

# Fighting infectious diseases through field researches across borders to save the children of the world



## Professor Hitoshi Oshitani

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Born in 1959. Ph.D. in medicine and master of public health. Graduated from the School of Medicine, Tohoku University. Trained at the National Sendai Hospital, and dispatched to Zambia as an expert in virology by the Japan International Cooperation Agency (JICA). Was a regional advisor for infectious diseases to the Regional Office for the Western Pacific of WHO from 1999-2005. Has been in his current position since September 2005.

<http://www.virology.med.tohoku.ac.jp/index.html>

Professor Hitoshi Oshitani was at the forefront of the battle against severe acute respiratory syndrome (SARS) in 2003. Having engaged in various researches on rabies, Japanese encephalitis, influenza, etc., Professor Oshitani says that his research is based on field activities. It is most important for him to understand cultures, local characteristics and the living conditions in the field in order to take measures against infectious diseases.

About 8 million children aged less than 5 years die in the world every year, and respiratory infections such as pneumonia account for about 20% of the deaths of children in developing countries.

Professor Oshitani and his colleagues established the Tohoku-RITM Collaborating Research Center for Emerging and Re-emerging Infectious Diseases in the Philippines in 2008. As a part of the Japan Initiative for Global Research Network on Infectious Diseases (J-GRID) of the Ministry of Education, Culture, Sports, Science and Technology of Japan, this project is being implemented jointly by the Graduate School of Medicine, Tohoku University, and the Research Institute for Tropical Medicine (RITM) of the Philippines.

The Eastern Visayas Regional Medical Center (EVRMC), a mid-sized government hospital in the Philippines with 250 beds located on Leyte Island, admits more than 800 children with severe pneumonia every year, resulting in 70-80 deaths. The most common cause of pneumonia deaths is respiratory syncytial (RS) virus. It is rare for RS infection to cause death in Japan; however, for financial reasons in developing countries many children infected with this virus do not come to hospitals until the condition becomes deteriorated, which is a main reason for its high mortality rate.

Professor Oshitani and his colleagues have engaged in comprehensive approach to not only identifying etiological pathogens for pneumonia in health care institutions, but also doing field studies on the virus transmission and control measures with the aim of preventing the spread of viral diseases in the community. The system that they have been building will not only be used in the Philippines but applied to many other developing countries to save many children's lives.



A picture of the ward of the Pediatrics Department of the Eastern Visayas Regional Medical Center (EVRMC), conducting research on pneumonia in children. This hospital is located on Leyte Island, which is a one-hour flight from Manila. It is poorly equipped with medical equipment, not even one working respirator in the ICU for children.



At the Research Institute for Tropical Medicine (RITM) in Manila six research projects, including those in respiratory disease viruses such as influenza viruses, and rabies virus are being conducted.



Research work in a community on Leyte Island (the leftmost person is the resident researcher from Tohoku University). Knowing the real local conditions is a great help to establish more effective measures against infectious diseases.



Life on Leyte Island. Epidemiological research on respiratory infections and comprehensive research in identifying risk factors for severe pneumonia have been conducted as a project of the Science and Technology Research Partnership for Sustainable Development since 2010.



Prof. Oshitani has also been in Mongolia to research infectious diseases. There are research sites in Selenge on the border with Russia and Ulaanbaatar, the capital city. He likes the grandeur of nature, and boundless vistas, in Mongolia. "I am comforted, feeling the spacious atmosphere, just by looking out over the grassland spreading out boundlessly in front of me," says Prof. Oshitani.

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