

## Challenges and New Developments in Diagnosis of Avian Mycoplasmosis

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Traditionally, diagnosis of avian mycoplasmosis is carried out by isolation and identification of the organism and/or serological assays including RSA, HI and ELISA. With the introduction of PCR, isolation and identification of the causative mycoplasma is becoming less popular but serological assays particularly RSA and ELISA are still widely in use for monitoring purposes.

With ever increasing use of live MG and MS vaccines in poultry industry around the globe, strain identification of MG and MS has become a common request in many diagnostic laboratories. Several molecular techniques have been developed by various research groups and currently in use in a number of diagnostic/reference laboratories. However the discriminatory power, reliability and reproducibility of these techniques have not been compared side by side. With the imminent availability of whole genome sequences of several MG and MS strains, it is hoped that a globally accepted strain identification technique will be in place in near future, facilitating direct comparison of MG and MS strains characterised in different laboratories.

Serological assays are generally not useful for discrimination of antibodies to different strains although they may exhibit different performance depending on the strain used as antigen and strain to which antibodies are detected.

Future directions for advancement of diagnostic tools for avian mycoplasmosis are discussed.

### Brief Biography:

Dr Amir H. Noormohammadi is currently Associate Professor in Poultry Diseases at the University of Melbourne. He graduated from the Faculty of Veterinary Science, Tehran University in 1990, and undertook his PhD at the University of Melbourne in 1995 on the molecular pathogenesis of *Mycoplasma synoviae*. Dr Noormohammadi has conducted significant research on the molecular mechanisms used by *M. synoviae* to generate antigenic variation and induce chronic disease. He is a key researcher in several projects including molecular pathogenesis and epidemiology of various poultry pathogens including MG, MS, ILTV and IBV. Dr Noormohammadi's main research is currently focused on molecular typing of poultry pathogens.