

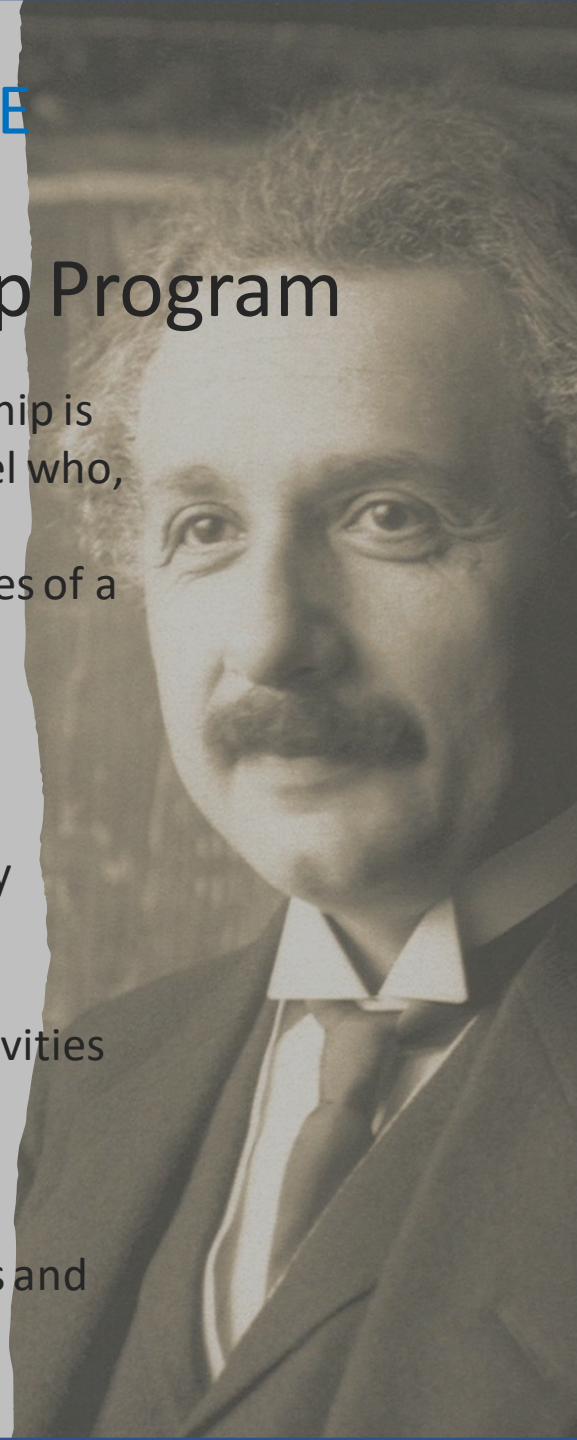


Field of QUANTUM SCIENCE

## The NAMBU-EINSTEIN Fellowship Program

The goal of the Nambu-Einstein fellowship is to develop advanced research personnel who, starting with "quantum," are exposed to the knowledge and values of a wide range of academic disciplines, take a bird's-eye view, and collaborate to create new values (paradigm shift) based on free thinking unconstrained by conventional concepts.

This program supports the research activities of graduate students in a wide range of scientific and technical disciplines. In addition, it also helps the fellowship students to improve their research skills and develop their career paths.



A portrait of Prof. Yoichiro Nambu, an elderly man with grey hair, wearing a dark suit, white shirt, and a blue and yellow sash. The background is dark and out of focus.

## Prof. Yoichiro Nambu: “Paradigm Shift”

Spontaneous symmetry breaking, one of the great achievements of Nobel laureate Professor Yoichiro Nambu, was a "paradigm shift" in particle physics.

Prof. Nambu developed the concept of "spontaneous symmetry breaking" based on the idea of "superconductivity," in which the electrical resistance of a particular material becomes zero when it is cooled to ultra-low temperatures, and incorporated it into his particle theory.

Prof. Nambu brought together the seemingly distant disciplines of ultracold condensed matter physics and particle physics.

For a paradigm shift,  
both the development of various sciences and technologies in a wide range of fields and a deep understanding of them are essential.

A close-up portrait of Albert Einstein, showing his characteristic wild, wavy hair and mustache. He is wearing a dark suit jacket, a white collared shirt, and a dark tie. The background is a soft, out-of-focus light color.

## Einstein's great achievements

Einstein's many great achievements include special and general relativity, the origin of Brownian motion, the quantum light hypothesis, induced emission, and Bose-Einstein condensation. These achievements were based on a wide range of theoretical and technological developments by many researchers and engineers, including mathematics, electromagnetism, electricity, optics, and the various technologies that support them.

**While it is important to wait for the emergence of a single genius, the most important thing is to develop human resources who can lead diverse theoretical and technological developments.**

# The Nambu-Einstein Fellowship Curriculum Policy

In order to form the foundation for a paradigm shift, we aim to develop human resources who can deepen their own research while maintaining a broad perspective, without distinguishing between experimentalists and theorists.

We support students in improving their research skills so that they can devote themselves to their research and pursue their research topics thoroughly.

To foster the ability to set research questions and formulate hypotheses, and to cultivate the ability to respond to a wide range of fields, we hold research meetings that cover a wide range of fields in science and technology.

We encourage and support joint research and research presentations in Japan and abroad in order to improve research skills and at the same time support career path formation.

We encourage the participation in graduate education programs to support interaction with industry and the acquisition of transferable skills.