

## **DR. JYOTI**

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### **Assistant Professor**

Department of Zoology,  
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### **HIGHLIGHTS**

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- ❖ Teaching experience of more than 07 years in UG and PG college.
- ❖ More than 10 years of Research Experience in diverse fields such as Reproductive health, osteoporosis and drug discovery.
- ❖ Explored efficacy and mechanism of action of naturally derived osteogenic/anti-resorptive molecules isolated from an Indian traditional plant in osteoblast/osteoclast cells.
- ❖ Studied the signal transduction of molecules in bone cells and postulated possible pathways leading to osteogenesis or anti-resorptive effect.

### **AREA OF INTEREST**

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- Diseases and drug discovery
- Signal transduction
- Osteoporosis
- Molecular biology,
- Bone biology and role of micro-RNAs.

## TECHNICAL SKILLS & ACCOMPLISHMENTS

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Extensively involved in several studies with instruments and techniques such as,

- **Cell Biology:** In vitro cell culture (bone cells, various cell lines), maintenance (both primary and cell lines), fluorescence activated cell sorter (Cell cycle, Apoptosis, ROS), Immunocytochemistry, Immunolabeling and cell proliferation assays (MTT, BrdU, Thymidine uptake), Staining techniques.
- **Molecular Biology:** Isolation and quantitation of RNA and DNA. Semi-quantitative RT-PCR, Real-Time PCR, Western Blotting, Electrophoresis (Agarose and PAGE), 2 D electrophoresis, Relative binding affinity assay (RBA).
- **Biochemistry:** Biochemical Estimation of proteins, Enzymatic assays, ELISA and microtome sectioning.

## ACADEMICS

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**Ph.D. in Life Sciences (2015)**, Jawaharlal Nehru University (JNU), New Delhi, India

**Working Institute:** Division of Endocrinology, Central Drug Research Institute (CDRI), Lucknow, India.

**Thesis title:** “*A microRNA signature of medicarpin induced osteoblast Differentiation*”.

**M. Tech (Biotechnology):** IET, Gautam Buddha Technical University, Lucknow, Uttar Pradesh.

**M.Sc. (Zoology),** Department of Zoology, DAV College Kanpur, C.S.J.M. University, Kanpur, Uttar Pradesh.

**B.Sc. (Bachelor in Science),** Department of Zoology, DSN PG College Unnao, C.S.J.M. University, Kanpur, Uttar Pradesh.

## AWARDS AND HONOURS

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- **National eligibility test (NET)** for award of Junior Research Fellowship (JRF) and lectureship by Council of Scientific and Industrial Research (CSIR), Govt. of India, CSIR-UGC (NET)-Dec.2006, June 2008 and Dec. 2008.
- **Junior Research Fellowship (2009-2011)** by Council of Scientific and Industrial Research (CSIR), Govt. of India.
- **Senior Research Fellowship (2011-2014)** by Council of Scientific and Industrial Research (CSIR), Govt. of India.
- **YOUNG INVESTIGATOR AWARD** from ISCD (The international Society for clinical Densitometry) and IOF (International Osteoporosis Foundation) from Orlando, USA. (*I have been rewarded with 1000 USD cheque, Orlando, USA*)
- **Incentive Award** for best Publication in 2015 from CSIR-CDRI Lucknow.
- **CDRI-Technology Award** for the development of Innovative Technology for Biodegradable Bone Implant for fracture healing.
- **Technology Award for Life Sciences-2019**, for A novel Osteo-inductive Molecule from Hon'ble Union Minister Dr Harsh Vardhan and DG CSIR Dr. Shekhar C. Mande. (*I have been rewarded by RS. 15000 INR from CSIR*)
- शिक्षक दिवस के अवसर पर उच्च शिक्षा के क्षेत्र में उल्लेखनीय योगदान हेतु, लखनऊ विश्वविद्यालय द्वारा सम्मानित किया गया (2021).

## **SYMPOSIUMS/CONFERENCES ATTENDED**

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### **Internationals:**

1. International conference on Ayuurvedic Bhasm and nanomedicine (OMICs biotechnology, USA, 2007).
2. International symposium on molecular signaling (Visva-bharati, Santiniketan West Bengal 2013).
3. Optimization techniques for IHC and Western blotting (Abcam, Nulife Lucknow, 2013).
4. Multi-color Flow Cytometry (Biolegend, Nulife Lucknow, 2014).

