

# Brooke D. Simmons

Physics Department  
Lancaster University  
Lancaster LA1 4YB  
United Kingdom

Phone: +44 (0)1524 593074  
Mobile: +44 (0)7446 033865  
[b.simmons@lancaster.ac.uk](mailto:b.simmons@lancaster.ac.uk)  
ORCID: 0000-0001-5882-3323

## Professional Summary

- Principal interests: galaxy evolution, supermassive black holes, black hole-galaxy co-evolution, change-detection in astrophysics and earth observation, pattern detection, data science
- Expert in citizen/community science as a facility for data analysis and discovery
- Expert on parametric image decomposition, quantified visual morphology, multi-wavelength AGN analysis
- Active Collaborations: [COSMOS](#), [CANDELS](#), [4MOST-TIDES & AGN](#), [Zooniverse](#) (Transient Group lead), [Galaxy Zoo](#) (Deputy PI), [Galaxy Zoo Bar Lengths](#) (PI), [The Planetary Response Network](#) (PI)

## Employment

Aug 2024 – present	Professor, Lancaster University
Aug 2021 – Aug 2024	Reader (equivalent to Associate Professor), Lancaster University
Sep 2018 – Aug 2021	Lecturer (equivalent to Assistant Professor), Lancaster University
Dec 2015 – Sep 2018	Einstein Fellow, UC San Diego
Jun 2012 – Dec 2015	Postdoctoral Researcher, University of Oxford

## Education

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

## Awards

Feb 2021	UKRI Future Leaders Fellowship
Jan 2019	Royal Astronomical Society Group Achievement Award: Galaxy Zoo
Dec 2015	Einstein Fellowship
Jan 2014	Henry Skynner Junior Research Fellowship, Balliol College, Oxford
Oct 2012	Junior Research Fellowship, Worcester College, Oxford
Jun 2012	James Martin Fellowship, Oxford Martin School, Oxford

## Invited Talks

Dr. Simmons is regularly invited to give astrophysics seminars and colloquia. Other recent invited talks include:	
Sep 2021	“Machine Learning in Disaster Management”, Alan Turing Institute, London
Feb 2019	“Citizen Science and the UN Sustainable Development Goals”, Amnesty International, London
Oct 2018	“Improving Algorithms with the Zooniverse”, Machine Learning and Data Sharing to Combat the Illegal Wildlife Trade, Zoological Society of London
Jun 2017	“Galaxy Zoo: Past & Future”, Surveying the Cosmos 2017
Aug 2016	“Merger-Free Galaxy Evolution & Black Hole Growth”, Fellows At The Frontiers 2016

## Funding Awarded

as PI

Feb 2021	UKRI: “Leading the Next Generation of Data-Driven Discoveries”, £1.5M
Jan 2020	BBSRC: “Innovative Digital Citizen Science: Active Learning for Disaster Relief”, £20,000
Jun 2019	STFC-IAA/Lancaster: “Astrophysical Analysis Tools for Disaster Relief & Resilience”, £22,000
Apr 2019	STFC: “Crowdsourcing and Machine Learning for Disaster Relief and Resilience”, £212,000
Prior to joining Lancaster: 4 NASA awards (US\$649,000 combined), 1 ESA award (€175,000)	

## Telescope Proposals Awarded

as PI

Telescope proposals awarded include 101 orbits on the Hubble Space Telescope (GO-14606), 1 night on Keck/KCWI, 7.5 hr of Band A on Gemini-S/GMOS, 15 hr on IRAM-30m, and 34 nights combined on multiple 2-4m class telescopes.

## Teaching

Dr Simmons is an HEA Fellow (awarded by [AdvanceHE](#) in the UK). Specific teaching duties include:

Mar 2019 – present	Course Convenor, multiple course modules (Lancaster University)
Oct 2012 – Dec 2015	Tutor, 4th-year Astrophysics (University of Oxford)
Jan 2008 – Dec 2010	Professional tutor in math, science, reading, writing
Sep 2001 – Jan 2005	Teaching Fellow, multiple course modules (Yale University)
Jan 2001 – May 2001	Teaching Assistant, “The Universe” (Princeton University)

