

Dr. Krishna Kumar Sharma(Prof.K.K.Sharma)

Professor and Head Department of Zoology, and Dean PG Studies, MDS University, Ajmer-305009 Rajasthan India

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Academics Qualifications Ph.D., Developmental Biology (Zoology), 1982, University of Rajasthan, Jaipur, India

Post Doctorate Cologne (Germany)

Work Experience 31 Years (Teaching and Research Experience in University)

Started career as researcher in Rajasthan University Jaipur August 1977 as **JRF CSIR** Selected as permanent faculty by open selection in first attempt as **-Assistant Professor (1979)** in Rajasthan University, Jaipur **Associate Professor (1990)** - and Professor (1995) MDS University Ajmer.

Research Interest.

During the Ph.D (1977-82) programme with Prof.I.A.Niazi , investigated that Retinoids cause whole limb regeneration and also induce regeneration in otherwise non regenerating cases. Series of publications appeared all over the world including in "Nature" following this discovery. Studied molecular mechanism of action of retinoids at the University of Cologne Germany, under the National Scholarship Study Abroad Post-Doctoral programme of (1983) of Ministry of HRD, India. Visited **Germany, UK, Belgium, Holland, Switzerland , Austria, Spain, Portugal, Italy, France, Mexico, USA, Hong Kong, China** abroad in connection with fellowships, teaching assignments, International conferences etc.

Awards/Honours

Received Young Scientist Travel Fellowship Award **International Society Developmental Biologists, USA** -1985. **Received** Heinrich Hertz Stipendium , DFG funding Germany-1986. **Selected** for Swami Pranavanand Saraswati Young Scientists Award of All India Society for Developmental Biologists. **Selected** in the NIH Project Michigan State University, USA. **Received** Swaran Jayanti Award of National Academy of Sciences, 1999.

Major Research contributions

First Report (co author Prof. I.A. Niazi, India) that Vitamin A induces limb regeneration in adult frogs, that vitamin A alters gene expression during PD duplication (co author Prof. H.J. Anton) that Vitamin A influences wound epithelium during regeneration. (co authors Prof. S. Koussoulakos, Greece). **Confirmed** that mammals possess regenerative ability of finger tips.

First comprehensive documentation of distribution and Molecular Taxonomy of herpetofauna in the Thar and nearby Aravalli ranges of Rajasthan, India. NCBI (Gene Bank, USA) has released 105 DNA sequences(12 S, 16 S DNA sequences, H4 and Cytochrome-b genes).

Designed recycling distillation technique that saves gallons of water during distillation processes. **Proposed sonotaxonomy** for taxonomic identification of animals and their

monitoring based on sound. Development of Artificial finger non electrical and non-motorized is under the process. Developed digital alternatives for replacment of animals in Practicals.Received Major Research Projects from UGC, CSIR, ICMR and recently from DST (to study limb regenerative abilities of anurans and adaptive radiations of endangered amphibians and reptiles.

Academic and Administrative Leadership

Served on many academic and administrative positions such as Founder -Dean foreign students welfare, Head Department of Zoology Dean Colleges, Director School of Science, Director Computer Centre, Dean Colleges. Also Dean Faculty of Science, Dean PG Studies, Director College Developmental Council, In charge Central Library, Member Board of Management , Academic Council and Vice Chancellor Committee. Director IQAC, Nodal Officer,IPR.Convener Board of Studies, Zoology, Biotechnology, Bioinformatics Computer Application, Laboratory Technology and Instrumentation (Medical Laboratory Technology).

M. Sc. Zoology (1972)	University of Rajasthan Jaipur
German Language Course	University of Rajasthan Jaipur
French Language Course	University of Rajasthan Jaipur
Ph.D. (1982)	University of Rajasthan Jaipur

Post-doctorate (1984-86)	University of Cologne, Germany (Sponsored by Ministry of Human Resource and Government of India, -National Scholarship study abroad
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Teaching experience-31 years

Assistant Professor Zoology (1979*-1990)	University of Rajasthan Jaipur
Associate Professor Zoology (1990*-1995)	MDS University Ajmer
Professor Zoology (1995*-contd.)	MDS University Ajmer

*Selected by open selection in first attempt

Administrative experience

Head of the Department (1990-contd.)- Founder
Dean Foreign Students Welfare (Former) -Founder
Dean Faculty of Science (1996-98)
Dean Colleges (Former)-Founder
Dean PG Studies
Director (Honorary) Computer Centre (former) –Founder
Director School of Sciences (former) - Founder
Director College Development Council (former) -for three Universities -MDS
University Ajmer, Kota University, and MGS University Bikaner
Director Internal Quality Assurance Cell
Coordinator Steering Committee NAAC

