for Sustainable Development" organized by Deptt. of Zoology, Panjab University, Chandigarh on 24 th January, 2011.
2011	Attended and presented a poster in a National Conference on "New Vistas in Biodiversity and Research" organized by Deptt. of Zoology, Panjab University, Chandigarh from 22 nd to 23 rd January, 2011.
2011	Attended and presented a poster in a State level UGC Seminar on "Climate Change and Biodiversity Conservation" organized by Deptt. of Zoology J.C. DAV College, Dasuya, Distt. Hoshiarpur on 27 th and 28 th January, 2011.
2010	Chaired a Technical session in a National level Conference on "Environment Degradation and its Impact on Human Kind" organized by Deptt. of Zoology, Punjabi University, Patiala from 19 th November to 20 th November, 2010.

2010	Attended and presented a paper in a National level Seminar on “ Biodiversity: The Essence of Life ” organized by Deptt. of Zoology, Govt. College, Sector - 1, Panchkula on 19 th September, 2010.
2010	Attended and presented a poster in a National Conference on “ Advances in Biological Sciences ” organized by Deptt. of Zoology, Panjab University, Chandigarh 29 th to 30 th March, 2010.
2010	Attended UGC sponsored seminar on “ Wetland Conservation and Management – In view of Global Climate Change ” organized by Deptt. of Zoology, Guru Nanak Dev University, Amritsar on 2 nd February, 2010.
2009	Participated in the “ National Symposium on Biodiversity, Cell and Molecular Biology ” organized by Department of Zoology, Centre for Advanced Studies, Panjab University, Chandigarh at Golden Jubilee Conference Hall from 1 st to 2 nd March, 2009.
2008	Participated in the “ 22nd National Symposium on Recent Advances in Zoological Sciences: Application to Agriculture, Environment and Human Health ” organized by Punjab Agricultural University, Ludhiana in collaboration with Indian Society of Life Sciences, Kanpur from 6 th November – 7 th November, 2008.
2008	Organized and presented poster in the International Conference on “ Climate Change, Biodiversity and Food Security in the South Asian Region ” held on 3 rd and 4 th November, 2008 at CII, Chandigarh organized by Punjab State Council for Science and Technology, Chandigarh in collaboration with UNESCO, New Delhi.
2008	Participated in the “ Workshop on Grid Connected Renewable Energy and Cogeneration/Independent Power ” organized by Punjab Energy Development Agency in collaboration with United States Energy Association and United States Agency for International Development at Confederation of Indian Industry, Sector-31, Chandigarh from 4 th August – 5 th August, 2008.
2008	Participated in the “ Workshop on The GREEN Olympiad ” organized by The Energy and Research Institute (TERI), New Delhi at Hotel Grand Park, Patiala on 1 st May, 2008.
2008	Participated in the “ National Symposium on Biodiversity, Cell and Molecular Biology ” organized by Department of Zoology, Panjab University, Chandigarh at Golden Jubilee Conference Hall from 26 th to 27 th February, 2008.
2008	Participated in the “ Prakriti Mela ” organized by Centre for Environment Education, Ahmedabad at Regional Institute of Education, Ajmer, Rajasthan from 11 th February to 13 th February, 2008.
2007	Participated in Regional Workshop on “ Bio-medical and Municipal Solid Waste Management ” held on August 21-22, 2007 at Hotel Park View, Chandigarh organized by Toxics Link, New Delhi in partnership with Punjab State Council for Science & Technology (PSCST), Chandigarh.

2007	Organized in Regional Workshop on “ Ramsar Sites of Northern States Present Status and Future Potentials ” held on 11 th to 13 th , April, 2007 at Hotel Mount View, Chandigarh organized by Punjab State Council for Science & Technology (PSCST), Chandigarh.
2006	Participated in the National Seminar on “ New Trends in Life Sciences ” Organized by Deptt. of Zoology, Panjab University, Chandigarh from 11–12 December, 2006.
2006	Organized the Training programme for District Science Supervisors and Master Trainers under National Green Corps programme with the assistance from Ministry of Environment and Forests, Govt of India in the Punjab State Council for Science and Technology, Chandigarh on 31 October, 2006.
2006	Participated in the Seminar on “ Soil and Water Conservation ” organized by Deptt. of Soil Conservation, Govt. of Punjab on 06-10-2006.
2006	Organized “ Vatavaran Film Festival on Environment and Wildlife ” on 23-25, August, 2006 by Punjab State Council for Science and Technology, Chandigarh in collaboration with Centre for Media Studies, New Delhi.
2005	Participated in the “ National Seminar ‘New Trends in Fishery Development in India’ ” organized by Panjab University, Chandigarh February from 16-18, 2005.
2004	Participated in the “ 91st Session of Indian Science Congress Association ” jointly organized by Panjab University and Institute of Microbial Technology, Chandigarh from 3–7 January, 2004.
2003	Participated in the workshop on “ Capacity Building Programme on wetlands Conservation ” organized with the assistance from UNDP–GEF Small Grant Programme in the Punjab State Council for Science and Technology, Chandigarh on 3–12–2003.
2003	Participated in the “ XXVI Annual Conference on Electron Microscopy and Allied Fields ” organized by the Electron Microscopic Society of India and Center for Potato Research Institute, Shimla from 16 th April to 18 th April, 2003.
2001	Participated in the Workshop on the “ Wetlands of Haryana and Punjab ” organized by M.L.N. College, Yamunanagar, Haryana from 11–12 October, 2001.
2001	Attended the conference on “ Genomic-The Prospective Research Strategies ” by Association of Basic Medical Scientists P.G.I. Chandigarh in the memory of Vivek Chander Shakher Memorial Young Scientist Award 2001.
2001	Invited by the Youth World Water Forum, The Netherlands for poster presentation on 25 th June - 29 th June 2001.
2001	Presented a paper in “ XXIV Annual Conference on Electron Microscopy and Allied Fields ” organized by the Electron Microscopic Society of India and Panjab University at RSIC/CIL, Panjab University, Chandigarh from 9–11 April, 2001.
2000	Organized the “ First Indian Fisheries Science Congress ” conducted by Indian

