

YAO-LUN YANG

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CONTACT INFORMATION

Star and Planet Formation Laboratory, RIKEN
S407 Chemistry and Materials Physics Building, 2-1 Hirosawa, Wako, Saitama 351-0198, Japan

RESEARCH INTERESTS

Early Stage Star Formation, Infall & Outflows, Astrochemistry, Interstellar Medium, Atomic and Molecular Spectroscopy, and Infrared & Radio Astronomy

PROFESSIONAL APPOINTMENT

2019 Aug.– Japan Society for the Promotion of Science (JSPS) Postdoctoral Fellow
RIKEN, Japan

EDUCATION

2019 Ph.D. Astronomy

The University of Texas at Austin, U.S.A. Advisors: [Prof. Neal J. Evans II](#) and [Dr. Joel D. Green](#)
Dissertation: *The Three-dimensional Structure and Kinematics of Protostellar Envelopes*

2015 M.A. Astronomy

The University of Texas at Austin, U.S.A. Advisor: [Prof. Neal J. Evans II](#)
Thesis: *The Class 0 Protostar BHR71: Herschel Observations and Dust Continuum Models*

2012 B.S. Physics

National Taiwan University, Taiwan Advisor: [Dr. Ciska Kemper](#)
Project: *Molecular Hydrogen in Diffuse Interstellar Medium of the Large Magellanic Cloud*

AWARDS AND RECOGNITIONS

Virginia Initiative on Cosmic Origins (VICO) Postdoctoral Fellowship
Japan Society for the Promotion of Science (JSPS) Postdoctoral Fellowship, Japan
Concentration in Teaching and Mentoring, UT-Austin
Professional Development Award (\$600), UT-Austin
University Graduate Continuing Fellowship (2017-2019, \$80 000), UT-Austin
Fred T. Goetting, Jr. Memorial Endowed Presidential Fellowship (\$10 000), UT-Austin
Summer Internship (\$14 120), STScI
Outstanding Thesis Award (\$1000), UT-Austin
Summer Student Fellowship (\$1300), ASIAA
College Student Research Training Fellowship (\$1500), National Science Council, Taiwan

PUBLICATION

First-Author and Significant Contribution Refereed Journal Articles

- [4] **Yang, Y.-L.**, Green, J. D., Evans, N. J. II, et al. 2018, “CO in Protostars (COPS): *Herschel*-SPIRE Spectroscopy of Embedded Protostars”, [ApJ](#), **860**, 174
- [3] **Yang, Y.-L.**, Evans, N. J. II, Green, J. D. et al. 2017, “The Class 0 Protostar BHR71: *Herschel* Observations and Dust Continuum Models”, [ApJ](#), **835**, 259
- [2] Green, J. D., **Yang, Y.-L.**, et al. 2016, “The CDF Archive: Herschel PACS and SPIRE Spectroscopic Data Pipeline and Products for Protostars and Young Stellar Objects”, [AJ](#), **151**, 75

- [1] Larson, R. L., Evans, N. J., Green, J. D., **Yang, Y.-L.** 2015, “Evidence for Decay of Turbulence by MHD Shocks in the ISM via CO Emission”, [ApJ, 806, 70](#)

Other Refereed Journal Articles

- [6] Liu, H. B., Mérand, A., Green, J. D., Pérez, S., Hales, A. S., **Yang, Y.-L.**, et al. 2019, “Diagnosing 0.1-10 au Scale Morphology of the FU Ori Disk using ALMA and VLTI/GRAVITY”, [ApJ accepted](#)
- [5] Yi, H.-W., Lee, J.-L., Liu, T., **et al.** 2018, “Planck Cold Clumps in the λ Orionis complex. II. Environmental effects on core formation”, [ApJS, 236, 2](#)
- [4] Karska, A., Kaufman, M. J., Kristensen, L. E., **et al.** 2018, “The Herschel-PACS Legacy of Low-mass Protostars: Far-IR Gas Properties and Their Origin in FUV-illuminated C-shocks”, [ApJS, 235, 30](#)
- [3] Liu, T., Kim, K.-T., Juvela, M., **et al.** 2018, “The TOP-SCOPE Survey of Planck Galactic Cold Clumps: Survey Overview and Results of an Exemplar Source, PGCC G26.53+0.17”, [ApJS, 234, 28](#)
- [2] Green, J. D., Jones, O. C., Keller, L. D., **et al.** 2016, “The Mid-infrared Evolution of the FU Orionis Disk”, [ApJ, 832, 4](#)
- [1] Naslim, N., Kemper, F., Madden, S. C., **et al.** 2015, “Molecular Hydrogen Emission in the Interstellar Medium of the Large Magellanic Cloud”, [MNRAS, 446, 2490-2504](#)