Convener, Biodiversity and Landscape Development (2004-07)
Nodal Officer IPR

Convener/Member Academic bodies

- Member Board of Management (1995-1998; 2010-contd)
- Member Academic Council- (1990-contd)
- Convener Board of Studies in Zoology (1990-contd)
- Convener Board of Studies in Biotechnology (2005-07)-Founder
- Convener Board of Studies Bioinformatics (2005-contd)
- Convener Course Committee Laboratory Technology (1992-contd)
- Core faculty of School of Herpetology, Department of Science and Technology, New Delhi
- Editor/reviewer many International scientific journals
- Served as member Project Advisory Committee, DST, Rajasthan
- Served as member Expert UGC committee UGC to reduce dissection
- Member (former) regulating Body Genetically modified Organism, Govt. of Rajasthan
- State Coordinator National Environmental Science Academy
- Life Member, National Academy of Sciences, Allahabad
- Life Member, All India Society of Developmental Biologists
- Life Member, Indian Science Congress, Association, Kolkata
- Member reintroduction specialist group
- Team Member Mahatma Gandhi Doerencamp Foundation Bharatdesan University, Trichirapalli- for the mission digital alternatives for animal experimentation in practicals
- Convener, Library Advisory Committee
- Convener, UM Committee
- Convener, Grievance Committee
- Convener, Land Landscape Development and Biodiversity Committee
- Convener, Research Registration Committee
- Convener Disciplinary Standing Committee
- Coordinator, UGC NET Examination Two times
- Convener Research Grievance committee
- Convener, Building Committee
- Convener, Item Approval Committee
- Convener, Examination Reformation committee

Fellowship /Honours/Awards

- JRF CSIR, New Delhi-1978
- National Scholarship Study Abroad – Ministry, HRD Govt. of India -1983
- Heinrich Hertz Stipendium Nord RheinWest Fellen, Germany-1986
- International Developmental Biologist Society –Young Scientist Award -1986 (Travel fellowship to USA)
- Swami Pranavand Saraswati Young Scientist Award All India Society of Developmental Biologist, Pune – 1986

- NIH Fellowship position, Michigan University USA, 1988
- National Academy of Sciences India -Swarna Jayanti Puruskar-1999 during the 69th Annual session of the National Academy of Sciences, India held at Bhopal from 11-13 November, 1999 for designing robotic finger.

- Received Young Scientist Project Department of Science and Technology, New Delhi, 1990
- Received Major research projects from UGC, CSIR, DST

Research Contributions/ participated and organized seminars/conferences etc.

- Published about seventy research papers in journals of international repute. Some pioneering research findings were published in journals from Plenum, New York, Alan R.Liss, New York, S.Karger, Switzerland, Springer verlag etc)
- Present papers/served as Chairperson in more than seventy National and International conferences in India and Abroad
- Author/Editor of NCERT Biology Book
 - Board of Sec.Edu.Ajmer Biology Book
 - Vardhman University Kota Animal Biotechnology Book
- Organized fifteen (International National Seminar, Workshop, Training Programmes and Refresher Courses)
- Supervised 18 Ph. D. and 36 M. Phil.
- Presently ----- students are working under the supervision of undersigned and one Post Doctoral Fellow sponsored by DS Kothari Fellowship-UGC

Major Research Areas

- Retinoids in pattern formation during Development
- Amphibians Chick embryos
- Molecular regulation of Development of Heart, Pancreas
 - Amphibians
 - Mammals
- Restoration of Limb and finger regeneration
 - Fore and Hind limbs of Advanced Tadpoles and Adult frogs
 - Finger regeneration in Mammals
- Teratological studies
 - Amphibians
 - Chick
 - Mammals
- Cell and Tissue Differentiation
 - Skin of Amphibians
 - Thyroid gland of Amphibians
- Amphibian and reptilian Biodiversity
 - Systematics of Amphibians of Rajasthan
 - Ecobiology and Development of Amphibians of Fluoride rich areas of Rajasthan
- Developing Digital Technologies for replacement of Animal dissections

Some significant original Research contributions/ important discoveries

- Discovered (1979) that Retinoids induces regeneration in otherwise non regenerating cases. This discovery has become important base line information for the limb and finger tissue engineering research. Induction of limb regeneration in otherwise non regenerating cases by electrical stimulation.

