

## COST Action MP1304

# NewCompStar

Exploring fundamental physics with compact stars

**Materials,  
Physics &  
Nanosciences  
(MPNS)****Participating countries: 28**

AT, BE, BG, CH, CZ, DE, DK, ES, FI, FR, GR, HR, HU, IE, IL, IS, IT, LT, MT, NL, NO, PL, PT, RO, SI, SK, SE, TR, UK

## Objectives

- Compact stars allow one to probe the building blocks of matter and their interactions at regimes that cannot be explored in terrestrial laboratories.
- The Action brings together leading experts in astrophysics, nuclear physics, and gravitational physics to address fundamental but challenging questions concerning the physics and astrophysics of compact stars in an interdisciplinary approach.
- The Action will provide an important value to the large-scale European efforts in observational and theoretical astrophysics, experimental and theoretical nuclear physics, experimental and theoretical gravitational physics.

## Working Groups

- WG 1: Observation and modelling of compact stars
- WG 2: Physics of the strong interaction, theory and experiment
- WG 3: Gravitational physics theory and observations

## Main Achievements

- Annual Conference in Firenze, Italy, March 2014 with 100 participants.
- MC Meeting in coincidence with the Annual Conference in Firenze.
- WG 2 Meeting in Lyon, France, May 2014.
- 3 calls for STSMs: 28 applications, 16 approved, 1 declined, 11 pending for approval, 8 have already been carried out successfully.
- Upcoming Training School in Barcelona, Spain, September 2014 with 50 trainees and 8 trainers.
- Upcoming WG 1 Meeting in Barcelona, Spain in coincidence with the Training School.
- Upcoming WG 3 Meeting in Prerow, Germany, September 2014.
- Upcoming WG 2 Meeting in Lyon, France, November 2014.
- More than 40 publications acknowledging the Action since the beginning of the year.

## Gender Balance and Early Stage Researcher

- Objectives: support female researchers and young scientists by privileging their active participation in workshops and meetings, by organizing child care during those events, and by offering a dedicated training program.
- Status: establish an open-access web-based gender forum, *FemmeNet*, that allows female scientists to exchange experience and advice. *FemmeNet* is overseen by the Gender Coordinator. The yearly Training School will be held in Barcelona, Spain, in September 2014.

## Dissemination

- The Action aims to increase the interest in science and research by reporting about the scientific results of the Action to a broad public.
- Foreseen Support Measures: There will be a public seminar about compact stars during the upcoming Training School in Barcelona. Besides this, the Action plans to make a generally intelligible movie about the physics and science of compact stars.

**Internat. Collaboration:**

AM, AU, LT, RU

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Crab nebula, a supernova remnant and pulsar wind nebula. The explosion took place in 1054 producing a neutron star.

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