

News Release

FOR IMMEDIATE RELEASE

Kazuo Hiramoto Receives Medal with Purple Ribbon

Tokyo, May 21, 2019 --- Hitachi, Ltd. (TSE: 6501) today announced that Kazuo Hiramoto, Ph.D., Research & Development Group, was awarded the Medal with Purple Ribbon at the Spring Medals of Honors commendations in the first year of Reiwa*.

* "Reiwa" is the name of the new Imperial era which began on May 1, 2019, which means "beautiful harmony."

The Medal with Purple Ribbon is bestowed upon individuals with outstanding achievements of invention or discovery in the fields of science and technology, sports, culture and art. Hiramoto invented the innovative particle therapy system with high frequency extraction technology. Implementing particle therapy system equipped with such technologies has been highly evaluated in the perspectives of realizing treatment with little pain and improving patients' quality of life("QoL") for maintaining social life and treatment. The technology leads to realization of respiratory gating irradiation with accurate irradiation for moving tumors by accelerating extraction and pausing of particle beam and scanning irradiation with capability of precise control of fine particle beam for various types of tumors, minimizing position change of particle beam.

Hiramoto said "I feel privileged and grateful to have received such an honorable award as the Medal with Purple Ribbon. With our vision of saving more patients and support from others, our team managed to realize implementation of particle therapy system, after overcoming several challenges and failures through development process. I sincerely hope this award will help particle therapy system will be known to and save more people suffering from cancer."

Overview of Particle Therapy System with high-frequency extraction technology

Particle therapy is one of the ways to treat cancer by radiations, during which particle beams such as proton or carbon is accelerated to about 60% of the speed of light and irradiated at cancer tumors. In traditional systems, the extraction of particle beams was controlled by changing the current in electrical magnets, which needed relatively long time to switch between the extraction and stop of beams, causing problems such as long treatment time and failure in delivering beams to aimed position. These problems are solved by applying high-frequency electrical field while maintaining the same current in magnets, which reduces the damage to healthy cells as well as the burden on patients by shortening the treatment time.

For high-frequency extraction technology, Hitachi was awarded The Prize of the Commissioner of the Japan Patent Office at the National Commendation for Invention hosted by Japan Institute of Invention and Innovation in 2004 and prizes for Science and Technology (Research Category) in the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology in 2013.

Hitachi aims to contribute to improving people's QoL. and building sustainable society through Social Innovation Business. Hitachi will continue to focus on human resources development for particle therapy system.

About Hitachi, Ltd.

Hitachi, Ltd. (TSE: 6501), headquartered in Tokyo, Japan, is focusing on Social Innovation Business combining its operational technology, information technology and products. The company's consolidated revenues for fiscal 2018 (ended March 31, 2019) totaled 9,480.6 billion yen (\$85.4 billion), and the company has approximately 296,000 employees worldwide. Hitachi delivers digital solutions utilizing Lumada in five sectors including Mobility, Smart Life, Industry, Energy and IT, to increase our customer's social, environmental and economic value. For more information on Hitachi, please visit the company's website at <https://www.hitachi.com>.

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