

## RIE BHOPAL, Faculty Profile (Last five years from 2019-2025)

<b>Full Name:</b>	Dr. KUSUM			
<b>Designation:</b>	Assistant Professor (Zoology)			
<b>Department:</b>	Department of Education in Science and Mathematics (DESM)			
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<b>Education Qualification:</b>	B.Sc. (Hons.), M.Sc. (MHG), Ph.D. (Zoology)			
<b>Teaching Experience:</b>	1yr, 2months	<b>Research Experience:</b>	9years	
<b>Academic Identity:</b> (i) ORCID Id: <b>Dr. Kusum</b> , <a href="https://orcid.org/0000-0002-7244-5143">https://orcid.org/0000-0002-7244-5143</a> (ii) Scopus Author Id with web link (iii) Researcher Institutional ID with web link (iv) Google Scholar Id: <b>Dr Kusum</b> , <a href="https://scholar.google.com/citations?user=H27uAwIAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=H27uAwIAAAAJ&amp;hl=en</a> (v) Vidwan Id: <b>620769</b> , <a href="https://vidwan.inflibnet.ac.in/profile/620769/NjIwNzY5">https://vidwan.inflibnet.ac.in/profile/620769/NjIwNzY5</a> (vi) Research gate Id: <b>kusum kusum</b> , <a href="https://www.researchgate.net/profile/Kusum-2">https://www.researchgate.net/profile/Kusum-2</a>				
<b>Research Interest and Fields of Specialization</b> <p>The thrust area of Research in a broad way includes Biological sciences, while the field of specialization is reproductive biology.</p> <ul style="list-style-type: none"> <li>Ph. D. worked done on the enigmatic topic “<b>Endometriosis</b>” under the supervision of Prof. Radha Chaube, at the Department of Zoology, Institute of Science, Banaras Hindu University, Varanasi, INDIA.</li> <li>Studied the characteristic salient features, frequency, and aromatase gene polymorphism (rs2470152) in <b>Polycystic Ovary Syndrome (PCOS)</b> patients of the Eastern Uttar Pradesh population.</li> <li>Worked to examine the “<b>multigenerational effects of environmental endocrine-disrupting chemical (EDC) 4-NP (4-Nonylphenol)</b> on reproductive, histological, and hormonal fitness of male mice” exposed for 21 days.</li> </ul>				

- Worked as a project fellow from 01/12/2015-15/05/2016, at the Department of Genetics, Osmania University, Hyderabad, under **UGC-CAS-II** funded project entitled “Epigenomics”.
- Worked on the “**Role of Matrix metalloproteinase (MMP-2 and MMP-9) in the pathogenesis of preterm birth**” in my M. Sc. dissertation project (2013-15) under Dr. Kiran Singh (Late), Department of Molecular & Human Genetics, Institute of Science, BHU, Varanasi, India.

**Member of Academic Institutions (Board of Studies / Research Degree Committee/School Board) Present/ Past**

#### **1. Membership of different Organizations**

Life-member of the Translational Biomedical Research Society (TBRS) (Registered Under Society Registration Act 1860, Registration No.: LUC/00480/2019-2020) on October 4<sup>th</sup>, 2019.

#### **2. Research Supervision**

(No. of Ph.D. Degree Awarded \_\_\_\_\_ and Registered \_\_\_\_\_)

(Number of M.Phil awarded in \_\_\_\_\_)

#### **3. Research Projects (Completed and ongoing with title, type, fund allocated, duration and name of the funding agency)**

#### **4. Administrative Experience**

Discharging the duties of Atal Bihari Vajpayee Gyan Niketan Girl’s Hostel, Regional Institute of Education, Bhopal, M.P. (29<sup>th</sup> Feb 2024-present)

#### **5. Scientific Visits Abroad/ International Collaboration**

#### **6. Conference/Symposium/Workshop Attended during (2019-2025)**

##### **Workshops attended:**

1. Attended orientation workshop on “**BIRAC funding for Innovation and startup formation in biology related fields**” organized by department of biochemistry, Institute of Medical Science, BHU, Varanasi on 20<sup>th</sup> April, 2019.
2. Attended workshop on “**Liquid Chromatography and Mass Spectrometry Applications in Clinical/ Medical Research**”, organized on 19<sup>th</sup> February, 2020, in association with Waters India and Multidisciplinary Unit, IMS, BHU, Varanasi.