	Society of Fisheries Professionals, Mumbai and Panjab University from 21–23 September, 2000.
1999	Attended the Third Punjab Science Congress and Symposium on " 100 years of Post Mendelian Genetics; Advent of Biotechnology " organized by Panjab University from 10–12 December, 1999.
1998	Conducted the Indo-U.S. Workshop on " Conservation and development of Natural Fishery Resources of Western Himalayas " Organized by Fish & Fisheries Laboratory, Deptt. of Zoology, Panjab University from 7–8 December, 1998.
1997	Actively participated in the Indian Science Congress Association organized by Deptt. of Biotechnology, Panjab University on 11 December, 1997.
1996	Organized the " All India Congress of Cytology & Genetics " held at Deptt. of Zoology, Panjab University, Chandigarh from 22–25 November, 1996.
1995	Participated in " 3rd International Symposium on Genetics, Health and Disease " organized by Guru Nanak Dev University, Amritsar, India from 1-4 December, 1995.
1994	Participated in the sixty fourth session of " The National Academy of Sciences and Symposium on Industrial Biotechnology – Indian Scenario " Organized by Panjab University and Institute of Microbial Technology Chandigarh from 29 th September-1 st October, 1994.

c. Books

i) Original :

S. No.	Status	Number
1.	Published	2
2.	Edited the Punjabi Translation	1
3.	Publishing Shortly	1

ii) Edited : One

Workshop/Conferences Organized

Year	Workshop/Conferences Organised
2021	Organized Two days National Conference on the topic " Strategies and Solution to Achieve Clean Air - Punjab " by Punjabi University Environment Society in collaboration with Punjab Pollution Control Board (PPCB), Patiala on 24 th and 25 th December, 2021.
2021	Organized one day Webinar on the topic " Accelerating actions to combat climate change implications in Punjab " by Punjabi University Environment Society in collaboration with Punjab State Council for Science & Technology

	(PSCST), Chandigarh on 25 th September, 2021.
2019	Organized one day Workshop on the theme “ Our Biodiversity, Our Food, Our Health ” to celebrate “International Day for Biological Diversity - 2019” on 30-05-2019 funded by Punjab Biodiversity Board, Chandigarh.
2019	Organized one day Workshop on the theme “ Awareness and capacity building about climate change on Biodiversity in Punjab ” by Department of Zoology and Environmental Sciences, Punjabi University, Patiala on 15 th April, 2019 funded by Punjab State Council for Science & Technology (PSCST), Chandigarh.
2018	Organized one day Workshop on the theme “ Climate Change Adaptation in Rural Areas of India (CCA RAI) ” of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, under which Popular Lecture Series on Climate Change and Sustainable Development have been conducted under the Indo-German bilateral project in collaboration with Centre for Environment Education, New Delhi, GIZ, Germany, Punjab State Council for Science & Technology (PSCST) and Department of Zoology and Environmental Sciences, Punjabi University, Patiala on 23 rd October 2018.
2018	Organized one day Workshop on the theme “ Celebrating 25 Years of Action for Biodiversity ” to celebrate “International Day for Biological Diversity - 2018” on 29-05-2018 funded by Punjab Biodiversity Board, Chandigarh.
2018	Organized one day Conference and an environment awareness rally on the theme “ Beat Plastic Pollution ” funded by Punjab State Council for Science and Technology, Chandigarh on 07.06.2018.
2017	Department of Zoology & Environmental Sciences, Punjabi University, Patiala organized one day National workshop in University camps to celebrate “ International Day for Biological Diversity-17 ” on the theme “ Biodiversity and Sustainable Tourism ” on 12-06-2017 under the funds provided by Punjab Biodiversity Board, Chandigarh
2017	Organized one day Workshop and plantation activities on the theme “ Combating Desertification, Land Degradation and Drought ” on 17-02-2017 under National Environmental Awareness Campaign (NEAC) – a programme of Ministry of Environment, Forests and Climate Change, Govt. of India in the Department of Zoology and Environmental Sciences, Punjabi University, Patiala.
2016	Organized one day Workshop on the theme “ Fish Watch Programe ” to celebrate World Wetland Day on 28.04.2016 at Katli Fish Farm, Ropar.
2015	Organized one day National Conference on the theme “ Biodiversity for Sustainable Development ” under Punjab Biodiversity Board, Chandigarh and National Biodiversity Authority, Govt. of India on 29.05.2015 in the Department of Zoology and Environmental Sciences, Punjabi University, Patiala.

