Fully Funded PhD Position Announcement

Memo: CVASU/OHI/HEAT11041/06 **Date: 09/09/2025**

Title: Pandemic Readiness in Poultry: Avian Influenza Risk and Response in Bangladesh

Summary:

The high and low pathogenic avian influenza viruses (AIV) (i.e., H5N1 and H9N2) pose significant public health concerns due to their evolution, risk of zoonotic transmission, and potential pandemic emergence. The dynamic, dense, and complex poultry trade in Bangladesh, particularly through Live Bird Markets (LBMs), serves as a critical hub for the transmission of AIV in marketed poultry. These markets greatly increase the risk of the viruses spilling over into humans. Moreover, recent reports on AIV infection in both cattle and humans signal a potential shift in virus transmission dynamics and cross-species transmission. The risk of cross-species transmission may further be amplified by inadequate biosecurity measures on smallholder farms in Bangladesh. The ongoing circulation of AIV underscores the urgent need for strict and innovative surveillance, intervention strategies, stakeholder training and awareness, and proactive pandemic preparedness measures along the poultry value chain. An integrated approach combining advanced molecular and bioinformatics techniques with robust epidemiology to identify and understand the AIV dynamics and stakeholder engagement to generate evidence for effective policy is crucial now. Within the project "**Preparedness for Pandemic Potential Zoonotic Influenza in Bangladesh**," the PhD candidate will employ a multidisciplinary approach to assess the pandemic risk of AI and evaluate intervention strategies integrating the following core components:

a. Designing and implementing a novel, farm- and market-based surveillance framework to determine the entry, distribution, and dynamics of the AIV and strains.
b. Analyzing the genetic and molecular changes of AIV H5N1 and H9N2 subtypes and assessing the evolutionary trajectory and potential for human-to-human transmission by bioinformatics.
c. Assess the impact of different intervention strategies and propose an actionable policy recommendation at the national level.

PhD Granting Institution: One Health Institute (OHI), Chattogram Veterinary and Animal Sciences University (CVASU), Chattogram

Supervisors:

Prof. Md. Ahasanul Hoque, CVASU

Dr. Guillaume Fournié, The French National Research Institute for Agriculture, Food and Environment (INRAE)

Scientific and Material Conditions:

The PhD candidate will be fully funded under the Academic Transformation Fund (ATF) of the University Grants Commission (UGC) of Bangladesh. The candidate will have the opportunity to work in the molecular biology and serology laboratories at CVASU, equipped with highly-configured instruments (i.e., real-time RT-PCR, KingFisher Extraction Robotics Machine, C-ELISA, hemagglutination assay (HA) test, and hemagglutination inhibition (HI) assay).

The candidate will employ a multidisciplinary approach to assess the pandemic risk of AIV and evaluate intervention strategies through the following activities –

(1) Design and implement a doctoral research on a novel, farm- and market-based surveillance framework to determine the entry, distribution, and dynamics of AIV with zoonotic preparedness.
(2) Carry out advanced laboratory and/or field investigations (depending on dissertation focus), including epidemiology, molecular virology, bioinformatics, surveillance, and risk assessment.
(3) Analyze biological, molecular, epidemiological, and ecological data using advanced statistical and computational tools.
(4) Analyze the mutation pattern, evolutionary trajectory, and zoonosis tendency of AIV by bioinformatics tools.
(5) Prepare scientific manuscripts, policy briefs, and conference presentations.
(6) Work directly with farmers, traders, and vendors to assess the impact of intervention strategies and help develop actionable policy recommendations for national pandemic preparedness.
(7) Actively participate in project meetings, workshops, and stakeholder consultations.
(8) Fulfill academic requirements of the PhD program, including coursework, dissertation writing, and defense.

Objectives for Promoting the PhD Student's Research:

The candidate is expected to develop into an independent researcher. He/She will –

(1) Publish a minimum of two scientific articles as the first author in international, peer-reviewed journals (Q1/Q2 preferred) in the fields of epidemiology and One Health.
(2) Present research findings at a minimum of one national and one international scientific conference.
(3) Effectively communicate research insights to a diverse audience, including scientific peers, government policymakers, and stakeholders (farmers, traders).
(4) Contribute to building the national capacity for AI research and pandemic preparedness in Bangladesh.

Duration of PhD Program:

The PhD program is a **full-time, residential course of 3 years (36 months) without extension**.

Monthly Fellowship:

50,000 BDT per month (No extra benefits). Salary will be paid on a basis on the last working day of the corresponding month.

Candidate Profile:

(1) **Nationality**: Bangladeshi by birth

(2) **Education**: Master's (or equivalent) degree in veterinary science, microbiology, epidemiology, public health, or a closely related field.

(3) Applicants must meet the PhD admission requirements of CVASU (available at: https://cvasu.ac.bd/get-file?name=4231bf5f-a852-48ad-866e-86217303fb51.pdf)

(4) **Essential skills and experience**:

- Demonstrate ability and willingness to conduct rigorous fieldwork in LBMs and rural farm environments.
- Strong theoretical and practical background in molecular biology techniques (PCR, RNA extraction).
- Experience with data and sequence analysis software (e.g., R, STATA, SPSS, ArcGIS, bioinformatics tools)
- Strong scientific writing and presentation skills.
- Excellent command of written and spoken English and Bengali.
- Ability to work effectively in an interdisciplinary and international team environment.

Necessary Enclosures and Information to be Attached:

(1) An updated CV

(2) Scanned copies of all academic certificates, marksheets/academic transcripts, experience certificate(s).

(3) Preliminary Research Proposal (aligned with zoonotic influenza preparedness)

(4) Motivation Letter/ Statement of Research Interest (one page)

(5) Two reference letters

(6) No Objection Certificate (NOC) (if employed in govt./private service)

(7) Study Leave Approval (for candidates in service)

Submission deadline**: 23 September 2025**.

Shortlisted candidates will be notified by 25 September 2025 for interview.

Submission:

Please submit all the necessary enclosures (in a single PDF) via email to

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and
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