

### Publications as Lead Author

*Note: candidate name in bold*

2. "Advanced PySPAM: Constraining Galaxy Interaction in a Statistical Manner", **D. O’Ryan** & B. D. Simmons, In Prep., Link to In Prep Manuscript: [Link](#)  
**Contribution:** DOR is lead on this project. Written code doing statistical constraint, and significantly increased the efficiency of base simulation code.
1. "Harnessing the Hubble Space Telescope Archives: A Catalogue of 21,926 Interacting Galaxies", **D. O’Ryan**, et al. (16 authors), [2023, ApJ, 948, pp 40 – 68](#)  
**Contribution:** DOR was lead on this project. Written source cutout, and ML applicaiton code. Created training set from previous Galaxy Zoo projects and diagnosed model. Conducted contamination removal of final results, including release of further catalogues of objects of astrophysical interest.

### Publications as Major Contributing Author

1. "Origin of the Local Group Satellite Planes", I. Banik, **D. O’Ryan**, H. Zhao, [2018, MNRAS, 477, pp 4768–4791](#)  
**Contribution:** Wrote simulation code of interaction of MW and M31. Analysed outputs, created results.

### Publications as Associate Author

8. "Galaxy Zoo DESI: Large-Scale Bars as a Secular Mechanism for Triggering AGN", I. Garland *et al.* (**O’Ryan**: 12<sup>th</sup> of 15 authors), submitted  
**Contribution:** Provided commentary and advice on role of interaction in AGN and bars and discussed statistical results.
7. "Galaxy Zoo DESI: Detailed Morphology Classifications for 8.7M Galaxies in the DESI Legacy Imaging Surveys", M. Walmsley *et al.* (**O’Ryan**: 12<sup>th</sup> of 16 authors), in press, MNRAS  
**Contribution:** Advised on using updating training set with different Galaxy Zoo projects. Specified limitations with interacting galaxies.
6. "Zoobot: Adaptable Deep Learning Models for Galaxy Morphology", M. Walmsley *et al.* (**O’Ryan**: 13<sup>th</sup> of 17 authors), [2023, JOSS, 5312, pp 85– 89](#)  
**Contribution:** Provided advice on case study using Zoobot searching for interacting galaxies. Commented on performance of model and diagnostics.
5. "The Most Luminous, Merger-Free AGN Show Only Marginal Correlation with Bar Presence", I. L. Garland *et al.* (**O’Ryan**: 14<sup>th</sup> of 16 authors), [2023, MNRAS, 522, pp. 211–225](#)  
**Contribution:** Gave commentary on the impact of mergers, and potential biases in sample. Advised on how best to present methodology and to link longslit spectroscopy to what was physically being measured.
4. "Galaxy and Mass Assembly: Galaxy Morphology in the Green Valley, Prominent Rings, and Looser Spiral Arms", D. Smith *et al.* (**O’Ryan**: 17<sup>th</sup> of 18 authors), [2022, MNRAS, 517, pp. 4575–4589](#)  
**Contribution:** DOR partook in discussion of methodology and results, and was part of team that liased with lead authors and Galaxy Zoo collaboration. Discussed how best to infer physical processes from results and led discussion querying green valley existence.

3. "Preparing for Low Surface Brightness Science with the Vera C. Rubin Observatory: Characterization of Tidal Features from Mock Images", G. Martin *et al.* (O’Ryan: 20<sup>th</sup> of 52 authors), [2022, MNRAS, 513, pp. 1459–1487](#)  
**Contribution:** DOR was a major classifier of mock low-surface brightness imaging that led to results. Advised on limitations of using group classifiers and keeping classifications robust.
2. "Gems of the Galaxy Zoos-A Wide-ranging Hubble Space Telescope Gal-filler Program", W. Keel *et al.* (O’Ryan: 16<sup>th</sup> of 16 authors), [2022, AJ, 163, pp. 150](#)  
**Contribution:** Contributed to discussion of different objects found in this work. Opened discussion on blue ellipticals, and their rejuvenation via interaction and merging. Later provided coordinates of further overlapping galaxies in the *HST* archives.
1. "Quantifying the Poor Purity and Completeness of Morphological Samples Selected by Galaxy Colour", R. J. Smethurst *et al.* (O’Ryan: 9<sup>th</sup>) of 10 authors), [2022, MNRAS, 510, pp. 4126–4133](#)  
**Contribution:** Gave commentary on limitations of morphological classification by colour, and how best to build new classification systems.