## Student Supervision

Jason Shingirai Makechemu	PhD submission expected April 2028
Matthew Thorne	PhD submission expected March 2025
Izzy Garland	PhD to be awarded 2024; now Astrophysics Fellow at Masaryk University
David O’Ryan	PhD to be awarded 2024; now ESA Fellow (ESAC)

Dr. Simmons has also supervised 3 MSc students (J. Craig, A. Mohammed, M. Fahey), 20 MPhys students, and 9 summer undergraduate students. The latter 2 categories include A. Anil, J. Butterworth, H. Child, R. Cochrane, E. Day, S. Dicker, A. Griffin, A. Han, T. Hutchinson, B. Kushkuley, C. Lawson, T. Melvin, T Mummert, A. Schooneveld, J. Shanahan, M. Silcock, J. Smith, A. Tapia, E. Walls.

## Postdoctoral and Specialist Supervision

Lydia Makrygianni	(PDRA) December 2023 – present
Alice Mead	(Disaster Management Specialist) December 2023 – present
Klaas Wiersema	(PDRA) October 2021 – May 2023 (now permanent academic, U. Hertfordshire)
Danil Kuzin	(PDRA) September 2019 – Mar 2024 (now PDRA in Ecoacoustics AI, Oxford)

## Public Dialogue

Dr Simmons regularly gives invited public talks and contributes to blogs and social media.

### *Select Media Coverage*

<i>The Guardian</i> , “ <a href="#">Volunteers Worldwide Aided Rescue Efforts After Dorian</a> ”	25 <sup>th</sup> Oct, 2019
<i>Nature</i> , “ <a href="#">Citizen scientists aid Ecuador earthquake relief</a> ”	3 <sup>rd</sup> May, 2016
<i>Nature</i> , “ <a href="#">Crisis Mappers Turn To Citizen Scientists</a> ”	19 <sup>th</sup> Nov, 2014
<i>Sky &amp; Telescope</i> , “ <a href="#">Citizen Scientists Probe Early Galaxies</a> ”	29 <sup>th</sup> Sep, 2014

## Interdisciplinary Roles

*Founder*, Zooniverse Analysis Group

A data science collaboration; partnerships in Computer Science, Economics, Information Science, Ecology

*Founder*, Zooniverse Transient Group

Detection of changes in time-series data, with particular emphasis on machine-human classification systems

*Principal Investigator*, The Planetary Response Network

Crisis response. Primary partners: [Rescue Global](#), [Oxford Machine Learning Research Group](#), [ESA](#), [Planet](#)

Dr Simmons’ interdisciplinary work in machine learning and disaster relief was highlighted in a UK report by Fuller (2018): Fuller, I., 2018, “World-Class Innovation: Outputs from STFC Frontier Research, Volume 2”, Swindon, Science and Technology Facilities Council (pp. 12-13).

## Refereed Publications

Note: candidate, supervised, and citizen scientist collaborator names in bold

Citizen science collaborator co-authors: E. Baeten, C. Macmillan, K. J. Jek

### Publications as Lead or Supervising Author

As a permanent academic, it is my policy that papers from my group will be led by a student or postdoc wherever possible.

