

Sirio Belli

CONTACT

Alma Mater Studiorum - Università di Bologna

INFORMATION

DIFA - Dipartimento di Fisica e Astronomia

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APPOINTMENTS

Università di Bologna

Associate Professor

since 2023

Assistant Professor (*RTDb, Programma Rita Levi Montalcini*)

2022 - 2023

Center for Astrophysics | Harvard & Smithsonian

Clay Fellow

2019 - 2022

Max Planck Institute for Extraterrestrial Physics

Postdoctoral Researcher

2015 - 2019

EDUCATION

California Institute of Technology

Ph.D. in Astronomy

2015

M.S. in Astronomy

2013

Università di Bologna

Laurea Magistrale in Astrophysics and Cosmology (cum laude)

2010

Laurea Triennale in Physics (cum laude)

2008

GRANTS AND

ERC Starting Grant

2022

AWARDS

“Red Cardinal”: *Unveiling the Formation of Massive Galaxies with the James Webb Space Telescope* (EUR 1.3 million)

Programma Rita Levi Montalcini

2021

Tenure-track position for young researchers leading independent projects (EUR 200,000)

Space Telescope Science Institute

2021

JWST Cycle-1 GO 1810: *The Stellar and Gas Content of Galaxies at Cosmic Noon* (USD 500,000)

LEADERSHIP

PI of the Blue Jay Survey since 2022
JWST program studying the population of galaxies at redshift 2

PI of ISSI International Team *Multiphase Outflows in Galaxies at Cosmic Noon*
(co-PI Rebecca Davies), meeting at the International Space Science Institute (ISSI) in Bern
over the course of two years 2024-2025

Member of the Scientific Organizing Committee for the following conferences:
AGN Feedback and Star Formation Across Cosmic Scales and Time (Sirolo, Italy) 2024
The Physical Processes Shaping the Stellar and Gaseous Histories of Galaxies
(Pisa, Italy) 2024
*The importance of relations in galaxy evolution: linking observations
and theory in the Big Data era* (EAS Special Session, Krakow, Poland) 2023
The Physics of Quenching Massive Galaxies at High Redshift (Leiden, Netherlands) 2017

ACADEMIC
SERVICE

Referee for more than 30 articles for *The Astrophysical Journal*, *The Monthly Notices of the Royal Astronomical Society*, *Astronomy & Astrophysics*, *Physical Review Letters*, *Nature Astronomy*

Panel reviewer for the JWST Time Allocation Committee and the NSF Astronomy and Astrophysics Research Grants; **External reviewer** for the European Research Council (ERC), the French National Research Agency (ANR), the Austrian Science Fund (FWF), and the Canadian Time Allocation Committee

TEACHING

Fisica Generale T-B since 2022
Electromagnetism, Bachelor in Civil Engineering, Università di Bologna

Fondamenti di Astronomia since 2023
Fundamentals of Astronomy, Bachelor in Mathematics, Università di Bologna

MENTORING

- **Primary advisor for PhD students:** Letizia Bugiani, Amir Khoram, Matteo Saporì, Caterina Liboni (PhD in Astrophysics, Università di Bologna)

- **Primary advisor for Bachelor and Master students:** Leah Zuckerman (Brown University, CfA REU), Debosmita Pathak (Grinnell College, Banneker Institute), Jee-Ho Kim (University of Virginia, CfA REU), Letizia Bugiani (Laurea Magistrale, Università di Bologna), Matteo Moretti (Laurea Magistrale, Università di Bologna), Caterina Liboni (Laurea Magistrale, Università di Bologna), Benjamin Collins (Laurea Magistrale, Università di Bologna)

INVITED TALKS AND COLLOQUIA

- Several Invited Presentations at International Conferences, including *Extreme Galaxies in their Extreme Environments at Extremely Early Epochs* (Iceland, 2024); *Subaru Telescope 20th Anniversary Symposium* (USA, 2019); *Birth, Life, and Fate of Massive Galaxies and Their Central Beating Heart* (Italy, 2018); *Advances in Galaxy Evolution* (Germany, 2017); *Deconstructing Galaxies at Cosmic Noon* (Netherlands, 2016), *Census, Evolution, Physics* (USA, 2015)
- Invited Seminars and Colloquia at several institutes including CfA | Harvard & Smithsonian, Tufts, Carnegie, UMass Amherst, UC Berkeley (USA); Royal Observatory Edinburgh (UK); University of Montreal (Canada), Bicocca University, Bologna University, INAF Padova, INAF Arcetri, INAF Trieste (Italy); ESO, LMU (Germany)

OBSERVING PROPOSALS AND EXPERIENCE

- PI of successful observing proposals for JWST (46 hours), MMT (9 nights), Magellan (10 nights), ALMA (16 hours) and NOEMA (44 hours). Co-investigator in more than 60 successful observing proposals for a wide range of facilities, including JWST, Keck, VLT, Magellan, MMT, NOEMA, and ALMA.
- About 100 nights of observing experience at large ground-based telescopes (W. M. Keck Observatory, Very Large Telescope, Large Binocular Telescope, Palomar Observatory)
- Author of `F1ame`, a spectroscopic data reduction pipeline for optical and near-infrared observations, described in detail in Belli, Contursi & Davies 2018, MNRAS, 478, 2097.

SUMMARY OF PUBLICATIONS

- Co-author of 73 articles published (or currently under review) in major scientific journals (Nature, Astrophysical Journal, Monthly Notices of the Royal Astronomical Society, Astronomy & Astrophysics), with a total number of 5300 citations, and a median of 55 citations per article; h index of 42.
- First author of 10 peer-reviewed articles, totaling more than 900 citations, with a median of 80 citations per article. Second author on 14 articles.

Some highlights of scientific results:

- Sirio Belli, Minjung Park, Rebecca L. Davies, et al. 2024, *Nature*, 630, 54
Star formation shut down by multiphase gas outflow in a galaxy at a redshift of 2.45
- Sirio Belli, Alessandra Contursi, Reinhard Genzel, et al. 2021, *ApJL*, 909, L11
The Diverse Molecular Gas Content of Massive Galaxies Undergoing Quenching at $z \sim 1$
- Sirio Belli, Andrew B. Newman & Richard S. Ellis 2019, *ApJ*, 874, 17
MOSFIRE Spectroscopy of Quiescent Galaxies at $1.5 < z < 2.5$. II. Star Formation Histories and Galaxy Quenching

Last updated: October 2025