### **Nationals:**

1. National seminar on the Recent Advances in Mathematics and its Computational Aspects (deptt. of Mathematics, S. M. P. Govt. Girls P. G. College, Madhavpuram Meerut, UP., 2016).
2. National seminar on the role of Women Empowerment in the Development of Higher Education (deptt. of english, Ramabai Ambedkar Govt. Degree College, Gajraula, Amroha, UP. 2015).
3. National seminar on the Emerging Environmental Concerns and Public Health (dept. of Higher Education Govt. of Uttar Pradesh, S. M. P. Govt. Girls P. G. College, Madhavpuram Meerut, UP., 2016).
4. National seminar on The Impact of Digitalization of public services on Society (Mahamaya Govt. Degree College, Mahona Lucknow, UP., 2018).

## **SYMPOSIUMS/CONFERENCES ORGANISED**

1. National seminar on Socio-Economic and Technological Advancements in 21<sup>st</sup> Century India (D. D. U. Govt. P. G. College, Sitapur, UP., 2020).
2. National seminar on Transforming India @ 75 (N.S.C.B. Govt. G. P. G. College, Aliganj Lucknow, UP., 2021).
3. National seminar on Advancements and Strategies for Sustainable Development and Environmental Protection (N.S.C.B. Govt. G. P. G. College, Aliganj Lucknow, UP., 2023)

## TOTAL PUBLICATIONS=19

S. No.	Year of publication	Title	List of Authors	Name of journal	Vol.	Page no.
1.	2018	Identification of novel microRNA inhibiting actin cytoskeletal rearrangement thereby suppressing osteoblast differentiation	Aijaz A. John & Ravi Prakash & <b>Jyoti Kureel</b> & Divya Singh	Journal of Molecular Medicine	96	427-444
2.	2017	MiR 376c inhibits osteoblastogenesis by targeting Wnt3 and ARF-GEF-1 -facilitated augmentation of beta-catenin transactivation	<b>Jyoti Kureel</b> , Aijaz A. John, Ravi Prakash, Divya Singh	Journal of Cellular Biochemistry	119	3293-3303
3.	2017	MicroRNA-467g inhibits new bone regeneration by targeting Ihh/Runx-2 signaling	<b>Jyoti Kureel</b> , Aijaz A John, Manisha Dixit, Divya Singh	The International Journal of Biochemistry & Cell Biology	85	35-43
4.	2017	Micromanagers in gene expression: Roles of miRNA in bone disorders	Dr. Abnish Kumar Gautam and <b>Dr. Jyoti</b>	International Research Journal of Management Science & Technology	Vol 8, issue 1, ISSN 2250 – 1959(Online) 2348 – 9367 (Print)	8-12
5.	2017	Nuclear Receptor LXR as a therapeutic target in Cancer	Pooja Agarwal, <b>Dr. Jyoti</b> and Dr. Abnish Kumar Gautam	International Research Journal of Management Science & Technology	Vol 7, issue 8 ISSN 2250 – 1959(Online) 2348 – 9367 (Print)	16-24
6.	2016	Induction of targeted osteogenesis with 3-aryl-2H-benzopyrans and 3-aryl-3H-benzopyrans: Novel osteogenic agents	Atul Gupta, Imran Ahmad, <b>Jyoti Kureel</b> , Mohammad Hasanain, Praveen Pandey, Sarita Singh, Aijaz A. John, Jayanta Sarkar, Divya Singh	Journal of Steroid Biochemistry & Molecular Biology	158	63-75
7.	2016	Identification of GRP78 as a molecular target of Medicarpin in osteoblast cells by proteomics	<b>Jyoti Kureel</b> , Aijaz A. John, Ashutosh Raghuvanshi, Pallavi Awasthi, Atul Goel, Divya Singh	Mol Cell Biochem	DOI: 10.1007/s11010-016-2734-x	--
8.	2016	IL-18BP is decreased in osteoporotic women: Prevents inflammasome mediated IL-18 activation and reduces Th17	Mohd. Nizam Mansoori, Priyanka Shukla, Manisha Kakaji, Abdul M	Scientific Reports	DOI: 10.1038/srep33680	--