-Limb regeneration in amphibians (Rana, Bufo, Salamander, Newts)

- Contributed in the discovery of retinoid induced pattern formation during limb regeneration with Prof. I.A. Niazi, Ph.D-Mc Gill. (1977-82) This Indian Discovery has been incorporated in the form of chapters in the reference books and practical manual on the subject Developmental Biology all over the world.

-Discovered that mammals too possess ability to regenerate their lost finger elements. (1995)

- Discovered taxonomy based on sound- sono taxonomy for better identification monitoring the wild life (2005)

- Designed water recycling technique during distillation. (2004) This technique saved gallons of water during distillation. Many research laboratories in India and abroad are using this technique.

-Developmental defects caused by retinoids in thyroid, heart, skin. Search of a model to study gene expression during structural pattern formation- keratinized denticles of anuran. Search of a model to study molecular events during fluorosis (Rana breviceps)

-Smallest frog- reported from Ajmer vicinity

- Prepared comprehensive data base of herpetofauna of Rajasthan as a base line data-base
- Sequenced genes

Recent Publications (2007-2010)

- Sharma, K.K. and Mehra, S.P. (2007): Need of Anuran studies in habitats of southern Rajasthan, India. **Frog leg**, No. 13, pp 12-16.
- Sharma, K.K. (2008): Frogs and Toads of Rajasthan. In *Conserving Biodiversity of Rajasthan (With emphasis on wild Flora and Fauna)*. Ed. Ashok Verma. Himanshu Publications, New Delhi, pp 179-184.
- K.K. Sharma & S.P. Mehra (2009): The Thar Desert of Rajasthan (India): Ecology and conservation of desert ecosystem. In ***Faunal Ecology and Conservation of the Great Indian Desert***, Springer-Verlag Berlin Heidelberg, Germany. 2009, Chapter-I.
- K.K. Sharma and Vivek Sharma (2009): Records of two Microhylids; Ornate Narrow Mouthed Frog (*Microhyla ornata*) and Marbled Balloon Frog (*Uperodon systoma*) from Ajmer district, central Rajasthan (India). **Cobra** Volume-III Issue 3: Pages-11-15.

- K.K. Sharma and Vivek Sharma (2009): Records of New locality of royal snake species in central semiarid region of Rajasthan (Ophidia: Colubridae; [Colubrinae](#); [Spalerosophis diadema atriceps](#)). **Cobra** Volume-III Issue 3: Pages-16-18.
- K.K. Sharma (2009): Conference report: Teachers call for replacement of dissection and animal experiments in life science education: Cited recommendations of National Workshop cum Symposium on Potential Alternatives to Dissection and Animal Experimental in Zoology and the Practical Curriculum Jaipur, India 19-21 November, 2009. **ALTEX Publisher Spectrum Akademischer Verlag** (Switzerland). Vol. 26, 4/09 Page 318-319.
- K.K. Sharma and A.K. Pandey. (2010): Phytosociological study of vegetation of some selected arid region of the Thar Desert of Rajasthan, India. **Current World Environment**. Vol. 4(2): 22-27.
- Sahani Lata and Sharma K.K. (2010): Studies on pattern formation of heart of an anuran under the influence of retinol palmitate. Ed. A. Kumar. Genius Publication ISBN 978-93-803-11-14-2 Pp. 282-288.
- J.B.S. Kachhawa, R.S. Gupta and K.K. Sharma (2010). A review on therapeutic plants possessing contraceptive activities in males. In "Recent Progress in Medicinal Plants" Ed. V.K. Singh and J.N. Govil (ICAR) Publisher Studium Press LLC, USA, Chapter 11, pp 179-214.
- K. K. Sharma, Vivek Sharma and Neha Sharma. (2010): Current status and distribution of anurans from foothills of Aravalli ranges at central Rajasthan, India. **Flora and Fauna** (In Press)
- K.K. Sharma (2010): Identification and monitoring the population of Anurans of the Thar desert and nearby vicinity using bioacoustic tools. International Bioacoustic Congress, 2009 Lisbon, Portugal published in Advances in Bioacoustics. Vol- IV (Europe) (In press).
- J.B.S. Kachhawa, A. Sharma, R.S. Gupta and K.K. Sharma. (2010): Evaluation of reversible contraceptive efficacy of methanol extract of *Momordica dioica* root in male albino rats. Submitted for publication to the **European Journal of Biological Sciences**. (Europe) (In Press Submitted Dated 07-05-2010)
- J.B.S. Kachhawa, R.S. Gupta and K.K. Sharma. (2010): Histological alterations after administration of isolated fractions of *Dendrophthoe falcata* methanol stem extract in male albino rats. Submitted for Publication to **Reproduction Fertility and Development**. (Australia -In Press Submitted Dated 15.6.10)
- K.K. Sharma, Vivek Sharma, Satya Prakash Mehra, and Sarita Mehra. (2010): First report of *Kaloula taprobanica* Parker, 1934 from Rajasthan along with updated list of anurans and their revised distribution in Rajasthan, India. **Journal of Bombay Natural History Society**. (Acknowledgement J 3196 In Press).
- K.K. Sharma, Vivek Sharma and Shikha Mathur (2010): Fejervarya Limnocharis (Paddy Field Frog). DIET. **Herpetological Review** Natural History Note. (USA-In Press).
- Sharma, K.K. and Sharma, Vivek (2010): New locality records and distribution extension with current status of *Hemidactylus triedrus* (Daudin, 1802) (Squamata, Geckkonidae) at North-East parts of Aravalli ranges (Rajasthan, India). Submitted for publication to **Herpetology Notes**. (USA In Press)

