SAMANTHA SCIBELLI

Jansky Postdoctoral Fellow — National Radio Astronomy Observatory
US Citizen ⋄ sscibell@nrao.edu ⋄ website: https://samscibelli.github.io

Research interests: astrochemistry, low-mass star formation, radio astronomy, astrobiology

EDUCATION

University of Arizona, Tucson, AZ — *August 2017 - August 2023*
Ph.D. in Astronomy & Astrophysics — *August 16, 2023*
Science Communication Certificate — *May 12, 2023*
M.S. in Astronomy & Astrophysics — *August 17, 2019*
Advisor: Dr. Yancy Shirley

Stony Brook University, Stony Brook, NY — *August 2013 - January 2017*
Bachelor of Science, Physics, second Major Astronomy — Magna Cum Laude
Women in Science and Engineering (WISE) Honors College

RESEARCH APPOINTMENTS

National Radio Astronomy Observatory (NRAO) — Charlottesville, VA
Jansky Postdoctoral Fellow — *August 2023 - present*

University of Arizona, Steward Observatory — Tucson, AZ
Graduate Research Assistant & NSF Fellow — *August 2017 - August 2023*

NASA Jet Propulsion Laboratory (JPL), Astrophysics Department — Pasadena, CA
NASA Sally Ride Fellow — *January 2017 - July 2017*
NASA UI Intern — *August 2015 - December 2015*

Harvard-Smithsonian Center for Astrophysics — Cambridge, MA
NSF REU Intern — *June 2016 - August 2016*

Stony Brook University, Physics and Astronomy Department — Stony Brook, NY
Undergraduate Researcher — *December 2014 - January 2017*
Exploration in STEM Researcher — *June 2015 - August 2015*

Stony Brook University, Laser Teaching Center — Stony Brook, NY
Undergraduate Researcher — *February 2014 - May 2014*
Summer Research Intern — *July 2013 - August 2013*

Rensselaer Polytechnic Institute, Physics and Astronomy Department — Troy, NY
Visiting Student Researcher — *November 2010 - August 2014*

FELLOWSHIPS, HONORS AND AWARDS

2023: Jansky Fellowship, National Radio Astronomy Observatory
2023: 51 Pegasi b Postdoctoral Fellowship (declined)
2023: College of Science Graduate Student Teaching Award
2022-2023: P.E.O Scholar Award (PSA) for outstanding doctoral research ($20,000)
2022-2023: Advancing Science in America ARCS Foundation 'Lawson Scholar' ($10,000 +tuition)
2021-2022: Advancing Science in America ARCS Foundation 'Lawson Scholar' ($10,000 +tuition)

2021: Graduate Student Group Award 2021; SO Diversity, Equity and Inclusion Task Force
2020: Green Bank Observatory Blumberg Astrobiology Travel Grant ($1,750)
2019: Ed and Jill Bessey Scholarship in Astrobiology, University of Arizona
2017-2022: National Science Foundation Graduate Research Fellowship (NSF GRFP) Recipient
2016: Sigma Pi Sigma Physics Honor Society, Stony Brook University
2015: Researcher of the Month, Stony Brook University

RESEARCH OVERVIEW AND HIGHLIGHTS:

Telescope Proposals and Observing: I have had 38 proposals accepted as PI (including 1 large program) and have observed over 2,000 hours [Full list at the end, here]

Conferences and Talks: I have given over 50 science talks (+ several public talks), 18 of them invited (including 1 review talk) [Full list at the end, here]

Publications: 22 total refereed articles [ADS LINK], 9 first author, 376 total citations (119 first-author citations) [Full list at the end, here

TEACHING EXPERIENCE

University of Virginia / NRAO:

- Co-Instructor for ASTR 5340: Introduction to Radio Astronomy (Fall 2024)
  - Responsible for teaching half of the lectures in semester-long graduate level class
- Instructor for AAA.org course on 'Introduction to Astrochemistry' (Spring 2024)
  - Designed five 2-hour lectures (undergraduate level)

University of Arizona:

- Teaching Assistant for ASTR 300B: Radiation & Matter (Fall 2022)
- Teaching Assistant for ASTR 196: Astronomical Problem Solving (Fall 2022)
- Teaching Assistant for ASTR 202: Life in the Universe (Spring 2021)
- Teaching Assistant for ASTR 170B1: The Physical Universe (Fall 2020)
  - Designed a 'Science Journalism' module and taught mini-lectures for class

SCIENTIFIC MENTORING

University of Virginia / NRAO:

- Advisor for 2025 CASSUM summer undergraduate student Anissa Pokorny-Yadav and her project "Line Modeling of Carbon and Sulfur Species in Prestellar Core IRAS 16293E"
- Advisor for 2025 SOS ALMA funded NRAO summer undergraduate student Nate Morin and his project "The Influence of Shocks on Phosphorus Chemistry in NGC 1333"
- Advisor for UVa undergraduate student Sam Meyers and their project "Searching for biologically relevant precursors prebiotic species in the prestellar core IRAS 16293E"
  - Earned ASTR 4993 'Tutorial' credit during the Spring semester of 2025.
  - Worked into the summer of 2025 with the NRAO REU cohort

- Advisor for 2024 NRAO REU undergraduate student Anissa Pokorny-Yadav and her project "Simple and Complex Carbon-Chain Molecules in Prestellar & Starless Cores in NGC1333" (report)

    - Presented iPoster at AAS 245th Winter Meeting *Chambliss Poster Winner!
    - PI-ed follow-up IRAM 30m proposal that was A-ranked (project code: 025-25)!
    - Writing up publication for journal submission

- Science Mentor to high school students Ori Shi and Ollie Snow for their project "Confirmation of Methanol (CH3OH) toward Herbig Be Disk HD190073" (Fall 2023).

COMMUNITY ENGAGEMENT

Academic Support & Outreach

- External expert reviewer to the PhD of Andrés Megías Toledano (2025)
- AMP-UP Mentor (Fall 2023 & 2024) - For graduate student mentees applying for postdoctoral positions, I meet with, give advice to, and provide feedback on application material. Mentees:

    - Helena Lecoq Molinos, Space Research Institute (IWF/OeAW), Graduate Student
    - Kumail Zaidi, Tufts, Graduate Student (*now a postdoc at Argonne National Laboratory*)

- Astronomy Camp Counselor (June 2018,2019,2021,2022,2023,2024) - I teach middle school and high school students about astronomy and get them interested in science and technology. I lead the SMT & 12m radio observing.
- Volunteer for NRAO/UVa Starr Hill Pathways program, designed to offer area youth college and career exploration (January 2024)
- NOIRLab Teen Astronomy Cafe Volunteer (throughout 2019–2023) - I assisted high school students in participating in hands on demonstrations and interactive computer activities while they listen to presentations from the scientists at NOIRLab and other institutions.
- TechPrep Mentor, Stony Brook University (Summer 2015) - I was employed as STEM summer camp counselor for middle school girls on Long Island.
- Volunteer as Mystery Women for Explore Your Opportunities (EYO) Conference (April 2014/2015) - aim to educate 7th grade girls about STEM through interactive learning techniques in Bronx, NY.

Leadership & Service

- Serving as Journal Referee for ApJ and A&A (ongoing)
- Subject-matter Expert Reviewer in a NASA peer review (2025)
- Co-organizer for the NRAO TUNA Lunch Talk Series (Fall 2023 - present)
- Co-organizer for the Annual NRAO/GBO Post-doc Symposium (March 2024)
- AAS Chambliss Competition Poster Judge (Winter 2024 & 2025)
- Co-organizer for Steward Observatory Diversity, Equity and Inclusion Initiative (SO DEI), aimed at creating a more equitable department by implementing actionable changes through five major task forces. (2020-2023)
- Co-organizer for Steward Observatory's Diversity Journal Club (DJC), similar to a science journal club, were we discuss topics such as gender equity and diversity in the classroom (2018-2023)
- Served on the Steward Observatory Graduate Admissions Committee (2019/2020 season)

SCIENCE COMMUNICATION

Public Talks:

- Girls Exploring The Universe (GETU) Camp (June 12th, 2024)
- McCormick Observatory Public Night at the University of Virginia (February 16th, 2024)
- 'Space Drafts', which is Tucson's version of 'Astronomy On Tap' (April 19th, 2022)
- The Splendido Retirement Community (March 18th, 2022)
- 'Knowledge Village' presentation for middle-schoolers (April 2021)

Popular Science Writing:

- Blog entry, "Hot off the disk: New detections of complex molecules in warm planet-forming disks" published on Dec 20, 2024 in the Astrochemsitry Report
- News article, "Scientists: Too many satellites will hurt research," published on Dec 10, 2020 in Green Valley News, describes how satellite communication networks will negatively affect radio astronomy.
- News article, "UA graduate student studies the chatty life of covert squirrel," published in The Daily Wildcat, Dec 10, 2020.
- "A Witch to the Stars" memoir published July 15, 2020 on terrain.org describes my childhood and how I became interested in astronomy research.