13. "Improving Deep Ensembles by Estimating Confusion Matrices", **D. Kuzin**, O. Isupova, S. Reece, **B. D. Simmons**, submitted
12. "Galaxy Zoo DESI: large-scale bars as a secular mechanism for triggering AGN"  
**I. L. Garland**, M. Walmsley, **M. Silcock**, **L. Potts**, **J. Smith**, **B. D. Simmons**, C. Lintott, R. J. Smethurst, J. Dawson, W. C. Keel, K. B. Mantha, K. L. Masters, **D. O'Ryan**, J. Popp, **M. Thorne**, 2024, *MNRAS*, in press
11. "Harnessing the Hubble Space Telescope Archives: A Catalogue of 21,926 Interacting Galaxies"  
**D. O'Ryan**, B. Merín, **B. D. Simmons**, A. Vojteková, A. Anku, M. Walmsley, **I. L. Garland**, T. Géron, W. C. Keel, S. Kruk, C. J. Lintott, K. B. Mantha, K. L. Masters, J. Reerink, R. J. Smethurst, and **M. Thorne**, 2023, *ApJ*, 948, 1, 40 (22 pp.)
10. "The most luminous, merger-free AGN show only marginal correlation with bar presence"  
**I. Garland**, **M. Fahey**, **B. D. Simmons**, R. J. Smethurst, C. J. Lintott, **J. Shanahan**, **M. Silcock**, **J. Smith**, W. C. Keel, A. Coil, T. Géron, K. L. Masters, **D. O'Ryan**, **M. R. Thorne**, and **K. Wiersema**, 2023, *MNRAS*, 522, 211-225
9. "Disaster, Infrastructure and Participatory Knowledge: The Planetary Response Network"  
**B. D. Simmons**, et al. (15 authors), 2022, *Citizen Science: Theory & Practice*, 7(1): 21, pp. 1-16
8. "Disaster mapping from satellite images: damage detection from crowdsourced point labels"  
**D. Kuzin**, O. Isupova, **B. D. Simmons**, C. Lintott, S. Reece, 2021, in 3rd Workshop on Artificial Intelligence for Humanitarian Assistance and Disaster Response (NeurIPS 2021). [arxiv:2111.03693](https://arxiv.org/abs/2111.03693) (10 pp.)
7. "Supermassive black holes in disk-dominated galaxies outgrow their bulges and co-evolve with their host galaxies"  
**B. D. Simmons**, R. J. Smethurst, and C. Lintott, 2017, *MNRAS*, 470, 1559-1569
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), 2017, *MNRAS*, 464, 4420-4447
5. "Galaxy Zoo: CANDELS Barred Disks and Bar Fractions"  
**B. D. Simmons**, **T. Melvin**, C. Lintott, K. L. Masters, et al. (**K. J. Jek**: 36<sup>th</sup> of 42 authors), 2014, *MNRAS*, 445, 3466-3474
4. "Galaxy Zoo: Bulgeless Galaxies With Growing Black Holes"  
**B. D. Simmons**, et al. (**A. Han**: 5<sup>th</sup> of 11 authors), 2013, *MNRAS*, 429, 2199-2211
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 (10 pp.)
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 (16 pp.)
1. "The Accuracy of Morphological Decomposition of Active Galactic Nucleus Host Galaxies"  
**B. D. Simmons** and C. M. Urry, 2008, *ApJ*, 683, 644-658

### Publications in Zooniverse Analysis Group and Zooniverse Transients Group roles

14. "Short timescale imaging polarimetry of geostationary satellite Thor-6: the nature of micro-glints"  
**K. Wiersema** et al. (**Simmons**: 10<sup>th</sup> of 11 authors), 2022, *ASR*, 70, 10, 3003-3015
13. "Camera settings and biome influence the accuracy of citizen science approaches to camera trap image classification", N. Egna et al. (**Simmons**: 7<sup>th</sup> of 26 authors), 2020, *Ecology & Evolution*, 10, 21, p. 11954-11965
12. "Rapid Post Disaster Damage Mapping with Satellite Imagery, Citizen Scientists and Machine Learning"  
O. Isupova, D. Kuzin, **B. D. Simmons**, S. Reece, 2019, DwD-GCRF-UKADR-DRG-UKCDR International Conference, 2019
11. "Everyone counts? Design considerations in online citizen science"  
H. Spiers, et al. (**Simmons**: 4<sup>th</sup> of 7 authors), 2019, *JCOM*, 18(01), A04 (32 pp.)
10. "Getting Connected: An Empirical Investigation of the Relationship Between Social Capital and Philanthropy Among Online Volunteers", J. Cox, E. Y. Oh, **B. D. Simmons**, et al. (8 authors), 2018, *NVSQ*, 48(2), 1-23

