

DR. SHANY DANIELI

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EDUCATION & EMPLOYMENT

NASA Hubble Fellow, Princeton University	2020-present
Carnegie-Princeton Fellow, Princeton University	2020-present
Member, Institute for Advanced Study	2020-2021
Ph.D, Physics, Yale University	Dec 2020
Advisor: Prof. Pieter van Dokkum	
M.Phil, Physics, Yale University	2015
M.Sc, Physics, Yale University	2014
B.Sc, Physics & Astronomy, <i>Magna Cum Laude</i> , Tel Aviv University	2013

RESEARCH INTERESTS

Galaxy formation and evolution; galactic dynamics; near-field cosmology; dwarf galaxies; ultra-diffuse galaxies; globular clusters; stellar populations; low surface brightness imaging and spectroscopy; astronomical surveys; instrumentation.

HONORS & AWARDS

APS DAP Cecilia Payne-Gaposchkin Doctoral Dissertation Award in Astrophysics	2021
Carnegie-Princeton Research Fellowship	2020-2025
NASA Hubble Research Fellowship	2020-2023
CCAPP Price Prize in Cosmology and AstroParticle Physics	2019
Leigh Paige Award, Yale Physics Department	2013
Merit-based Memorial Scholarship, Tel Aviv University	2012
Honors Program for undergraduate students, Tel Aviv University	2010-2012
Dean's list, B.Sc in Physics (top 5%), Tel Aviv University	2012
Head of Intelligence Directorate Prize for Creativity, winning project for significant breakthroughs of intelligence	2009
Honored Cadet, officers training course (BAHAD 1)	2007

SELECTED TALKS

Astronomy Colloquium, Caltech (<i>invited</i>)	2021
Colloquium, David A. Dunlap Department of Astronomy and Astrophysics, CA (<i>invited</i>)	2021
Astrophysics Colloquium, University of Bath, UK (<i>invited</i>)	2021
NASA Hubble Fellowship Program (NHFP) Symposium	2021
Astronomy Colloquium, NRC Herzberg Institute of Astrophysics, Victoria, CA (<i>invited</i>)	2021
Astro Seminar, University of Kentucky (<i>invited</i>)	2021
Cosmology and Extragalactic Seminar, UCL, UK (<i>invited</i>)	2020
Particle Theory Seminar, Lawrence Berkeley National Laboratory (<i>invited</i>)	2020

Colloquium, Swinburne University of Technology, Australia (<i>invited</i>)	2020
Bahcall Lunch, Princeton and the IAS	2020
IAS Astro-Coffee	2020
NASA Hubble Fellowship Program (NHFP) Symposium	2020
KITP Conference - The Galaxy-Halo Connection Across Cosmic Time (<i>invited review</i>)	2020
Snowmass Cosmic Frontier - Dark Matter: Cosmic Probes (panelist, <i>invited</i>)	2020
Astronomy and Astrophysics Seminar, Tel Aviv University, Israel (<i>invited</i>)	2020
Astrolunch, The Hebrew University, Israel (<i>invited</i>)	2020
Particle Physics Phenomenology Seminar, Tel Aviv University (<i>invited</i>)	2020
Three talks at the AAS 235 meeting, Hawaii	2020
Astrophysics and Cosmology Seminar, Ben Gurion University, Israel (<i>invited</i>)	2019
Subaru Telescope Anniversary, Hawaii	2019
Thunch talk, Princeton University	2019
KIPAC Tea, Stanford (<i>invited</i>)	2019
Astronomy Department Lunch talk, UC Berkeley	2019
Astronomy Tea Talk, Caltech, CA	2019
Keck Science Meeting, UCLA	2019
Colloquium, UC Santa Cruz	2019
CCAPP Price Prize lecture, The Ohio State University (<i>invited</i>)	2019
ITC Luncheon, Harvard University (<i>invited</i>)	2019
Astronomy Seminar, University of connecticut (<i>invited</i>)	2018
Lorentz Center workshop (two talks), Leiden (<i>invited</i>)	2018
DES DR1 meeting, U.Chicago	2018
Cosmo Lunch - The Hebrew University	2017
Lunch Talk - Harvard University	2016
Lunch talk, Tel Aviv University, Israel	2016

OBSERVATIONAL EXPERIENCE

The Dragonfly Telephoto Array: operational lead (2017-now); target selection; operations; staging and management; data reduction; data analysis.

Keck Telescope (KCWI, DEIMOS and LRIS): a total of 20 nights, including 6 as sole observer.

