

Dr. Fangzhou Jiang

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EDUCATION AND OCCUPATIONS

JAN 2020–2022	Troesh Postdoctoral Scholar, Caltech/Carnegie Observatories Main Collaborators: Prof. Phillip HOPKINS; Dr. Andrew BENSON
OCT 2016–DEC 2019	PBC Fellow, Hebrew University of Jerusalem Faculty host: Prof. Avishai DEKEL
JULY 2016	Ph.D. in Astronomy, Yale University Thesis: Characterizing the Substructure of Dark Matter Haloes Advisor: Prof. Frank VAN DEN BOSCH
JUN 2010	Bachelor of Science, Nanjing University Department for Intensive Instruction, Kuang Yaming Honors School

RESEARCH THEME

galaxy-halo connection; feedback and halo response; (semi-)analytic model of satellite galaxies; halo merger trees; galaxy morphology

PUBLICATIONS

18 papers [9 (5) first (second) author; [list](#) on the next page, or on [ADS](#)]

HONORS AND AWARDS

2020-2022	Caltech Troesh Postdoctoral Scholar
2018	Hebrew University Rosenblem Prize for Good Research in Astrophysics
2017-2019	Israel Planning and Budgeting Committee (PBC) fellowship
2018	Yale University Brouwer Prize for Outstanding PhD thesis
2015	Chinese Government Award for Outstanding Students Abroad
2010	Pan Xueping Scholarship (top-tier scholarship for undergraduate and master students in Nanjing University)
2008	Goldman Sachs Global Leaders Program Award

MEDIA ATTENTION

2012	astrobites	A look-alike of $z \sim 2$ galaxies in our backyard
2017	YaleNews	Yale-led team puts dark matter on the map

PROFESSIONAL SERVICES

Coordinator of CosmoLunch in the Hebrew University of Jerusalem (2017-2019)
Referee for the MNRAS, ApJ, ApJL, and A&A (>10 papers)

- [18] **The SFR-radius connection: data and implications for wind strength and halo concentration**
Lin L., Faber S. M., Koo D. C., Salim S., Dutton A. A., Fang J. J., Jiang F., Lee C. T. et al., 2019, MNRAS (arXiv:1910.10947) [[Link](#)]
- [17] **A Universal Mass Threshold for Galactic Gas Disks**
Dekel A., Ginzburg O., Jiang F., Freundlich J., Lapiner S., Ceverino D., Primack J.R., 2019, in prep.
- [16] **Relationship between star-formation burstiness and ultra-diffuse galaxies**
Jiang F., Dekel A., Freundlich J., Tacchella S. et al., 2019, in prep.
- [15] **The global star-formation law by supernova feedback**
Dekel A., Kartick S., Jiang F., Bournaud F., Krumholz M., Ceverino D., Primack J.R., 2019, MNRAS, 488, 4753 [[Link](#)]
- [14] **From cusps to cores: a toy model based on gas inflows and outflows**
Freundlich J., Dekel A., Jiang F. et al. , 2019, MNRAS [[Link](#)]
- [13] **Formation of ultra-diffuse galaxies in the field and in galaxy groups**
Jiang F., Dekel A., Freundlich J., Romanowsky A.J., Dutton A., Macciò A., Di Cintio A., 2019, MNRAS, 487, 5272 [[Link](#)]
- [12] **Is the dark-matter halo spin a predictor of galaxy spin and size?**
Jiang F., Dekel A., Kneller O., Lapiner S., Cerverino D., Primack J., Faber S., et al. 2019, MNRAS, 488, 4801 [[Link](#)]
- [11] **Statistics of Dark Matter Substructure: III. Halo-to-Halo Variance**
Jiang F. & van den Bosch F.C., 2017, MNRAS, 472, 657 [[Link](#)]
- [10] **Mapping substructure in the HST Frontier Fields cluster lenses and in cosmological simulations**
Natarajan P., Chadayammuri U., Jauzac M., Richard J., Kneib J.-P., Ebeling H., Jiang F., van den Bosch F.C., et al., 2017, MNRAS, 468,1962 [[Link](#)]
- [9] **On the Segregation of Dark Matter Substructure**
van den Bosch F.C., Jiang F., Campbell D., Behroozi P., 2016, MNRAS, 455, 158 [[Link](#)]
- [8] **Comprehensive Assessment of the Too-Big-to-Fail Problem**
Jiang F. & van den Bosch F.C., 2015, MNRAS, 453, 3575 [[Link](#)]
- [7] **Statistics of Dark Matter Substructure: II. Comparison of Model with Simulation Results**
van den Bosch F.C. & Jiang F., 2016, MNRAS, 458, 2870 [[Link](#)]
- [6] **Statistics of Dark Matter Substructure: I. Model and Universal Fitting Functions**
Jiang F. & van den Bosch F.C., 2016, MNRAS, 458, 2848 [[Link](#)]
- [5] **Coming of age in the dark sector: how dark matter halos grow their gravitational potential wells**
van den Bosch F.C., Jiang F., Hearin A.P., Campbell D., Padmanabhan N., Watson D.F., 2014, MNRAS, 445, 1713 [[Link](#)]
- [4] **Generating merger trees for dark matter halos: a comparison of methods**
Jiang F. & van den Bosch F.C., 2014, MNRAS, 440, 193 [[Link](#)]
- [3] **A Nearby Analog of $z \sim 2$ Compact Quiescent Galaxies with a Rotating Disk**
Jiang F., van Dokkum P., Bezanson R., Franx M., 2012, ApJL, 749, L10 [[Link](#)]
- [2] **Surface photometry and radial color gradients of nearby luminous early-type galaxies in SDSS Stripe 82**
Jiang F., Huang S., Gu Q., 2011, RAA, 11, 309 [[Link](#)]
- [1] **The Photometry of Cataclysmic Variable V1159 Ori and BZ UMa**
Jiang L., Jiang, F., Li Z., Zhao Y., Gu Q., 2010, Acta Astronomica Sinica, 51, 42 [[Link](#)]