3. Attended workshop arranged by JNU on the occasion of **6<sup>th</sup> International Day of YOGA** from 18<sup>th</sup> to 21<sup>st</sup> June 2020, held at Jawaharlal Nehru University, New Delhi, India.
4. Attended “**One Week Online Research Methodology Workshop**” organized from 3<sup>rd</sup>-9<sup>th</sup> July, 2020 by Students for Holistic Development of Humanity (SHoDH), Haryana in association with School of Business and Management Studies, Central University of Haryana and Indian Council of Social Science Research (ICSSR), New Delhi (as a knowledge partner).
5. Attended workshop on “**PROMINENCE OF ANIMALS IN RESEARCH**” Organized by Indian Institute of Technology (IIT) Ropar, on 10<sup>th</sup> July, 2020.
6. Attended a workshop on “**Publishing Ethics and Research Methodology**” from **August 12<sup>th</sup>-14<sup>th</sup>**, 2020, organized by Dr. B. R. Ambedkar Central Library, Jawaharlal Nehru University, New Delhi, India.
7. Attended a “**National workshop on Statistical Computational Techniques Using PHYTON, R & SPSS**” from July 18<sup>th</sup> to 20<sup>th</sup>, 2020, organized by School of Studies, Pt. Ravishankar Shukla University, Raipur, Chhattisgarh (INDIA), Sponsored by Public Outreach Center.

#### **Seminars Attended:**

1. Attended an international conference entitled “**CRYSTAL BALL VISION ON SCIENCE & ENGINEERING FOR SOCIAL UPLIFTMENT**” during August 7<sup>th</sup>-8<sup>th</sup>, 2017 at the CSIR-National Institute of Oceanography, Goa, India.
2. Attended a Symposium on Research Ethics and Scientific Publication “**WHERE AND HOW TO PUBLISH?**” organized by department of molecular and human genetics, faculty of ayurveda and springer nature India private limited at Mahamana Hall, seminar complex, institute of science, BHU, Varanasi on 27<sup>th</sup> March, 2019.
3. Attended an international webinar conference on “**Global Response to COVID-19**” on 23<sup>rd</sup> May, 2020 organized by International Institute of Health Sciences (IISH), USA.
4. Attended a webinar on “**Effect of Covid-19 on Human Life and Environment**” organized by Department of Bio-technology, SRIMT, Lucknow on June 8<sup>th</sup>, 2020.
5. Participated in “**Spit-free India Movement**” during June-August, 2020 to prevent the spread the Covid-19 organized by NSS.
6. Attended a webinar on “**CONNECTING WITH SELF**” from 7<sup>th</sup>-8<sup>th</sup> July, 2020 organized by National Service Scheme (NSS) in collaboration with Vivekanand Kendra Kanyakumari and CollCom.
7. Attended a webinar entitled “**A Detailed Glimpses- Electron cryotomography and Ultra structure of cells**” on 9<sup>th</sup> July, 2020 organized by CSIR-Centre for Cellular and Molecular Biology, Hyderabad, India.
8. Attended a national webinar on “**Education- COVID 19 and After: Ideas for New Education Policy**” from 9<sup>th</sup>-10<sup>th</sup> July, 2020 organized by Department of Education, Saurashtra University, Rajkot, Gujarat & Ambah P.G. College, Ambah-Morena (affiliated to JNU), in COLLABORATION WITH Shanti Upendra Foundation for Developmental Initiatives (SUFDI) An Educational Foundation, New Delhi & TEACHER EDUCATORS\_SS.

