

L a u d a t i o

In recognition of his original and outstanding contributions to condensed matter theory, ranging from low-temperature physics to the properties of fractal networks

PROF. DR. TSUNEYOSHI NAKAYAMA

has been awarded the
Martin-Gutzwiller-Fellowship 2012/2013
of the Max Planck Institute for the Physics of Complex Systems.

Tsuneyoshi Nakayama is a very distinguished expert across several fields of condensed matter physics, in particular in the area of complex and disordered systems. Perhaps his most influential work concerns the physics of fractal structures. For these objects with non-integer dimensionality, he has done ground-breaking work in identifying their unusual excitations, which he termed the fractons. This he followed up with extensive studies on the statistical mechanics and dynamics of fractal structures, with particular view to systems such as percolating clusters, for example in magnets, and an emphasis on experimentally relevant questions. These studies also involved other important topics in condensed matter physics, for instance specific features of localization phenomena in such unusual settings.

Besides this, Tsuneyoshi Nakayama has contributed to a wide range of topics, starting with the Kapitza resistance in liquid Helium, manifold aspects of the physics of glasses as well as the study of correlated electrons, in particular high-temperature superconductors. On the methodological front, his invention of the “forced oscillator method” has provided one avenue to simulate efficiently a class of large-scale systems.

Tsuneyoshi Nakayama has spent much time travelling abroad, being a welcome visitor in many leading universities and research institutes in Asia, Europe and America. We are honored to host him at the Max Planck Institute for the Physics of Complex Systems, and look forward to his next contributions to the field of his choice.