



MINISTERIO
DE ECONOMÍA, INDUSTRIA
Y COMPETITIVIDAD

 **INIA**
Instituto Nacional de Investigación
y Tecnología Agraria y Alimentaria

SUBDIRECCIÓN GENERAL DE INVESTIGACIÓN Y
TECNOLOGÍA
CENTRO DE INVESTIGACIÓN
EN SANIDAD ANIMAL

WORKSHOP “INTRODUCTION TO THE MOLECULAR ANALYSIS OF RELEVANT ZONOTIC PATHOGENS”

INIA, Madrid, 22-26 May 2017



MONDAY 9:00-16:30h

9:00-9:30	Arrival to INIA and welcome
9:30-10:00	Presentation of the workshop, general issues
10:00-10:30	Pre-workshop test
10:30-11:00	<i>Coffee break</i>
11:00-12:30	Presentation of trainees
12:30-13:15	The value of the molecular analysis of pathogens in the epidemiology and control of animal diseases (Dr. Miguel Ángel Jiménez-Clavero, INIA-CISA, Madrid, Spain)
13:15-14:30	<i>Lunch</i>
14:30-15:15	Sequencing background and technologies (Dr. Ricardo Ramos, Genomic Unit-Fundación Parque Científico de Madrid, Spain)
15:15-16:00	Phylogeny background and interpretation (Dr. Ferrán Palero, Centro de Estudios Avanzados de Blanes-CSIC, Blanes, Spain)
16:00-16:30	Installation and introduction to MEGA software.
20:30	Official dinner

TUESDAY 9:00-17:00h

	<i>Session I: avian influenza virus (AIV)</i>
9:15-10:00	Genetic characterization of human influenza isolates: implications in public health (Dr. Iván Sanz Muñoz, National Influenza Center, Valladolid, Spain)
10:00-10:45	Genetic characterization of avian influenza virus isolates: implications in animal health (Dr. Ana Moreno, IZSLER Brescia, Italy)
10:45-11:15	<i>Coffee break</i>



11:15-11:45	Molecular subtyping of avian influenza isolates based on hemagglutinin and neuraminidase genes. Molecular pathotyping of H5 and H7 isolates (Dr. Cristina Cano-Gómez, INIA-CISA, Madrid, Spain)
11:45-12:15	General steps for basic sequence analysis: sequence editing, assembly and comparison. Inferring the amino acid sequence (Dr. Cristina Cano-Gómez, INIA-CISA, Madrid, Spain)
12:15-13:30	Practical case: following the whole workflow from a suspicious clinical sample to the final identification of a H5N1 HPAI case (Dr. Cristina Cano-Gómez, INIA-CISA, Madrid, Spain)
13:30-14:30	<i>Lunch</i>
14:30-15:00	Guided visit to the <i>arboretum</i> of INIA
15:00-17:00	Hands-on training with raw sequences: characterization of H5/H7 blind samples

WEDNESDAY 9:00-17:00h

Session II: Molecular characterization of flavivirus isolates by partial genome sequencing

9:15-10:00	Applications of the molecular analysis to the study of West Nile virus and related flaviviruses (Dr. Elisa Pérez-Ramírez, INIA-CISA, Madrid, Spain)
10:00-10:45	Molecular characterization of flaviviruses: from the selection of suitable genome region until phylogenetic analysis (Dr. Jovita Fernández-Pinero, INIA-CISA, Madrid, Spain)
10:45-11:15	<i>Coffee break</i>
11:15-12:15	Practical case: Virus identification of a flavivirus PCR positive sample.
12:15-13:30	Hands-on training with raw sequences: characterization of a blind sample (Dr. Jovita Fernández-Pinero, INIA-CISA, Madrid, Spain)
13:30-14:30	<i>Lunch</i>
14:30-17:00	Practical case: basic phylogenetic analysis of a flavivirus sequence (Dr. Jovita Fernández-Pinero, INIA-CISA, Madrid, Spain)

THURSDAY 9:00-17:00h

9:00-10:00	Review of session II.
10:00-10:30	Case study of session II: flavivirus identification and basic phylogenetic analysis of a blind sample.
10:30-11:00	<i>Coffee break</i>
11:00-13:00	Case study of session II (cont): flavivirus identification and basic phylogenetic analysis of a blind sample.
13:00-14:00	<i>Lunch</i>



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14:00-15:00 Review of session I.
15:00-17:00 Case study of session I: molecular pathotyping of AIV blind samples.

FRIDAY 9:00-15:00h

9:00-11:00 Summary of the results from the case studies: presentation by trainees and discussion time
11:00-11:30 *Coffee break*
11:30-12:30 Summary of the results from the case studies: presentation by trainees and discussion time (cont.)
12:30-13:00 Evaluation test
13:00-13:30 Satisfaction survey
13:30-14:00 Final remarks. Delivery of documentation and certificates.
14:00-15:00 *Lunch*