9. Attended a technical talk (webinar) on “**Can Future Energy needs be met sustainably?** On 10<sup>th</sup> July, 2020 at 1.30pm, organized by the National Academy of Sciences (NASI), India & MHRD-Institution Innovation Council (IIC), Deen Dayal Upadhyaya College Chapter (University of Delhi).
10. Attended a technical talk (webinar) on “**Are we there yet? How do cells find their way?** on 11<sup>th</sup> July, 2020 at 3.30pm, organized by the National Academy of Sciences (NASI), India & MHRD-Institution Innovation Council (IIC), Deen Dayal Upadhyaya College Chapter (University of Delhi).
11. Actively participated in a talk held on July 11<sup>th</sup>, 2020 on “**Covid-19 as a Catalyst for digital transformation**” held during the webinar series 2020, organized by the Sukshmjeeve Society, Department of Microbiology, under the aegis of Star College Scheme, DBT, Govt. of India and IQAC.
12. Attended a technical talk (webinar) on “**The influence of infection on Society before Covid-19**” on 14<sup>th</sup> July, 2020 at 4.30pm, organized by the National Academy of Sciences (NASI), India & MHRD-Institution Innovation Council (IIC), Deen Dayal Upadhyaya College Chapter (University of Delhi).
13. Actively participated in one day national webinar on “**Cybercrime Awareness from a Legal Perspective**” held on 16<sup>th</sup> July, 2020, organized by CollCom, NSS JNU and NSS SLBSNSU.
14. Attended a technical talk (webinar) on “**A Reinforcement Learning Framework For Mobile Relay Beamforming**” on 24 July, 2020 at 7.30pm, organized by the National Academy of Sciences (NASI), India & MHRD-Institution Innovation Council (IIC), Deen Dayal Upadhyaya College Chapter (University of Delhi).
15. Attended a technical talk (webinar) on “**Empathetic Conversational Artificial Intelligence (AI)**” on 26<sup>th</sup> July, 2020 at 2.30pm, organized by the National Academy of Sciences (NASI), India & MHRD-Institution Innovation Council (IIC), Deen Dayal Upadhyaya College Chapter (University of Delhi).
16. Actively participated in the online “**Guided Quiz on Cyber Crime Awareness**” organized by National Service Scheme (NSS) in collaboration with Vivekanand Kendra Kanyakumari and CollCom.
17. Participate in webinar on 5<sup>th</sup> September 2020 on “**Genomics: From Personal Genomes to Populations**” organized by Genomix. Actively participated in a national webinar entitled “**Developing a potent vaccine against the SaRs-CoV2: Feasibility and challenges**”, organized under the aegis of Science Setu on 7<sup>th</sup> October, 2020 by Department of Biotechnology, Maitreyi College, University of Delhi.
18. Actively participated in a national webinar entitled “**Developing a potent vaccine against the SaRs-CoV2: Feasibility and challenges**”, organized under the aegis of Science Setu on 7<sup>th</sup> October, 2020 by Department of Biotechnology, Maitreyi College, University of Delhi.
19. Attended ASI’s (Applied Spectral Imaging ‘**The Role of cytogenetics in Hematolymphoid malignancies**’ webinar for educational purposes on 28<sup>th</sup> of Jan, 2021.
20. Attended online workshop on “**How to Practice Evidence-Based Medicine**” from 28<sup>th</sup>-30<sup>th</sup> Jan 2021, organized by ICMR.
21. Attended an International Conference on ‘**Challenges and Strategies in Reproductive and Environmental Health with Special Reference to Covid-19 Pandemic**’, organized by IISRF from 19<sup>th</sup>-21<sup>st</sup> February, 2021.