9. "Exposing the Science in Citizen Science: Fitness to Purpose and Intentional Design", J. K. Parrish, H. Burgess, J. F. Weltzin, L. Fortson, A. Wiggins, **B. D. Simmons**, 2018, *Integr. Comp. Biol.*, icy032 (11 pp.)
8. "Integrating Human And Machine Intelligence In Galaxy Morphology Classification Tasks", M. Beck, *et al.* (**Simmons**: 7<sup>th</sup> of 11 authors), 2018, *MNRAS*, 476, 5516-5534
7. "The K2-138 System: A Near-Resonant Chain of Five Sub-Neptune Planets Discovered by Citizen Scientists", J. L. Christiansen, *et al.* (**Simmons**: 6<sup>th</sup> of 27 authors), 2018, *AJ*, 155, 57 (9 pp.)
6. "Doing good online: The changing relationships between motivations, activity and retention among online volunteers", J. Cox, E. Y. Oh, **B. D. Simmons**, *et al.* (8 authors), 2018, *NVSQ*, 47(5), 1031-1056
5. "A transient search using combined human and machine classifications"  
D. Wright, *et al.* (**Simmons**: 18<sup>th</sup> of 26 authors), 2017, *MNRAS*, 472, 1315-1323
4. "Assessing Data Quality In Citizen Science"  
M. Kosmala, A. Wiggins, A. Swanson, **B. D. Simmons**, 2016, *Front. Ecol. Environ.*, 14(10): 551-560
3. "Science Learning via Participation in Online Citizen Science"  
K. L. Masters, E. Y. Oh, J. Cox, *et al.* (**Simmons**: 4<sup>th</sup> of 8 authors), 2016, *JCOM*, 15(03), A07 (33 pp.)
2. "Playing with science: Exploring how game activity motivates users' participation on an online citizen science platform", A. Greenhill, *et al.* (**Simmons**: 5<sup>th</sup> of 9 authors), 2015, *Aslib Jour. Info. Mgmt*, 68, 306-325
1. "Defining and measuring success in online citizen science: A case study of Zooniverse projects"  
J. Cox, E-Y. Oh, **B. D. Simmons**, *et al.* (8 authors), 2015, *CISE*, 17, 28-41

#### *Publications as Major Contributing Author*

34. "Supermassive black holes in merger-free galaxies have higher spins which are preferentially aligned with their host galaxy", R. Beckmann, R. J. Smethurst, **B. D. Simmons**, A. Coil, Y. Dubois, **I. L. Garland**, C. J. Lintott, G. Martin, S. Peirani, and C. Pichon, 2024, *MNRAS*, 527, 4, pp. 10867-10877
33. "Evidence for non-merger co-evolution of galaxies and their supermassive black holes", R. J. Smethurst, R. Beckmann, **B. D. Simmons**, A. Coil, J. Devriendt, Y. Dubois, **I. L. Garland**, C. J. Lintott, G. Martin, and S. Peirani, 2024, *MNRAS*, 527, 4, pp. 10855-10866
