

# 赴日本北海道大學研習家禽流行性感冒野鳥跨國監測相關 研究與交流出國報告

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## 摘要

為執行 103 年「候鳥遷徙途徑與家禽流行性感冒風險預警之國際交流及新浮現傳染病區域聯防機制之建立」計畫，赴日本北海道大學獸醫學研究所微生物學研究室，同時也是禽流感參考實驗室進行研習。該實驗室家禽流行性感冒（禽流感）診斷及研究經驗豐富，且長時間密切關注亞洲地區禽流感的病毒活動情形。本次連絡北海道大學時，同時得知該實驗室將針對 2014 年熊本縣病毒 H5N8 進行一系列相關研究，其中還包括對於烏鴉的攻毒試驗，並同意本所研究人員共同參與。另外本次研習期間討論內容包含野鳥禽流感資料分析，學習改良式神經氨酸酶抑制試驗（NI test），並評估 NI 應用於臺灣家禽場血清監測之可行性。最後，日方分享正在進行中的台日及鄰近國家 H5 亞型高病原性禽流感病毒的病原性及親緣性分析，其中越南的 H5 禽流感病毒、2014 年熊本縣爆發 H5N8 病毒的抗原性均已與我國現有的 H5 在病原性上有很大的差異，如使用我們現有的 H5 抗血清可能無法以 H5 標準血清及時鑑定這些病毒，該實驗室願意提供應急之抗體，以供診斷與監測所需。

## **Research and academic exchange related to international survey of avian influenza virus in wild birds in Hokkaido University, Japan.**

Li-Hsuan Chen, Wen-Chan Li

### **Abstract**

For the implementation of “International exchange and cooperation on bird migration and risk assessment of avian influenza/establishment of the regional partnerships for emerging zoonoses” plan, we went to Hokkaido University Veterinary Microbiology Laboratory, also the reference laboratory of avian influenza (AI), for study and research. The laboratory has good diagnostic techniques and abundant experience of research for AI, and pays close attention to activities of avian influenza in the region of Asian countries for a long time. In the process of contact, we got permission to co-participate an inoculation test of crows with the Kumamoto strain (H5N8) isolated in 2014. During the period of stay in Japan, the content of study and research included analysis and management of avian influenza virus from wild bird, learning modified neuraminidase inhibition test, and evaluation the possibility of NI test application in surveillance of serum collected from poultry farms in Taiwan. An antigenic and phylogenic analysis of H5 virus among Japan, Taiwan, and neighboring countries shows that a great antigenic variation between virus in Vietnam, neighboring isolates this year in Japan and isolates existing in Taiwan. Taiwan may not identify those new H5 viruses by H5 reference serum in time. Reference Laboratory in Japan can provide hyper-immuned serum from different antigenic H5 for emergency response of diagnosis and surveillance.