

Seminar Series

11th February 2014

“Role of Stem Cells in Large Animal Genetic Engineering in the TALEN/ CRISPR Era”

Speaker

Dr. Bhanu Prakash V. L. Telugu

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Positions held:

- 2002-2008 Graduate Research Scientist, Division of Animal and Avian Sciences, University of Missouri, Columbia
- 2008-2010 Postdoctoral Fellow, Life Sciences Center, University of Missouri, Columbia
- 2010-2012 Research Scientist, Life Sciences Center, University of Missouri, Columbia
- 2012- current Assistant Professor, Department of Animal and Avian Sciences, University of Maryland, College Park, MD
- 2012- Current Visiting Scientist, Animal Bioscience and Biotechnology Laboratory, ARS, Beltsville, MD

Abstract:

The establishment of embryonic stem cells (ESCs) and gene targeting technologies in mice has revolutionised the field of genetics. The relative ease with which genes can be knocked out, and exogenous sequences introduced, has allowed the mouse to become the prime model for deciphering the genetic code. Not surprisingly, the lack of authentic ESCs has hampered the livestock genetics field and has forced animal scientists into adapting alternative technologies for genetic engineering. The recent discovery of the creation of induced pluripotent stem cells (iPSCs) by upregulation of a handful of reprogramming genes has offered renewed enthusiasm to animal geneticists. Besides, site-specific nucleases comprised of zinc finger nucleases (ZFNs), transcription activator-like effector nucleases (TALENs) and clustered regulated interspaced short palindromic repeats (CRISPRs) are evolving as powerful genetic tools for precisely editing the genome. The availability of iPSC alongside the TALEN/CRISPR technologies is expected to revolutionize genetic engineering efforts in livestock animals, much like the ESC and gene targeting experiments of mice in yesteryears

**Venue: Auditorium, 5th Floor, NIAB, D. No. 1-121/1, 4th & 5th Floors, Axis Clinicals Building,
Opp. Talkie Town, Miyapur, Hyderabad**

Time: 11:30 AM to 12:30 PM

All are cordially invited.

Director, NIAB