Prof. Blakesley K. Burkhart

Rutgers, The State University of New Jersey
Department of Physics & Astronomy
136 Frelinghuysen Rd
Piscataway, NJ 08854, USA

Center for Computational Astrophysics
162 Fifth Avenue
New York, NY 10010, USA

b.burkhart@rutgers.edu
bburkhart@flatironinstitute.org

Appointments

Assistant Professor, Rutgers, the State University of New Jersey, 2019-present

Associate Research Scientist, Flatiron Institute Center for Computational Astrophysics, 2018-present

Institute for Theory and Computation (ITC) Postdoctoral Fellow, Harvard, 2017-2018

NASA Einstein Postdoctoral Fellow, Harvard, 2014-2017

Education

Ph.D. Astronomy, University of Wisconsin-Madison, 2014

M.A. Astronomy, University of Wisconsin-Madison, 2010

M.S. Physics, University of Wisconsin-Madison, 2010

B.S. Physics & Mathematics (minor: Latin), University of Louisville, 2008, *Magna Cum Laude*

Awards and Honors

2021 Alfred P. Sloan Research Fellowship in Physics

2020 Packard Fellowship for Science and Engineering

2019 American Astronomical Society, Annie Jump Cannon Award

2017 Astronomical Society of the Pacific, Robert J. Trumpler Award

2016 APS Division of Astrophysics, Ph.D. Thesis Award Finalist

2011 UW Madison Jansky Fellowship for Outstanding Research

2011 NASA Space Science Student Ambassador

2009 National Science Foundation Graduate Research Fellowship (Astrophysics)

2008 Donald M. Bennett Award for Outstanding Scholastic Achievement in Physics

2008 American Astronomical Society, Chambliss Award, Honorable Mention

2006 Bullitt Award in Astrophysics

2004 University of Louisville Presidential Scholarship

Recent Invited Talks (Selected)

2021

UC Berkeley Colloquium, November

The Grand Cascade, Paris, France, July

Turbulent Star Formation, AAS Plenary Talk, June

Breakthrough Discuss Invited Talk, April

Scarlet Speakers, Rutgers, April

2020 - Remote or postponed due to COVID19.

EPoS 2020 The Early Phase of Star Formation - Insights from Dynamics, Ringberg, Germany, July

Computational Galaxy Formation 2020, Ringberg, Germany, April

Where the Star Formation Ends, Leiden, Netherlands, March

Magnetic Fields in the Universe VI, Vietnam, February

2019

Confronting simulations with observations from pc to Mpc scale, Hunter Valley, Australia, November

LOFAR MKSP Annual Meeting, Bochum, Germany, September

SO-Star, Paris, France, September

Joint IAS/Princeton Colloquium, Princeton, March

Life and Death of Star Forming Galaxies, Perth, Australia, March

2018

Cosmic Dust and Magnetism Conference, Daejeon, Korea, November

The Milky Way in the Age of Gaia, Paris, France, October

Stellar and Interstellar Environments: Shocking Structures in and around Astrospheres and their Relevance for Cosmic Ray Transport, Bochum, Germany, September

Magnetic Fields or Turbulence: Which is the critical factor for the formation of stars and planetary disks?, Taipei, Taiwan, February

Center for Astrophysics Colloquium, Harvard CfA, February

Teaching

2021 Fall, *Physics 610: Interstellar Matter*, Rutgers

2020 Fall, *Honors Seminar: The Past, Present, and Future of Prediction*, Rutgers

2019 Fall, *Physics 610: Interstellar Matter*, Rutgers

2016 Spring, Guest Teaching *Ast 253, Plasma Astrophysics*, Harvard University

2014 Spring Teaching Assistant *Ast 104, Exploration of the Solar System*, UW Madison

2008 Spring Teaching Assistant, *Physics 224*, University of Louisville

2006-2008 Supplemental Instructor of Physics (6 semesters), University of Louisville

Student Supervision

Current:

2021, Supervising Lori Porter, UofL student and CCA Summer Intern

2020-current, Supervising Megan Tillman, Rutgers Grad. Student

2020-current, Supervising Michael O'Brien, Flatiron Intern

2019-current, Supervising Brandon Shane, Rutgers Undergrad. Student

2019-current, Supervising Diane Salim, Rutgers Grad. Student

2018-current, Supervising Sabrina Appel, Rutgers Grad. Student

2018-current, Co-supervising Michael Foley, Harvard Grad. Student

Past:

2018-2020, Co-supervised Lucas Barreto Santos , University of Sao Paulo

2017-2019, Co-supervised Monica Gallegos-Garcia, Harvard Banneker & Aztlán Student

2016, Supervised Senior Thesis by Missy McIntosh, Harvard University

2015, Supervised Alex Gurvich, Harvard REU student

2014, Supervised Chris Herron, UW Madison/Univ. Sydney student

2012-2014, Supervised Caio Correia, UFRN Natal, Brazil)

2010, Supervised Ben Tofflemire, UW Madison REU student

Grants (total since 2019: $1.56 million)

2021-2023, Alfred P. Sloan Research Fellowship, $75,000

2020-2025, Packard Fellowship for Science and Engineering, $875,000

2020-2023, *"Shining Light on Supersonically Induced Gas Objects (SIGOs)"*, NASA ATP, $314,000

2021-2024, *"Collaborative Research: Stars from the Clouds - Turbulence, Magnetic Fields and the Dynamics of Star Cluster Formation"*, NSF AAG, $299,643

Conferences Organized

2021, SOC, *The Interstellar Institute*, Paris, France

2020 SOC Chair, *The Interstellar Medium of Galaxies in the Era of Big Data*, AAS Mini-meeting, Summer 2020

2019 SOC Chair, *Universality: Turbulence Across Vast Scales*, CCA, New York, NY

2019 SOC Chair, *Big Apple Magnetic Fields*, CCA, New York, NY

2017 SOC Chair, *Harvard-Heidelberg Star Formation Workshop*, Cambridge, MA

2017 SOC, *Magnetic Fields in the Universe VI*, Natal, Brazil, December

2016 SOC Chair, *Star formation, magnetic fields, and diffuse matter in the Galaxy: A conference honoring the contributions of Richard Crutcher & Carl Heiles*, Madison, Wi

2015 SOC, *Harvard-Heidelberg Star Formation Workshop*, Cambridge, MA

2011, 2012, 2013, 2014 Conference Co-Organizer for the *Midwest Magnetic Fields*, Madison, WI

2011 Conference Co-Organizer for *ISM and Magnetic Fields Workshop*, Natal, Brazil

Service and Outreach (selected)

2021, Selection Committee for *The PI Launchpad: A NASA Space Mission Workshop*

2020-current Faculty Adviser for the Rutgers Astronomical Society

2020 *Founder of CATS: Catalogue for Astrophysical Turbulence Simulations*, mhdturbulence.com

2019 Rutgers Astro Seminar/Colloquium Organizer

2019 *Advancing Theoretical Astrophysics Summer School*, teaching/organizing.

2019 *CCA Plasma Astrophysics Summer School*, teaching.

2016-2019 NRAO Science Review Panel

2015, 2016 CfA Seminar & ITC Colloquium Co-Chair

2013, 2014 *5 Minute Astronomy*, Host of Podcast on iTunes, Featured on iTunes *New and Noteworthy*

2012-2014 *Radio Astronomy*, Host of weekly radio show WORT 89.9FM, Madison, WI

2012-current Referee for: *Astrophysical Journal, Astrophysical Journal Letters, Astronomy & Astrophysics, Monthly Notices of the Royal Astronomical Society, Nature, Nature Astronomy*

