

## WORKSHOP on CRITICAL STABILITY (first circular)

The next international workshop on "Critical Stability of Few-Body Quantum Systems" will be held at MERCURE SANTOS, Brazil on October 12-17, 2014. We shall try a 5 days intensive program, starting on Monday morning and closing on Friday evening, with a break on Wednesday afternoon. As the planning proceeds more information will be accumulated on:

<https://indico.in2p3.fr/conferenceDisplay.py?ovw=True&confId=8887>

Six previous international and interdisciplinary workshops on critical stability took place at ECT\* in Trento in February 1997, at Les Houches in October 2001, at Trento September 2003, in Dresden October 2005, at Erice October 2008, and at Erice October 2011. The summary of the first Trento workshop can be found at <http://ect.it/rep\ 97/CSFBS.html>. The proceedings from later workshops are published in Few-Body Systems vol 31 (73-266), vol 34 (1-208), vol 38 (55-219), vol 45 (77-243), vol 54 (549-782).

The idea of these workshop originates in the observation that almost all subfields of physics apply similar methods to study similar few-body problems at the edge of stability. The usual meetings do not often appeal to the interdisciplinary aspects of the common concepts and techniques. We want to continue in the same spirit as these previous workshops where various subfields like quantum chemistry, mathematical, atomic, molecular, nuclear and hadron physics were represented by lively participants from many different countries.

The focus of the present workshop in Santos in October 2014 will be on the properties of weakly bound quantum states and resonances near threshold. The specific emphasis will be influenced by the interests of the participants. The topics within the main theme will include:

1. Efimov Physics, Scaling and Universality
2. Cold atoms, few- and many-body physics
3. Nuclei close to drip lines
4. Four to twelve-body problems
5. Dipolar atoms, 2D, and mixed dimension physics
6. Molecules and quantum chemistry
7. Nuclear astrophysics
8. Mathematical physics problems
9. Antiproton physics, exotic hadrons and hypernuclei

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### Details about the workshop

The workshop will consist of a number of talks and some poster sessions.

Abstracts will be collected and made available before or at the beginning of the workshop.

Proceedings are planned to appear in one issue of Few-Body Systems. More details will be posted in website. To ensure fast publication the submission deadline will be December 1<sup>st</sup>, 2014.

The total number of participants are limited to 60. Participation is only by invitation. Participation can be requested by writing to the scientific coordinators (copies to all three), see addresses below. If oral and/or poster contribution is requested both title and a one-page abstract should be supplied. A number of speakers will be chosen among these applicants.

There is a registration fee and more information will be available in the due time.

Speakers will be asked to keep in mind that the participants come from different fields of physics. The level is then suitable for mature phd-students, postdoctoral fellows, other young scientists as well as established physicists wishing to broaden their knowledge. We hope a number of groups will take the

opportunity and send members for a general update on the developments in other fields with sufficient in common to be worth the effort.

Preregistration or early indication of interest would help in the organization of the program and increase the chances for an oral contribution. Some speakers filling out gaps in the intended program will be chosen along the way. Otherwise the deadline for titles and abstracts for speakers and participants is preliminarily set to April 30, 2014.

Organizers:

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