

Publication List

- Total: 35 peer-reviewed publications; 12 as first author; 5 as second author; 18 as co-author. All publications are listed below in reversed chronological order.
- Total citations >1500. h-index >21.
- Author of 1 book. One press release.

First authored papers

12. **Bisbas, T. G.**, Tan, J. C., & Tanaka, K.E.I, 2021, MNRAS, 502, 2701. *Photodissociation Region diagnostics across galactic environments.*
11. **Bisbas, T. G.**, Schruha, A. & van Dishoeck, E.F., 2019, MNRAS, 485, 3097. *Simulating the atomic and molecular content of molecular clouds using probability distributions of physical parameters.*
10. **Bisbas, T. G.**, Tan, J. C., Csengeri, T., Wu, B., Lim, W., Caselli, P., Güsten, R., Ricken, O., Riquelme, D., 2018, MNRAS, 478L, 54. *The inception of star cluster formation revealed by [CII] emission around an Infrared Dark Cloud.* [\[NASA/SOFIA Press release\]](#)
9. **Bisbas, T. G.**, Tanaka, K. E. I., Tan, J. C., Wu, B., & Nakamura, F., 2017b, ApJ, 850, 23. *GMC Collisions as Triggers of Star Formation. V. Observational Signatures.*
8. **Bisbas, T. G.**, van Dishoeck, E. F., Papadopoulos, P. P., Szücs, L., Bialy, S., & Zhang, Z-Y, 2017a, ApJ, 839, 90. *Cosmic-ray Induced Destruction of CO in Star-forming Galaxies.*
7. **Bisbas, T. G.**, Haworth, T. J., Williams, R. J. R., Mackey, J., Tremblin, P., Raga, A.C., Arthur, S.J., and 12 co-authors, 2015c, MNRAS, 453, 1324. *STARBENCH: the D-type expansion of an HII region.* [\[Collaborative work I led as a result of the StarBench workshops\]](#)
6. **Bisbas, T. G.**, Haworth, T. J., Barlow, M. J., Viti, S., Harries, T.J., Bell, T., & Yates, J.A., 2015b, MNRAS, 454, 2828. *TORUS-3DPDR: a self-consistent code treating three-dimensional photoionization and photodissociation regions.*
5. **Bisbas, T. G.**, Papadopoulos, P. P., & Viti, S. 2015a, ApJ, 803, 37. *Effective Destruction of CO by Cosmic Rays: Implications for Tracing H₂ Gas in the Universe.*
4. **Bisbas, T. G.**, Bell, T. A., Viti, S., Barlow, M.J., Yates, J.A., & Vasta, M., 2014, MNRAS, 443, 111. *A photodissociation region study of NGC 4038.*
3. **Bisbas, T. G.**, Bell, T. A., Viti, S., Yates, J., & Barlow, M. J. 2012, MNRAS, 427, 2100. *3D-PDR: a new three-dimensional astrochemistry code for treating photodissociation regions.*
2. **Bisbas, T. G.**, Wunsch, R., Whitworth, A. P., Hubber, D. A., & Walch, S. 2011, ApJ, 736, 142. *Radiation-driven Implosion and Triggered Star Formation.*
1. **Bisbas, T. G.**, Wunsch, R., Whitworth, A. P., & Hubber, D. A. 2009, A&A, 497, 649. *Smoothed particle hydrodynamics simulations of expanding HII regions. I. Numerical method and applications*

Second authored papers

5. Gaches, B. A. L., **Bisbas, T. G.**, Bialy, S., *A&A in press. The Impact of Cosmic-Ray Attenuation on the Carbon Cycle Emission in Molecular Clouds.*
4. Williams, R. J. R., **Bisbas, T. G.**, Haworth, T. J., Mackey, J., 2018, *MNRAS*, 479, 2016. *The classical D-type expansion of spherical HII regions.*
3. Papadopoulos, P. P., **Bisbas, T. G.**, Zhang Z-Y., 2018, *MNRAS*, 478, 1716. *New places and phases of CO-poor/CI-rich molecular gas in the Universe.*
2. Offner, S. S. R., **Bisbas, T. G.**, Bell, T. A., & Viti, S. 2014, *MNRAS*, 440, L81. *An alternative accurate tracer of molecular clouds: the 'XCI-factor'.*
1. Offner, S. S. R., **Bisbas, T. G.**, Viti, S., & Bell, T. A. 2013, *ApJ*, 770, 49. *Modeling the Atomic-to-molecular Transition and Chemical Distributions of Turbulent Star-forming Clouds.*

