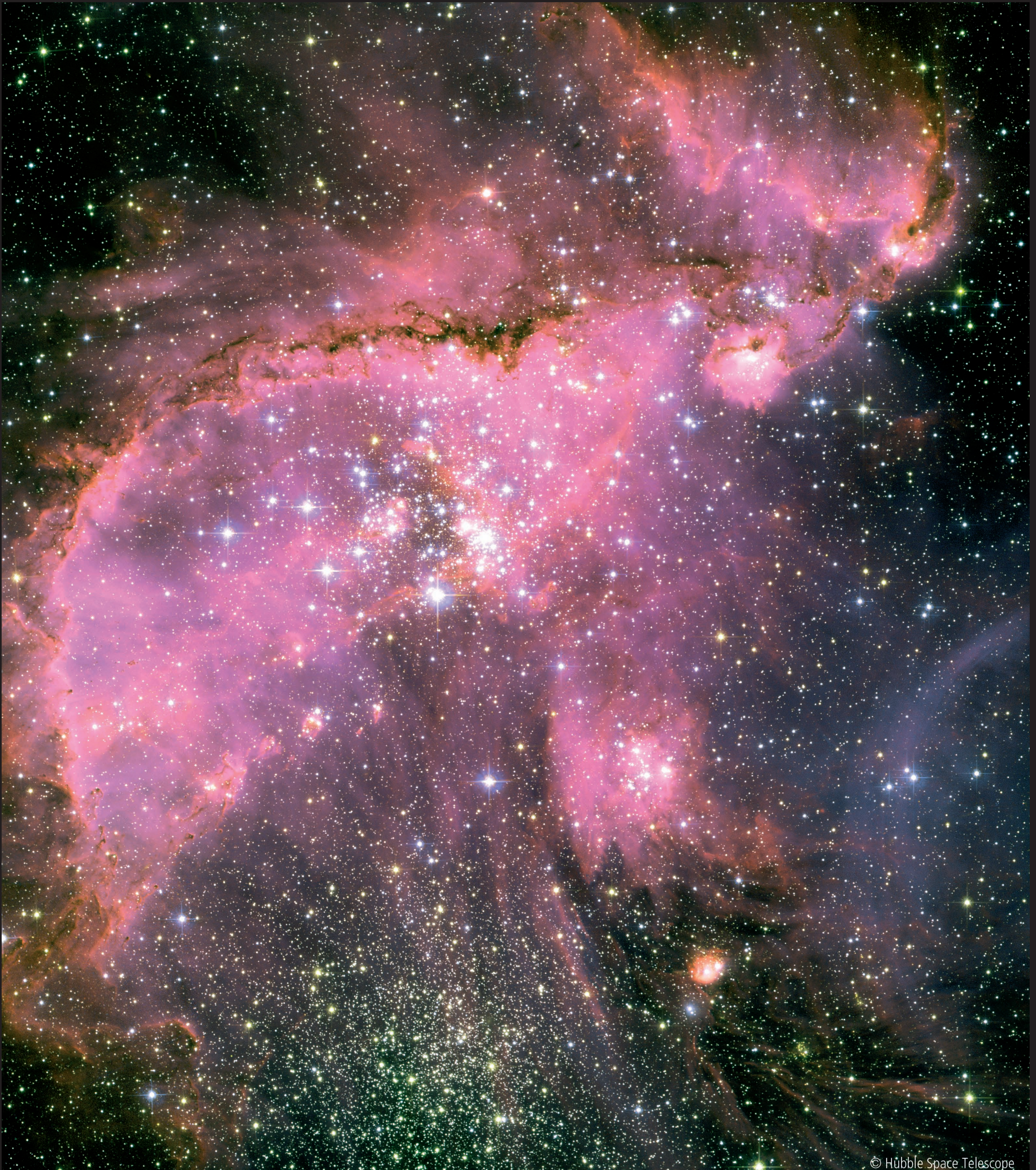




INTERNATIONAL
SPACE
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INSTITUTE

MICROPHYSICS OF COSMIC PLASMAS

Workshop | 16-20 April 2012



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The Workshop will address the physical processes that underlie the observed large-scale properties, structures and dynamics of cosmic plasmas, the matter that fills interplanetary, interstellar and intergalactic space, as well as the solar atmosphere and the Earth's magnetosphere. The properties and role of turbulence on all scales and in all environments will be reviewed. Magnetic reconnection plays a major role in the dynamics and energetics of plasmas but remains elusive experimentally and challenging theoretically; it will be covered in contexts from magnetospheres to the sun, on astrophysical scales and in laboratory experiments. Instabilities, non-linear processes and shock waves travelling in cosmic plasmas will also be extensively discussed. Observational techniques, both in space and in the laboratory will be surveyed. The Workshop is expected to lead to an enlightening review, integrating insights from laboratory plasma experiments, of long-standing questions concerning phenomena which are the fundamental building blocks of astrophysics and space physics on all scales.

The Workshop is convened by

André Balogh, Imperial College London, United Kingdom

Andrei Bykov, Ioffe Physical-Technical Institute, St. Petersburg, Russia

Peter Cargill, University of St. Andrews and Imperial College London, United Kingdom

Richard Dendy, Euratom/UKAEA Fusion Association, Culham Science Center, United Kingdom

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