- Sharma, K.K., Sharma, Vivek, and Sharma Neha (2010): Records of *Varanus griseus* from a new locality of Thar Desert, Rajasthan, India and recent threats associated to its population. ***Cobra (In Press)***
- Sharma, K.K., Sharma Vivek, Kishor Jugal, Nagar Purushottam Nagar and Sharma Neha (2010): Presence of Smooth racer snake *Coluber ventromaculatus* (Squamata, Colubridae) at central Aravalli foothills, Ajmer, Rajasthan, India. ***Cobra (In Press)***
- Sharma, K.K., Sharma Vivek and Singh Hari (2010): *Hemidactylus brookii* (Brookes Gecko) Avian Predation. ***Herpetological Review (In Press)***
- Sharma, K.K. Sharma Vivek, Mehra, S.P., Rohilla, M.S. and Singh, Hari (2010): Butterfly biodiversity of Gwalior- Chambal, semiarid region of central India (Madhya Pradesh, India). Submitted for publication to ***Tiger Paper (Thiland)***.(In Press)
- Sharma, K.K., Sharma Vivek, Jangir, B.L., Kishor Jugal and Sharma Neha (2010): Threats to the population of *Chamaeleo zeylanicus* in certain semiarid areas of the Thar Desert of Rajasthan, India. ***Acta Herpetologica (In Press)***
- Sarita Mehra, Satya Prakash Mehra and Krishan Kumar Sharma (2010): Aquatic avifauna of Aravallis, Rajasthan, India. To Book of V.K. Gupta, 6th Vol. of the book series entitled, "***Perspectives in Animal Ecology and Reproduction***" has been published. Publisher, M/S ***Daya Publishing House***, New Delhi. (In press).

Book Editor-2009-10

- Editor of the Bio-informatics, Vardhman Mahaveer Open University, Kota, 1st publication in Hindi on Bio-informatics.

Oral presentation in International Conference Abroad:

- Sharma, K.K. (2009) Identification and monitoring the population of Anurans of the Thar desert and near by vicinity using bioacoustic tools in The XXII International Bioacoustic Council Conference (IBAC-09), Lisbon, Portugal. 14-18 September, 2009. Abstract on page no.- 70.
- **Publications of gene sequences in gene banks NCBI (USA), EMBL (UK), and DDBJ (JAPAN)**

105 Partial Gene sequences are released by gene bank NCBI (USA), EMBL (UK), and DDBJ (JAPAN)

Total 105 of nuclear (Histone H4 partial sequences) conserved sequences and mitochondrial (12-S, 16-S and Cytochrome-b) conserved sequences of herpetofauna of Thar Desert Rajasthan.

For example one is here:

1. LOCUS bankit1330612 169 bp DNA linear 15-MAR-2010
 DEFINITION *Duttaphrynus melenostictus* Histone H4 gene, Partial sequence.
 ACCESSION 1330612
 VERSION
 KEYWORDS .

SOURCE *Duttaphrynus melenostictus*
ORGANISM *Duttaphrynus melenostictus*
Unclassified.
REFERENCE 1 (bases 1 to 169)
AUTHORS Sharma,K.K., Sharma,V., Rohilla,M.S. and Tiwari,P.K.
TITLE Molecular phylogeny and species identification of amphibian fauna
of Rajasthan
REFERENCE 2 (bases 1 to 169)
AUTHORS Sharma,K.K., Sharma,V., Rohilla,M.S. and Tiwari,P.K.
TITLE Molecular phylogeny and species identification of amphibian fauna
of Rajasthan
REFERENCE 3 (bases 1 to 169)
AUTHORS Sharma,K.K., Sharma,V., Rohilla,M.S. and Tiwari,P.K.
TITLE Direct Submission
JOURNAL Submitted (15-MAR-2010) Zoology Department, M.D.S. University,
Ajmer, Ajmer, Rajasthan 305009, India
COMMENT Bankit Comment: manojisrohilla@gmail.com.
FEATURES Location/Qualifiers
source 1..169
/organism="*Duttaphrynus melenostictus*"
/mol_type="genomic DNA"
BASE COUNT 40 a 53 c 51 g 25 t