TECHNICAL SKILLS

Modeling & Analysis	RADMC-3D, RADEX, SHAPE
Software & Tools	GILDAS/CLASS, Ds9, CARTA, CASA, IRAF
Languages	Python, Fortran, C++, LaTex
Github repositories:	[SMT Mapping Reduction Pipeline]

TELESCOPE TIME OBTAINED

PI of **38 successful proposals** (including one large program, GLUCOSE, with the GBT), and have been co-I of 18 successful proposals. **Over 2,000 hours of on-the-sky observing time.**

Accepted Proposals as PI (38):

38. *Mapping the Spatial Distribution of Complex Molecules in L1544 with ALMA Band 1*, **ALMA**, Cycle 12, 26.1 hr 12m & 133.6 hr ACA
37. *Tracing the Complex Chemical Evolution in the Natal Prestellar Environment of IRAS 16293 E*, **ALMA**, Cycle 12, 16.5 hr 12m & 84.9 hr ACA time
36. *Deep Mapping of Extended Precursor Prebiotic Chemistry in NGC1333*, **Yebes 40m**, 2025B, 90 hr
35. *Dense gas mapping in the nearby face-on starburst galaxy NGC 6946*, (w/ co-PI C. Eibensteiner) **ARO SMT**, Spring 2025, 240 hrs
34. *Mapping the Spatial Distribution of Complex Molecules in L1544 with ALMA Band 1*, **ALMA**, Cycle 11, 26.1 hr 12m & 133.6 hr ACA

33. *Tracing the Complex Chemical Evolution in the Natal Prestellar Environment of IRAS 16293 E*, **ALMA**, Cycle 11, 16.5 hr 12m & 84.9 hr ACA time

32. *Phosphorous in the Earliest Stages of Low-mass Star Formation*, **ALMA**, Cycle 11, 2.0 hr 12m & 5.2 hr ACA ***PI for accompanying ∼$20,000 SOS grant**

31. *A Quest for More GLUCOSE: the GBT L1544 Unbiased Complex Organics SurvEy*, **GBT**, 2024B, 556 hrs,

30. *The Search for Triply Deuterated Methanol (CD3OH) in IRAS 16293 E*, **ARO 12m**, Spring 2024, 90 hrs

29. *Cataloging the Complex Chemistry towards the Highly-Deuterated Prestellar Core IRAS 16293 E*, **Yebes 40m**, Spring 2024 30 hrs

28. *Phosphorous in the Earliest Stage of Low-mass Star Formation*, **IRAM 30m**, 'A', Spring 2024, 22 hrs

27. *Surveying the Complex Nitrogen Chemistry in Starless Cores in the B213E region of Taurus*, **IRAM 30m**, 'B', Winter 2023, 50 hrs

26. *Completion of the COM Survey in the Aquila Molecular Cloud II*, **ARO 12m**, Fall 2023, 114 hrs

25. *Confirmation of Methanol (CH3OH) toward Herbig Be Disk HD190073*, **ARO SMT**, Fall 2023, 20 hrs

24. *Investigating Gas-phase COMs toward the Prestellar Core IRAS 16293 E*, **ARO 12m**, Fall 2023, 35 hrs

23. *Completing the Census of Starless Cores with COM Detections in the Perseus Molecular Cloud*, **Yebes 40m**, Spring 2023, 72 hrs

22. *Deep Integration on Perseus Starless Cores*, **ARO 12m**, TBS time, 60 hrs

21. *Completion of the COM Survey in the Aquila Molecular Cloud*, **ARO 12m**, Fall 2022, 114 hrs

20. *COM Survey of 'Typical' Starless Cores in the Taurus, Perseus and Aquila Molecular Clouds*, **Yebes 40m**, Spring 2022, 72 hrs

19. *High Resolution C18O ARGUS Mapping toward Prestellar Cores in Taurus (Continuation II)*, **GBT**, 2022A, 20 hrs

18. *Continuation of 12m Survey of Complex Organic Molecules in Prestellar Cores in Perseus and Aquila Molecular Clouds*, **ARO 12m**, Spring 2022, 180 hrs

17. *Survey of Complex Organic Molecules in Prestellar Cores in Perseus and Aquila*, **ARO 12m**, Spring 2022, 115 hrs

16. *QBand Chemical Complexity Survey of Prestellar Core L1544*, **GBT**, Special Call 2021, >600 hrs