Refereed Journal Publications

1. **Burkhart, B.**, Falceta-Gonçalves D., Kowal G., & Lazarian A., 2009, *"Density Studies in MHD Interstellar Turbulence: Statistical Moments, Correlations and Bispectrum"*, ApJ, 692, 250, arXiv:0811.0822
2. **Burkhart, B.**, Stanimirović S., Lazarian A., & Kowal G., 2010, *"Characterizing Magnetohydrodynamic Turbulence in the Small Magellanic Cloud"*, ApJ, 708, 1204, arXiv:0911.3652
3. ++Tofflemire, B., **Burkhart, B.**, & Lazarian, A., 2011, *"Interstellar Sonic and Alfvénic Mach Numbers and the Tsallis Distribution"*, ApJ, 736, 60, arXiv:1103.3299[1]
4. Gaensler, B., Haverkorn, M., **Burkhart, B.**, Newton-McGee, K. J., Ekers, R. D., Lazarian, A., McClure-Griffiths, N. M., Robishaw, T., Dickey, J. M., & Green, A. J., 2011, *"Low Mach Number Turbulence in Interstellar Gas Revealed by Radio Polarization Gradients"*, Nature, 478, 214, arXiv:1110.2896
5. **Burkhart, B.**, Lazarian A., & Gaensler B., 2012, *"Properties of Interstellar Turbulence from Gradients of Linear Polarization Maps"*, ApJ, 749, arXiv:1111.3544
6. **Burkhart, B.** & Lazarian A., *"The Column Density Variance-Sonic Mach Number Relation"*, 2012, ApJL, 755, 19, arXiv:1205.3792
7. Saul, D., Peek, J., Grcevich, J., Putman, M. E., Douglas, K. A., Korpela, E. J., Stanimirović, S., Heiles, C., Gibson, S., Lee, M., Begum, A., Brown, A. R. H., **Burkhart, B.**, Hamden, E., Pingel, N., & Tonnesen, S., 2012, *"The GALFA-HI Ultra-Compact Cloud Catalog"*, ApJ, 758, 44, arXiv:1208.4103.
8. **Burkhart, B.**, Lazarian, A., Goodman, A., & Rosolowsky, E., 2013, *"Hierarchical Structure of Magnetohydrodynamic Turbulence in Position-Position-Velocity Space"*, ApJ, 770, 141, arXiv:1206.4703
9. **Burkhart, B.**, Ossenkopf, V., Lazarian, A., & Stutzki, J., 2013, *"The Effects of Radiative Transfer on the PDFs of Molecular MHD Turbulence"*, ApJ, 771, 122, arXiv:1304.3131
10. **Burkhart, B.**, Lazarian, A., Ossenkopf V., & Stutzki J., 2013, *"The Turbulence Power Spectrum in Optically Thick Interstellar Clouds"*, ApJ, 771, 123, arXiv:1305.3619
11. Meyer, C., Balsara, D., **Burkhart, B.**, & Lazarian, A., 2013, *"Observational Diagnostics for Two-Fluid Turbulence in Molecular Clouds As Suggested by Simulations"*, MNRAS, 439, 219, arXiv:1307.3527
12. ++Correia, C., **Burkhart, B.**, Lazarian, A., Ossenkopf, V., Stutzki, J., Kainulainen J., Kowal, G., & de Medeiros, J. R., 2013, *"Opacity Broadening of CO Linewidths and its Effects on the Variance-Sonic Mach Number Relation"*, ApJL, 785, 1, arXiv:1402:6702

[1] ++ denotes a student or postdoc primarily mentored by B. B.

13. Pingel, N., Stanimirovic, S., Peek, J. E. G., Lee, M.-Y., Lazarian, A., **Burkhart, B.**, Babler, B., Begum, A., Douglas, K. A., Heiles, C., Gibson, S., Grcevich, J., Korpela, E., Lawrence, A., Murray, C., Peek, J. E. G., Putman, M., E., & Saul, D., 2013, *"Characterizing the Turbulent Properties of MBM16"*, ApJ, 779, 36, arXiv:1310.7244

14. ++Iacobelli, M., **Burkhart, B.**, Haverkorn, M., Lazarian, A., Carretti, E., Staveley-Smith, L., Gaensler, B. M., Bernardi, G., Kesteven, M. J., & Poppi, S., 2014, *"Galactic Interstellar Turbulence Across the Southern Sky Seen Through Spatial Gradients of the Polarization Vector"*, A&A, 566, 5, arXiv:1404.6077

15. Burkhart, B., Lazarian A., Leão, I., & de Medeiros, J. R., 2014, *"Measuring the Alfvénic Nature of the Interstellar Medium: Velocity Anisotropy Revisited"*, ApJ, 790, 130, arXiv:1408.4858

16. Burkhart, B., Lazarian A., Meyer, C., & Balsara, D., 2015, *"Alfvénic Turbulence Beyond the Ambipolar Diffusion Scale"*, ApJ, 805, 118, arXiv:1412.3452

17. Burkhart, B., Collins, D., & Lazarian, A., 2015, *"Observational Diagnostics of Self-Gravitating MHD Turbulence in Giant Molecular Clouds"*, ApJ, 808, 48, arXiv:1505.03855

18. Chepurnov, A., **Burkhart, B.**, & Lazarian, A., 2015, *"The Turbulence Velocity Power of Neutral Hydrogen in the Small Magellanic Cloud"*, ApJ, 810, 33, arXiv:1506.03448

19. ++Herron, C., **Burkhart, B.**, Lazarian, A., Gaensler, B., & McClure-Griffiths, N., 2015, *"Radio Synchrotron Fluctuation Statistics as a Probe of Magnetized Interstellar Turbulence"*, ApJ, 822, 13, arXiv:1603.02751