2014	Organized one day workshop on the theme " Combating Desertification Land Degradation and Drought " under National Environment Awareness Campaign (NEAC) scheme of Ministry of Environment and Forests, Govt. of India on 14.11.2014 in the Department of Zoology and Environmental Sciences, Punjabi University, Patiala.
2014	Organized one day National Workshop on the theme " Island Biodiversity " under Punjab Biodiversity Board, Chandigarh and National Biodiversity Authority, Govt. of India on 27.05.2014 by the Department of Zoology and Environmental Sciences, Punjabi University, Patiala.
2013	Organized one day National Workshop on the theme " Water and Biodiversity " under Punjab Biodiversity Board, Chandigarh and National Biodiversity Authority, Govt. of India on 28.05.2013 in the Department of Zoology and Environmental Sciences, Punjabi University, Patiala.
2013	Organized one day camp at Ropar Wetland on 29.06.2013 and plantation drive on 27.03.2013 in the University campus under National Environment Awareness Campaign (NEAC) scheme of Ministry of Environment and Forests, Govt. of India by the Department of Zoology and Environmental Sciences, Punjabi University, Patiala.
2012	Organized one day National Workshop on the theme " Marine Biodiversity " under Punjab Biodiversity Board, Chandigarh and National Biodiversity Authority, Govt. of India on 05.06.2012 by the Department of Zoology and Environmental Sciences, Punjabi University, Patiala. .
2011	Organized one day workshop on the theme " Biodiversity Conservation " & Plantation under National Environment Awareness Campaign (NEAC) scheme of Ministry of Environment and Forests, Govt. of India on 25.03.2011 in the Department of Zoology and Environmental Sciences, Punjabi University, Patiala..

11. R & D Projects

2019	Project on " National Nature Camping Program under Environment Education Awareness and Training scheme of Ministry of Environment, Forest and Climate Change, Govt. of India " sanctioned by Punjab State Council for Science and Technology, Sector-26, Chandigarh for worth of Rs. 16,00,000/-.
2019	Project on " Preparation of 1 District and 2 Block Level Peoples'

	Biodiversity Registers in District Patiala and Blocks Sirhind and Dhuri ” by Punjab Biodiversity Board, Sector-26, Chandigarh for worth of Rs. 3,65,000/-.
2013	Minor Research project " Biodiversity Assessment on Keshopur Miani and Shalla Pattan Wetlands " Sanctioned by Punjab State Council for Science and Technology, Punjab, Chandigarh for worth of Rs. 1,05,500/-
2011	Major Research project on “ Ecological Studies of Ranjit Sagar Wetland with special reference to fish communities Structure ” sanctioned by Ministry of Environment Forests, Govt. of India worth of Rs. 22.5 lacs.
2005-06	“ Conservation and Management of Wetlands of State Importance ” by Govt. of State of Punjab.
2002-04	“ Economic Valuation of Wetlands of Punjab State ” by MoEF, Govt. of India.
2001-02	“ Conservation of Biological Diversity of Harike Wetland (Ramsar site) ” by MoEF, Govt. of India.

12. Invited Talks/Articles :

Year	Invited Talks
2023	Delivered invited talk in an International Conference “ Recent Advances in Chemistry -2023 ” on 23 rd February, 2023 on the topic “ Status and Impact of Industrial Pollution on Wetlands in Punjab ” organized by Department of Chemistry, Punjabi University, Patiala.
2023	Delivered Lead Lecture during 26 th Punjab Science Congress in a National Conference on Environment, Food Security and Health with Reference to Climate Change on 7 th to 9 th February 2023 on the topic " Impact of Climate Change on Fish Diversity in Wetlands of Punjab " organized by Department of Botany and Environmental Science, Sri Guru Granth Sahib World University, Fatehgarh
2022	Delivered invited talk in a Three days training workshop organized by Punjab Fisheries Development Board at Zila Prishad, Sirhind Road, Patiala in collaboration with Department of Fishery, Patiala, Govt. of Punjab on 21 st November, 2022 on the topic “ COMMON FISH DISEASES AND THEIR CONTROL ” to commemorate World Fisheries Day.
2022	Delivered invited talk in a one day training workshop entitled “ PMMSY (CS) ” Outreach Programme – Azadi Ka Amrit Mahaotsav on 9 th August, 2022 on the topic “ COMMON FISH DISEASES AND THEIR CONTROL ” organized by Department of Fishery, Govt. of Punjab at Patiala sponsored by National Fisheries Development Board, Hyderabad.
2022	Delivered invited talk on the occasion of “ World Nature Conservation Day-2022 ” on 27 th July, 2022 on the topic “ Aquatic Biodiversity of Punjab and

	Initiatives for Conservation” organized by Punjab ENVIS Hub and Punjab State Climate Change Knowledge Centre, Punjab State Council for Science and Technology, Chandigarh.
2022	Delivered invited talk in a Workshop on “Biodiversity Conservation: Building a Shared Future for All life” on 23 rd May, 2022 on the topic “Biodiversity of Aquatic Ecosystems of Punjab, various threats and protection measures” organized by Department of Botany and Environmental Science, Sri Guru Granth Sahib World University, Fatehgarh Sahib in collaboration with Punjab Biodiversity, Board, Chandigarh.
2022	Delivered invited talk on the topic “Water crisis in Punjab” organized by Environment Sustainability and Management Cell, Sant Baba Bhag Singh University, Khiala, Adampur, Jalandhar on 13 th May, 2022.
2022	Delivered invited talk on the topic “Research Methodology: SEM and TEM” organized by Environment Sustainability and Management Cell, Sant Baba Bhag Singh University, Khiala, Adampur, Jalandhar on 13 th May, 2022.
2022	Delivered invited talk on the topic “Water crisis in Punjab” organized by Department of Zoology, Patel Memorial College, Rajpura on 25 th March, 2022.
2021	Delivered invited talk in a Webinar on “Impact of Pollution on Wetlands of Punjab” on 31 st March, 2021 organized by Department of Life Sciences and Allied Health Sciences, Sant Baba Bhag Singh University, Khiala, Adampur, Jalandhar
2021	Delivered invited talk in a Workshop on “Fish and Avian Diversity: Identification and Conservation” on 4 th March, 2021 organized by Department of Zoology, Kurukshetra University, Kurukshetra in collaboration with Faculty Development Centre, K.U. Kurukshetra.
2020	Delivered invited talk on the topic “Biodiversity of District Fatehgarh Sahib” organized by Mata Gujri College, Fatehgarh Sahib on 5 th October, 2020 on the occasion of celebration of Wildlife Week.
2020	Delivered invited talk in a Webinar on “Impact of Environment Degradation on Biodiversity” on 23 rd June, 2020 by DAV College, Abohar.
2020	Delivered invited talk in a Webinar on “Celebrating Biodiversity on World Environment Day” held on 05-06-2020 by Desh Bhagat University, Mandi Gobindgarh.
2020	Delivered invited talk in a Webinar on the occasion of World Environment Day – 2020 held on 05-06-2020 by Gulmohar Eco-Club, GPS, Machaki Mal Singh, Disdtrict Faridkot in collaboration with PSCST, Chandigarh.
2019	Delivered talk on the topic “Jeev-Jantuan te Pardushan da Asar” at All India Radio, Jalandhar held on 20 th December, 2019 at 12.15 PM.
2019	Delivered invited talk on the topic “Status and Impact of Pollution on Wetlands

