# Featured Article

## Hong Kong at the Frontstage of the Atomic Age

## PPOL Nuclear Policy Expert Voiced in Media on Fukushima's Discharge of Treated Wastewater and Warned against Long-Term- Environmental Impact of Nuclear Industry

# Hong Kong at the Frontstage of the Atomic Age

On July 20th of this summer, the movie "Oppenheimer" was released in cinemas worldwide. Directed by Christopher Nolan, this film narrates the life and achievements of J. Robert Oppenheimer, the father of the atomic bomb, and it reminds the audience that humanity still lives with the aftermath of his creation: the promises of low-carbon nuclear energy to mitigate global warming and the threat of total annihilation from a nuclear war. These formidable issues can only be addressed with approaches that combine bold policy ideas supported by strong technological insights. With its unique geographical position and relevance as a global center for ideas, Hong Kong and HKUST can be at the forefront of discussions on how humanity will deal with the legacy of the atom.

Many people in Hong Kong might wonder what makes nuclear science and policy relevant in this city. The connection becomes clearer when one remembers that ¼ of the electricity consumed in Hong Kong comes from a nuclear reactor located on the mainland. Besides, with pressing objectives to decarbonize its electricity sector, Hong Kong is considering increasing the share of imported nuclear electricity to more than 50%, making Hong Kong one of the most nuclear-dependent cities in the world. A look at the locations of nuclear power plants in the region also shows that Hong Kong and the Greater Bay Area are surrounded by nuclear power plants, making the megalopolis all the more vulnerable to a nuclear accident. Finally, China is on course to become the world leader in nuclear technology, a shift that will bring fundamental changes to the nuclear industry and its practices worldwide. Whether it is to better prepare for a nuclear future domestically or to understand the changes to come for the global nuclear sector under Chinese leadership, Hong Kong and HKUST have a unique role to play in participating in the peaceful use of nuclear energy.

As the movie "Oppenheimer" shows, nuclear technology confronts us with existential threats. The Doomsday clock indicates how close humanity is to a nuclear apocalypse, is now set 90 seconds to midnight, the closest it has ever been to the fatal hour. Most concerning for experts is the rising confrontation between China and the U.S. and the nuclear arms race they have engaged in. Many

Left: J. Robert Oppenheimer with a snapshot of a nuclear explosion cloud
Right: Daya Bay Nuclear Plant of the Guangdong Province

fears that a nuclear war between the two powers could be triggered by an accident during a clash in the South China Sea or near Taiwan. Nuclear arms control treaties and exchanges between nuclear experts from rival states have been crucial in the past to mitigate the risks of nuclear conflicts. However, there has been an alarming collapse of nuclear arms control frameworks and a shutdown of communication between nuclear experts from China and the U.S. in recent years. Hong Kong is geographically located at the doorstep of possible military conflicts between the U.S. and China and cannot escape the deadly impacts of such clashes. Yet, the city has a compelling asset that it can leverage to contribute to preventing these nightmarish outcomes. Hong Kong can help restore the vital connections between nuclear experts and act as a platform where they can discuss policy frameworks to reduce the risks of a nuclear conflict between the two countries. The city of Hong Kong has a responsibility to its people and the world to work toward avoiding a nuclear war between the two rivals.

## About the Author

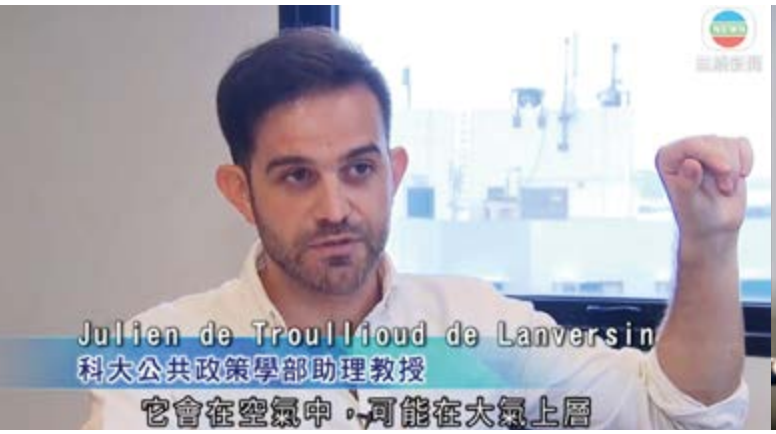
**Prof. Julien de Troullioud de Lanversin**

