

## **Abstract Template**

### **Multidisciplinary Studies of WSSV: Overview, emergence and recent advances**

<sup>1</sup>Han-Ching Wang and <sup>1</sup>Chu-Fang Lo

<sup>1</sup>Department of Biotechnology and Bioindustry Sciences, National Cheng Kung University, Tainan, Taiwan

Presenting author: [wanghc@mail.ncku.edu.tw](mailto:wanghc@mail.ncku.edu.tw)

Shrimp is the most valuable species in the global aquaculture market, with Asia-Pacific countries being dominant producers. However, in recent decades, outbreaks of shrimp diseases, such as white spot disease (WSD), have caused enormous economic losses in shrimp aquaculture. Filling knowledge gaps in various biological aspects will make profound contributions to establishment of a sustainable, environmentally friendly aquaculture industry. WSD, caused by a unique, large dsDNA virus (white spot syndrome virus, WSSV) has inflicted massive losses in Asian shrimp production. As WSSV is highly complex and has low sequence homology to known viruses, knowledge regarding this pathogen is far from complete. However, our team has been developing and exploiting high-throughput techniques, to expand our translational systems aquabiology approach to improve our understanding and knowledge of the pathogenesis and pathogenicity of WSSV. This talk will review recent observations and current understanding regarding virus, host and their interactions, based on multidisciplinary perspectives, including virion structure, viral protein function, immune responses and host metabolic alterations, as well as potential mechanisms involved in WSSV-resistance. Our studies have generated new knowledge regarding WSSV pathogenesis, critical for evidence-based solutions. Our goals are to achieve academic excellence by addressing leading-edge issues regarding WSD and WSSV, to benefit the shrimp industry and make positive impacts on both science and society.