	in Punjab ” in a one day National Seminar on the topic “ Recent Advances in Life Sciences ” held on 29 th March, 2019 organised by Kanya Maha Vidyalaya (KMV), Jalandhar.
2019	Delivered invited talk on the topic “ Status of Punjab Wetlands ” in a UGC sponsored National Seminar on the topic “ Role of Biological Sciences in Organic Farming ” held on 20 th March, 2019 organised by DAV College, Abohar.
2019	Delivered invited talk on the topic “ Wetlands and Global Climate Change ” on the occasion of celebration of “ World Wetland Day-19 ” held on 7 th February, 2019 organised by I.K. Gujral Science City, Kapurthala.
2018	Delivered invited talk on the topic “ Fish Taxonomy Tools ” in a one day National Workshop on the topic “ Biosystematics and Taxonomy ” held on 29 th October, 2018 organised by Mata Gujri College, Fatehgarh Sahib.
2018	Delivered invited talk on the topic “ IMPACT OF CLIMATE CHANGE ON FISHERIES SECTOR IN PUNJAB AND ENSUING VULNERABILITIES ” in a 4-day training Workshop on Integrating Climate Change in Development Planning dated 24 th - 27 th July, 2018 organised by Punjab State Council for Science and Technology, Chandigarh in collaboration with GIZ and IORA Ecological Solutions, New Delhi at Shivalik View Hotel, Chandigarh.
2017	Delivered invited talk on the topic “ Different Toxicological Techniques used to assess water Pollution ” in a 3-day residential training programme on BIOLOGICAL MONITORING, ANALYSIS & TESTING (MICROBIOLOGY, BIO-ASSAY & BIOMONITORING), SOPs, DATA INTERPRETATION AND QUALITY ASSURANCE dated 12 th - 14 th October 2017 organised by school of Public Health, PGIMER, Chandigarh in collaboration with Panjab University, Chandigarh.
2017	Delivered invited talk on the topic “ Impact of Industrial Pollution in Wetlands on Human Health ” in a two days International Conference on the Topic “ Sustainable Development – Challenges and Prospects ” organized by Desh Bhagat University, Amlah Road, Mandi Gobindgarh, Distt. Fatehgarh Sahib, Punjab from 6 th to 7 th October, 2017.
2017	Delivered invited talk on the topic “ Fish Biodiversity of Wetlands of Punjab ” in a three days Fish Farmers’ Training Programme at Fish Seed Farm, Kapurthala, Punjab organized by Deptt. of Fisheries, Govt. of Punjab from 27 th to 29 th September, 2017.
2017	Delivered invited talk on the topic “ Ecological Studies on Ranjit Sagar Wetland ” in a two days North Regional Workshop on Conservation and Management of Wetlands at Hotel Shivalik View, Chandigarh organized by Punjab State Council for Science and Technology, Sector-26, Chandigarh from 12-13 May, 2017.
2017	Delivered invited talk on the topic “ Water Scenario of State of Punjab at Chitkara

	University, Banur on 22 nd March, 2017 on the occasion of World Water Day.
2017	Delivered invited talk on the topic “ Biodiversity Loss due to Pollution in Harike Wetland (Ramsar site), Punjab (India) ” in a two days National Conference entitled “ Man and Environment ” organized by Centre for Swatch Bharat Swasth Bharat, Punjabi University, Patiala from 10-11 March, 2017.
2017	Delivered invited talk on the topic “ Status of Wetlands in India ” and Conducted Practical Workshop on the topic “ Fish Taxonomy ” organized by Deptt. of Zoology, Kumari Vidyavati Anand DAV College for Women Railway Road, Karnal, Haryana on 07-02-2-17.
2016	Delivered invited talk in the two day National Conference entitled “ Evolving New Horizons of Zoological Sciences in Human Welfare ” organized by Deptt. of Zoology, Kurukshetra University, Kurukshetra from 23 rd to 24 th November, 2016.
2016	Chaired a Technical Session as Chairperson in a “ National Seminar on Emerging Trends Life Sciences ” on 22.03.2016 at JC DAV College, Dasuya, Punjab.
2016	Delivered invited talk on “ Wetland Pollution and Biodiversity ” in a “ National Seminar on Emerging Trends Life Sciences ” on 22.03.2016 at JC DAV College, Dasuya, Punjab.
2016	Delivered invited talk on “ Wetlands: Status and Challenges to Biodiversity ” in a “National Seminar on Emerging Trends in Biological & Agricultural Sciences” on 22.01.2016 at DAV College, Abohar, Punjab.
2015	Delivered invited talk on “ Fishermen Livelihood – Issues and Remedies ” in a Seminar on Fishermen Livelihood on 17.09.2015 at Khalsa College, Amritsar organized by Vigyan Parishad Panchnad, Amritsar, Punjab.
2015	Delivered Expert talk on “ Status of Fish and Bird Diversity in Punjab ” on 18.08.2015 organized by Punjab Biodiversity Board, Chandigarh at Bathinda.
2015	Delivered Guest lecture on “ Structural Alteration in fish scales and ovaries by Accumulation of Heavy metals pollutants from Harike Wetland (Ramsar site), India ” on 03.04.2015 organized by Department of Zoology Lovely Professional University, Phagwara.
2015	Delivered invited talk on “ Impact of toxicity poses a threat to aquatic biodiversity ” on 24.03.2015 at Baradari Gardens, Patiala organized by District Administration, Patiala and Punjab Biodiversity Board, Chandigarh to promote capacity Building Programme on Biodiversity issues and Biological Diversity Act, 2002.
2014	Delivered invited lecture on “ Impact of climate change on Biodiversity ” at Workshop under National Green Corps on 11.07.2014 organized by the office of District Education officer (Sr. Sec.) Fatehgarh Sahib.