32. "Galaxy Zoo DESI: Detailed morphology measurements for 8.7M galaxies in the DESI Legacy Imaging Surveys", M. Walmsley, *et al.* (**I. L. Garland**, **D. O'Ryan**, **B. D. Simmons**, **E. Baeten**, **C. Macmillan**: 10<sup>th</sup>, 12<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup> and 16<sup>th</sup> of 16 authors), 2023, *MNRAS*, 523, 4768-4786
31. "Searching for the Role of Mergers in Fast and Early SMBH Growth: Morphological Decomposition of Quasars and Their Hosts at  $z \sim 4.8$ ", M. O. Thomas, O. Shemmer, B. Trakhtenbrot, P. Lira, H. Netzer, **B. D. Simmons**, and N. Ilan, 2023, *ApJ*, 955, 1, 15 (17 pp.)
30. "A Dual QSO At Cosmic Noon", E. Glikman, R. Langglin, M. A. Johnstone, I. Yoon, J. M. Comerford, **B. D. Simmons**, M. Lacy, and J. M. O'Meara, 2023, *ApJL*, 951, 1, L18 (8 pp.)
29. "Gems of the Galaxy Zoos - a Wide-Ranging *Hubble Space Telescope* Gap-Filler Program", W. C. Keel, *et al.* (**B. D. Simmons**, **J. Shanahan**, **I. L. Garland** and **D. O'Ryan**: 7<sup>th</sup>, 12<sup>th</sup>, 14<sup>th</sup> and 16<sup>th</sup> of 16 authors), 2022, *AJ*, 163, 150 (17pp)
28. "Quantifying the Poor Purity and Completeness of Morphological Samples Selected by Galaxy Colour", R. J. Smethurst, K. L. Masters, **B. D. Simmons**, *et al.* (**I. L. Garland** and **D. O'Ryan**: 4<sup>th</sup> and 9<sup>th</sup> of 10 authors), 2022, *MNRAS*, 510, 4126-4133
27. "Galaxy Zoo DECaLS: Detailed Visual Morphology Measurements from Volunteers and Deep Learning for 314,000 Galaxies", M. Walmsley, *et al.* (**Simmons**, **E. Baeten** and **C. Macmillan**: 14<sup>th</sup>, 17<sup>th</sup> and 18<sup>th</sup> of 18 authors), 2022, *MNRAS*, 509, 3966-3988
26. "Kiloparsec-scale AGN Outflows and Feedback in Merger-Free Galaxies", R. J. Smethurst, **B. D. Simmons**, *et al.* (**J. Shanahan** and **I. L. Garland**: 9<sup>th</sup> and 10<sup>th</sup> of 10 authors), 2021, *MNRAS*, 507, 3985-3997
25. "Galaxy Zoo Builder: Four-Component Photometric decomposition of Spiral Galaxies Guided by Citizen Science", T. Lingard, *et al.* (**Simmons** and **E. Baeten**: 6<sup>th</sup> and 10<sup>th</sup> of 10 authors), 2020, *ApJ*, 900, 2 (18 pp.)
24. "Galactic Conformity in both Star Formation and Morphological Properties", J. A. Otter, K. L. Masters, **B. D. Simmons**, C. J. Lintott, 2020, *MNRAS*, 492, 2722-2730
23. "Secularly powered outflows from AGN: the dominance of non-merger driven supermassive black hole growth", R. J. Smethurst, **B. D. Simmons**, C. J. Lintott, **J. Shanahan**, A. Coil, W. C. Keel, E. Glikman, E. C. Moran, K. L. Masters, C. M. Urry, K. W. Willett, 2019, *MNRAS*, 489, 4016-4031



