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MEDIA RELEASE

Embargo: 9am AEDT 13 December 2021

Media are welcome to attend. Interviews can be prearranged for Mon, 13 or Tues, 14 December
All media releases will be available here and the full program is online.

TECHNOLOGIES IN THE FIELD PROVIDE ANSWERS FOR FARMERS

Whether it is tackling plant pests or diseases in Laos, African Swine Fever in Timor Leste, Foot and Mouth Disease in Bhutan, or fish diseases in South-East Asia, future biosecurity tools and technologies are being implemented in the field to solutions for farmers. These portable technologies illustrate the breadth and impact of Australian research in the Asia-Pacific region.

This is the focus of a series of rapid-fire case studies to be delivered by Drs Jay Anderson, Stacey Lynch and Andrew Barnes on 14 December to the 2021 Crawford Fund annual conference, titled *Food & Nutrition Security – The Biosecurity, Health, Trade Nexus.*

Small holder farmers in Laos are connected to high-tech laboratories in Australia through work supported by the Crawford Fund which includes **Dr Jay Anderson**, Senior Research Fellow at Southern Cross University and a former Crawford Fund scholar, volunteer and mentor.

“The pest and disease program in Laos is focused on issues of small holder farmers and it is very field focused,” said Jay.

“Through a program of volunteers and mentors, we have access to colleagues who understand the field and social aspects but are also connected with high-tech laboratories," she said.

“Our volunteers are usually placed through the Government-funded Australian Volunteers Program but after their time in-country they keep adding to the network and the capacity of Lao colleagues by feeding back information and results. Not surprisingly, this year it has been through electronic means, but we can't wait to get back.”

Dr Stacey Lynch, Senior Research Scientist and Virologist at Agriculture Victoria Research, will talk about using Loop-mediated isothermal amplification (LAMP) in the field.

“Biosecurity is underpinned by rapid detection of pathogens including the detection of the pathogen genome. LAMP is an in-field deployable, low resource molecular tool which can detect the genome of a pathogen,” Stacey said.

“Agriculture Victoria Research has been verifying the suitability of LAMP across the Asia-Pacific region and within our border. We have been focusing on three case studies; African Swine Fever in Timor-Leste, and Foot and Mouth Disease in Bhutan and Victoria," she said.

“Our LAMP work is underpinned by scientific rigour, and is focused on quality controls, proficiency testing, and sample and data management to support application across the Asia-Pacific region and within our border, so the benefits are wide-ranging.”

“Global aquaculture is the future of nutrition security and is dominated by small holder farmers in southeast Asia,” said **Dr Andrew Barnes** from the School of Biological Sciences at The University of Queensland, talking about the delivery of diagnostic capability in a fish farmer’s backpack being developed with the WorldFish Center.

“Disease remains a major problem. Easy access to antibiotics coupled with unequal access to veterinary diagnostics favours indiscriminate antibiotic use that may be contributing to the global anti-microbial resistance crisis.”

“Genomics provides a wealth of information about disease-causing bugs, what they are, where they come from and whether they carry antibiotic resistance. Lab in a backpack removes the need for expensive laboratory facilities and provides user-friendly information back to the farmer and local aquaculture officers, enabling evidence-based decision making to prevent future outbreaks,” he said.

Other case studies to be delivered at the event include:

- **Advanced monitoring techniques** – **Professor Pablo Zarco-Tejada**, Remote Sensing & Precision Agriculture, School of Agriculture and Food & Faculty of Engineering and Information Technology, The University of Melbourne
- **The race to save bananas**, **Irene Kernot**, Research Program Manager for Horticulture, ACIAR
- **The battle against Fall Army Worm**, **Chris Dale**, International Biosecurity Specialist, Agriculture and Food Security Section, Department of Foreign Affairs and Trade
- **African Swine Fever – Beyond the numbers, Tarni Cooper**, SpatialEpiLab, The University of Queensland and former Crawford Fund awardee, volunteer and RAID Member
- **Global Collaboration: International Plant Sentinel Network**, **David Gale**, Manager, Data Management and Surveillance Communities, Plant Health Australia and former Crawford Fund awardee
- **Curbing Antimicrobial Resistance**, **Dr Walter Okelo**, Research Scientist, CSIRO Land and Water

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