2014	Delivered invited lecture on “Fish diversity of Punjab wetland” at Harike Wetland on 02.02.2014 organized by Punjab State Council for Technology, Chandigarh to celebrate World Wetland Day.
2013	Delivered invited lecture on “Status of Wetlands Punjab” organized by Punjab Technical University, Giani Zail Singh Campus (Punjab) to celebrate World Wetland Day on 05-02-2013.
2012	Delivered invited lecture on “Wetlands and their Conservation Methods” organized by World Wide Fund, India with collaboration of Department of Wildlife, Forest Division, Harike Wetland on capacity building programme on wetlands on 14-06-2012.
2011	Delivered invited talk on “Status of Biodiversity in Punjab” organised by Deptt of Zoology, S. Govt College of Science Education and Research, Jagraon on 01 st November, 2011.
2011	Delivered a lecture in a workshop organized by Govt. Sr. Sec. School, Kauli, Distt. Patiala in connection with the National Environmental Awareness Campaign (NEAC) programme of Ministry of Environment and Forests, Govt. of India on 24.02.2011.
2011	Delivered a lecture in a workshop organized by Govt. Middle School, Shankarpur, Distt. Patiala in connection with the National Environmental Awareness Campaign (NEAC) programme of Ministry of Environment and Forests, Govt. of India on 24.02.2011.
2010	Invited for a talk on “Status of Wetland Conservation and Management in Punjab” organized by Deptt. of Zoology, S. Govt College of Science Education and Research, Jagraon on 12 th November, 2010.
2010	Invited for an Extension Lecture on “Wetland Conservation and Management” organized by Deptt. of Zoology, J.C. DAV College, Dasuya, District: Hoshiarpur on 19 th February, 2010.
2007	Delivered a lecture in a workshop organized by the DEO, Hoshiarpur at P.D. Arya Sr. Sec. School, Hoshiarpur in connection with the National Green Corps programme of Ministry of Environment and Forests, Govt. of India on 11.05.07.
2007	Delivered a lecture in a workshop organized by the DSS, Ludhiana at R. S. Model Sr. Sec. School, Shastri Nagar, Ludhiana in connection with the National Green Corps programme of Ministry of Environment and Forests, Govt. of India on 30.01.07.
2006	Delivered a lecture in a workshop organized by the DEO, Hoshiarpur at S.D. Sr. Sec. School, Hoshiarpur in connection with the National Green Corps programme of Ministry of Environment and Forests, Govt. of India on 29.11.06.
2006	Delivered a lecture in a workshop organized by the DEO, Nawanshahar at Govt. Sr.

	Sec. School, Nawanshahar in connection with the National Green Corps programme of Ministry of Environment and Forests, Govt. of India on 19.09.06.
2006	Delivered a lecture in a workshop organized by the DEO, Jalandhar at Fanton Gunj School in connection with the National Green Corps programme of Ministry of Environment and Forests, Govt. of India on 31.07.06.
2006	Delivered a lecture in a workshop organized by the DEO, Moga at Mission School, Moga in connection with the National Green Corps programme of Ministry of Environment and Forests, Govt. of India on 23.02.06.
2006	Delivered a lecture in a workshop organized by the DEO, Mukatsar at Guru Teg Bahadur Khalsa Sr. Sec. School, Malout in connection with the National Green Corps programme of Ministry of Environment and Forests, Govt. of India on 21.02.06.
2006	Delivered a lecture in a workshop organized by the DEO, Ropar at Khalsa Sen. Sec. School, Ropar in connection with the National Green Corps programme of Ministry of Environment and Forests, Govt. of India on 15.02.06.
2006	Delivered a lecture in a workshop organized by the DEO, Ropar at Khalsa Sen. Sec. School, Ropar in connection with the National Green Corps programme of Ministry of Environment and Forests, Govt. of India on 15.02.06.
2006	Delivered a lecture in a workshop organized by the DEO, Hoshiarpur at S.D. Sr. Sec. School, Hoshiarpur in connection with the National Green Corps programme of Ministry of Environment and Forests, Govt. of India on 30.01.06
2006	Delivered a lecture on Solid Waste Management in a two days workshop organized by the Deptt. of Entomology, Punjab Agricultural University, Ludhiana on 20.01.06
2005	Delivered a lecture in the refresher course for Forest Guards organized by Punjab State at Research & Training Circle, Hoshiarpur on 20.12.05