CONFERENCE TALKS

10/23/2019	Workshop	Galaxy Angular Momentum Alignment 2019 Tsung-Dao Lee Institute, Shanghai
	(Invited talk)	<i>“A New Galaxy Size Predictor and A Universal Mass Threshold for Galactic Disk Formation”</i>
08/2019	Workshop	Santa Cruz Galaxy Workshop
	(contributed talk)	<i>“Infer 3D structure and shape of galaxies from deep 2D imaging”</i>
06/2019	Workshop	Spetese, Greece
	(invited talk)	<i>“The global star formation law by supernova feedback”</i>
11/2018	Workshop	Dali, China
		<i>“Is dark-matter halo spin a predictor of galaxy spin and size?”</i>
06/13/2019	Seminar	Institute de Astrophysique, Paris
05/2019	Colloquium	Tel Aviv University
11/02/2018	Colloquium	KIAA, Peking University
10/12/2018	Galaxy group meeting	Flatiron Institute, CCA
10/09/2018	Seminar	Harvard, ITC
		<i>“Formation of ultra-diffuse galaxies – with a sneak peek of a new semi-analytic model of satellite galaxies”</i>
09/03/2018	Seminar	SHAO, Shanghai
		<i>“UDG formation & statistics of dark matter substructure”</i>
08/15/2018	Workshop	The Bewildering Nature of Ultra-diffuse Galaxies , Lorentz Center, Leiden
	(invited talk)	<i>“Formation and evolution of ultra-diffuse galaxies in the field and in galaxy groups”</i>
08/06/2018	Workshop	Santa Cruz Galaxy Workshop
	(contributed talk)	<i>“Characterizing simulated ultra-diffuse galaxies in the field and galaxy groups”</i> [Video]
01/03/2018	Seminar	Technion, Haifa
		<i>“Is dark-matter halo spin a predictor of galaxy spin and size?”</i>
05/18/2017	Workshop	Galaxy-Halo Connection , Santa Barbara
	(contributed talk)	<i>“On a weak correlation between the spins of galaxies and their host halos”</i> [Video]
08/10/2016	Workshop	Santa Cruz Galaxy Workshop
	(contributed talk)	<i>“Characterizing the substructure of dark-matter halos”</i> [Video]
04/05/2016	Workshop	Dark Matter on the Smallest Scales , Lorentz Center, Leiden
	(contributed talk)	<i>“Statistics of dark matter substructure – a comprehensive assessment of the Too Big to Fail Problem”</i>
09/24/2015	Seminar	Brown, Providence
	(invited talk)	<i>“Statistics of Dark Matter Subhalos”</i>
05/15/2015	Workshop	Advanced Workshop on Cosmological Structures from Reionization to Galaxies , ICTP, Trieste
	(contributed talk)	<i>“Comprehensive assessment of the too-big-to-fail problem”</i>
06/01/2014	Seminar	NAOC, Beijing
	(invited talk)	<i>“Semi-analytic Model of dark-matter subhalos”</i>
05/29/2014	Seminar	PMO, Nanjing
	(invited talk)	<i>“Comparison of EPS halo merger trees and statistics of dark-matter subhalos”</i>
05/23/2014	Workshop	“From Dark Matter to Galaxies” – the 10th Sino-German Workshop on Galaxy Formation and Cosmology , Xi'an
	(contributed talk)	<i>“Statistics of dark matter subhalos: model and halo-to-halo Variance”</i>

TEACHING

2017,2019 Spring	HUJI	lectures	Advanced Cosmology (graduate course)
2017,2019 Spring	HUJI	project advisor	Astrophysics Seminar (undergraduate research training course)
2014, Spring	Yale	grader	ASTR 210: Stellar Astrophysics
2012, Fall	Yale	discussion	ASTR 110: Planets and Stars
2011, Fall	Yale	discussion	ASTR 130: Origins and the Search for Life in the Universe
2011, Spring	Yale	discussion	ASTR 120: Galaxies and the Universe
2010, Fall	Yale	office hour	ASTR 255/PHYS 295: Research Methods in Astrophysics

ACADEMIC REFERENCES

Prof. Dr. Avishai Dekel (faculty host)	Hebrew University of Jerusalem EMAIL: avishai.dekel@mail.huji.ac.il PHONE: Cell:+972-(0)54-8820668, Office:+972-(0)2-6584100 ADDRESS: Ross 213, Givat Ram, Jerusalem, 91904, Israel
Prof. Dr. Frank van den Bosch (thesis advisor)	Yale University EMAIL: frank.vandenbosch@yale.edu PHONE: +1-203-432-0196 ADDRESS: 52 Hillhouse Ave, New Haven, CT 06511, USA
Prof. Dr. Sandra S. Faber (collaborator)	University of California Santa Cruz, UC Observatories/Lick Observatory EMAIL: faber@ucolick.org PHONE: +1-831-459-2944 ADDRESS: 101 Center for Adaptive Optics, University of California Santa Cruz, CA 95064, USA