22. "SNITCH: Seeking a simple, informative star formation history inference tool", R. J. Smethurst, M. Merrifield, C. J. Lintott, K. L. Masters, **B. D. Simmons**, *et al.* (10 authors), 2019, *MNRAS*, 484, 3590-3603
21. "Galaxy Zoo: constraining the origin of spiral arms", R. Hart, S. Bamford, W. C. Keel, S. Kruk, K. L. Masters, **B. D. Simmons**, R. J. Smethurst, 2018, *MNRAS*, 478, 932-949
20. "Normal black holes in bulge-less galaxies: the largely quiescent, merger-free growth of black holes over cosmic time"  
G. Martin, S. Kaviraj, M. Volonteri, **B. D. Simmons**, *et al.* (9 authors), 2018, *MNRAS*, 476, 2801-2812
19. "Galaxy Zoo: Secular evolution of barred galaxies from structural decomposition of multi-band images"  
S. Kruk, C. Lintott, S. Bamford, K. Masters, **B. D. Simmons**, *et al.* (12 authors), 2018, *MNRAS*, 473, 4731-4753
18. "Galaxy Zoo: Finding offset discs and bars in SDSS galaxies"  
S. J. Kruk, C. J. Lintott, **B. D. Simmons**, S. Bamford, *et al.* (12 authors), 2017, *MNRAS*, 469, 3363-3373
17. "Morphology and the Color-Mass Diagram As Clues to Galaxy Evolution at  $z \sim 1$ "  
M. C. Powell, C. M. Urry, C. Cardamone, **B. D. Simmons**, *et al.* (7 authors), 2017, *ApJ*, 835, 22 (10 pp.)
16. "Galaxy Zoo: Morphological Classifications for 120,000 Galaxies in HST Legacy Imaging"  
K. W. Willett, *et al.* (**Simmons**: 7<sup>th</sup> & **Han**: 15<sup>th</sup> & **Melvin**: 17<sup>th</sup> of 21 authors), 2016, *MNRAS*, 464, 4176-4203
15. "Galaxy Zoo: Evidence for rapid, recent quenching across a population of AGN host galaxies"  
R. J. Smethurst, C. Lintott, **B. D. Simmons**, *et al.* (11 authors), 2016, *MNRAS*, 463, 2986-2996
14. "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 (24 pp.)
13. "Radio Galaxy Zoo: host galaxies and radio morphologies derived from visual inspection"  
J. Banfield, *et al.* (**Simmons**: 7<sup>th</sup> of 36 authors), 2015, *MNRAS*, 453, 2326-2340
12. "Galaxy Zoo: Evidence For Diverse Star Formation Histories Through The Green Valley"  
R. J. Smethurst, C. J. Lintott, **B. D. Simmons**, *et al.* (13 authors), 2015, *MNRAS*, 450, 435-453
11. "Galaxy Zoo: The dependence of the star formation-stellar mass relation on spiral disk morphology"  
K. W. Willett, K. Schawinski, **B. D. Simmons**, *et al.* (**Melvin**: 7<sup>th</sup> of 13 authors), 2015, *MNRAS*, 449, 820-827
10. "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**, *et al.* (15 authors), 2014, *MNRAS*, 440, 889-907
9. "Galaxy Zoo: Evolution of the bar fraction over the last eight billion years from HST-COSMOS"  
**T. Melvin**, *et al.* (**Simmons**: 5<sup>th</sup> of 14 authors), 2014, *MNRAS*, 438, 2882-2897
8. "Galaxy Zoo 2: detailed morphological classifications for 304,122 galaxies from the Sloan Digital Sky Survey"  
K. W. Willett, *et al.* (**Simmons**: 5<sup>th</sup> & **Melvin**: 11<sup>th</sup> of 18 authors), 2013, *MNRAS*, 435, 2835-2860
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 (5 pp.)
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, L61-L65
5. "Bolometric Luminosities and Eddington Ratios of X-ray Selected AGN in the XMM-COSMOS Survey"  
E. Lusso, A. Comastri, **B. D. Simmons**, *et al.* (27 authors), 2012, *MNRAS*, 425, 623-640
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 (6 pp.)
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 (6 pp.)
2. "Do Moderate-Luminosity Active Galactic Nuclei Suppress Star Formation?"  
K. Schawinski, **B. D. Simmons**, *et al.* (**B. Kushkuley**: 7<sup>th</sup> of 7 authors), 2009, *ApJL*, 692, L19-L23
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, 705-722