ORIGIN

```
1 agccagatgc atgccgtct agctcagcag gggaggcgtc aagcgcattc cgggectcat
61 ctatgaggag acccgcgggg tgctgaaagt ctctctggag aacgcatcc gggacgccgt
121 cacctacacc gagcagcca aaaggaagac cgtcacagcc atggacgtg
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Other 105 sequences have been announced by the Gene Bank on the similar pattern as shown above Partial gene sequences of various genes of Herpetofaunal species of Thar Desert

(A) 12s rDNA (31)(*B. stomaticus*, *D. melenostictus*, *Duttaphrynus sp.*, *H. tigrinus*, *E. cyanophlyctis*, *E. hexadactyla*, *F. limnocharis*, *S. rolandae*, *Sphaerotheca sp.*, *M. ornata*, *U. systoma*, *P. maculatus*, *Polypedates Sp.*, *K. taprobanica*, *H. flaviviridis*, *H. brookii*, *E. taeniolatus*, *V. salvator*, *V. griseus*, *V. flavescens*, *S. hardwickii*, *O. microlepis*, *C. zeylanicus*, *A. cantoris cantoris*, *E. guttata*, *L. punctata*, *Mabuya sps.*, *Agama sp.*, *G. elegance*, *V. russalii*, *C. scabrum*)

(B) 16s r DNA (26)(*B. stomaticus*, *D. melenostictus*, *Duttaphrynus sp.*, *H. tigrinus*, *E. cyanophlyctis*, *E. hexadactyla*, *F. limnocharis*, *S. rolandae*, *Sphaerotheca sp.*, *M. ornata*, *U. systoma*, *P. maculatus*, *Polypedates Sp.*, *H. flaviviridis*, *H. brookii*, *V. salvator*, *V. flavescens*, *V. griseus*, *V. bengalensis*, *C. scabrum*, *M. macularia*, *M. carinata*, *R. punctata*, *S. ponticerina*, *C. orientalis*, *A. cantoris cantoris*)

(C) Histone-H4 (32)(*B. stomaticus*, *D. melenostictus*, *Duttaphrynus sp.*, *H. tigrinus*, *E. cyanophlyctis*, *E. hexadactyla*, *F. limnocharis*, *S. rolandae*, *Sphaerotheca sp.*, *M. ornata*, *U. systoma*, *P. maculatus*, *Polypedates Sp.*, *H. flaviviridis*, *H. brookii*, *H. lechanulati*, *M.*

macularia, *M. carinata*, *R. punctata*, *V. bengalensis*, *V. griseus*, *V. salvator*, *O. microlepis*, *A. cantoris cantoris*, *E. guttallatta*, *C. versicolor*, *S. hardwickii*, *A. agilis*, *Agama sp.*, *G. elegance*, *S. ponticerina*, *C. orientalis*)
(D) Cytochrome-b (16)(*E. hexadactyla*, *K. taprobanica*, *V. flavescens*, *C. scabrum*, *C. orientalis*, *H. leschanulati*, *Hemidactylus sp.*, *G. elegance*, *H. flaviviridis*, *H. brookii*, *E. taeniolatus*, *M. macularia*, *V. griseus*, *V. salvator*, *V. bengalensis*, *A. cantoris cantoris*)

Abstracts published in conference proceeding (2009-2010)

- K.K. Sharma, V. Sharma, S. Mehra, S.P. Mehra and P. Gautam (2009). Herpetofaunal composition of Keoladeo National Park with main emphasis on Anurans, Rajasthan, India. Second Annual Research Seminar on Keoladeo National Park (2nd ARS-KNP), Jointly organized by KNP, Forest Department of State of Rajasthan (India) and WWF, 15th March 2009, Keoladeo National Park, Bharatpur, India. Pp 46 (In Mathur et al., 2009: A bibliographical review for identifying research gap areas: Keoladeo Ghana National Park – A World Heritage site. Wildlife Institute of India, Dehradun. 54p.). (Abstract).
- K.K. Sharma, A.K. Pandey and V. Sharma (2009). Current Status of Distribution Pattern of Some Lizards of Agamidae Family in Rajasthan: GIS based Analysis. Proceedings National Seminar on “Current Research in Herpetology 29th-31st March 2009. North Orissa University, Takatpur, Baripada, Orissa. (Proceedings- 19 p. Abstract).
- K.K. Sharma and S. Mathur. (2009): Studies on biomechanics and evolution of vocalization in some Anurans species of Rajasthan. National Seminar Current Research in Herpetology. Held at North Orissa University Baripada, India. 29-31 March, 2009 Page No 57.
- K.K. Sharma (2009): Identification and monitoring the population of Anurans of the Thar desert and near by vicinity using bioacoustic tools in The XXII International Bioacoustic Council Conference (IBAC-09), Lisbon, Portugal. Abstract on page no.- 70.
- K.K. Sharma. (2009): Reintroduction of certain endangered species of Amphibians and Reptiles in National Conference on Environmental Health Hazards-2009. 17-18 December, 2009.