20. Burkhart, B., Lee, M. Y., Murray, C., & Stanimirovic, S., 2015, *"The Lognormal PDF of the Perseus Molecular Cloud: A Comparison of HI and Dust"*, ApJL, 811, 28, arXiv:1509.02889

21. Burkhart, B. & Lazarian, A., 2016, *"Phase Coherence of Interstellar MHD Turbulence"*, ApJ, 827, 26, arXiv:1511.03660

22. ++Correia, C., Lazarian, A., **Burkhart, B.**, Pogosyan, D., & de Medeiros, J. R., 2016, *"Principal Component Analysis of Turbulence in Optically Thick Gas"*, ApJ, 818, 118, arXiv: 1511.03712

23. Krumholz, M. & **Burkhart, B.**, 2016, *"Is Turbulence in the Interstellar Medium Driven by Feedback or Gravity? An Observational Test"*, MNRAS, 458, 1671, arXiv:1512.03439

24. Burkhart, B. & Loeb, A., 2016, *"Predicted Sizes of Pressure-Supported HI Clouds in the Outskirts of the Virgo Cluster"*, ApJL, 834, 7, arXiv:1604.01767

25. Imara, N. & **Burkhart, B.**, 2016, *"Examining the Atomic Hydrogen Associated with Molecular Clouds"*, 2016, ApJ, 829, 2, arXiv:1609.04817

26. Burkhart, B., Stalpes, K., & Collins, D., 2017, *"At the Razor's Edge of Collapse: the PDF Transitional Column Density in Molecular Clouds"*, ApJL, 834, 1, arXiv:1609.04409

27. ++Gurvich, A., **Burkhart, B.**, & Bird, S., 2017, *"The Column Density Distribution of the Low-Redshift Lyman-α Forest in Illustris"*, ApJ, 835, 175, arXiv:1608.03293

28. Hoang, T., Lazarian, A., **Burkhart, B.**, & Loeb, A., 2017, *"The Interaction of Relativistic Spacecrafts with the Interstellar Medium"*, ApJ, 837, 5, arXiv:1608.05284

29. Herron, C., Federrath, C., Gaensler, B., McClure-Griffiths, N., & **Burkhart, B.**, 2017, *"Probes of turbulent driving mechanisms in molecular clouds from fluctuations in synchrotron intensity"*, MNRAS, 466, 2272, arXiv:1612.05672

30. Hull, C., Mocz, P., **Burkhart, B.**, Goodman, A., Girart, J. M., Cortés, P. C., Hernquist, L., Li, Z.-Y., Lai, S.-P., & Springel, V., 2017, *"Unveiling the Role of Magnetic Fields at the Smallest Scales of Star Formation"*, ApJ, 842, 9, ArXiv:1706.03806

31. ++Bialy, S., **Burkhart, B.**, & Sternberg, A., 2017, *"HI-to-H_2 Photodissociation Transition in Cold Turbulent Interstellar Gas"*, ApJ, 843, 92, arXiv:1703.08549

32. Mocz, P., **Burkhart, B.**, Hernquist, L., & Springel, V., 2017, *"Moving Mesh Simulations of Star Forming Cores in Magneto-Gravo-Turbulence"*, ApJ, 838, 40, arXiv:1702.06133

33. **Burkhart, B.** & Loeb, A., 2017, *"The Detectability of Radio Auroral Emission of Proxima B"*, ApJL, 849, 10, arXiv:1706.07038

34. ++Pingel, N., Lee, M. Y., **Burkhart, B.**, & Stanimirović, S., 2018, *"The Multiphase Spatial Power Spectrum of the Perseus Molecular Cloud"*, ApJ, 856, 136, arXiv:1802.10092

35. Krumholz, M., **Burkhart, B.**, Forbes, J., & Crocker, R., *"A Unified Model for Galactic Discs: Star Formation, Turbulence Driving, and Mass Transport"*, 2018, MNRAS, 477, 2716, arXiv:1706.00106

36. ++Herron, C., **Burkhart, B.**, Gaensler, B., Lewis, G. F., & McClure-Griffiths, N., 2018, *"Advanced Diagnostics for the Study of Linearly Polarized Emission II: Application to Diffuse Interstellar Radio Synchrotron Emission"*, ApJ, 855, 29, arXiv:1802.05403

37. ++Chen, H., **Burkhart, B.**, & Goodman, A., 2018, *"The Anatomy of the Column Density PDF"*, ApJ, 859, 162, arXiv:1707.09356

