YAO-LUN YANG

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CONTACT INFORMATION

Department of Astronomy, University of Virginia
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RESEARCH INTERESTS

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

PROFESSIONAL APPOINTMENTS

2020 Feb.– Virginia Initiative on Cosmic Origins (VICO) Postdoctoral Fellow
University of Virginia, USA

2019 Aug.–2020 Jan. 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

PUBLICATIONS

First-Author and Significant Contribution Refereed Journal Articles

[5] **Yang, Y.-L.**, Evans, N. J. II, Smith, A. et al. 2019, "Constraining the Infalling Envelope Models of Embedded Protostars: BHR71 and its Hot Corino", accepted to ApJ

[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., **el 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

Gemini-South/IGRINS, 2020A, 3 hrs (as co-PI)
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

Invited Colloquium,	NTHU, Taiwan 2019
Lunch Talk,	ASIAA, Taiwan 2019
Invited talk, **From Star to Planet Formation II**,	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
6$^{\text{th}}$ 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,	Exeter, UK 2016
AstroCoffee Talk,	IfA, HI 2015
Subaru Seminar,	Subaru Telescope, HI 2015
Lunch Talk,	ASIAA, Taiwan 2015
TUNA Talk,	NRAO/UVa, VA 2015
Workshop on Dense Cores,	Monterey, CA 2014

UNDERGRADUATE STUDENTS 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–