- S. Mehra, S.P. Mehra, and K.K. Sharma (2010). Aquatic Avifauna: It's importance for wetland conservation in Rajasthan, India. Proceedings of Conservation of Lakes and Water Resources: Management Strategies Feb 19-20, 2010. 202-214 pp.
- J.B.S. Kachhawa, R.S. Gupta and K.K. Sharma. (2010): Evaluation of contraceptive potential of isolated fractions from *Dendrophthoe falcata* stem methanol extract in male albino rats. Accepted for presentation in the International Conference on 58th International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research as well as the 7th Tannin Conference offered as pre-symposium to be held in Berlin, Germany, 29th Aug to 2nd Sept, 2010.
- K.K. Sharma, S.N. Khan and V. Sharma (2010). Fluorosis in Frogs and Toads? Consequences of rearing anuran tadpoles in Simulated Fluoride Conditions.

- National Conference on Fluoride, Fluorosis and Mitigation (UGC Sponsored), Feb. 24-26, 2010. University Maharani's College, University of Rajasthan, Jaipur, Rajasthan. (Proceedings- 17-18 p. Abstract).
- K.K. Sharma, A.K. Pandey and Vivek Sharma (2010). Relationship between occurrence of Reptilian fauna and Phytosociological pattern in certain selected areas of Thar Desert of Rajasthan. National Seminar on Role of Toxicants in Environmental Pollution: Causes, Effects and Control. Feb. 3-4, 2010. Department of Zoology Vedic Kanya P.G. College, Raja Park, Jaipur, Rajasthan. (Proceedings- 55 pp. Abstract).
 - K.K. Sharma (2010): Molecular markers for the identification and conservation of species: Anuran faunal diversity in Rajasthan in National Seminar on Frontier of Biosciences held at Suresh Gyan Vihar Universe, Jaipur 19-20 January, 2010 Page No. 5 & 6.
 - K.K. Sharma. (2010): Assessment and monitoring the population of anurans in Thar desert and near by areas of Rajasthan using GIS and RS techniques in National workshop on application of remote sensing and geographical information system. Held at K.D. College, Mumbai. 17-18 February, 2010
 - K.K. Sharma (2010): Antibacterial activities of plants in National Conference on Medical Biotechnology Vision 2020 organized by the Advanced Center for Biotechnology, M.D. University, Rohtak. 16-18 April, 2010
 - Sharma, K.K*., Jaju, Sonal., Sharma, Vivek and Sharma, Neha. (2010): Screening of Antibacterial properties of some anurans dorsal skin extracts from Aravalli foothills of central Rajasthan. 12th Annual Conference of Society of Science and Environment Inter-disciplinary Approaches In Environmental Sciences, MS University Baroda 9th-10th October, 2010.
 - Sharma, K.K., Sharma, Vivek, Rohill, M.S., and Tiwari P.K. (2010): Molecular Phylogenetics and Species Identification of Anurans using highly conserved Nuclear gene Histone – H4 nucleotide sequence from Western India, Rajasthan. **XXXIV All India Cell Biology Conference and Symposium** on “Quantitative Biology: from Molecules to Cells” Dec 4-6, 2010 at Bose Institute Kolkata, West Bengal, India
 - Sharma, K.K., Vivek Shrama, Neha Sharma, Jugal Kishor and Shikha Mathur (2010): Impact of various anthropogenic activities on the saurian fauna of central Aravalli foot hills, Rajasthan, India. **80th Annual Season of the National Academy of Sciences, India. Dec. 2-4, 2010 (Index No. B71/2010)**

Some Significant Publications (1979-2005)

- **Sharma, K.K.** and Niazi, I.A. 1979. Regeneration induced in the forelimbs by treatment with vitamin A in the froglets of *Rana breviceps*. **Experimentia** 35: 1571-1572.
- Niazi, I.A., Jangir, O.P. and **Sharma, K.K.** 1979. Fore limb regeneration at wrist level in adults of skipper frog, *Rana cyanophliets* and its improvement by vitamin A treatment. **Ind.J. Exptl.Biol.** 17: 435-437.

- **Sharma, K.K.** and Niazi, I.A. 1983. Effects of vitamin A on the metamorphosis in the tadpoles of spadefoot frog *Rana breviceps*. *Nat. Acad. Sci. Letters* 6: 397-399.
- **Sharma, K.K.** 1984. Morphological improvement and proximalization of regeneration in frog tadpoles treated with vitamin A. *J. Embryol. Exp. Morphol.* 82: 180.
