



# LAKE COMO SCHOOL OF ADVANCED STUDIES



Sigrav Schools are directed to Ph.D. students and young Post-Docs in Physics, Astronomy and Mathematics who are interested in widening their knowledge in the fields of Physical Cosmology, Relativistic Astrophysics, General Relativity, Experimental Gravity and the Modern Quantum Theories of Gravitation. The Schools wish to introduce students to current problems, highlighting their importance and potential scientific impact. Lecturers will report on theoretical, observational and experimental aspects of the research, reviewing latest achievements in the field.

## BRAVE NEW WORLDS Understanding the Planets of other Stars

*Sigrav School - XII Edition - Villa del Grumello (Como – Italy), May 29 – June 3, 2016*

Only nine planets were known before 1995, the ones orbiting our favourite star, the Sun, which then included Pluto. Twenty years later, we have «lost» Pluto but we have gained two thousands planets in orbit around other stars. Current statistical estimates indicate that, on average, every star in our Galaxy hosts at least one planetary companion, i.e. our Milky Way is crowded with one hundred billion planets! The most revolutionary aspect of this young field is the discovery that the Solar System does not appear to be the paradigm in our Galaxy, but rather one of the many possible configurations we are seeing out there. These include planets completing a revolution in less than one day, as well as planets orbiting two stars or moving on trajectories so eccentric as to resemble comets. Some of them are freezing cold, some are so hot that their surface is molten. How do we progress from here?

The school is aimed at providing a comprehensive view of the nature of exoplanets, through an integrated approach covering observations, data analysis and interpretation. Finding out why are these new worlds as they are is one of the key challenges of modern astrophysics. The course plan is as follows:

Gaspar Bakos (Princeton University)	The exoplanet hunt
Jean-Luc Beuzit (Grenoble)	Directly seeing the exoplanets
Caitlin Griffith (University of Arizona, Tucson)	Understanding planets around the Sun and other stars
Giusi Micela (INAF – Osservatorio Palermo)	The stellar environment
Alessandro Morbidelli (Observatoire de la Côte d'Azur)	How do planets form?
Franck Selsis (Université Bordeaux)	Exoplanet chemistry and habitability
Jonathan Tennyson (UCL)	Molecular spectroscopy for exoplanets
Giovanna Tinetti (UCL)	1) A general introduction to the exoplanetary science
	2) Decoding the light of extrasolar worlds

**Registration:** participants will be accommodated in the hotels near Villa del Grumello and will be requested to pay an inclusive fee of EURO 750,00, covering part of the accommodation (in rooms to be shared), breakfast and lunch for the duration of the school. Alternatively, participants may arrange for their own accommodation and are requested to pay only the registration fee of EURO 400,00 also covering luncheons. Accommodation form can be downloaded from the School website: [www.lakecomoschool.org](http://www.lakecomoschool.org). Accommodation is not guaranteed after April 29<sup>th</sup>, 2016. Some support to cover local expenses is available; those who need support should mention it in their registration and send a short curriculum vitae and a summary of their current research (maximum two pages A4). Please, note that no support to cover travel expenses will be available.

There will be room for short communications by participants. Those who want to submit a communication proposal should send a short abstract to the email address below. Proponents will be informed about acceptance of their contribution in due time. Preparatory and follow-up lectures will be delivered at the University of Insubria.

For any information also contact directly the Organizing Secretariat at Fondazione Alessandro Volta: ph. +39.031.579815, fax +39.031.573395

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