Hubble Space Telescope: extensive experience with *HST*/ACS data.

TEACHING, SERVICE AND LEADERSHIP

Princeton University Astro Equity Committees (graduate admissions)	2020-2021
AAS 235th Meeting Special Session Organizer and Host	2020
Journal Referee: ApJ, ApJS, MNRAS	2017-2019
Mentor, Banneker & Aztlán Summer Program, Harvard University	2016
Teaching Assistant, Phys 200: Fundamentals of Physics, Yale	2015
Teaching Assistant, Phys 180: University Physics, Yale	2014
Teaching Assistant, Phys 171: University Physics for the Life Sciences II, Yale	2014
Teaching Assistant, Phys 170: University Physics for the Life Sciences I, Yale	2013
Mentor, Women In Science At Yale (WISAY), Yale	2013-2014
Teaching Assistant, Physics 3 for Engineers, Tel Aviv University	2011
Teaching Assistant, Mathematical Methods for Physicists 2, Tel Aviv University	2010
Teaching Assistant, Electronics, Tel Aviv University	2010

PUBLICATIONS (34 TOTAL, 7 LEAD AUTHOR)

LEAD AUTHOR

1. Greco, J.P. and **Danieli, S.**, “*ArtPop: A Stellar Population and Image Simulation Python Package*”, 2021, ApJ, submitted (arXiv: 2109.13943).
2. **Danieli, S.**, van Dokkum, P., Conroy, C., Abraham, R., Romanowsky, A.J. and Dolphin, A., “*The Tip of the Red Giant Branch Distance to the Dark Matter Deficient Galaxy NGC1052-DF4 from Deep HST data*”, 2020, ApJL, 895, 4.
3. **Danieli, S.**, Lokhorst, D., van Dokkum, Abraham, R., P., Conroy, C., Merritt, A., Greco, J.P., Gilhuly, C., Zhang, J. and Miller, T., “*The Dragonfly Wide Field Survey. I. Telescope, Survey Design and Data Characterization*”, 2020, ApJ, 894, 119.
4. **Danieli, S.**, van Dokkum, P., Conroy, C., Abraham, R. and Romanowsky, A.J., “*Still Missing Dark Matter: KCWI High-Resolution Stellar Kinematics of NGC1052-DF2*”, 2019, ApJL, 874, 12.
5. **Danieli, S.** and van Dokkum, P., “*Revisiting the Size-Luminosity Relation in the Era of Ultra Diffuse Galaxies*”, 2019, ApJ, 875, 2.
6. **Danieli, S.**, van Dokkum, P. and Conroy, C., “*Hunting Faint Dwarf Galaxies in the Field Using Integrated Light Surveys*”, 2018, ApJ, 856, 69.
7. **Danieli, S.**, van Dokkum, P., Merritt, A., Abraham, R., Zhang, J., Karachentsev, I. D., and Makarova, L. N. “*The Dragonfly Nearby Galaxies Survey. III. The Luminosity Function of the M101 Group*”, 2017, ApJ, 837, 136

CO-AUTHOR

8. Li, J., Huang, S., Leauthaud, A., Moustakas, J., **Danieli, S.**, Greene, J.E., Abraham, R., Ardila, F., Kado-Fong, E., Lokhorst, D., Lupton, R., Price, P., “*Reaching for the Edge I: Probing the Outskirts of Massive Galaxies with HSC, DECaLS, SDSS, and Dragonfly*”, 2021, MNRAS, submitted (arXiv: 2111.03557).
9. Liu, Q., Abraham, R., Gilhuly, C., van Dokkum, P., Martin, P.G., Li, J., Greco, J.P., Lokhorst, D., Chen, S., **Danieli, S.**, Keim, M.A., Merritt, A., Miller, T.B., Pasha, I., Polzin, A., Shen, Z., Zhang, J., “*A Method To Characterize the Wide-Angle Point Spread Function of Astronomical Images*”, 2021, ApJ, in press (arXiv: 2110.11598).
10. Keim, M.A., van Dokkum, P., **Danieli, S.**, Lokhorst, D., Li, J., Shen, Z., Abraham, R., Chen, S., Gilhuly, C., Liu, Q., Merritt, A., Miller, T.B., Pasha, I., Polzin, A., “*Tidal Distortions in NGC1052-DF2 and NGC1052-DF4: Independent Evidence for a Lack of Dark Matter*”, 2021, ApJ, submitted (arXiv: 2109.09778).
11. Polzin, A., van Dokkum, P., **Danieli, S.**, Greco, J.P., Romanowsky, A. J., “*A recently quenched isolated dwarf galaxy outside of the Local Group environment*”, 2021, ApJL, 914, 1, 23.
12. Greene, J.E., Lancaster, L., Ting, Y-S, Kuposov, S.E., **Danieli, S.**, Huang, S., Jiang, F., Greco, J.P., Strader, J., “*A Search for Wandering Black Holes in the Milky Way with Gaia and DECaLS*”, 2021, ApJ, 917, 1, 17.
13. Shen, Z., **Danieli, S.**, van Dokkum, P., Abraham, R., Brodie, J.P., Conroy, C., Dolphin, A.E., Romanowsky, A.J., Kruijssen, J. M. D., Dutta C.D., “*A Tip of the Red Giant Branch Distance of 22.1 ± 1.2 Mpc to the Dark Matter Deficient Galaxy NGC1052-DF2 from 40 Orbits of Hubble Space Telescope Imaging*”, 2021, ApJL, 914, 1, 12.
14. Shen, Z., van Dokkum, P., **Danieli, S.**, “*A Complex Luminosity Function for the Anomalous Globular Clusters in NGC1052-DF2 and NGC1052-DF4*”, 2020, ApJ, 909, 179.