Co-authored papers

18. Lim, W., Fumitaka, N., Wu, B., **Bisbas, T.G.**, et al., 2021, *PASJ*, 73, 239. *Star Cluster Formation in Orion A.*
17. Seifried, D.; Haid, S.; Walch, S.; Borchert, E. M.; **Bisbas, T. G.**, 2020, *MNRAS*, 492, 1465. *SILCC-Zoom: H₂ and CO-dark gas in molecular clouds – The impact of feedback and magnetic fields*
16. Gaches, B. A. L., Offner, S. S. R., **Bisbas, T.G.**, 2019, *ApJ*, 883, 190. *The Astrochemical Impact of Cosmic Rays in Protoclusters II: CI-to-H₂ and CO-to-H₂ conversion factors*
15. Gaches, Brandt A. L.; Offner, Stella S. R.; **Bisbas, Thomas G.**, 2019, *ApJ*, 878, 105. *The Astrochemical Impact of Cosmic Rays in Protoclusters. I. Molecular Cloud Chemistry*
14. Banerji, M., Jones, G. C., Wagg, J., Carilli, C. L., **Bisbas, T. G.**, Hewett, P. C., 2018, *MNRAS*, 479, 1154. *The Interstellar Medium Properties of Heavily Reddened Quasars & Companions at $z \sim 2.5$ with ALMA & JVLA.*
13. Haworth, T. J., Glover S. C. O., Koeperl, C. M., **Bisbas, T. G.**, Dale, J. E., 2018, *New Astronomy Reviews*, 82, 1. *Synthetic Observations of star formation and the interstellar medium [Invited review article].*
12. Li, Q., Tan, J. C., Christie, D., **Bisbas, T. G.**, & Wu, B., 2017, *PASJ*, 70, 56. *The Interstellar Medium and Star Formation of Galactic Disks. I. ISM and GMC properties with Diffuse FUV and Cosmic Ray Backgrounds.*
11. Bothwell, M. S., Aguirre, J. E., Aravena, M., Bethermin, M., **Bisbas, T. G.**, et al., 2017, *MNRAS*, 466, 2825. *ALMA observations of atomic carbon in $z \sim 4$ dusty star-forming galaxies.*
10. Accurso, G., Saintonge, A., **Bisbas, T. G.**, & Viti, S., 2017, *MNRAS*, 464, 3315. *Radiative transfer meets Bayesian statistics: where does a galaxy's [CII] emission come from?.*
9. Haworth, T. J., Boubert, D., Facchini, S., **Bisbas, T. G.**, & Clarke, C. J., 2016, *MNRAS*, 463, 3616. *Photochemical-dynamical models of externally FUV irradiated protoplanetary discs.*
8. Krips, M., Martín, S., Sakamoto, K., Aalto, S., **Bisbas, T.G.**, et al., 2016, *A&A*, 592, L3. *ACA [CI] observations of the starburst galaxy NGC 253.*
7. Facchini, S., Clarke, C. J., & **Bisbas, T. G.** 2016, *MNRAS*, 457, 3593. *External photoevaporation of protoplanetary discs in sparse stellar groups: the impact of dust growth.*

6. Haworth, T. J., Harries, T. J., Acreman, D. M., & **Bisbas, T. G.** 2015, MNRAS, 453, 2277. *On the relative importance of different microphysics on the D-type expansion of galactic HII regions.*
5. Walch, S., Whitworth, A. P., **Bisbas, T. G.**, Hubber, D. A., Wünsch, R. 2015, MNRAS, 452, 2794. *Comparing simulations of ionization triggered star formation and observations in RCW 120.*
4. Gaches, B. A. L., Offner, S. S. R., Rosolowsky, E. W., & **Bisbas, T. G.** 2015, ApJ, 799, 235. *Astrochemical Correlations in Molecular Clouds.*
3. Walch, S., Whitworth, A. P., **Bisbas, T. G.**, Wünsch, R., & Hubber, D. A. 2013, MNRAS, 435, 917. *Clumps and triggered star formation in ionized molecular clouds.*
2. Walch, S. K., Whitworth, A. P., **Bisbas, T.**, Wünsch, R., & Hubber, D. 2012, MNRAS, 427, 625. *Dispersion of molecular clouds by ionizing radiation.*
1. Stamatellos, D., Whitworth, A. P., **Bisbas, T.G.**, & Goodwin, S. 2007, A&A, 475, 37. *Radiative transfer and the energy equation in SPH simulations of star formation.*

Books

1. **Bisbas, Thomas G.** "The Interstellar Medium, Expanding Nebulae and Triggered Star Formation. Theory and Simulations". Springer (Briefs in Astronomy Series). ISBN 978-3-319-26142-3. Total downloads: >2,400 (combined activity for all chapters).

Press releases

1. November 6, 2018. *Cosmic Collisions: Unraveling Mysterious Formation of Stars.* SOFIA Science Center. <https://www.nasa.gov/feature/cosmic-collisions-sofia-unravels-the-mysterious-formation-of-star-clusters>