



From Dark Haloes to Visible Galaxies

Guest Editors:

Dr. Emanuele Castorina

Berkeley Center for Cosmological
Physics, University of California at
Berkeley, Berkeley, CA, USA

Dr. Carlo Giocoli

DIFA, Alma Mater Studiorum,
University of Bologna, INAF
Bologna, INFN Bologna, Italy

Dr. Pierluigi Monaco

1. Dipartimento di Fisica -
Sezione di Astronomia, Università
di Trieste, I-34143 Trieste, Italy
2. INAF-OATs, I-34143 Trieste,
Italy
3. INFN, I-34127 Trieste, Italy

Deadline for manuscript
submissions:

closed (31 July 2019)

Message from the Guest Editors

The aim of this Special Issue is to give a broad and organic review, in this very special stage where models are being adapted to fully exploit forthcoming percent accuracy in clustering and lensing measurements, of the modeling of dark matter haloes and its interaction with cosmology.

The first part will focus on reviewing recent results from numerical simulations, approximate methods and perturbation theory about the characterization of halo properties as a function of mass, redshift and local environment. We will discuss why haloes with different mass are characterized by a different bias parameter, with respect to the underlying matter density field, and how the bias varies for same mass systems as a function of particular halo properties. The second part will focus on how galaxies populate haloes, and how galaxy formation changes halo properties with respect to the widely used collisionless N-body simulations. We will summarize the developments of cosmological hydrodynamical simulations, semi-analytical models and Halo Occupation Distribution techniques.





Editors-in-Chief

Dr. Margo Aller

Department of Astronomy,
University of Michigan, Ann
Arbor, MI 48109-1042, USA

Dr. Jose L. Gómez

Instituto de Astrofísica de
Andalucía (IAA-CSIC), Glorieta de
la Astronomía S/N, 18008
Granada, Spain

Message from the Editorial Board

Galaxies provides an advanced forum for studies related to astronomy, astrophysics, and cosmology, including all of their subfields. Different formats, such as specialized research articles, reviews, communications and technical notes are welcomed. Manuscripts containing original and creative research proposals and ideas are especially appreciated.

We encourage scientists to publish their astronomical observations and theoretical results in as much detail as possible. There is no restriction on the paper length and full experimental and methodological details, as applicable, should be provided. All papers will be peer reviewed promptly. On behalf of the distinguished members of the editorial board, I extend my welcome to all researchers working on these subjects to contribute to *Galaxies*.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, ESCI (Web of Science), Astrophysics Data System, INSPIRE, Inspec, and other databases.

Journal Rank: CiteScore - Q2 (*Astronomy and Astrophysics*)

Contact Us

Galaxies Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/galaxies
galaxies@mdpi.com
[X@Galaxies_MDPI](https://twitter.com/Galaxies_MDPI)