15. Miller, T.B., van Dokkum, P., **Danieli, S.**, Li, J., Abraham, R., Conroy, C., Gilhuly, C., Greco, J.P., Liu, Q., Lokhorst, D., Merritt, A., “*The Dragonfly Wide Field Survey. II. Accurate Total Luminosities and Colors of Nearby Massive Galaxies and Implications for the Galaxy Stellar Mass Function*”, ApJ, submitted (arXiv: 2010.07310).
16. van Dokkum, P., Lokhorst, D., **Danieli, S.**, Li, J., Merritt, A., Abraham, R., Gilhuly, C., Greco, J.P., Liu, Q., “*Multi-resolution Filtering: An Empirical Method for Isolating Faint, Extended Emission in Dragonfly Data and Other Low Resolution Images*”, PASP, 132, 4503.
17. Gilhuly, C., Hendel, D., Merritt, A., Abraham, R., **Danieli, S.**, Lokhorst, D., van Dokkum, P., Conroy, C., Greco, J.P., “*The Dragonfly Edge-on Galaxies Survey: Shaping the Outer disk of NGC 4565 via Accretion*”, 2020, ApJ, 897, 108.
18. Greco, J.P., van Dokkum, P., **Danieli, S.**, Carlsten, S.G., Conroy, C., “*Measuring distances to low-luminosity galaxies using surface brightness fluctuations*”, 2020, ApJ, 908, 24.
19. Wasserman, A., van Dokkum, P., Romanowsky, A.J., Brodie, J., **Danieli, S.**, Forbes, D.A., Abraham, R., Martin, C., Matuszewski, M., Villaume, A., Tamasas, J., Profumo, S., “*Spatially Resolved Stellar Kinematics of the Ultra-diffuse Galaxy Dragonfly 44. II. Constraints on Fuzzy Dark Matter*”, 2019, ApJ, 885, 155.
20. van Dokkum, P., Gilhuly, C. Bonaca, A., Merritt, A., **Danieli, S.**, Lokhorst, D., Abraham, R., Conroy, C., Greco, J.P., “*Dragonfly Imaging of the Galaxy NGC5907: a revised view of the iconic stellar stream*”, 2019, ApJL, 883, 32.
21. van Dokkum, P., Wasserman, A., **Danieli, S.**, Abraham, R., Brodie, J., Conroy, C., Forbes, D., Martin, C., Matuszewski, M., Romanowsky, A.J., Villaume, A., “*Spatially Resolved Stellar Kinematics of the Ultra-diffuse Galaxy Dragonfly 44. I. Observations, Kinematics, and Cold Dark Matter Halo Fits*”, 2019, ApJ, 880, 91.
22. van Dokkum, P., **Danieli, S.**, Abraham, R., Conroy, C. and Romanowsky, A.J., “*A Second Galaxy Missing Dark Matter in the NGC1052 Group*”, 2019, ApJL, 874, 5.
23. van Dokkum, P., **Danieli, S.**, Romanowsky, A.J., Abraham, R. and Conroy, C., “*The Distance to NGC 1042 in the Context of its Proposed Association with the Dark Matter-deficient Galaxies NGC 1052-DF2 and NGC 1052-DF4*”, 2019, RNAAS, 3b, 29.
24. van Dokkum, P., **Danieli, S.**, Cohen, Y., Romanowsky, A.J., Conroy, C., “*The Distance of the Dark Matter Deficient Galaxy NGC 1052—DF2*”, 2018, ApJ, 864, 18.
25. Wasserman, A. , Romanowsky, A.J., Brodie, J., van Dokkum, P., Conroy, C., Abraham, R., Cohen, Y., **Danieli, S.** , “*A Deficit of Dark Matter from Jeans Modeling of the Ultra-diffuse Galaxy NGC 1052-DF2*”, 2018, ApJ, 863, 15.
26. van Dokkum, P., Cohen, Y., **Danieli, S.**, Romanowsky, A., Abraham, R., Brodie, J., Conroy, C., Kruijssen, J. M. D., Lokhorst, D., Merritt, A., Mowla, L., Zhang, J., “*A Revised Velocity for the Globular Cluster GC-98 in the Ultra Diffuse Galaxy NGC 1052-DF2*”, 2018, RNAAS, 2b, 54.
27. Cohen, Y., van Dokkum, P., **Danieli, S.**, Romanowsky, A.J., Abraham, R., Merritt, A., Zhang, J., Mowla, L., Kruijssen, J. M. D., Conroy, C., Wasserman, A., “*The Dragonfly Nearby Galaxies Survey. V. HST/ACS Observations of 23 Low Surface Brightness Objects in the Fields of NGC1052, NGC1084, M96, and NGC4258*”, 2018, ApJ, 868, 96.
28. Abraham, R., **Danieli, S.**, van Dokkum, P., Conroy, C., Kruijssen, J., Cohen, Y., Merritt, A., Zhang, J., Lokhorst, D., Mowla, L., Brodie, J., Romanowsky, A. J., Janssens, S., “*The Maybe Stream: A Possible Cold Stellar Stream in the Ultra-diffuse Galaxy NGC1052-DF2*”, 2018, RNAAS, 2b, 16.
29. van Dokkum, P., Cohen, Y., **Danieli, S.**, Kruijssen, J. M. D., Romanowsky, A. J., Merritt, A., Abraham, R., Brodie, J., Conroy, C., Lokhorst, D., Mowla, L., O’Sullivan, E., Zhang, J., “*An Enigmatic Population of Luminous Globular Clusters in a Galaxy Lacking Dark Matter*”, 2018, ApJ, 856, 30.
30. van Dokkum, P., **Danieli, S.**, Cohen, Y., Merritt, A., Romanowsky, A.J., Abraham, R., Brodie, J., Conroy, C., Lokhorst, D., Mowla, L., O’Sullivan, E., Zhang, J., “*A galaxy lacking dark matter*”, 2018, Nature, 555, 629.

