Brooke D. Simmons

UC San Diego, CASS 0424
Center for Astrophysics & Space Sciences
9500 Gilman Drive
San Diego, CA, 92093, USA

Phone: +1 858 882 4463
Mobile: +1 442 236 3791

@vrooje

bdsimmons@ucsd.edu

Professional Summary

- Principal scientific interests: galaxy evolution, supermassive black holes, black hole-galaxy co-evolution
- Expert on parametric image decomposition and quantified visual morphologies
- Extensive experience determining fundamental AGN and galaxy parameters via SED fitting
- Experience with integral field spectroscopy, particularly with *HST* WFC3 grism
- Expert in citizen science as a facility for data analysis and discovery
- Active Collaborations: COSMOS, Zooniverse, Galaxy Zoo (Deputy Project Scientist), Galaxy Zoo Bar Lengths (Principal Investigator), CANDELS

Employment

December 2015 - present	Einstein Fellow, UC San Diego
June 2012 - December 2015	Henry Skynner Fellow & Postdoctoral Researcher, University of Oxford

Education

2001-2007; 2011-2012	Ph.D., Astronomy, Yale University — Advisor: C. Megan Urry *Black Hole Growth and Host Galaxy Co-Evolution Over 8 Billion Years of Cosmic Time*
2007-2011	On leave (family reasons)
2003	M.Phil., Astronomy, Yale University
2002	M.S., Astronomy, Yale University
2001	A.B., Astrophysical Sciences, Princeton University (honors)

Awards

January 2015	Einstein Fellowship
January 2014	Henry Skynner Junior Research Fellowship, Balliol College, Oxford
October 2012	Junior Research Fellowship, Worcester College, Oxford
June 2012	James Martin Fellowship, Oxford Martin School, Oxford

Invited Talks

Dr. Simmons is regularly invited to give seminars and colloquia in Physics & Astronomy departments, in addition to the following recent invited talks:

Apr 2016	"Building your citizen science project with the Zooniverse", ETH meets CA
Aug 2015	"Making the internet work for you (in research)", Bone Research Society
Jul 2015	"Building an academic career", talk & panel, RAS National Astronomy Meeting
Feb 2015	"The Scientific Impact of Galaxy Zoo", AAAS Meeting, San Jose

Grants Awarded

Feb 2015	ESA: Crowdsourcing For Observations From Satellites, €174,505 (Simmons co-PI from Oxford, share: €99,935)
Sep 2011	HST-AR-12638.01-A: AGN Hosts at z ~ 2, US$100,000
Sep 2005	HST-AR-10689.01-A: Host Galaxies and SEDs of Luminous AGN, US$100,000

Telescope Proposals Awarded

as PI

2014B	DCT (Commissioning): Ultra-deep imaging of bulgeless galaxies (3 nights)
2014A	INT: IDS long-slit spectra of bulgeless quasar candidates (3 nights)
2013A	Gemini-S: GMOS long-slit spectroscopy of bulgeless AGN host galaxies (7.5 hr, Band A)
2013A	WIYN: NIR & Optical imaging of bulgeless AGN host galaxies (6 nights)

Refereed Publications

Note: candidate name & students' names in bold

Publications as First Author

6. "Galaxy Zoo: Quantitative Visual Morphological Classifications for 48,000 galaxies from CANDELS"
   B. D. Simmons, C. Lintott, K. W. Willett, K. L. Masters, *et al.* (46 authors), 2016, submitted
5. "Galaxy Zoo: CANDELS Barred Disks and Bar Fractions"
   B. D. Simmons, T. Melvin, C. Lintott, K. L. Masters, *et al.* (42 authors), 2014, MNRAS, 445, 3466
4. "Galaxy Zoo: Bulgeless Galaxies With Growing Black Holes"
   B. D. Simmons, C. Lintott, K. Schawinski, E. C. Moran, **A. Han**, S. Kaviraj, K. L. Masters, C. M. Urry, K. W. Willett, S. P. Bamford, and R. C. Nichol, 2013, MNRAS, 429, 2199
3. "Moderate-luminosity Growing Black Holes from $1.25 < z < 2.7$: Varied Accretion in Disk-Dominated Hosts"
   B. D. Simmons, C. M. Urry, K. Schawinski, C. Cardamone, and E. Glikman, 2012, ApJ, 761, 75
2. "Obscured GOODS AGN and Their Host Galaxies at $z < 1.25$: The Slow Black Hole Growth Phase"
   B. D. Simmons, J. Van Duyne, C. M. Urry, E. Treister, A. M. Koekemoer, N. A. Grogin, and the GOODS Team, 2011, ApJ, 734, 121
1. "The Accuracy of Morphological Decomposition of Active Galactic Nucleus Host Galaxies"
   B. D. Simmons and C. M. Urry, 2008, ApJ, 683, 644

