

Brief Bio-sketch

Dr. Satish Kumar
Professor & Dean
Central University of Haryana
Jant-Pali, Mahendergargh-123031
Email: satishk@cuh.ac.in
Mob: +91-9052456653

Satish Kumar was born and brought up in a rural family involved in animal husbandry. He was awarded Master of Science in Animal Genetics and Breeding in 1979 while working as Junior Research Fellow at the National Dairy Research Institute, Karnal, India and obtained his Ph.D. from Roslin Institute, University of Edinburgh, UK in 1994.

He has worked for Agricultural Research Services of Indian Council of Agricultural Research for two decades (1982-1999) and subsequently has worked as Group Leader at the Centre for Cellular and Molecular Biology, Hyderabad (1999-2018), and **credited with establishment and usage of gene targeting technology for the first time in India**. Some of his original contributions using genome manipulation methods include demonstration of essential requirement of κ -casein in lactation and the discovery of *Wdr13* gene function. Recently, in collaboration with an Australian Group he has been involved in identification of a broad-spectrum antimicrobial protein in the milk of echidna, an egg-laying mammal.

Satish has been active in another area of research i.e. population genetics of farm animals and some of his seminal contributions in this area include genetic evidence for independent domestication of sheep in India and signatures of atypical domestication of river buffalo and has shown that this species has been domesticated in India. **He is a Member, Food and Agriculture Organisation (FAO)/ International Society of Animal Genetics Advisory Group on Animal Genetic Diversity**. He is a Founder and Managing Trustee of LiveGenome Foundation, a Trust dedicated to the betterment of rural communities through applications of science and technologies in animal husbandry sector.

Brief CV of Dr. Satish Kumar, Chief Scientist and Group Leader, CCMB, Hyderabad
(Mob: 09052456653; email: satishk.scientist@gmail.com)

Academic:

- Bachelor of Science (Biology), Maharishi Dayanand University, Rohtak, Haryana, 1977
- Masters of Science (Animal Genetics and Breeding), National Dairy Research University, Kurukshetra University, Kurukshetra, Haryana, 1979
- Doctor of Philosophy (Molecular Genetics), Roslin Institute, University of Edinburgh, Edinburgh (UK), 1994

Professional Experience:

- 2014- 2018 Chief Scientist and Group Leader, Centre for Cellular and Molecular Biology, Hyderabad
- 2013- 2014 Scientist H & Dean, National Institute of Animal Biotechnology, Hyderabad
- 2009- 2013 Chief Scientist and Group Leader, National Facility for Transgenic and Gene Knockout Mice, Centre for Cellular and Molecular Biology, Hyderabad
- 1982- 2009 Scientist and Senior Scientist, Indian Council of Agricultural Research

Salient Scientific Contributions:

- Established DNA Fingerprinting Unit at National Bureau of Animal Genetic Resources, Karnal
- Established Gene Knockout Technology for the first time in India at CCMB, Hyderabad
- Demonstration of essential requirement of κ -casein in lactation
- Discovery of *Wdr13* gene function and its role in discovery of drugs for diabetes
- Discovery of a broad-spectrum antimicrobial protein in the milk of echidna, an egg-laying mammal
- Genetic evidence for independent domestication of sheep in India
- Discovery of an atypical domestication process in river buffalo in India

International Recognition:

- **Member, Food and Agriculture Organisation (FAO)/ International Society of Animal Genetics Advisory Group on Animal Genetic Diversity.**
- Invited speaker and chair in several international scientific conferences

Current Interests:

- Indo-UK Project: 'Transcriptome Analysis in Buffalo Species and the Genetics of Innate Immunity' in collaboration with Prof. David Hume of Roslin, Institute, Edinburgh, UK.
- Creation of White Paper on '**Genetic improvement of indigenous livestock breeds in India**'.

Selected Publications:

- ❖ 2015: Mitochondrial DNA Variability of Domestic River Buffalo (*Bubalus bubalis*) Populations: Genetic Evidence for Domestication of River Buffalo in Indian Subcontinent. **Genome Biology and Evolution**. doi: 10.1093/gbe/evv067
- ❖ 2015: Role of mouse *Wdr13* in placental growth; a genetic evidence for lifetime body weight determination by placenta during development. **Scientific Reports** 5: 13371; doi:10.1038/srep13371
- ❖ 2015: Genetic deletion of *Wdr13* improves metabolic phenotype of *Lepr^{db/db}* mice by modulating AP1 and PPAR γ target genes. **Diabetologia** 58: 384-392
- ❖ 2006: *k*-Casein deficient mice fail to lactate. **Proceedings of National Academy of Sciences, USA** 103: 8000-8005
- ❖ 2006: Genetic variation and relationships among eight Indian riverine buffalo breeds. **Molecular Ecology** 15: 593-600
- ❖ 1994. Milk composition and lactation of β -casein deficient mice. **Proceedings of National Academy of Sciences, USA**. 91: 6138-6142
- ❖ 1993. The effects of terminal heterologies on gene targeting by insertion vectors in embryonic stem cells. **Nucleic Acids Research** 21 (7): 1541-1548