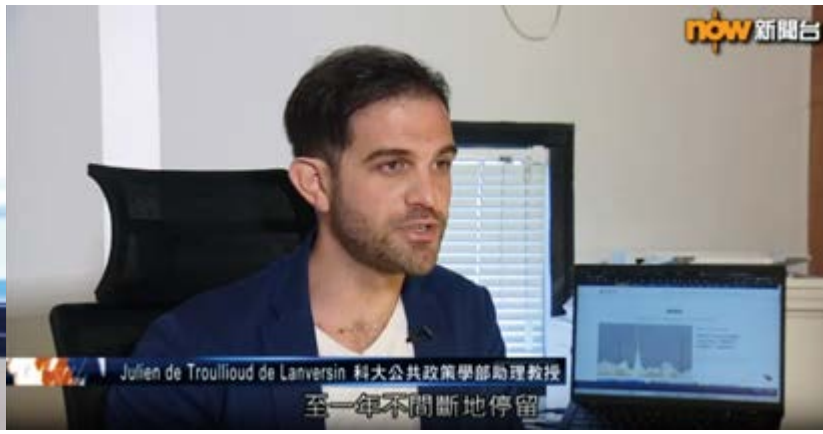
Prof. Julien de Troullioud de Lanversin is Assistant Professor in the Division of Public Policy at the Hong Kong University of Science and Technology, he received his Ph.D. in Applied Physics from Princeton University. Prof. de Troullioud de Lanversin's scholarship combines technical solutions and policy analysis to address the dangers of nuclear technologies while promoting its peaceful use as low-carbon energy. He is interested in nuclear energy's role in decarbonizing the electricity sector in Hong Kong and China while addressing public concerns over safety issues. Prof. de Troullioud de Lanversin also works toward understanding and addressing the risks of nuclear war, especially in the context of the U.S.-China rivalry. Together with the academic community at HKUST, he is striving to place Hong Kong at the front stage of discussions on how the atom will impact humanity's future.

# PPOL Nuclear Policy Expert Voiced in Media on Fukushima's Discharge of Treated Wastewater and Warned against Long-Term-Environmental Impact of Nuclear Industry


Nuclear scientist and policy expert Prof. Julien de Troullioud de Lanversin of PPOL has recently gained media attention for his scientific and policy insight on Fukushima's discharge of treated wastewater, the long-term environmental impact generated by the nuclear industry, and his view on Hong Kong citizens' purchase and use of commercial radiation detectors.

Prof. de Troullioud de Lanversin voiced in his article "Fukushima Waste Water Release: How Mainland China and Hong Kong Got it Wrong" in *South China Morning Post* that the recent seafood ban is based on unfounded fear of treated wastewater discharged from the Fukushima Daiichi nuclear power plant; what should be of real concern but failed to address are the issues of low public acceptance of nuclear




TVB and Now TV News interviewed Prof. Julien de Troullioud de Lanversin on his views on the Fukushima nuclear plant's discharge of wastewater and the purchase of radiation detectors by Hong Kong citizens

technology, and the impact of the nuclear industry's long-term use of the environment to dispose of radioactive waste.

Read the SCMP article here:
https://bit.ly/3ZkbEZV

In a recent interview with TVB News, Prof. de Troullioud de Lanversin stated that there are no better alternatives for handling the wastewater, such as the evaporation or burial of the wastewater underground as proposed by other parties, because in evaporation, the particles of tritium are going to stay in the air, likely the upper part of the atmosphere, and there is no guarantee that it would not spread and penetrate to the populated areas in China, Japan, South Korea, and elsewhere. By burying the wastewater underground, it will leak and contaminate the land of the entire region in case of an earthquake.

As regards the Hong Kong citizens' purchase of radiation detectors, Prof. de Troullioud de Lanversin suggested during a Now TV News interview that the current radiation level (1.9μSv/h) measured around 10km away from the Fukushima nuclear plant as read on those commercial radiation detectors will only become dangerous if someone exposes to the dose continuously for a duration of at least ten months to 1 year. Only a nuclear professional is capable of interpreting those readings on the radiation detectors. Therefore, he does not recommend Hong Kong citizens to use these devices and draw conclusions from the readings. He assured that the radiation levels monitored by Hong Kong and Japanese governments are more accurate than those by commercial devices.