- **Sharma, K.K.** and Anton, H.J. 1984. Gradual degeneration of the keratinized oral armature of frog tadpoles treated with vitamin A. *Archives d'Anatomie Microscopique*. 73:311
- Koussoulakos, S., **Sharma, K.K.** and Anton, H.J. 1985. Does vitamin A palmitate induce bilateral pattern asymmetry during fore-limb regeneration in *Triturus alpestris*? *Proc. Hell. Biol. Sci.* 7: 87-88.
- **Sharma, K.K.** and Anton, H.J. 1985. Biochemical and ultrastructural studies on vitamin A induced proximalization of regeneration in axolotl. *Cell Differentiation*. 16: 71.
- **Sharma, K.K.** and Anton, H.J. 1985. Retinol palmitate delays redifferentiation during proximalization of limb. *Archives d'Anatomie Microscopique*. 74:284.
- Niazi, I.A. and **Sharma, K.K.** 1985. Variations in pattern of regeneration from different proximo-distal levels of limbs in young and advanced frog tadpoles treated with retinol palmitate. *Cell Differentiation*. 16:13.
- **Sharma, K.K.** and Anton, H.J. 1986. Biochemical and ultrastructural studies on vitamin A induced proximalization of limb regeneration in axolotl. In "Progress in Developmental Biology" Part A (S. Slavkin ed.) pp. 105-108. **Alan R. Liss, Inc. New York.**
- Koussoulakos S., **Sharma, K.K.** and Anton H.J. 1986 Effects of vitamin A palmitate on the growth of regenerate and blastema DNA content of *Triturus alpestris*. *Hell Biochem. Biophys. Soc. News Letter* .23- 14-15
- Koussoulakos S., **Sharma, K.K.** and Anton H.J. 1987. The effect of oral administration of vitamin A on forelimb regeneration in young postmetamorphic newts, *Triturus alpestris*. *Arch. Anat. Hist. Morphol. Exper.* 75: 301.
- **Sharma, K.K.** Anton, H.J. and Sharma, Y. 1987. Morphogenesis of the forelimb blastema of axolotl under the influence of vitamin A : quantitative analysis of spatial organization of different components of the blastema. *Arch. Anat. Mic. Morphol. Exper.* 75: 301-302.
- **Sharma, K.K.** and Anton, H.J. 1987. Studies on the effect of vitamin on three different groups of urodeles (*Ambystoma, Salamandra, and Triturus*). *Arch. Anat. Mic. Morphol. Exper.* 75: 305.
- Koussoulakos, S., **Sharma, K.K.** and Anton, J.J. 1988. Vitamin A induced bilateral asymmetries in *Triturus* forelimbs. *Biol. Struct. Morphog.* 1: 43-48.
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Expertise & Research Interest

- Retinoids and pattern formation during development and regeneration of limbs in amphibians.
- Regeneration of limbs and finger elements in vertebrates.
- Molecular alterations during vitamin a induced pattern alterations in amphibians limb regeneration.
- Retinoids and development of amphibian, chick and mammalian embryos.
- Retinoids and Thyroid development in amphibians and mammals.
- Induction of regeneration in otherwise non regenerating cases of limbs by electrical stimulation, traumatization and vitamin A treatment.
- Taxonomy based on Call analysis and Amphibian biodiversit.
- Computer simulations and development.
- Designing artificial limb and finger.

Research Areas

Retinoids in pattern formation during Development

Amphibians Chick embryos

Molecular regulation of Development of Heart

Amphibians

Mammals

Restoration of Limb and finger regeneration

Fore and Hind limbs of Advanced Tadpoles and Adult frogs

Finger regeneration in Mammals
Teratological studies
Amphibians
Chick
Mammals
Cell and Tissue Differentiation
Skin of Amphibians
Thyroid gland of Amphibians
Amphibian Biodiversity
Systematics of Amphibians of Rajasthan
Ecobiology and Development of Amphibians of Fluoride rich areas of Rajasthan

Teaching innovative and achievements

Supervised and Developed : 200 PG DIP; 300 M.Sc.;36 M.Phil and 19 Ph.D

Expertised in smart Board teaching

Chairperson/co-chairperson in conferences

- Ninth All India Congress of Zoology and National symposium on Zoological research in 21st Century, held at the Department of Zoology Utkal University Bhubaneswar from 5-7, February, 2000
