

DISTINGUISHED LECTURE



USING GENOME EDITING IN CHICKEN FOR INVESTIGATING ADAPTATION TRAITS AND BIOBANKING OF RARE CHICKEN BREEDS DISEASE RESISTANCE

Dr. Mike McGrew

Group Leader

The Roslin Institute

University of Edinburgh, UK

DATE: November 13, 2019

TIME: 11:00 AM

Venue: NIAB Auditorium

Background

Dr. Mike McGrew obtained his PhD from Boston University and pursued a research program in embryology at the IBDM in France. There, he was part of a research group that discovered a ‘segmentation clock’ in vertebrates. He joined The Roslin Institute in 2001 to help develop transgenesis in chickens. His laboratory works on a type of stem cell in birds, the primordial germ cell, which makes the sperm and eggs of birds. These cells can be used to generate gene edited chickens.

Research interests

His research interests lie in the formation of the avian germ cell lineage during embryogenesis. His group seek to understand how germ cell lineage is first established, migrates and interacts with its niche in the forming gonad. This research will provide general insights into the establishment and maintenance of stem cell populations during development.

His group has developed a distinct culture system for chicken primordial germ cells which allows these cells to be expanded indefinitely in vitro. This unique culture system has permitted them to establish primordial germ cell lines from many breeds of chicken. These lines are being used to define the factors important for germ cell self-renewal, for genome editing, and for the cryopreservation (bio-banking) of avian species.