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Shivharsh Kisan P.G. College, Basti



# PROGRESS REPORT

Department of Zoology



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## Department Profile

The Department of Zoology is one of the Foundation Department of the Faculty of Science, Shivharsh Kisan Post Graduate College, Basti. Presently the department incharge by **Prof. Susmita Srivastav** who is honored with best faculty for the teaching innovations. At present Zoology department has a four Assistant Professors **Dr. Sapna Rani, Mr. Dharmendra Singh, Mr. Harinarayan Chauhan** and **Ms. Ayushi Mishra** have been sanctioned by higher education department of U.P. Government. The Department is running efficiently with high class teaching and research, faculty members are also engaged in conducting various research projects. Department is also reflecting the potential place of good quality researches in life sciences as evident by publication of research as well as review articles/papers in reputed, peer-reviewed and refereed International and National Journals.

Our Department conducts graduate and post-graduate courses (B.Sc. and M.Sc. in Zoology PhD. program in animal sciences. Department provides a deep understanding of the structure, classification, behavior, genetics and evolution of animals. It has a wide range of application in Pharmacology, Drug Designing, Forensic, Environment and Clinical Sciences. The Department provides specialization in Fisheries, a minor elective course in concepts of animal sciences and a Co-curricular course in Food, Nutrition and Hygiene as per NEP guidelines. Department adopts bilingual approach and blended methods of teaching and learning in order to cater the needs of students. Departmental laboratories are enriched with advanced instruments, digital and virtual lab, e-museum, image projection system for demonstration of dissection, histological sections and cell biology slides. Several web portals are used for online teaching. Department has its own YouTube channel which is used for teaching and conducting seminars and workshops. The department has an animal house also.



## Vision:

To inhere amongst the students the highest values of life, respect for Nature and to inculcate sound acquisition of knowledge of animal sciences through quality educational practices and research.

## Mission-

- To develop infrastructural facility and introduce tools and techniques in relevant fields.
- To undertake research projects in different fields and conduct quality research in frontier areas.
- To publish high quality research papers in different fields.
- To produce leadership in science and technology.
- To prepare responsible trained manpower in animal sciences, teaching and research.
- To sensitize human society for animal welfare, conservation and protection of biodiversity.
- To provide transformative, holistic and value-based immersive learning experiences to students.
- To be a hub of original productive research and innovative thinking.
- To be the largest provider of quality education in India.

## Infrastructural facility:

The department offers a competent academic environment with a team of well-qualified faculty members who offer the students excellent technical exposure. The strength of the department lies in the efficient students who are made aware of the increasing demands of the industry and shape their skills accordingly



The lab facilities and experiments are designed to achieve parallel growth in theoretical and practical skill.

## Academic Achievement:

### EVENTS AND ACTIVITIES

Department of Zoology organizes an array of co-curricular activities every academic year to make learning beyond the classroom fascinating. Activities include seminars, workshops, guest lectures, interclass, interdisciplinary competitions, field trips etc.

### Eco-Club:

**Vision:** The vision of Eco-club of the department is to promote Environmental consciousness amongst students and the larger community, understand and analyze the environmental alterations, its impact on plants, animals and human and to promote research on the protection of ecosystem with special reference to Uttar Pradesh.



(Zoology department organized eco-club activities)

### Objectives:

- To create awareness amongst students the need for Environmental Protection
- To organize events that will bring about awareness on the hazardous practices.
- To organize events /competitions /seminars/workshops guest lectures/ for raising environmental concerns.
- To promote research that will look for solutions to protect the ecosystem to solve the local environmental issues.



(World environment celebration and plantation)

## Cytogenetics Workshop:

Department of Zoology, Shivharsh Kisan P.G. College, Basti in collaboration with the Cytogene Research & Development, Lucknow organized a Hands On Training and Workshop on “DNA Fingerprinting: A Boon to Forensic Science” from February 22<sup>nd</sup>-24<sup>th</sup>,2021 under the convenorship of Prof. Susmita Srivastav. The workshop is designed to provide a basic understanding of technical aspects

covering conventional karyotyping of prenatal samples, peripheral blood and bone marrow, methods, and principles in fluorescence in situ hybridization (FISH) in hematological malignancies and solid tumors, and micro – array genomic profiling. There will also be discussions on Quality assurance for cytogenomic analysis and ISCN nomenclature.



(Images of the workshop)

## Seminar/Webinar:

Department of Zoology organized one day national webinar on "NEP-2020, Challenges and Possibilities" on September 8<sup>th</sup> 2022.



Department conducting series of seminars, conferences, guest lectures, workshops to provide hands on training, internship training, exhibitions, value added courses, online courses facilitate intellectual and mental development of students.

## Field trip/Excursion

Department of Zoology provides opportunities for field studies of animals help students understand the complexities and causes of animal behavior. Wild animals interact with their physical surroundings and the biological world while breeding, eating, and moving within their habitat.

During 2022-23, the students of the Master's Degree visited **Medha Matsya Prajnan Kendra, Maharajganj** as an educational tour.