*Team Publications as Contributing Author*

39. "The effects of bar strength and kinematics on galaxy evolution: slow strong bars affect their hosts the most",  
T. G  ron, *et al.* (Simmons: 8<sup>th</sup> of 8 authors), [submitted](#)

38. "Transfer learning for galaxy feature detection: Finding giant star-forming clumps in low redshift galaxies using Faster Region-based Convolutional Neural Networks", J. Popp, *et al.* (Simmons: 11<sup>th</sup> of 11 authors), 2024, *RASTI*, 3, 1, pp. 174-197
37. "Galaxy Zoo: Kinematics of strongly and weakly barred galaxies", T. G eron, *et al.* (Simmons: 6<sup>th</sup> of 11 authors), 2023, *MNRAS*, 521, 1775-1793
36. "Signatures of Feedback in the Spectacular Extended Emission Region of NGC 5972", T. Harvey, *et al.* (Simmons: 11<sup>th</sup> of 13 authors), 2023, *MNRAS*, 526, 4174-4191
35. "Galaxy Zoo: Clump Scout - Design and first application of a two-dimensional aggregation tool for citizen science", H. Dickinson, *et al.* (Simmons: 11<sup>th</sup> of 12 authors), 2022, *MNRAS*, 517, 5882-5911
34. "Noise reduction on single-shot images using an autoencoder", O. J. Bartlett, D. M. Benoit, K. A. Pimbblet, B. D. Simmons, and L. Hunt, 2023, *MNRAS*, 521, 6318-6329
33. "Galaxy And Mass Assembly: Galaxy Zoo spiral arms and star formation rates", R. Porter-Temple, *et al.* (Simmons: 14<sup>th</sup> of 14 authors), 2022, *MNRAS*, 515, 3875-3882
32. "Galaxy Zoo: Clump Scout: Surveying the Local Universe for Giant Star-forming Clumps", D. Adams, *et al.* (Simmons: 7<sup>th</sup> of 8 authors), 2022, *ApJ*, 931, 16 (18 pp.)
31. "Practical Galaxy Morphology Tools from Deep Supervised Representation Learning", M. Walmsley, *et al.* (Simmons: 12<sup>th</sup> of 12 authors), 2022, *MNRAS*, 513, 1581-1599
30. "Observations of the Initial Formation and Evolution of Spiral Galaxies at  $1 < z < 3$  in the CANDELS Fields", B. Margalef-Bentabol, *et al.* (Simmons: 7<sup>th</sup> of 7 authors), 2022, *MNRAS*, 511, 1502-1517
29. "Galaxy Zoo: Stronger bars facilitate quenching in star forming galaxies", T. G eron, *et al.* (Simmons: 6<sup>th</sup> of 7 authors), 2021, *MNRAS*, 507, 4389-4408
28. "Galaxy Zoo: 3D -- Crowd-sourced Bar, Spiral and Foreground Star Masks for MaNGA Target Galaxies", K. Masters, *et al.* (Simmons: 16<sup>th</sup> of 18 authors), 2021, *MNRAS*, 507, 3923-3935
27. "Extending the evolution of the stellar mass – size relation at  $z \leq 2$  to low stellar mass galaxies from HFF and CANDELS", K. Nedkova, *et al.* (Simmons: 22<sup>nd</sup> of 26 authors), 2021, *MNRAS*, 506, 928-956
26. "Galaxy Zoo Builder: Morphological dependence of spiral galaxy pitch angle", T. Lingard, *et al.* (Simmons and E. Baeten: 6<sup>th</sup> and 9<sup>th</sup> of 9 authors), 2021, *MNRAS*, 504, 3364-3374
25. "An old stellar population or diffuse nebular continuum emission discovered in green pea galaxies" L. Clarke, *et al.* (Simmons: 12<sup>th</sup> of 12 authors), 2021, *ApJL*, 912, 22 (6 pp.)
24. "Investigating Clumpy Galaxies in SDSS Stripe82 using Galaxy Zoo" V. Mehta, *et al.* (Simmons: 10<sup>th</sup> of 10 authors), 2021, *ApJ*, 912, 49 (16 pp.)
23. "The X-ray and radio activity of typical and luminous Ly  emitters from  $z \sim 2$  to  $z \sim 6$ : evidence for a diverse, evolving population", J. Calhau, *et al.* (Simmons: 7<sup>th</sup> of 8 authors), 2020, *MNRAS*, 493, 3341-3362
22. "Galaxy Zoo: Probabilistic Morphology through Bayesian CNNs and Active Learning" M. Walmsley, *et al.* (Simmons: 11<sup>th</sup> of 12 authors), 2020, *MNRAS*, 491, 1554-1574
21. "Galaxy Zoo: unwinding the winding problem - observations of spiral bulge prominence and arm pitch angles suggest local spiral galaxies are winding" K. L. Masters, *et al.* (Simmons: 8<sup>th</sup> of 11 authors), 2019, *MNRAS*, 487, 1808-1820
20. "Galaxy Zoo: Morphological Classification of Galaxy Images from the *Illustris* Simulation" H. Dickinson, *et al.* (Simmons: 10<sup>th</sup> of 16 authors), 2018, *ApJ*, 853, 194 (10pp.)
19. "Radio Galaxy Zoo: Compact and extended radio source classification with deep learning" V. Lukic, *et al.* (Simmons: 7<sup>th</sup> of 7 authors), 2018, *MNRAS*, 476, 246-260
18. "Major Merging History in CANDELS. I. Evolution of the Incidence of Massive Galaxy-Galaxy Pairs from  $z = 3$  to  $z \sim 0$ ", K. Mantha, *et al.* (Simmons: 14<sup>th</sup> of 41 authors), 2018, *MNRAS*, 475, 1549-1573
17. "Evidence For Merger-Driven Growth in Luminous, High- $z$ , Obscured AGN in the CANDELS/COSMOS Field", J. Donley, *et al.* (Simmons: 22<sup>nd</sup> of 30 authors), 2018, *ApJ*, 853, 63 (12 pp.)
16. "The First Post-*Kepler* Brightness Dips of KIC 8462852" T. S. Boyajian, *et al.* (Simmons: 161<sup>st</sup> of 199 authors), 2018, *ApJL*, 853, 8 (14 pp.)
15. "Radio Galaxy Zoo: A Search for Hybrid Morphology Radio Galaxies" A. D. Kapinska, *et al.* (Simmons: 17<sup>th</sup> of 17 authors), 2017, *AJ*, 154, 253 (16 pp.)

