TJR — iTHEMS Joint Seminar

# The Golden Age of Neutron Stars

## Prof. Gordon Baym

University of Illinois Urbana-Champaign

**DATE**
**Friday, April 17**

**TIME**
**4:00 – 5:00 PM**

**LOCATION**
**H701, The University of Osaka, Toyonaka Campus**

Baym教授は中性子星、高密度物質などの分野を60年以上牽引されてきた方です。

## ABSTRACT

Neutron stars were first posited in the early thirties, and discovered as pulsars in the late sixties; however we are only recently beginning to understand the matter they contain. I will describe the ongoing development of a consistent picture of the liquid interiors of neutron stars, now driven by ever increasing observations as well as theoretical advances. These include observations of heavy neutron stars of about 2.0 solar masses and higher; ongoing inferences of masses and radii by the NICER telescope; and observations of binary neutron star mergers, through gravitational waves as well as across the electromagnetic spectrum. Theoretically an understanding is emerging in QCD of how nuclear matter can turn into deconfined quark matter, which I will illustrate with modern quark-hadron crossover equations of state.

## BRIEF BIO

Gordon Baym is a Professor of Physics at the University of Illinois. Educated at Cornell and Harvard, he spent two years at the Niels Bohr Institute. His interests range from matter under extreme conditions to ultracold atomic physics, astrophysics, and nuclear physics. A pioneer in the study of pulsars and neutron stars, he is a member of the U.S. National Academy of Sciences and received the APS Medal for Exceptional Achievement in Research, the Hans Bethe and Lars Onsager Prizes, and the Eugene Feenberg Memorial Medal.

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All are welcome to attend