13. Ph.D. Students guided/under guidance (Details) :

Guided			
S. No.	Name of the Student	Title of the Thesis	Year of Completion
1.	Irshad Malik	ASSESSMENT OF PROTEIN CONTENTS, LIPIDS AND FATTY ACIDS IN PROCESSING WASTE OF WILD AND FARMED FISH, <i>HYPOPHTHALMICHTHYS MOLITRIX</i> (VALENCIENNES)	2023
2.	Navpreet Kaur	IMPACT OF INDUSTRIAL EFFLUENTS ON NUTRITIONAL QUALITY OF FISHES, <i>LABEO ROHITA</i> (HAMILTON) AND <i>SPERATA SEENGHALA</i> (SYKES) FROM NANGAL AND HARIKE WETLANDS	2023
3.	Dr. Saima Akhter	ECOLOGICAL STUDY OF THE ROPAR WETLAND WITH	2019

		SPECIAL REFERENCE TO SURVEY AND DOCUMENTATION OF FISH DIVERSITY	
4.	Dr. Sunil Kumar	STUDY OF HYDROBIOLOGICAL PARAMETERS OF RANJIT SAGAR WETLAND WITH SPECIAL EMPHASIS ON FISH COMMUNITIES STRUCTURE	2018
5.	Dr. Rajwinder Kaur	AVIFAUNAL DIVERSITY OF NANGAL WETLAND WITH SPECIAL REFERENCE TO MIGRATORY BIRDS	2017
6.	Dr. Lakhwinder Kaur	COMPARATIVE STUDIES ON AGE AND GROWTH OF THE FISH <i>CATLA CATLA</i> (HAMILTON-BUCHANAN) FROM HARIKE WETLAND AND A PRIVATE FISH FARM	2016
7.	Dr. Manjit Kaur	TOXIC EFFECTS OF LEAD ON SOME SELECTED TISSUES OF THE FISH, <i>LABEO ROHITA</i> (HAMILTON-BUCHANAN)	2016
8.	Dr. Sulochana	EVALUATION OF TOXIC EFFECT OF POLLUTANTS ON REPRODUCTIVE EFFICACY OF <i>LABEO ROHITA</i> (HAMILTON-BUCHANAN) FROM HARIKE WETLAND	2016

Under Guidance

S. No.	Name of the Student	Title of the Thesis	Year of Enrolment
1.	Anshu Lohan		2023
2.	Amarjit Kaur	A STUDY ON TRANSCRIPTOME PROFILING AND EVALUATION OF DIFFERENTIALLY EXPRESSED GENES RELATED TO THERMAL STRESS IN GOLDEN MAHSEER, <i>TOR PUTITORA</i> (HAMILTON)	2018
3.	Jagdeep Singh	COMPARATIVE ACCOUNT OF AVIAN DIVERSITY AND IMPACT OF HEAVY METALS ON SOME SELECTED AQUATIC SPECIES FROM HARIKE AND PONG WETLANDS	2018
4.	Reetu	COMPARISON OF ANTIBACTERIAL ACTIVITY OF SKIN MUCOSA OF <i>SPERATA SEENGHALA</i> (SYKES) AND <i>CATLA CATLA</i> (HAMILTON) IN RESPONSE TO POLLUTION IN THE RIVER SATLUJ, PUNJAB	2016

M.Phil./M.Tech Students guided :

S. No.	Name of the Student	Year of Registration	Year of Completion
1.	Ms. Shikha	2019	2022
2.	Ms. Ravneet Kaur	2016	2019
3.	Ms. Navpreet Kaur	2015	2017
4.	Mr. Irshad Malik	2013	2015
5.	Ms. Saima Akhter	2012	2014
6.	Ms. Sabiha Iqbal	2012	2013
7.	Ms. Salochana Jangu	2010	2012

M. Sc. (Env.) Students guided :

S. No.	Name of the Student	Year of Registration	Year of Completion
1.	Yadwinder Singh	2022	2023
2.	Harjinder Singh	2022	2023
3.	Lakhwinder Singh	2022	2023
4.	Yashvi Mutreja	2022	2023
5.	Ms. Arshdeep Kaur	2021	2022
6.	Ms. Neha Asija	2021	2022
7.	Mr. Jatinder Singh	2021	2022
8.	Mr. Karamveer Singh	2020	2021
9.	Ms. Navneet Kaur	2020	2020
10.	Ms. Sehnaz	2019	2019

14. List of Papers/Courses taught at P.G. and U.G. Level

S. No.	Paper	Class
1.	Fish and Fisheries	M.Sc. II (Zoology)
2.	Wildlife and its Conservation	M.Sc. II (Zoology)
3.	Limnology	M.Sc. II (Zoology)
4.	Developmental Biology	M.Sc. I (Zoology)
5.	Biodiversity and Conservation Biology	M.Sc. II (Zoology)
6.	Environmental Impact Assessment, Legislations and Policy	M.Sc. II (Env. Sci.)
7.	Industrial Zoology	M.Sc. II (Zoology)
8.	Environmental Legislations and Policies	M.Sc. II (Env. Sci.)
9.	Environmental Physics and Climatology	M.Sc. I (Env. Sci.)
10.	Aquatic Environment	M.Sc. I (Env. Sci.)
11.	Wildlife Ecology	M.Sc. I (Env. Sci.)
12.	General Embryology	M.Sc. I (Zoology)
13.	Aquatic Biology	M.Sc. II (Zoology)
14.	General Ecology	M.Sc. I (Env. Sci.)