OBSERVING PROGRAMS

ALMA, cycle 7, 19 hrs (as PI)
APEX/FLASH⁺, 7.5 hrs (as PI)
ALMA, cycle 4, 1 hr (as PI)
SOFIA/GREAT, cycle 6, 4.1 hrs (as PI, \$41 000 awarded)
SOFIA/FORCAST, cycle 6, 3.9 hrs (as Co-I, \$39 000 awarded)
SOFIA/GREAT, cycle 4, 5.3 hrs (as Co-PI, \$56 000 awarded)
SOFIA/FORCAST, cycle 4, 3 hrs (as Co-I, \$33 000 awarded)
Harlan J. Smith Telescope/DIAFI, 4 nights (as on-site observer)
IRTF/TEXES, 2016, 2 nights (as Co-I & on-site observer)
IRTF/TEXES, 2015, 1 night (as Co-I & on-site observer)
IRTF/TEXES, 2014, 1 night (as Co-I & on-site observer)

TALKS

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| <i>Invited talk, From Star to Planet Formation II,</i> | Göteborg, Sweden 2019 |
| SPF seminar, | MPIA, Germany 2019 |
| Seminar, | Leiden Observatory, Netherlands 2019 |
| CAS seminar, | Center for Astrochemical Studies, MPE, Germany 2019 |
| Origins Seminar, | U of Arizona, Tucson, AZ 2018 |
| CfA Stars & Planets Seminar, | CfA, MA 2018 |
| TUNA Talk, | NRAO/UVa, VA 2018 |
| EAO Seminar, | East Asia Observatory, Hilo, HI 2018 |
| 6th GMT Science Meeting: Stars Birth & Death, | Honolulu, HI 2018 |
| Star and Planet Formation Seminar, | STScI, MA 2018 |
| 231st AAS Meeting, | National Harbor, DC 2018 |
| 2017 Asia-Pacific Regional IAU Meeting, | Taipei, Taiwan 2017 |
| 72nd International Symposium on Molecular Spectroscopy, | UIUC, IL 2017 |
| 230th AAS Meeting, | Austin, TX 2017 |
| SPF Seminar, | MPIA, Germany 2016 |
| SPF Seminar, | ESO-Garching, Germany 2016 |
| Astrochem Seminar, | Leiden, Netherlands 2016 |

Star Formation 2016, Splinter session,
AstroCoffee Talk,
Subaru Seminar,
Lunch Talk,
TUNA Talk,
Workshop on Dense Cores,

Exeter, UK 2016
IfA, HI 2015
Subaru Telescope, HI 2015
ASIAA, Taiwan 2015
NRAO/UVa, VA 2015
Monterey, CA 2014

UNDERGRADUATE STUDENT MENTORING

- Alyssa Ramos (2018, *currently as a chemist in pharmaceutical industry*): Exploratory study on the complex organic molecules at the early phase of star formation, involving an archival study using the ALMA archive and simulating synthetic spectra of COMs.
- Rebecca Larson (2014–2016, *currently PhD student at UT Austin*): Constrain the decay of turbulence shocks with *Herschel* observations of starless molecular clouds.

PUBLIC OUTREACH AND PROFESSIONAL SOCIETY MEMBERSHIP

- Organizer, Astronomy on Tap ATX, Austin, TX, 2016–2019
Monthly astronomy talk held in a local bar joined by more than 250 audience
- Talk, “*Will They Call Me on My Cell Phone: How the Drake Equation Estimates the Odds of Finding ET*”, Astronomy on Tap ATX, Oct. 2016
- Talk, “*Astronomical Observations*”, Astronomy Student Association, UT-Austin, Mar. 2015
- Talk, “*How to Make A Star*”, Westcave Preserve, Jan. 2015
- Talk, “*From Cold Gas to Hot Stars*”, Astronomy Student Association, UT-Austin, Mar. 2014
- American Astronomical Society Member, 2017–