		differentiation	Tyagi, Kamini Srivastava, Manoj Shukla, Manisha Dixit, <b>Jyoti Kureel</b> , Sushil Gupta & Divya Singh			
9.	2016	Differentiation of skeletal osteogenic progenitor cells to osteoblasts with 3,4-diarylbenzopyran based amide derivatives: Novel osteogenic agents	Atul Gupta, Imran Ahmad, <b>Jyoti Kureel</b> , Aijaz A. John, Eram Sultan, Debabrata Chanda, Naresh Kumar Agarwal, Alauddin, Wahajuddin, S. Prabhaker, Amita Verma, Divya Singh	European journal of medicinal chemistry	121	82-99
10.	2015	Medicarpin, a Natural Pterocarpan, heals cortical bone defect by activation of Notch and Wnt Canonical signaling pathways	Manisha Dixit, Ashutosh Raghuvanshi, Chandra Prakash Gupta, <b>Jyoti Kureel</b> , Mohd Nizam Mansoori, Priyanka Shukla, Aijaz A. John, Kavita Singh, Dipak Purohit, Pallavi Awasthi, Divya Singh1, Atul Goel	Plos One	DOI:10.1371/journal.pone.0144541	--
11.	2015	Potential osteogenic activity of ethanolic extract and oxoflavidin isolated from Pholidota articulata Lindley	Chetan Sharma, Manisha Dixit, Rohit Singh, Manali Agrawal, Mohd Nizam Mansoori, <b>Jyoti Kureel</b> , Divya Singh, Tadigoppula Narendra, Kamal Ram Arya	Journal of Ethnopharmacology	170	57-65
12.	2015	9-Demethoxy-medicarpin promotes peak bone mass achievement and has bone conserving effect in ovariectomized mice: Positively regulates osteoblast functions and suppresses osteoclastogenesis	Atul Goel, Ashutosh Raghuvanshi, Amit Kumar, Abnish Gautam, Kamini Srivastava, <b>Jyoti Kureel</b> , Divya Singh	Molecular and Cellular Endocrinology	411	155-166
13.	2014	Assessment of enhancement of peak bone gain by isoflavone enriched standardized soy extract in female rats	Kamini Srivastavaa, Anuj K. Singh, Kainat Khan, <b>Jyoti Kureel</b> , Ritu Trivedi, Girish K. Jain, Divya Singh, Naibedya Chattopadhyay	Journal of functional food	7	314-321
14.	2014	miR-542-3p suppresses osteoblast cell proliferation and differentiation, targets BMP-7 signaling and inhibits bone	<b>J Kureel</b> , M Dixit, AM Tyagi, MN Mansoori, K Srivastava, A	Cell Death and Disease	5	E1050

		formation	Raghuvanshi, R Maurya, R Trivedi, A Goel and D Singh			
15.	2014	Enhanced Immunoprotective Effects by Anti-IL-17 Antibody Translates to Improved Skeletal Parameters Under Estrogen Deficiency Compared with Anti-RANKL and Anti-TNF- $\alpha$ Antibodies	Abdul M Tyagi, Mohd N Mansoori, Kamini Srivastava, Mohd P Khan, <b>Jyoti Kureel</b> , Manisha Dixit, Priyanka Shukla, Ritu Trivedi, Naibedya Chattopadhyay, and Divya Singh	JBMR	29	1981-1992
16.	2012	Synthesis, Optical resolution, absolute configuration, and osteogenic activity of cis-pterocarpan	Atul Goel, Amit Kumar, Yasmin Hemberger, Ashutosh Raghuvanshi, Ram Jeet, Govind Tiwari, Michael Knauer, <b>Jyoti Kureel</b> , Anuj K. Singh, Abnish Gautam, Ritu Trivedi, Divya Singh and Gerhard Bringmann	Organic and Biomolecular Chemistry	10	9509-9752
17.	2011	One step synthesis of 2-hydroxymethylisoflavone and their osteogenic activity	Manmeet Kumar, Preeti Rawat, <b>Jyoti Kureel</b> , Anuj Kumar Singh, Divya Singh, Rakesh Maurya	Bio-organic and medicinal chemistry letters	6	1706-09
18.	2011	Synthetic analogs of daidzein, having more potent osteoblast stimulating effect	Dinesh K. Yadav, Abnish K. Gautam, <b>Jyoti Kureel</b> , Kamini Srivastava, Mahendra Sahai, Divya Singh, Naibedya Chattopadhyay, Rakesh Maurya	Bio-organic and medicinal chemistry letters	21	677-681
19.	2011	Premature T cell senescence in ovx mice is inhibited by repletion of estrogen and medicarpin: a possible mechanism for alleviating bone loss	A. M. Tyagi & K. Srivastava & <b>J. Kureel</b> & A. Kumar & A. Raghuvanshi & D. Yadav & R. Maurya & A. Goel & D. Singh	Osteoporosis International	23	1151-1161