Publications as Major Contributing Author

17. "Galaxy Zoo: Evidence for rapid, recent quenching across a population of AGN host galaxies"
    R. J. Smethurst, C. Lintott, **B. D. Simmons**, K. Schawinski, *et al.* (11 authors), 2016, MNRAS, submitted
16. "Assessing Data Quality In Citizen Science"
    M. Kosmala, A. Wiggins, A. Swanson, **B. D. Simmons**, 2016, Front. Ecol. Environ., accepted
15. "Standing out from the crowd: relative contribution and crowding out in online crowdsourcing"
    E. Y. Oh, J. Cox, **B. D. Simmons**, G. Graham, *et al.* (7 authors), 2016, Econ. Lett., submitted
14. "Science Learning via Participation in Online Citizen Science"
    K. L. Masters, E. Y. Oh, J. Cox, **B. D. Simmons**, C. Lintott, *et al.* (8 authors), 2016, JCOM, 1503, A07
13. "Major Mergers Host the Most Luminous Red Quasars at $z \sim 2$: A *Hubble Space Telescope* WFC3/IR Study"
    E. Glikman, **B. D. Simmons**, M. Mailly, K. Schawinski, C. M. Urry, M. Lacy, 2015, ApJ, 806, 218
12. "How is success defined and measured in online citizen science? A case study of Zooniverse projects"
    J. Cox, E-Y. Oh, **B. D. Simmons**, C. J. Lintott, K. L. Masters, *et al.* (8 authors), 2015, CISE, 17, 28
11. "The dependence of the star formation-stellar mass relation on spiral disk morphology"
    K. W. Willett, K. Schawinski, **B. D. Simmons**, K. L. Masters, *et al.* (13 authors), 2015, MNRAS, 449, 820
10. "Galaxy Zoo: Evidence For Diverse Star Formation Histories Through The Green Valley"
    R. J. Smethurst, C. J. Lintott, **B. D. Simmons**, K. Schawinski., *et al.* (13 authors), 2015, MNRAS, 450, 435
9. "The Green Valley is a Red Herring: Galaxy Zoo reveals two evolutionary pathways towards quenching of star formation in early- and late-type galaxies"
    K. Schawinski, C. M. Urry, **B. D. Simmons**, L. Fortson, *et al.* (15 authors), 2014, MNRAS, 440, 889
8. "Galaxy Zoo 2: detailed morphological classifications for 304,122 galaxies from the Sloan Digital Sky Survey"
    K. W. Willett, C. J. Lintott, S. P. Bamford, K. L. Masters, **B. D. Simmons**, *et al.* (18 authors), 2013, MNRAS, 435, 2835
7. "Major Galaxy Mergers Only Trigger the Most Luminous AGN"
    E. Treister, K. Schawinski, C. M. Urry, and **B. D. Simmons**, 2012, ApJL, 758, 39
6. "Heavily Obscured Quasar Host Galaxies at $z \sim 2$ are Disks, Not Major Mergers"
    K. Schawinski, **B. D. Simmons**, C. M. Urry, E. Treister, and E. Glikman, 2012, MNRAS Letters, 425, 61
5. "Bolometric Luminosities and Eddington Ratios of X–ray Selected AGN in the XMM-COSMOS Survey"
    E. Lusso, A. Comastri, **B. D. Simmons**, M. Mignoli, *et al.* (27 authors), 2012, MNRAS, 425, 623
4. "Evidence for Three Accreting Black Holes in a Galaxy at $z \sim 1.35$: A Snapshot of Recently Formed Black Hole Seeds?"
    K. Schawinski, C. M. Urry, E. Treister, **B. D. Simmons**, P. Natarajan, and E. Glikman, 2011, ApJL, 743, 37
3. "HST WFC3/IR Observations of AGN Hosts at $z \sim 2$: Supermassive Black Holes Grow in Disk Galaxies"
    K. Schawinski, E. Treister, C. M. Urry, C. N. Cardamone, **B. D. Simmons**, and S. K. Yi, 2011, ApJL, 727, 31
2. "Do Moderate-Luminosity Active Galactic Nuclei Suppress Star Formation?"
    K. Schawinski, S. Virani, **B. D. Simmons**, C. M. Urry, E. Treister, S. Kaviraj, and **B. Kushkuley**, 2009, ApJL, 692, 19

