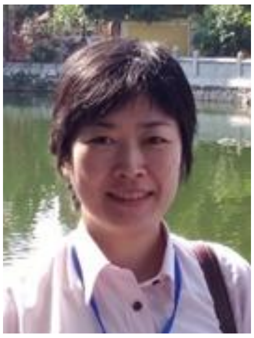
Plenary Speaker 3: Professor Saori Iwanaga (Japan Coast Guard Academy, Japan)

Title: Multi-Agent Simulation of Influenza Epidemics and Evaluation of Infection Control Measures



Dr. Saori Iwanaga

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Brief Biographical History:

1995- Joined Japan Air Self-Defense Force

2006- Adopted Japan Coast Guard Academy

2012- Professor, Japan Coast Guard Academy

Main Works:

"Multiagent Simulation of Seasonal Influenza from Preinfectious People in Closed Spaces," 2023,Vietnam Journal of Computer Science, DOI: 10.1142/S219688882340002X

Proceedings of the 23rd Asia Pacific Symposium on Intelligent and Evolutionary Systems, 2020, DOI: 10.1007/978-3-030-37442-6

"Diversification by Self-reinforcement of Preferences and Change of Interaction Type", 2019, DOI: 10.1007/978-981-13-8319-9_3, In book: Network Theory and Agent-Based Modeling in Economics and Finance

Membership in Academic Societies: Information Processing Society of Japan (IPSJ), Japan Society for Safety Engineering (JSSE)

Abstract: Influenza patients are contagious even before symptoms appear, making it difficult to determine the infection status, such as when, where, and from whom they were infected. In this study, we first collected, recorded, and analyzed the spatiotemporal behavioral history and clinical information of all students at a boarding school during multiple influenza epidemics. Next, we proposed a spatiotemporal mathematical model based on this data and conducted multi-agent simulations (MAS). The results confirmed that the infection rate was high until the first patient was discovered, and that infection control measures reduced the infection rate. Finally, we evaluated the effectiveness of several infection control measures against influenza epidemics.