38. Portillo, S., Slepian, Z., **Burkhart, B.**, Kahraman, S., & Finkbeiner, D., 2018, *"Developing the 3-Point Correlation Function as a Novel Probe of Physical Conditions in the Interstellar Medium"*, ApJ, 862, 119, arXiv:1711.09907

39. **Burkhart, B.**, 2018, *"The Star Formation Rate in the Gravoturbulent Interstellar Medium"*, ApJ, 863, 118, arXiv:1801.05428

40. Mocz, P. & **Burkhart, B.**, 2018, *"Star formation from Dense Shocked Regions in Supersonic Isothermal MHD Turbulence"*, MNRAS, 480, 3916, arXiv:1805.11105

41. Casanova, D., Lazarian, A., & **Burkhart, B.**, 2019, *"The Velocity Centroid Gradient for an Absorbing Media"*, MNRAS, 483, 1287, arXiv:1703.03035

42. Koch, E., Rosolowsky, E., Boyden, R., **Burkhart, B.**, Ginsburg, A, Loeppky, J., & Offner, S., 2019, *"TurbuStat: Turbulence Statistics in Python"*, AJ, 158, 1, arXiv:1904.10484

43. Rosen, A., Li, P.S., Zhang, Q., & **Burkhart, B.**, 2019, *"Massive Star Formation via the Collapse Subvirial and Virialized Turbulent Massive Cores"*, ApJ, 887, 108, arXiv:1902.10153

44. Basu, A., Schwarz, D., Kloeckner, H., von Hausegger, S., Kramer, M., Wieching, G., & **Burkhart, B.**, 2019, *"CMB foreground measurements through broad-band radio spectro-polarimetry: prospects of the SKA-MPG telescope"*, MNRAS, 488, 161, arXiv:1906.04788

45. Chiou, Y., Naoz, S., **Burkhart, B.**, Marinacci, F., & Vogelsberger, M., 2019, *"The Supersonic Project: Shining Light on SIGOs - a New Formation Channel for Globular Clusters"*, ApJ, 878, 23, arXiv:1904.08941

46. Peek, J. & **Burkhart, B.**, 2019, *"Do androids dream of magnetic fields? Using Neural Networks to Interpret the Turbulent Interstellar Medium"*, ApJ, 882, 12, arXiv:1905.00918

47. Mocz, P. & **Burkhart, B.**, 2019, *"A Markov model for non-lognormal density distributions in isothermal turbulence"*, ApJ, 884, 35, arXiv:1908.00544

48. Bialy, S., Neufeld, D., Wolfire, M., Sternberg, A., & **Burkhart, B.**, 2019, *"Ion Abundances in a Turbulent Medium – ArH^+, OH^+, H_2O^+"*, ApJ, 885, 109, arXiv:1909.12305

49. **Burkhart, B.** & Mocz, P., 2019, *"The Dense Gas Fraction and the Star Formation Law"*, ApJ, 879, 129, arXiv:1805.11104

50. Bialy, S. & **Burkhart, B.**, 2020, *"The Effects of The Turbulence Driving Scale on Density Fluctuations"*, ApJL, 894, 2, arXiv:1909.12305

51. ++Gallegos-Garcia, M., **Burkhart, B.**, Rosen, A., Jill N., & Ramirez-Ruiz, A., 2020, *"Winds in Star Clusters Drive Subsonic Turbulence"*, ApJ, 899, 30, arXiv:2006.14626

52. Raymond, J.C., Chilingarian, W.P., Sankrit, R., Slavin, J., & **Burkhart, B.**, 2020, *"Turbulence and Energetic Particles in Radiative Shock Waves in the Cygnus Loop I: Shock Properties"*, ApJ, 894, 108, arXiv:2004.09567

53. Heyer, M., Solar, J., & **Burkhart, B.**, 2020, *"MHD turbulence in the Taurus molecular cloud"*, MNRAS, 496, 454, arXiv:2006.10775

54. Pandya, V., Somerville, R., Angles-Alcazar, D., Hayward, C., Bryan, G., Fielding, D., Forbes, J., **Burkhart, B.**, Genel, S., Hernquist, L., Kim, C., Tonnesen, S., & Starkenburg, T., *'First results from SMAUG: The need for preventative stellar feedback and improved baryon cycling in semi-analytic models of galaxy formation"*, 2020, ApJ, 905, 4, arXiv:2006.16317

