



School on Gravitational Waves: from data to theory and back

Instituto de Física Teórica - UNESP, São Paulo, Brasil

August 3 - 11, 2015

This school will present the research field in gravitational waves (GWs) from a phenomenological perspective. After a theoretical introduction to the basic theory of GWs, an astrophysical overview of compact binary coalescences will be given. It will be explained how analytical source modeling is performed and how it is used to extract the highest possible physical content from detection. The basis of signal modeling, signal extraction from noisy data, and parameter estimation from the signals will be presented. The school is intended for anyone, from master students to researchers, willing to acquire a working knowledge in the new exciting field of GW data analysis, physics and astrophysics. Young masters and PhD students are particularly encouraged to participate. This activity will be followed by the [Workshop on Astrophysics and Relativity: Astro-GR 2015](#). Candidates may apply either for one or both activities. *There is no registration fee and limited funds are available for local and travel support of participants.*

Organizers / Lecturers:

Riccardo Sturani (IFT-UNESP / ICTP-SAIFR): *Match filtering methods in data analysis*

Alberto Vecchio (U. Birmingham): *Bayesian inference and gravitational wave observations*

Invited Lecturers:

Alessandra Buonanno (MPI Postdam): *Modeling gravitational waves:*

The analytical/numerical relativity interface

Stefano Foffa (U. Geneva): *Effective field theory methods to model astrophysical binaries*

Sergey Klimenko (U. Florida): *Detection of transient signals and coherent network algorithms in the gravitational waves data analysis*

Enrico Ramirez-Ruiz (U. California, Santa Cruz): *The Astrophysics of Compact Binaries*



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The application deadline is May 29, 2015

The online registration form and more information can be found at:

www.ictp-saifr.org/gwaves