**7. A) Research Papers Published in Journals last six years (2019-2025)**

**(Include H-Index, i10 Index and total No of Citation as Per Scopus/Google Scholar):**

S.No.	Publication Type	Authors Name	Title of the Paper	Journal Name	Year	Page No.	Page No.	ISSN No.
1	Preprint	Kusum, K., Ashish, A., Singh, R., Bhushan, R., Chaube, R., Rai, S.	Bioinformatical Enrichment Analysis Reveals Key Differentially Expressed Genes in Endometriosis Pathogenesis DOI: <a href="https://doi.org/10.21203/rs.3.rs-4928520/v1">https://doi.org/10.21203/rs.3.rs-4928520/v1</a>	Research Square	2024	-	-	-
2	Web of Science	Rai, S., Ashish, A., Mishra, S., Kumar, B., <b>Kusum, K.</b> , & Singh, R.	SARS-CoV-2 infection and Pregnancy outcome: A cross-sectional study from Eastern UP Population, India.  <b>DOI:</b> <a href="https://doi.org/10.61081/joab/50v1i104">https://doi.org/10.61081/joab/50v1i104</a>	Journal of Applied Biosciences	2024	50 (1)	02	<i>eISSN:</i> 0975-864X  <i>pISSN:</i> 0975-685X
3	Scopus	<b>Kusum, K.</b> , Raj, R., Rai, S., Pranjali, P., Ashish, A., Vicente-Munoz, S., Chaube, R., Kumar, D.	Elevated circulatory proline to glutamine ratio (PQR) in endometriosis and its potential as a diagnostic biomarker DOI: <a href="https://doi.org/10.1021/acsomega.2c00332">10.1021/acsomega.2c00332</a> <a href="https://doi.org/10.1021/acsomega.2c00332">https://doi.org/10.1021/acsomega.2c00332</a>	ACS Omega	2022	7 (17)	1485-6-66	2470-1343
4	Web of Science	<b>Kusum</b> ., Ashish., Rai, S., Patel S., Chaube, R.	Diagnostic Characteristics, Histopathological and Aromatase Gene Polymorphism (rs ID-2470152) in Endometriosis Patients: A Case-control Study DOI:10.7860/JCDR/2022/49500.16636. <a href="https://doi.org/10.7860/JCDR/2022/49500.16636">https://doi.org/10.7860/JCDR/2022/49500.16636</a>	Journal of Clinical and Diagnostic Research	2022	16 (7)	QC15- - QC21	0973-709X
5	UGC Listed	Ashish A., Rai S., Misra, S., <b>Kusum, K.</b> , Shah, A., Chaturvedi, C. P., Singh R	Decipher The Role of The Epigenetic Regulators in Progression of Women with Endometriosis-Associated Infertility DOI: 10.37398/JSR.2022.660125. <a href="http://dx.doi.org/10.37398/JSR.2022.660125">http://dx.doi.org/10.37398/JSR.2022.660125</a>	Journal of Scientific Research	2022	66 (1)	232-237	0447-9483
6	Peer Reviewed	Ashish, A., <b>Kusum, K.</b> , Rai, S., Zahra, K., Mishra, S., Rai, G., Chaube, R., Singh, R.	Inflammatory cytokine profile of VEGF and IL-6 from the endometrium of women with and without Endometriosis doi: <a href="http://dx.doi.org/10.18203/2320-1770.ijrcog20210717">http://dx.doi.org/10.18203/2320-1770.ijrcog20210717</a>	International Journal of Reproduction, Contraception, Obstetrics and Gynecology	2021	10 (3)	965-970	2320-1770
7	Peer Reviewed	<b>Kusum, K.</b> , Ashish, A., Sangeeta, Rai., Royana, S., Chaube, R.	Modulation of Aromatase (CYP19) Gene in the Testis of Mice Under the Exposure of 4-Nonylphenol DOI: <a href="https://doi.org/10.31080/ASNE.2021.04.0389">10.31080/ASNE.2021.04.0389</a>	Acta Scientific Neurology	2021	4 (7)	65-69	2582-1121
8	Peer Reviewed	ASHISH, A., <b>KUSUM, K.</b> , RAI, S., KUMAR, B., CHAUBEY, R., PATEL, S., & SINGH, R	Hospital based study on endometriosis among infertile women from the population of Eastern UP, INDIA	Journal of Applied Biosciences	2020	46 (1,2)	1-2	1997-5902

