



INTERNATIONAL  
SPACE  
SCIENCE  
INSTITUTE

# Auroral Physics Workshop

6–10 August 2018

## Conveners

Joe Borovsky, Space Science Institute, Boulder, USA

Tomas Karlsson, KTH – Royal Institute of Technology, Stockholm, Sweden

Ryuho Kataoka, National Institute of Polar Research (NIPR), Tokyo, Japan

David J. Knudsen, University of Calgary, Calgary, Canada

Noora Partamies, The University Centre in Svalbard, Longyearbyen, Norway

Rudolf von Steiger, International Space Science Institute, Bern, Switzerland

The purpose of this workshop is to bring together auroral experimentalists (ground-based and in situ), theorists and simulationists in order to produce a thorough assessment of our current state of understanding of the essential properties of auroras and the mechanisms responsible for them. All relevant literature will be reviewed in order to establish the best characterization possible of auroral properties including morphology and structure, lifetime, particle energies and fluxes, relation to electrical currents, variability, frequency of occurrence, locations, source regions, environmental factors (solar illumination, solar wind), and any other parameters that can be used to test theories. Candidate theories will be summarized and reviewed critically according to their ability to address observed parameters. The workshop and the book that results from it will document established facts and critical gaps in our current understanding, in support of the long-term goal to identify the physical mechanisms underlying the creation and behavior of the aurora.