

Dr. RAMESH YADAV Ph.D.

Teaching and Research Profile

NAME: Dr. Ramesh Yadav

PRESENT ADDRESS: Department of Zoology
G. D. C. Banjar
Distt- Kullu 175123

PERMANENT ADDRESS: Village- Kathlag
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DATE OF APPOINTMENT (college cadre): 04-12-1997
Subject for which appointed: Zoology
Present designation: Associate Professor
Academic qualification: Ph.D.
Teaching & research experience: 30 Years

COLLEGE SERVED:

1. Govt. Degree College, Reckong Peo (Kinnaur)
2. Govt. Degree College, Mandi
3. Govt. Degree College, Arki (Solan)
4. Govt. Degree College, Bassa (Mandi)
5. Govt. Degree College, Banjar (Kullu) (Present)

MAJOR ASSIGNMENTS :

1. Incharge NCC AIR WING, G.D.C. Mandi (2002-2004)
2. Coordinator Apiculture (Add On course) G.D.C. Mandi (2006-2008)
3. Incharge Sports Dept. G.D.C. Bassa (2010-2013)
4. Coordinator Biotechnology G.D.C. Mandi (2016-2017)
5. Bursar, G.D.C. Banjar (2018- continuing)

COURSES ATTENDED:

1. 21 days Refresher Course (28.11.2005- 17.12.2005) in Biological Sciences at A.S.C. in H.P.U. Shimla.
2. 21 days Refresher course in Life Sciences (05.06.2006- 24.6.2006) at A.C.S. in H.P.U. Shimla.
3. One week "In service teachers training programme" for Associate Professors at Govt. college for Teachers Education Dharamshala (16.04.2012- 21.04.2012)

CONFERENCES/ SEMINARS/ WORKSHOPS ATTENDED:

1. One day workshop on The Role of Technology in 21st century Education organised by Ministry of Education Himachal Pradesh Govt in cooperation with Global Knowledge Network Society on 21st June 2008 at Shimla.
2. University Grant Commission sponsored National Seminar on "Corporate Social Responsibility and Business Ethics for good corporate Governance" at R.K. MV. Shimla on 4th & 5th June 2011.
3. 3rd Annual National Conference on "Science Emerging Scenario and Future challenges- III organised by Him Science Congress Association sponsored by DST, DRDO, SJVNL and Himachal tourism at Vallabh Govt College, Mandi on 11-12, April 2015.
4. National seminar on "Consumer Protection and Empowerment" on 13th- 14th July 2015 at Mandi, organised by Govt. College of Teachers Education Dharamshala in collaboration with centre for consumer studies, Indian Institute of Public Administration, New Delhi.
5. One day workshop on Career Guidance and counselling and placement on 11.11.2019 at Gautam College, Hamirpur, organised by Deptt of Hr. Education in collaboration with Sabal Bharat Mission, New Delhi.
6. Participated in "NEP transforming India" quiz. Conducted by Ministry of Education, Govt of India and my Govt in Sept. 2020.

CONFERENCE/ SEMINAR/ WORKSHOP ORGANISED:

Organised 3rd Annual National Conference on Science: Emerging Scenario and Future Challenges- III at Vallabh Govt College Mandi (H.P.) on 11- 12, April 2015.
(Joint Organising Secretary)

EVENTS ORGANISED:

Inter college women Kho-Kho Championship (2 days) at G.D.C. Bassa, Gohar (Mandi) in academic session 2011-12 as Organising Secretary, being in charge of sports Dept.

PUBLICATIONS:

1. Ramesh Kumar: Electrophoretic analysis of myosin light chains in smooth and cardiac muscles. M.Phil. Dissertation, HPU Shimla (1993)
2. Ramesh Kumar: Stretch induced changes in the myofibril proteins of uterine muscle from rat. Ph.D. Thesis, HPU Shimla (1997)
3. R.K. Malhotra, Surender S. Katoch, Ramesh Kumar and Amrish Sood: Myosin light chains (MLCs) heterogeneity in mammalian smooth and cardiac muscle. India J. Physiol & Pharmacol (1995) : 39(4)383-388
4. Ramesh Kumar and Surender S. Katoch: Changes in uterine myosin isozymes from goat during early pregnancy. Indian J. Expl. Biol (1997): 35(4)825-520.
5. Ramesh Kumar, R.K. Malhotra and Surender S. Katoch: Changes in myosin heavy chain (MHC's) expression during pregnancy in rat uterus. Jpn..J. Physiol (1997): 47(4)349-354.