14. "Galaxy Zoo and SPARCFIRE: constraints on spiral arm formation mechanisms from spiral arm number and pitch angles", R. Hart, *et al.* (Simmons: 9<sup>th</sup> of 10 authors), 2017, *MNRAS*, 472, 2263-2279
13. "Galaxy Zoo: the interplay of quenching mechanisms in the group environment"  
R. Smethurst, *et al.* (Simmons: 8<sup>th</sup> of 8 authors), 2017, *MNRAS*, 469, 3670-3687
12. "Galaxy Zoo: major mergers are not a significant quenching pathway"  
A. Weigel, *et al.* (Simmons: 12<sup>th</sup> of 13 authors), 2017, *ApJ*, 845, 145 (28 pp.)
11. "Galaxy Zoo: comparing the demographics of spiral arm number and a new method for correcting redshift bias", R. Hart, *et al.* (Simmons: 10<sup>th</sup> of 11 authors), 2016, *MNRAS*, 461, 3663-3682
10. "Faint COSMOS AGN at  $z \sim 3.3$  - I. Black Hole Properties and Constraints on Early Black Hole Growth"  
B. Trakhtenbrot, *et al.* (Simmons: 10<sup>th</sup> of 10 authors), 2016, *ApJ*, 825, 4 (17 pp.)
9. "An over-massive black hole in a typical star forming galaxy, 2 billion years after the Big Bang"  
B. Trakhtenbrot, *et al.* (Simmons: 9<sup>th</sup> of 9 authors), 2015, *Science*, 349, 168-171
8. "Stellar Populations of Barred Quiescent Galaxies"  
E. Cheung, *et al.* (Melvin, Simmons: 11<sup>th</sup> and 12<sup>th</sup> of 13 authors), 2015, *ApJ*, 807, 36 (15 pp.)
7. "Galaxy Zoo: the effect of bar-driven fueling on the presence of an active galactic nucleus in disk galaxies"  
M. A. Galloway, *et al.* (Melvin, Simmons: 9<sup>th</sup> and 10<sup>th</sup> of 10 authors), 2015, *MNRAS*, 448, 3442-3454
6. "Misalignment between cold gas and stellar components in early-type galaxies"  
O. I. Wong, *et al.* (Simmons: 6<sup>th</sup> of 8 authors), 2015, *MNRAS Letters*, 447, 3311-3321
5. "Galaxy Zoo: Are bars responsible for the feeding of active galactic nuclei at  $0.2 < z < 1.0$ ?"  
E. Cheung, *et al.* (Melvin, Simmons: 17<sup>th</sup> and 20<sup>th</sup> of 22 authors), 2015, *MNRAS*, 447, 506-516
4. "Galaxy Zoo and ALFALFA: Atomic Gas and the Regulation of Star Formation in Barred Disc Galaxies"  
K. L. Masters, *et al.* (Simmons: 7<sup>th</sup> of 10 authors), 2012, *MNRAS*, 424, 2180-2192
3. "Chandra Observations of Galaxy Zoo Mergers: Frequency of Binary Active Nuclei in Massive Mergers"  
S. H. Teng, *et al.* (Simmons: 11<sup>th</sup> of 12 authors), 2012, *ApJ*, 753, 165 (6 pp.)
2. "The Infrared Light Curve of SN 2011fe in M101 and the Distance to M101"  
T. Matheson, *et al.* (Simmons: 39<sup>th</sup> of 46 authors), 2012, *ApJ*, 754, 19 (6 pp.)
1. "AGN Host Galaxies at  $z \sim 0.4$ -1.3: Bulge-dominated and Lacking Merger-AGN Connection"  
N. A. Grogan, *et al.* (Simmons: 15<sup>th</sup> of 16 authors), 2005, *ApJL*, 627, L97-L100