31. van Dokkum, P., Abraham, B., Romanowsky, A.J., Brodie, J., Conroy, C., **Danieli, S.**, Lokhorst, D., Merritt, A., Mowla, L., Zhang, J., “*Extensive Globular Cluster Systems Associated with Ultra Diffuse Galaxies in the Coma Cluster*”, 2017, ApJL, 844, 11.
32. Abraham, R., van Dokkum, P., Conroy, C., Merritt, A., Zhang, J., Lokhorst, D., **Danieli, S.**, Mowla, L., “*Future Prospects: Deep Imaging of Galaxy Outskirts using Telescopes Large and Small*”, 2017, ASSL, 434, 333.
33. Merritt, A., van Dokkum, P., **Danieli, S.**, Abraham, R., Zhang, J., Karachentsev, I. D., and Makarova, L. N., “*The Dragonfly Nearby Galaxies Survey. II. Ultra-Diffuse Galaxies near the Elliptical Galaxy NGC 5485*”, 2016, ApJ, 833, 168.
34. van Dokkum, P., Abraham, R., Brodie, J., Conroy, C., **Danieli, S.**, Merritt, A., Mowla, L., Romanowsky, A., Zhang, J., “*A High Stellar Velocity Dispersion and ~100 Globular Clusters for the Ultra-diffuse Galaxy Dragonfly 44*”, 2016, ApJL, 828, L6.

WORK EXPERIENCE

Physicist and analyst, Prime Minister’s Office, Israel	2011-2013
Head of training section, Analysis & Research Department, Military Intelligence Directorate, IDF	2008-2009
Analysis Officer, exclusive team in the Analysis & Research Department	2004-2008