9	Web of Science	<b>Kusum, K.</b> , Patel, S., Chaube, R., Ashish, A., Rai, S.	Aromatase Gene Polymorphism (rs2470152) in Polycystic Ovary Syndrome Patients of Eastern Uttar Pradesh DOI:10.7860/JCDR/2020/44643.14098. <a href="https://doi.org/10.7860/JCDR/2020/44643.14098">https://doi.org/10.7860/JCDR/2020/44643.14098</a>	Journal of Clinical and Diagnostic Research	2021	14 (10)	QC01 - QC05	0973-709X
10	Web of Science	<b>Kusum, K.</b> , Ashish, A., Singh, R., Chaube, R.	Exposure of 4-Nonylphenol: Effect on Physiology and Reproductivity of Male Mice DOI:10.7860/JCDR/2021/46578.14607. <a href="https://doi.org/10.7860/JCDR/2021/46578.14607">https://doi.org/10.7860/JCDR/2021/46578.14607</a>	Journal of Clinical and Diagnostic Research	2021	15 (3)	AC01 - AC05	0973-709Xs
11	UGC Listed	Ashish., <b>Kusum.</b> , Rai, S., Kumar, B., Chaube, R., & Singh, R.	Elevated Levels of CA-125, Estradiol and Cortisol as Prominent Markers to Diagnose Various Stages of Endometriosis DOI: 10.37398/JSR.2021.650507. <a href="http://dx.doi.org/10.37398/JSR.2021.650507">http://dx.doi.org/10.37398/JSR.2021.650507</a> .	Journal of Scientific Research	2021	65 (5)	50-55	0447-9483
12	Web of Science	ASHISH, A., KUSUM, K., RAI, S., KUMAR, B., CHAUBEY, R., PATEL, S., & SINGH, R.	Hospital based study on endometriosis among infertile women from the population of eastern up, india.	Journal of Applied Biosciences	2020	46 (1)	2	(Print) 0975-685X (Online) 0975-864X
13	Peer Reviewed	<b>Kusum.</b> , Rai, S., Chaube, R.	Endometriosis: Role of aromatase and recent advances in the disease treatment	Austin journal of obstetrics and gynecology	2019	6 (2)	1137-43	2378-1386
14	UGC Listed	<b>Kusum.</b> , Rai, S., Singh, K., Chaube, R. (2019). Endometriosis:	Endometriosis: pronouncing in reproductive women with role of estrogen and aromatase	Proceedings of the Zoological Society of India	2019	18 (1)	1-7	0972-6683

## B) ARTICLES PUBLISHED IN THE EDITED BOOK

Ashish, A., Mishra, S., Rai, S., Kusum, K., Rai, G., & Singh, R. (2024). Advances in Endometriosis Research: From Pathogenesis to Prevention. DOI: 10.5772/intechopen.1007830

## C) PAPER PUBLISHED (IN CONFERENCE PROCEEDING with ISSN Number)

## D) PUBLICATION OF BOOKS (Both as Authored and Edited)

## E) PREPARATION OF STUDY MATERIAL

## F) EDITORSHIP OF RESEARCH JOURNAL

## G) MOOCs

## 8) ORGANIZATION of SEMINAR/WORKSHOP/FDP/TRAINING PROGRAM

### 9) Other Information if any

- Data availability of NMR study on **ZENODO** (<https://zenodo.org/record/5179906>) without undue reservation, DOI:10.5281/zenodo.5179906
- Best poster presentation award at the International conference of World Congress on Reproductive Health with Emphasis on Reproductive Cancers, Infertility and Assisted Reproduction & 30<sup>th</sup> Annual Meeting of Indian Society for the Study of Reproduction and Fertility (ISSRF), on 14<sup>th</sup> - 16<sup>th</sup> February 2020
- Qualified CSIR-JRF (June 2016), All India Rank: 87
- Qualified BHU-RET (September-2016), Subject-Zoology, Rank:7
- Qualified GATE Lifesciences (2015), All India Rank: 555