Sean P. Fillingham

Contact Information	Department of Physics and Astronomy University of California Irvine 4129 Frederick Reines Hall Irvine, CA 92617 sfilling [at] uci [dot] edu
Citizenship	USA
Military Service	United States Army (Active Duty, October 2003 - July 2008) Virginia National Guard (July 2008 - December 2009)

Research Interests

galaxy evolution, environmental quenching, near-field cosmology, star formation, reionization, galaxy formation, dark matter

spectroscopy, large surveys

Research Positions

Graduate Student Researcher
University of California, Irvine, (2013 - Present)

Keck/DEIMOS Study of z = 0.8 Satellite Galaxies

- Led the target selection, mask design, observational planning, and execution.
- Observations largely complete with data in hand.
- Reduction, modeling, and analysis ongoing.

Advisor: Michael C. Cooper, Ph.D

Local Group Satellite Quenching

- Systematic study of the Local Group satellite population.
- Put together coherent picture of dwarf galaxy quenching
- 4 first author papers (3 accepted, 1 in prep)

Advisor: Michael C. Cooper, Ph.D.

Undergraduate Student Researcher
University of California, Los Angeles (2012 - 2013)

Testing Observational Probes of the z=2.2 CGM using Cosmological Scale Hydrodynamic Simulations

Advisors: Molly S. Peeples, Ph.D. and Steven R. Furlanetto, Ph.D.

Education

University of California, Irvine

Ph.D., Physics, 2019 *(In progress)*

- *Low-Mass Satellite Galaxy Quenching in The Local Group*
- Advisor: Michael C. Cooper, Ph.D.

M.S., Physics, 2015

University of California, Los Angeles

B.S., Physics, 2013

Northern Virginia Community College

A.S., Engineering, 2010

Awards

Graduate Deans Dissertation Fellowship, UC Irvine, 2018 - 2019
Regents Fellowship, UC Irvine, 2013 - 2014

Publications

Citations: 77 (71 first author)

6. *The Suppression of Star Formation on the Smallest Scales: What Role Does Environment Play?*

   Rodriguez Wimberly, M. K., Cooper, M. C., **Fillingham, S. P.**, et al. 2018, MNRAS, submitted (arXiv:1806.07891)

5. *The Evolution of Environmental Quenching Timescales to $z \sim 1.6$: Evidence for Dynamically-Driven Quenching of the Cluster Galaxy Population*

   Foltz, R., Wilson, G., Muzzin, A., **et al.** 2018, ApJ, accepted (arXiv:1803.03305)

4. *Environmental Quenching of Low-Mass Galaxies in the Field*

   Fillingham, S. P., Cooper, M. C., Boylan-Kolchin, M., et al. 2018, MNRAS, 477, 4491

3. *Discovery and Follow-Up Observations of the Young Type Ia Supernova SN 2016COJ*

   Zheng, W., Filippenko, A. V., Mauerhan, J., **et al.** 2017, ApJ, 841, 64

2. *Under Pressure: Quenching Star Formation in Low-Mass Satellite Galaxies via Stripping*

   Fillingham, S. P., Cooper, M. C., Pace, A. B., et al. 2016, MNRAS, 463, 1916

1. *Taking Care of Business in a Flash ϟ: Constraining the Timescale for Low-Mass Satellite Quenching with ELVIS*

   Fillingham, S. P., Cooper, M. C., Wheeler, C., et al. 2015, MNRAS, 454, 2039

Talks

Seminars:

Galaxy Journal Club, STScI, Baltimore, MD (November 9, 2018)
TAPIR Seminar, Caltech, Pasadena, CA (September 1, 2017)
The Carnegie Observatories Lunch Talk, Pasadena, CA (April 28, 2017)

Conferences:

Keck Science Meeting, Caltech (September, 2018)
GalFRESCA, Caltech (August, 2018)
GalFRESCA, Caltech (August, 2017)
Santa Cruz Galaxy Workshop, UCSC (August, 2017)
Keck Science Meeting, Caltech (September, 2016)
Santa Cruz Galaxy Workshop, UCSC (August, 2016)
Santa Cruz Galaxy Workshop, UCSC (August, 2015)
TASC Meeting, The Carnegie Observatories (November, 2012)

Conference Posters

Under Pressure: Quenching Star Formation in Low-Mass Satellite Galaxies via Stripping
Fillingham, S., Cooper, M. C., Pace, A. B., et al.
Presented at *Mapping the Pathways of Galaxy Transformation Across Time and Space*, August 2016, Avalon, Catalina Island, CA

Testing Observational Probes of the z=2.2 Circumgalactic Medium using Cosmological Scale Hydrodynamic Simulations
Fillingham, S., Peeples, M. S., Oppenheimer, B. D., et al. 2013, American Astronomical Society Meeting Abstracts #221, 221, #245.08
Presented at AAS 221st Meeting, Long Beach, CA

Observing Experience

Keck Observatory
- DEIMOS: 17.5 nights
- MOSFIRE: 4 nights
- OSIRIS: 1 night

Lick Observatory
- KAST: 8 nights

Subaru Observatory
- HSC: 0.5 nights

Teaching Experience

Teaching Assistant:
- 11 Undergraduate Physics Courses (both major and non-majors)

Additional Training

Data Science Certificate, Data Science Initiative, UC Irvine (In Progress)
San Diego Supercomputing Center Summer Institute, UCSD, August 2017
Rudolf Minkowski Observational Workshop, Lick Observatory, October 2015

References

Michael C. Cooper, Ph.D. (Doctoral Advisor)
Associate Professor — E-mail: cooper[at]uci.edu
Department of Physics and Astronomy
University of California, Irvine

James S. Bullock, Ph.D.
Professor and Chair — E-mail: bullock[at]uci.edu
Department of Physics and Astronomy
University of California, Irvine

Michael Boylan-Kolchin, Ph.D.
Assistant Professor — E-mail: mbk[at]astro.as.utexas.edu
Department of Astronomy
The University of Texas at Austin