

Job openings at the University of Iceland (2 PhD positions, 2 Postdoc positions)

A) 2 Postdoc Positions in Astrophysics

The Centre for Astrophysics and Cosmology at the University of Iceland invites applications for two postdoctoral research positions in dark matter astrophysics. The successful candidates will join the research group led by Prof. Jesús Zavala Franco, working on the development of a generalised theory of galaxy formation and evolution (ETHOS) that includes the impact of allowed non-gravitational dark matter interactions within cosmological hydrodynamical simulations. This project is funded by a Grant of Excellence award given by the Icelandic Research Fund, and has the overarching objective of finding clues of new dark matter physics in the properties of galaxies across time. Our group will collaborate closely with several international colleagues that are contributing to different aspects of the development of ETHOS, including Mark Vogelsberger (MIT, USA), Francis-Yan Cyr-Racine (Harvard University, USA), Kris Sigurdson (UBC, Canada), Torsten Bringmann (University of Oslo, Norway), and Christoph Pfrommer (AIP, Germany).

The ideal candidate for the first position should have a strong background in the particle nature of dark matter, its connections to cosmology and the formation and evolution of galaxies.

The ideal candidate for the second position should be an expert on hydrodynamical cosmological simulations of galaxy formation and is keen on exploring the impact of non-gravitational dark matter interactions in this process.

The appointments are initially for 2 years (starting in the fall of 2017), with a possible extension of one year. The funding includes salary as well as travel expenses to attend conferences and make research visits.

Suitable candidates must hold a PhD in Physics or Astronomy, and submit applications by e-mail before April 1st, 2017 to receive full consideration. An application package includes a cover letter, a CV, publication list, and a statement of research interests and experience. Applicants must also arrange for 3 letters of recommendation to be sent separately to the same e-mail address.

Further inquiries about the positions are welcome.

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B) 2 PhD Positions in Astrophysics

The Centre for Astrophysics and Cosmology at the University of Iceland invites applications for two PhD positions in Astrophysics. The successful candidates will join the research group led by Prof. Jesús Zavala Franco, working on the development of a generalised theory of galaxy formation and evolution (ETHOS) that includes the impact of allowed non-gravitational dark matter interactions within cosmological hydrodynamical simulations. This project is funded by a Grant of Excellence award given by the Icelandic Research Fund, and has the overarching objective of finding clues of new dark matter physics in the properties of galaxies across time.

The PhD programme aims at giving the students a broad perspective of dark matter physics, covering aspects of its particle nature, as well as its role in galaxy formation and evolution. Our group will collaborate closely with several international colleagues that are contributing to different aspects of the development of ETHOS, including Mark Vogelsberger (MIT, USA), Francis-Yan Cyr-Racine (Harvard University, USA), Kris Sigurdson (UBC, Canada), Torsten Bringmann (University of Oslo, Norway), and Christoph Pfrommer (AIP, Germany).

Each PhD project will follow one of these two lines of research:

PhD position 1: The aim is to explore the interplay between baryonic physics and new dark matter interactions in setting the minimum mass scale for galaxy formation, by comparing predictions of the theory with observations of the high redshift Universe.

PhD position 2: The aim is to find observables that can clearly disentangle the effects of baryonic and dark matter physics in the properties of dwarf galaxies in the nearby Universe.

The positions are fully funded for 3 years with a start date in the fall of 2017. The funding includes salary as well as travel expenses to attend conferences and make research visits.

Suitable candidates must hold a M.Sc. degree in Physics or Astronomy, and submit applications by e-mail before April 1st, 2017 to receive full consideration. An application package includes a cover letter, a CV, and a statement of research interests and experience. Applicants must also arrange for 2 letters of recommendation to be sent separately to the same e-mail address.

Further inquiries about the positions are welcome.

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