15. Technical Proficiency and List of Papers Published :

S. No.	Expertise
1.	Fish Biologist (Age and Growth, Morphological parameters, Reproductive and Fish Habitat studies), Streams and River Ecology, Fish Toxicity.
2.	Wetland Conservationist (Biodiversity, Survey and Mapping, Conservation and Management Practices, Pollution Monitoring, Economic Evaluation, etc.)

PROFESSIONAL TRAINING:	
2018	Govt. of Punjab has nominated me to participate in a two days Indo-US workshop on the topic “High Resolution Climate Projections & Analysis for India” organized by Environment Protection Training and Research Institute (EPTRI), Hyderabad, Telangana from 12 th to 13 th February, 2018.
2016	Participated in a training programme organized by Peninsular & Marine Fish Generic Resources Centre, National Bureau of Fish Genetic Resources (NBFGR), CMFRI Campus Kochi, Kerala entitled "An Introduction to Fish Taxonomy" from 15 th February to 20 th February, 2016.
2013	Attended training programme organized by National Bureau of Animal Genetic Resources (NBAGR), Karnal entitled "Computational Tools for Animal Genome Resource Data Analysis" from December 2 - 13, 2013 under the NAIP funded project establishment of National Agricultural Bioinformatics Grid (NABG) in ICAR.
2011	Participated in a one day training workshop on “Exploring New Vistas in Biodiversity and Research for Sustainable Development” organized by Deptt. of Zoology, Panjab University, Chandigarh on 24 th January, 2011.
2007	Participated in the training on “Green Schools Programme” organized by Punjab State Council for Science and Technology, Chandigarh in Collaboration with Centre for Science and Environment, New Delhi (CSE) from 10 th July to 11 th July, 2007 in the office of the Council.
2004	Participated in the “Bird Banding Training” organized by State Council for Science, Technology and Environment in Collaboration with Bombay natural History Society (BNHS) from 20 th January to 9 th February, 2004 at Pong Wetland (Ramsar site), Himachal Pradesh (India)
2002	Practiced Artificial or Induced breeding technique on an endangered fish, Golden Mahseer, <i>Tor putitora</i> (Ham.) at Fishery Farm, Gagaj, District, Bilaspur, Himachal Pradesh for six months in 2002.
2000	Participated in the workshop on Microgel Electrophoresis under the supervision of Prof. N.P. Singh, inventor of Comet Assay organized by Deptt.

	of Biotechnology, Panjab University from 16–17 August, 2000.
1995	Learned the technique in the workshop on single cell Gel Electrophoresis (Comet) Assay in 3rd International Symposium on Genetics, Health and Disease organized by Guru Nanak Dev University, Amritsar from 1-4 December, 1995.

A. RESEARCH PUBLICATIONS

RESEARCH PUBLICATIONS / REPORTS / ABSTRACTS / BOOKS / BOOK REVIEW / PAMPHLETS:	
PAMPHLETS (BIOLOGICAL AND ECOLOGICAL STUDIES ON WETLANDS)	
2006	Brraich, O.S. and Ladhar, S.S. (2006) “Dholbaha Wetland” Published by Punjab State Council for Science and Technology, Chandigarh.
2006	Brraich, O.S. and Ladhar, S.S. (2006) “Mand Bharthala Wetland” Published by Punjab State Council for Science and Technology, Chandigarh.
2006	Brraich, O.S. and Ladhar, S.S. (2006) “Kahnuwan Wetland” Published by Punjab State Council for Science and Technology, Chandigarh.
2006	Brraich, O.S. and Ladhar, S.S. (2006) “Keshopur Miani Wetland” Published by Punjab State Council for Science and Technology, Chandigarh.
2006	Brraich, O.S. and Ladhar, S.S. (2006) “Jastarwal Wetland” Published by Punjab State Council for Science and Technology, Chandigarh.
BOOKS:	
2005	Brraich, O.S. and Ladhar, S.S. (2005) “Fish biodiversity in the Wetlands of Punjab– A Field Guide” Published by Punjab State Council for Science and Technology, Chandigarh. ISBN : 81- 88362-11-5
2005	Ladhar, S.S. and Brraich, O.S. (2005) “Biological diversity in wetlands of Punjab-A check list”. Published by Punjab State Council for Science and Technology, Chandigarh. ISBN : 81-88362-12-3
BOOK EDITED:	

2010	Edited The Punjabi Translation of “ The Green School’s Manual ” Published by Centre for Science and Environment (CSE), New Delhi.
BOOK UNDER PUBLICATION:	
2013	Braich, O.S. and Ladhar, S.S. “Birds of Harike Wetland – A Field Guide” Publishing Punjab State Council for Science and Technology, Chandigarh.
BOOK REVIEW:	
2003	Braich, O.S. (2003). Plants of Harike Wetland–A Field Guide. Published in The Tribune under the title “ Plants of Harike wetland can boost ecotourism ” on 30 th November, 2003.
RESEARCH PAPERS:	
2023	Kaur, N. and Braich, O.S. (2023). Detrimental influence of Industrial effluents, especially heavy metals, on limnological parameters of water and nutritional profile in addition to enzymatic activities of fish <i>Sperata seenghala</i> (Sykes, 1839) from diverse Ramsar sites, India (Punjab). <i>Environmental Monitoring and Assessment</i> , 195 (2012):1-60 DOI https://doi.org/10.1007/s10661-023-11600-3 Impact Factor: 3.307 , Published on 1 st August, 2023 ISBN: 01676369, 15732959.
2022	Khanna, S., Singh, J. and Braich, O.S. (2022). Breeding Behavior and Nesting Ecology of Pheasant-tailed Jacana. <i>Indian Journal of Ecology</i> , 49(3): 970-972 DOI: https://doi.org/10.55362/IJE/2022/3623 ISSN 0304-5250. Published on 25 th June, 2022
2022	Braich, O.S. & Singh, J. (2022). AVIAN SPECIES COMPOSITION OF SHAH NEHAR BARRAGE LAKE DOWNSTREA M, PONG WETLAND, TALWARA (PUNJAB). <i>Journal of Experimental Zoology India</i> , 25 (1): 745-753. DocID: https://connectjournals.com/03895.2022.25.745 ISSN 0972-0030; eISSN 0976-1780. Published on 01-03-2022.
2022	Singh, J. & Braich, O.S. (2022). Seasonal composition of avian communities in different habitats of Harike Wetland, a Ramsar site in Punjab, India, <i>Journal of Threatened Taxa</i> , 14(2): 20550–20565. ISSN 0974-7907 (Online); ISSN 0974-7893 (Print) https://doi.org/10.11609/jott.7581.14.2.20550 , Published on 26-02-2022

