

Alessandro Sonnenfeld

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Research

I am an observational astronomer, expert in gravitational lensing. I have been using **strong lensing** to study the inner structure of massive early-type galaxies and **weak lensing** to link galaxies to their dark matter halos. I make extensive use of **Bayesian inference** methods, in order to fit complex models to a broad range of observations.

Employment history

Dec 2022 - Present	Tenure track Associate Professor
Shanghai (China)	Shanghai Jiao Tong University
Sep 2020 - Aug 2022	NOVA Fellow
Leiden (Netherlands)	Leiden Observatory, Leiden University
Sep 2018 - Aug 2020	Marie Skłodowska-Curie Fellow
Leiden (Netherlands)	Leiden Observatory, Leiden University
Sep 2015 - Aug 2018	IPMU Prize Postdoctoral Fellow
Kashiwa (Japan)	Kavli Institute for the Physics and the Mathematics of the Universe, The University of Tokyo
Jan 2015 - Jul 2015	Postdoctoral Scholar
Los Angeles, CA (USA)	University of California Los Angeles

Education

Sep 2010 - Jan 2015	PhD in Physics
Santa Barbara, CA (USA)	University of California Santa Barbara
Sep 2007 - May 2010	MSc in Physics
Pisa (Italy)	University of Pisa
Sep 2004 - Sep 2007	BSc in Physics
Pisa (Italy)	University of Pisa

Grants

2,000,000 RMB (approx. 250,000 EUR) Nov 2022	Excellent Young Scholars Fund (Overseas) National Science Foundation of China
165,598 EUR Sep 2018	Marie Skłodowska-Curie Individual Fellowship European Union, Horizon 2020 research and innovation programme (Project “HALOS2020”. ID: 792916)
1,400,000 JPY (approx. 11,000 EUR) Apr 2017	Grants-in-Aid for Scientific Research (KAKENHI) Young Scientists (B) Japan Society for the Promotion of Science, Ministry of Education, Culture, Sports, Science and Technology (Grant number: JP17K14250)

Awards

Sep 2014 Columbus (OH)	Dr. Pliny A. and Margaret H. Price Prize in Cosmology and Astroparticle Physics Center for Cosmology and Astroparticle Physics, The Ohio State University
Sep 2013 - Jun 2014 Santa Barbara (CA)	Dean Graduate Fellowship University of California Santa Barbara

Publications summary

Number of papers:	65 (64 refereed, 1 under review)
As first author:	22 (22 refereed, 0 under review)
H-index	30
Number of citations	4431 (source: ADSLabs)

Selected Talks

Aug 1, 2023 Chicago, IL (USA)	Invited talk at the KICP workshop “Lensing at different scales: strong, weak and the synergies between the two”
Jun 30, 2020 Leiden (Netherlands)	Invited talk at the European Astronomical Society Meeting, special session on “Crossing the characteristic mass scales in galaxy evolution”
Mar 14, 2019 Shanghai (China)	Invited colloquium talk at Shanghai Jiao Tong University

Jan 31, 2019 Kashiwa (Japan)	Invited colloquium talk at the Kavli Institute for the Physics and the Mathematics of the Universe
Jan 9, 2019 Beijing (China)	Invited colloquium talk at the Kavli Institute for Astronomy and Astrophysics, Peking University
Jan 8, 2019 Beijing (China)	Invited colloquium talk at the Center for Astrophysics, Tsinghua University
Sep 16, 2014 Columbus, OH (USA)	Invited seminar talk at the Center for Cosmology and AstroParticle Physics, The Ohio State University
Apr 17, 2014 Pasadena, CA (USA)	Invited panel discussion at the symposium “Dark Matter in Southern California”, California Institute of Technology

Teaching

Sep 2020 Leiden (Netherlands)	Gravitational lensing (4 hours, guest lectures on strong lensing) Leiden Observatory
Nov 2018 Medellín (Colombia)	“Bayesian methods in astronomy” (20 hours) University of Antioquia. Leiden University - Antioquia University astronomy twinning program.
Jun 2014 - Sep 2014 Santa Barbara, CA (USA)	Teaching assistant, “Astronomy 1” (Instructor: Dr. Robert Geller) University of California Santa Barbara

Mentored students

Nov 2022-Present	Rongfu Liu (SJTU PhD student)
Jun 2021-Aug 2022	Felipe Lohmann (Leiden Observatory summer student)
Sep 2020-Aug 2022	Qing Zhou (Leiden Observatory MSc student)
Sep 2020-Aug 2022	Naadyiah Jagga (Leiden Observatory MSc student)
Jun 2020-Aug 2020	Yun-Hsin Hsu (Leiden Observatory summer student)
Feb 2020-Mar 2021	Lindsey Oberhelman (Leiden Observatory MSc student)
Feb 2020-Jul 2020	Juliëtte Hilhorst (Leiden Observatory BSc student)
Sep 2019-Jul 2020	Siyu Wang (Leiden Observatory MSc student)
Sep 2019-Jul 2020	Maryam Tajalli (Leiden Observatory MSc student)
Jun 2019-Aug 2019	Thomas Venville (Leiden Observatory summer student)
Sep 2018-Jul 2019	Danial Langeroodi (Leiden Observatory MSc student)

Professional activities

Apr 2020-Aug 2022	Coordinator of Euclid Key project KP-PL-SL-1 “Galaxy scale strong lenses”
Jan 2020-Apr 2022	Organizer of Lorentz Center workshop “Bridging gaps in dynamical probes of galaxies” (4-8 April, 2022)
Sep 2020-Aug 2022	Co-lead of “Galaxy & AGN evolution and lensing” work package in the Euclid consortium
Jan 2020-present	Lead of the “Galaxies and halos” working group in the Kilo Degree Survey (KiDS) collaboration
2019, 2020	Leiden/ESA Astrophysics Program for Summer Students (LEAPS) co-organizer
Referee for:	Swiss National Science Foundation, Nature, The Astrophysical Journal, Monthly Notices of the Royal Astronomical Society, Astronomy & Astrophysics, Publications of the Astronomical Society of Japan, The Astronomical Journal, Journal of Cosmology and Astroparticle Physics
Membership in major collaborations:	4MOST, Kilo Degree Survey (KiDS), TDCOSMO

Observing Experience

Telescope nights:	Keck Telescope (8 nights), Lick Observatory (10 nights)
Observing proposals as Principal Investigator:	Subaru (IRCS). Allocated time: 1 night. Gemini North (GNIRS). Program ID: GN-2013A-Q-91. Allocated time: 7.6 hours. Gemini North (GNIRS). Program ID: GN-2012B-Q-42. Allocated time: 2.5 hours.
Data analyzed:	Keck LRIS, DEIMOS; VLT X-SHOOTER; Gemini GNIRS; Hubble Space Telescope WFC3; Subaru Hyper Suprime-Cam.

Outreach activities

Jun 29, 2020 Leiden (Netherlands)	Public talk: “Citizen science - discovering gravitational lenses” Astronomy on tap, Leiden
Sep 17, 2017 Lucca (Italy)	Public talk: “Materia oscura, galassie e il mestiere dell’astrofisico” Agorà della scienza

Other academic qualifications

Italian Ministry for Education, Abilitazione scientifica nazionale, Settore Concorsuale 02/C1,
University and Research - Fascia 2
9/11/2020 (ASN 2018-2020,
 Quadrimestre n. 5):