6. Ramesh Kumar, R.K. Malhotra and Surender S. Katoch: Myosin isoforms in uterine smooth muscle during pregnancy in rat. Indian J. Biochemistry Biophysics (1998): 35(1)28-33.
7. Surender S. Katoch and Ramesh Kumar: Changes in expression of actin isoforms in rat uterus smooth muscle during pregnancy. Asian J. Expl. Sci (2004): 18(102)17-26.
8. Presented a paper LS/P/03 in 3rd Annual National Conference on "Science Emerging Scenario and Future challenges- III organised by Him Science Congress Association sponsored by DST, DRDO, SJVNL and Himachal tourism at Vallabh Govt College, Mandi on 11-12, April 2015.

MEMBERSHIP:

1. Life member: Him Science Congress Association (HSCA.) Membership no: LM191, Redg no. 566/2012. Head office: Shoolini University, Post-9, Solan (H.P.)- 173212
2. Life member: Gandhi Global Family
Membership No: GGF/HP/036
Central office: F-22, B.K. Dutt colony, Near Karbala,
Jor Bagh, New Delhi.

FELLOWSHIP:

1. Junior Research Fellowship, University Grants Commission at Dept. of Biosciences, HPU Shimla from 3rd Sept 1993- 2nd Sept 1995.
2. Senior Research Fellowship, University Grants Commission at Dept. of Biosciences, HPU Shimla from 3rd Sept 1995- 3rd Dec 1997.
3. GATE- 1993

TEACHING ACTIVITIES

Classes & Courses being taught

1. BSc 1st year : Animal Diversity ©
Comparative Anatomy & Dev. Biology of Vertebrates ©
2. BSc 2nd year : Physiology & Biochemistry (DSC I)
Genetics & Evol. Biology (DSC II)
Medical Diagnostics (SEC I)
Apiculture (SEC II)
3. BSc 3rd year : Applied Zoology or Insect, Vector & Diseases or
Aquatic Biology (DSC III)
Immunology or Biotechnology or Reproductive Biology (DSCIV)
Sericulture (SEC III)
Aquarium Fish Keeping or Research Methodology (SEC IV)

RESEARCH ACTIVITIES:

My research activity focused around the regulation of contractility in uterine smooth muscle especially during pregnancy and parturition in mammals. The study comprises an analysis of the cytocontractile apparatus with a special reference to structural and functional changes in its components. Since generation of active force or stress is a consequence of structural proteins. The study conducted during the Ph.D. tenure pertains to changes in myosin molecule and its subunits viz. myosin heavy chain (MHC) and myosin light chain (MLC).

Myosin, a major structural protein of the cyto contractile apparatus of skeletal, cardiac and smooth muscle cells is reported to display polymorphic forms. Myosin light chains (MLCs) forms on all important functional component of the macromolecules. Amongst these, the regulatory myosin light chain(MLC₂₀ or 20 kDa) play a crucial role in the initiation of contraction. Smooth muscle and cardiac muscle in mammals express unique isoform variants of 20 kDa regulatory light chains and these variation probably accrue from the differences in kind of function performed by muscles (*Katoch et al Ind. J. Physiol Pharmacol, 1995; 39 (4): 383-388*). A study conducted on goat uterine smooth muscle revealed that it does not involve transitions in the native myosin isoforms, though differences in the relative proportions of isozymes do accompany the changed physiological state of uterus (*Kumar & Katoch, Ind. J. Expt. Biol, 1997; 35:825-830*). Further, the stretch acts as an important stimulus in smooth muscle contractility. However, lack of correlation of uterine stretching during pregnancy and regulatory myosin light chain phosphorylation would suggest that mechanism other than myosin light chain phosphorylation may be important in active force generation during uterine stretching in goat (*Kumar & Katoch, Ind. J.Expt. Biol, 1997;35:825-830*).

The Study conducted on uterine smooth muscle demonstrated that myosin isozyme expression in rat is independent of the physiological state of the tissue/muscle and the structural differences lie in their myosis heavy chain subunits (*Kumar et al. Ind. J. Biochem. Biophys, 1998;35:28-33*) Further; a distinct increase in the level of phosphorylation of 20 kDa regulatory myosin light chain does accompany the pregnancy.

Myosis heavy chain(MHC) heterogeneity amongst smooth muscle especially in vascular smooth muscle in well documented. These isoforms are not only the determinants of contractile properties of muscles such as velocity of shortening or economy of force production but also serves as molecular markers of muscle development, diseases and/or physiological and pathological remodeling. Changes in the force generating capacity of uterine muscle during pregnancy, a changed physiological state, may be related more to the relative contents of the two MHC isoforms (*Kumar et al. Jpn. J. Physiol, 1997;47:349-354*). Additionally, the expression of an endogenousMHC-specific protease may have an important role in uterine remodelling during pregnancy in regulating the force generating mechanism (*Kumar et al, Jpn.J. Physiol,1997;47:349-354*).