2022	<p>Brraich, O.S. & Kaur, L. (2022). Comparative studies on age and growth patterns of cultivated and wild <i>Catla catla</i> (Hamilton). <i>Indian Journal of Experimental Biology</i>, 60: 144-149.</p> <p>Impact Factor: 0.944</p> <p>ISSN:0975-1009 (Online); ISSN: 0019-5189 (Print), Published on 31st January, 2022</p>
2021	<p>Brraich, O.S. and Jassal, R. (2021). Evaluation of Water Quality Pollution Indices for Heavy Metal Contamination Monitoring in Surface Water of Sutlej River (India). <i>Toxicology International</i>, 28(4): 327-335.</p> <p>DOI: 10.18311/ti/2021/v28i4/27421</p> <p>ISSN (Print): 0971-6580 ISSN (Online) : 0976-5131</p> <p>Published on 27th December, 2021</p> <p>Impact Factor: 0.14</p>
2021	<p>Kaur, R. and Brraich, O.S. (2021). Abundance and diversity of threatened birds in Nangal Wetland, Punjab. <i>Journal of Threatened Taxa</i>, 13(12): 19733-19742.</p> <p>ISSN: 0974-7907 (Online); ISSN: 0974-7893 (Print), Published on 26th October, 2021</p>
2021	<p>Brraich, O.S., Kaur, N. and Hundal, S.S. (2021). A Study on Nutritional Profile of Liver from Captured and Cultured Rohu, <i>Labeo rohita</i> (Cypriniformes: Cyprinidae). <i>Journal of Pharmaceutical Research International</i>, 33(44B): 398-408.</p> <p>ISSN: 2456-9119 Published on 25th September, 2021</p>
2021	<p>Kaur, N. and Brraich, O.S. (2021). Impact of industrial effluents on physico-chemical parameters of water and fatty acid profile of fish, <i>Labeo rohita</i> (Hamilton), collected from the Ramsar sites of Punjab, India. <i>Environmental Science and Pollution Research</i>, 28 (36): 1-19</p> <p>Impact Factor: 5.8 (2022)</p> <p>Electronic ISSN: 1614-7499; Print: ISSN 0944-1344</p> <p>Published on 18th September, 2021</p>
2021	<p>Brraich, O.S. and Kaur, N. (2021). AN INVESTIGATION ABOUT BIOCHEMICAL COMPONENTS OF MUSCLE AND SOME VISCERAL ORGANS IN <i>Labeo rohita</i> (Hamilton, 1822) CAUGHT FROM TWO DIFFERENT WETLANDS IN INDIA. <i>Uttar Pradesh Journal of Zoology</i>, 42(19): 82-91.</p> <p>ISSN: 0256-971X (P) Published on 16th September, 2021</p>

2021	<p>Kaur, M. and Brraich, O.S. (2021). Ultrastructural alterations in the Gills of cyprinid, <i>Labeo rohita</i> (Hamilton) exposed to Lead nitrate. <i>Indian Journal of Experimental Biology</i>, 59: 570-575.</p> <p>Impact Factor: 0.818</p> <p>ISSN:0975-1009 (Online); ISSN: 0019-5189 (Print), Published on 27th August, 2021</p>
2021	<p>Brraich, O.S. and Singh, J. (2021). Status of Horned Grebe <i>Podiceps auratus</i> in India. <i>Indian BIRDS</i>. 17 (4): 121-122.</p> <p>ISSN / eISSN: 0973-1407 (SCI) Published on 10th August, 2021</p>
2021	<p>Brraich, O.S. and Jassal, R. (2021). Comparative analysis of physicochemical characteristics and heavy metals to assess the water pollution load of downstream junction of Buddha Nullah, the stretch of river Sutlej and Nangal wetland (Ramsar site) Punjab, India. <i>Journal of Experimental Zoology India</i>, 24 (2): 1205-1211.</p> <p>DocID: https://connectjournals.com/03895.2021.24.1205</p> <p>ISSN (Print): 0972-0030 eISSN (Online): 0976-1780 Published on 24th July, 2021</p>
2021	<p>Brraich, O.S., Kaur, N. and Akhter, S. (2021). Assessment of Limnological Parameters and Water Quality Indices of Harike Wetland (Ramsar Site), Punjab (India). <i>Applied Ecology and Environmental Sciences</i>, 9 (6): 591-598.</p> <p>DOI:10.12691/aees-9-6-3</p> <p>ISSN (Print): 2328-3912 ISSN(Online): 2328-3920 Published on 9th June, 2021</p>
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