55. Yuan, Y., Krumholz, M., & **Burkhart, B.**, 2020, *"Understanding Biases in Measurements of Molecular Cloud Kinematics Using Line Emission"*, MNRAS, 498, 2440, arXiv:2007.13488

56. Chiou, Y., Naoz, S., **Burkhart, B.**, Marinacci, F., & Vogelsberger, M., 2020, *"The Supersonic Project: To cool or not to cool Supersonically Induced Gas Objects (SIGOs)?"*, ApJ, submitted, arXiv:2008.02808

57. Raymond, J., Slavin, J., Blair, W., Chilingarian, I., **Burkhart, B.**, & Sankrit, R., 2020, *"Development of Turbulence in a Radiative Shock Wave in the Cygnus Loop"*, ApJ, 903, 2, arXiv:2010.12911

58. **Burkhart, B.**, et al., 2020, *"The Catalogue for Astrophysical Turbulence Simulations"*, ApJ, 905, 14, arXiv:2010.11227

59. Takemura et al., (including **Burkhart, B.** and 31 co-authors), 2021, *"What Determines the Final Stellar Masses?: Importance of Mass Accretion from the Surroundings in the Orion Nebula Cluster Region"*, 2021, ApJ, 910, 6, arXiv:2103.08527

60. Saydjari, A., Portillio, S., Slepian, Z., Kahraman, S., **Burkhart, B.**, & Finkbeigner, D., 2021, *"Classification of Magnetohydrodynamic Simulations using Wavelet Scattering Transforms"*, ApJ, 910, 122, arXiv:2010.11963

61. ++Barreto-Mota, L., de Gouveia Dal Pino, E. M., **Burkhart, B.**, Melioli, C., Santos-Lima, R., & Kadowaki, L. H. S., 2021, *"The Magnetic field orientation in self-gravitating turbulent molecular clouds"*, 2021, MNRAS, 503, 5425, arXiv: 2101.03246

62. Smith, M., Bryan, G., Somerville, R., Hu, C., Teyssier, R., **Burkhart, B.**, & Hernquist, L., 2021, *"Efficient early stellar feedback can suppress galactic outflows by reducing supernova clustering"*, MNRAS, submitted, arXiv:2009.11309

63. Villaescusa-Navarro, F., Daniel Angles-Alcazar, D., Genel, S., Spergel, D., Somerville, R., Romeel, D., Pillepich, A., Hernquist, L., Nelson, D., Torrey, P., Narayanan, D., Li, Y., Philcox, O., La Torre, V., Delgado, A., Ho, S., Hassan, S., **Burkhart, B.**, Wadekar, D., Battaglia, N., & Contardo, G., 2021, *"The CAMELS Project: Cosmology and Astrophysics with Machine Learning Simulations"*, ApJ, in press, arXiv:2010.00619

64. **Burkhart, B.**, 2021, *"Diagnosing the Magnetized Turbulent Interstellar Medium of Galaxies"*, a review in the *Publications of the Astronomical Society of the Pacific*, submitted, arXiv:TBD

65. Olsen, K., **Burkhart, B.**, Mordecai-Mark, M-L., Tress, R., Vizgan, D., Greve, T., Popping, G., & Borrow, J., 2021, *" SIGAME v3: Gas Fragmentation in Post-processing of Cosmological Simulations for More Accurate Infrared Line Emission Modeling"*, ApJ, submitted, arXiv:2102.02868

66. Nelson, E., Tacchella,S., Diemer, B., Leja, J., Hernquist, L., Whitaker, K., Weinberger, R., Pillepich, A., Nelson, D., Terrazas, B., Nevin, R., Brammer, G., **Burkhart, B.**, Cochrane, R., van Dokkum P., Johnson, B., Marinacci, F., Mowla, L., Pakmor, R., Skelton, R., Speagle, J., Springel, V., Torrey, P. Vogelsberger, M., & Wuyts, S., 2021, *"Spatially resolved star formation and inside-out quenching in the TNG50 simulation compared to 3D-HST observations"*, MNRAS, submitted, arXiv:2101.12212

67. ++Orr, M., Fielding D., Hayward, C., & **Burkhart, B.**, 2021, *"Bursting Feedback's Bubble: Clustered SNe and the Trade-off Between Turbulence and Outflows"*, MNRAS, submitted

68. Lake, W., Naoz, S., Chiou, Y., **Burkhart, B.**, Kremer, K., Marinacci, F., & Vogelsberger, M., 2021, *"SIGOS Through The Universe"*, ApJ, submitted.