- National conference on Environmental Biology, held at the Department of Zoology Saurashtra University Rajkot from 17-18 October, 2002.
- 20th Annual session of Indian Academy of Neurosciences held at the Department Zoology MLS University Udaipur from 21-23, February, 2003.
- National symposium on recent trends in Zoological Sciences held at the Department of Zoology Punjabi University Patiala, March 12-13, 2003

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- Sharma, K.K. (2003)- Role of neurotrophic factors in vertebrates limb regeneration : A review. Annals of Neurosciences - An official journal of Indian Academy of Neurosciences. Page 9 - Conference held at MLS University, Udaipur from 21-23, February, 2003.
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Research Supervisor

- Dr. Manjula Gaur. Studies on some aspects of the effects of retinoids on limb regeneration in anuran amphibians (1989)
- Dr. Pramila Gupta: Effects of Vitamin A on the Thyroid gland of anuran larvae (1991)
- Dr. Archana : Exploration of the normal postamputational changes and of the induction of limb regeneration with retinoids in prenatal and post natal mice (1992)
- Dr. Nagendra Nagpal: Studies on the certain aspects of the effects of retinoids on development of chick embryos (1992)
- Dr. Harish Gautam: Studies on the effects of retinoids on finger regeneration in prenatal and postnatal stages of mice (1993)
- Dr. Sunita Singh :Investigation on the possible mode of action of retinoids on chick development (1995)
- Dr. Piyush Salodia : Hydro biological studies of Jait Sagar lake, Bundi (Rajasthan) (1995)
- Dr. Kalpana Soni : Studies on aspects of the effects of Vitamin A on differentiation of skin in *Bufo melanostictus* (1997)
- Dr. Ashok Singh : Studies on Normal postamputational development and of the induction of finger regeneration in mice (1996)
- Dr. Ashok Gupta : Studies on certain aspects of teratological effects of retinoids on development of Swiss albino mice. (Awarded 1999).
- Dr. Rashmi Sharma : Studies on the effects of certain substances antagonizing the action of vitamin A during limb and tail regeneration in anuran tadpoles.(Awarded 2001).
- Dr. Indu Yadav : Studies on the effects of a retinoid causing homeotic transformations during tail regeneration in anurans. (Awarded 2001).
- Dr. Prahlad Dube : Eco-biological studies of amphibians around south eastern plateau of Rajasthan (Awarded 2003)
- Dr. Lata Sahni : Studies on the effects of retinoids on the development of heart of *Bufo melanostictus* and Swiss albino mice. (Awrded 2002).
- Dr. Ratnesh Kumar Sharma : Studies on certain aspects of finger regeneration abilities in mice and search of means to induce regeneration in otherwise non-regenerating cases and to design artificial finger. (Awarded 2002).
- Miss Sarvat Nishat Khan : Ecobiological and developmental studies of early stages of anurans (toads and frogs) on fluoride affected areas of Rajasthan (Awarded).
- Mrs. Navneet Sharma : To study the effects of various tissue transplants on finger regeneration of mouse (Awarded).
- Mr. Raju Sharma : Studies on the effects of retinol palmitate on development and functions of Thyroid gland of mouse (submitted).
- Ms. Yogmaya Bhooharia: Molecular control of development of horny denticles in anuran larvae (Awarded)
- Mr. Satya Prakash Mehra
- Mrs. Kumud Joshi

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- NCERT class XII Biology - 2003 - (English).
- NCERT class XI Biology - 2003 - (Hindi).
- NCERT class XII Biology - 2003 - (Hindi).
- Board of Secondary Education, Rajasthan, Ajmer - 2003. XII Biology Volume I (Zoology) - (Hindi).
- Board of Secondary Education, Rajasthan, Ajmer - 2003. XIth Biology Life Skill Education - (Hindi). In preparation
- Animal Biotechnology Verdhman Open University Kota
- Bioinformatics Verdhman Open University Kota