(Dr. Sanjay Srivastava giving information to the students related to fish breeding)

*Dr. Sanjay Srivastava is famous in the surrounding districts by the name of fish doctor. Sanjay Srivastava from Pantnagar Agricultural University had researched on the subject of multiple breeding in one breeding season of fishes. Received Senior Research Fellowship from Council of Agricultural Research, New Delhi and also received financial assistance from University Grants Commission. Trained in fish farming from Bangkok's Setsart University, but aside from academic achievements, Dr. Sanjay's real success began when he returned to his village.*

## Students' performance:

The department of Zoology has a good reputation and good academic performance in the region. The academic excellence of the Department is evident from the outstanding performance of both the Undergraduate and Post-Graduate students in the University- and competitive-



examinations. Students from this department also cleared CSIR-NET exam. Students secured top ranks in university examinations, reflecting the high standard of education provided by the department. In 2020-21 **Gargi Shukla** secured the highest marks in his Bachelor's Degree and received a gold medal from the University.

## Research and Publications:

Department has a vision to enhance interest in students in understanding the subject in a logical way and inculcate importance of preserving biodiversity of animals and to develop research temper for betterment of society. Department of Zoology conducts research in animal science discipline. Syllabus Design-Faculty members of Zoology department have also made the syllabus of NEP 2020 Ph.D ,UG (Minor) & PG (major & minor) under the convenership of **Prof. Susmita Srivastav**. Presently three research scholars pursuing their Ph.D from the Department. The faculty members have published various research paper/review articles and textbooks in the reputed journal. The faculty members have participated and presented research paper in various national and international conferences and seminars organized by the state and central university.

Topic	Academic Year	Published
<b>1</b> Alterations in the Prolactin Cells of Stinging Catfish, <i>Heteropneustes fossilis</i> Administered with Prolactin and Maintained in Artificial Freshwater or Calcium-Deficient Freshwater	2021	International Journal of Zoological Investigations, Vol. 7, No. 2, 615-620 <a href="https://doi.org/10.33745/ijzi.2021.v07i02.045">https://doi.org/10.33745/ijzi.2021.v07i02.045</a>



2	Prolactin induced cyto-architectural changes in the corpuscles of Stannius of stingray catfish, <i>Heteropneustes fossilis</i> acclimated to different calcium media	2021	International Journal of Biological and Environmental Investigations, Vol. 1, No. 1, 1-9, 2021 <a href="https://doi.org/10.33745/ijbei.2021.v01i01.001">https://doi.org/10.33745/ijbei.2021.v01i01.001</a>
3	Comparative Anatomy of Vertebrates with Practical	2021	Mahaveer Publications. ISBN: 978-93-91064-45-7
4	Zoology cytology genetics & infectious diseases	2021	Ram Prasad Publications. ISBN: 978-93-8630-82-8
5	Insights into COVID-19 Vaccine Development Based on Immunogenic Structural Proteins of SARS-CoV-2, Host Immune Responses, and Herd Immunity	2021	Cells, Vol. 10(11), 2949 <a href="https://doi.org/10.3390/cells10112949">https://doi.org/10.3390/cells10112949</a>
6	CSIR NET-JRF Life Science Previous Year Solved Question Papers (Detailed Explanation)	2021	InSc International Publisher. ISBN: 978-1-685786-109-7
7	Deciphering the anti-filarial potential of bioactive compounds from <i>Ocimum sanctum</i> : a combined experimental and computational study	2022	Pharmaceutical Biology, Vol. 60:1, 2237-2252 <a href="https://doi.org/10.1080/13880209.2022.2132030">https://doi.org/10.1080/13880209.2022.2132030</a>
8	Targeting the HIV-1 Tat and Human Tat Protein Complex through Natural Products: An <i>In Silico</i> Docking and Molecular Dynamics Simulation Approach	2022	Letters in Drug Design & Discovery, Vol. 19, 982-995(14) <a href="https://doi.org/10.2174/1570180819666220330122542">https://doi.org/10.2174/1570180819666220330122542</a>
9	Identification of promising nutraceuticals against filarial immune-modulatory proteins: insights from <i>in silico</i> and <i>ex vivo</i> studies	2022	RSC Advances, Vol.12(35): 22542–22554 <a href="https://doi.org/10.1039/D2RA03287B">https://doi.org/10.1039/D2RA03287B</a>
10	Lymphatic filarial serum proteome profiling for identification and characterization of diagnostic biomarkers	2022	PLoS One, Vol. 17(7):e0270635 <a href="https://doi.org/10.1371/journal.pone.0270635">https://doi.org/10.1371/journal.pone.0270635</a>

## Challenges and Mitigation Strategies:

Despite the remarkable progress made by the department, we still faced many challenges like paucity of financial resources in the department. Despite paucity of resources, the department made every effort to overcome the challenges faced by the department by adopting alternate sources of resources. All the faculty members of the department always keep themselves updated with the latest information for the All-round development of the students. The Department of Zoology is always alert for the progress of the college.

## Future Plan of the Department:

- To develop a Departmental library for P.G. and PhD students.
- To develop a full fledged Laboratory for P.G.
- To develop an advanced laboratory systems for the faculty and research scholar
- To Apply For Research Project.
- To Organize Conferences / Seminar.
- To set up guidance cell for those aspirants who are preparing for NET- SET exams and Other Competitive Exams.
- Conservation Bird habitat.

## News Highlights:



## Report Summary:

Department of Zoology, Shivharsh Kisan Post Graduate College, Basti has made significant progress during the reporting period. We are proud of our faculty members, and students for their hard work, dedication, and achievements. With continued support from the college administration, faculty, and other stakeholders, we are confident that the department will continue to excel in providing quality education, conducting valuable research, and producing competent Zoologist who can contribute to importance of biodiversity for the planet earth.