1. "Active Galactic Nucleus Host Galaxy Morphologies in COSMOS"
J. M. Gabor, C. D. Impey, K. Jahnke, **B. D. Simmons**, *et al.* (17 authors), 2009, ApJ, 691, 705

Team Publications as Contributing Author

13. "Galaxy Zoo: comparing the demographics of spiral arm number and a new method for correcting redshift bias"
R. Hart, *et al.* (Simmons: 10th of 11 authors), 2016, MNRAS, submitted
12. "Faint COSMOS AGN at z~3.3 - I. Black Hole Properties and Constraints on Early Black Hole Growth"
B. Trakhtenbrot, *et al.* (Simmons: 10th of 10 authors), 2016, ApJ, submitted
11. "Radio Galaxy Zoo: host galaxies and radio morphologies derived from visual inspection"
J. Banfield, *et al.* (Simmons: 7th of 36 authors), 2015, MNRAS, 453, 2326
10. "An over-massive black hole in a typical star forming galaxy, 2 billion years after the Big Bang"
B. Trakhtenbrot, *et al.* (Simmons: 9th of 9 authors), 2015, Science, 349, 168
9. "Stellar Populations of Barred Quiescent Galaxies"
E. Cheung, *et al.* (Simmons: 12th of 13 authors), 2015, ApJ, 807, 36
8. "Galaxy Zoo: the effect of bar-driven fueling on the presence of an active galactic nucleus in disk galaxies"
M. A. Galloway, *et al.* (Simmons: 10th of 10 authors), 2015, MNRAS, 448, 3442
7. "Misalignment between cold gas and stellar components in early-type galaxies"
O. I. Wong, *et al.* (Simmons: 6th of 8 authors), 2015, MNRAS Letters, 447, 3311
6. "Galaxy Zoo: Are bars responsible for the feeding of active galactic nuclei at $0.2 < z < 1.0$?"
E. Cheung, *et al.* (Simmons: 20th of 22 authors), 2014, MNRAS, 447, 510
5. "Galaxy Zoo: Evolution of the bar fraction over the last eight billion years from HST-COSMOS"
T. Melvin, *et al.* (Simmons**:** 5th of 14 authors), 2014, MNRAS, 438, 2882
4. "Galaxy Zoo and ALFALFA: Atomic Gas and the Regulation of Star Formation in Barred Disc Galaxies"
K. L. Masters, *et al.* (Simmons**:** 7th of 10 authors), 2012, MNRAS, 424, 2180
3. "*Chandra* Observations of Galaxy Zoo Mergers: Frequency of Binary Active Nuclei in Massive Mergers"
S. H. Teng, *et al.* (Simmons**:** 11th of 12 authors), 2012, ApJ, 753, 165
2. "The Infrared Light Curve of SN 2011fe in M101 and the Distance to M101"
T. Matheson, *et al.* (Simmons: 39th of 46 authors), 2012, ApJ, 754, 19
1. "AGN Host Galaxies at z~0.4-1.3: Bulge-dominated and Lacking Merger-AGN Connection"
N. A. Grogin, *et al.* (Simmons: 15th of 16 authors), 2005, ApJL, 627, 97

Teaching

Oct. 2012 - Dec. 2015	Tutor, 4th-year Astrophysics (University of Oxford)
Jan. 2008 – Dec. 2010	Self-employed as professional tutor in math, science, reading/writing
Sept. 2001 - Jan. 2005	Teaching Fellow (Yale University). Courses: "Frontiers & Controversies in Astrophysics"; "Life in the Universe"; "Stars and Planets".
Jan. - May 2001	Teaching Assistant (Princeton University): "The Universe"

Students Supervised

Dr. Simmons has supervised 3 M.Phys and 4 summer students, with 2 summer students planned for 2016. Students supervised include R. Cochrane, A. Griffin, B. Kushkuley, A. Han, A. Schooneveld.

Public Dialogue

Dr Simmons regularly gives invited public talks to diverse and international audiences & schools, and contributes to public dialogue on science via blogging and social media.

Select Media Coverage

Nature, "Citizen scientists aid Ecuador earthquake relief"	*3rd May, 2016*
Nature, "Crisis Mappers Turn To Citizen Scientists"	*19th Nov, 2014*
Sky & Telescope, "Citizen Scientists Probe Early Galaxies"	*29th Sep, 2014*

Interdisciplinary Roles

Principal Investigator, The Planetary Response Network

Primary partners: Planet Labs, European Space Agency, Qatar Computing Research Institute