15. *High Resolution C18O ARGUS Mapping toward Prestellar Cores in Taurus (Continuation I)*, **GBT**, 2021A, 20 hrs

14. *Continued J=(3-2) Molecular Mapping of the Dense B10 Region of Taurus*, **ARO SMT**, Fall 2020, 220 hrs

13. *High Resolution C18O ARGUS Mapping toward Prestellar Cores in Taurus*,
GBT, 2020B, 20 hrs

12. *Complementary Zero-spacing Map for ALMA ACA Observations*,
ARO 12m, Spring 2020, 74 hrs

11. *Novel J=(3-2) Molecular Mapping of the Dense B10 Region of Taurus*,
ARO SMT, Spring 2020, 120 hrs

10. *Far-IR Dust and Magnetic Field Alignment Study of the Collapse Candidate Starless Core L63*,
SOFIA (joint with GBT), Cycle 9, 2.82 hrs (5.38 hrs on GBT)***PI for accompanying ∼$40,000 grant**

9. *Spatial Distribution of COMs within a Starless Core*,
ALMA, ACA Supplemental Call, 19.8 hrs, Cycle 7

8. *High Resolution 1mm Continuum Study of the B10 Star Forming Region (Continuation)*,
IRAM 30m, 'A', Summer 2019, 17 hrs

7. *N-Bearing Complex Organic Molecules: A Survey of Prestellar Cores*,
ARO 12m, Fall 2019, 350 hrs

6. *Survey of Highly Complex Organic Molecules in Young Prestellar Cores*,
ARO 12m, Spring 2019, 350 hrs

5. *High Resolution 1mm Continuum Study of the B10 Star Forming Region*,
IRAM 30m, 'B', Winter 2018, 35 hrs

4. *Mapping Inflow/Outflow Tracers in Massive Star-Forming Clumps*,
ARO SMT, Fall 2018, 48 hrs

3. *A Deeper Look at Acetaldehyde in Prestellar Cores*,
ARO 12m, Spring 2018, 210 hrs

2. *Auxiliary [SII] Observations of the Dying Star V Hydrae*,
MMT, 2017 Jan-Jun Call, 3 half nights

1. *A Comprehensive Search for Methanol in Prestellar Cores*,
ARO 12m, Fall 2017, 80 hrs

Accepted Proposals as co-I (18):

18. *A deep, unbiased 7-10mm molecular line survey of the Fireworks Galaxy* (PI: M. Jesus Jimenez Donaire),
Yebes 40m, 2025B, 68 hr

17. *Complex Carbon-Chain Chemistry in the Earliest Stage of Star Formation in NGC1333* (PI: A. Pokorny-Yadav),
IRAM 30m, Summer 2025, 'A', 44 hrs ***UG student led**

16. *Ophiuchus and Perseus Methanol Observations* (PI: L. Steffes),
ARO 12m, Fall 2020, 220 hrs

15. *Uncovering a Hidden Complex Nitrile Reservoir in Planet-Forming Disks* (PI: R. Gross),
ALMA, Cycle 11(+Cycle 12 Continuation), 9 hr 12m

14. *Mapping chemical complexity and deuteration in IRAS 16293 E* (PI: J. Ferrer Asensio),
Yebes 40m, 2024B, 58 hr

13. *Mapping the emission of COMs toward the L1544 pre-stellar core* (PI: I. Jiménez-Serra), **Yebes 40m**, 2024B, 145 hr

12. *Mapping NH2D Emission in Starless Cores* (PI: Y. Shirley), **GBT**, 2024B, 'B', 23 hrs

11. *Exploiting a 'shocked' core to quantify the prestellar chemical inventory* (PI: S. Spezzano), **IRAM 30m**, Summer 2024(+Winter 2024 and +Summer 2025 Continuation), 'B', 5 hrs

10. *Probing the Central Region of the Prestellar Core L183* (PI: Y. Shirley), **LMT**, 2024-S1, 'A', 4 hrs

9. *Mapping Deuterated Molecules in the Taurus Molecular Cloud* (PI: Y. Shirley), **IRAM 30m**, Summer 2023, 'B', 60 hrs

8. *A Survey of 15-Nitrogen Fractionation in Prestellar Cores* (PI: R. Squillace), **GBT**, 2024B, 'B', 36 hrs ***UG student led**

7. *Probing Dust Opacity Variations: MUSTANG-2 Imaging of the prestellar core L183* (PI: Y. Shirley), **GBT**, 2024A, 'B', 12 hrs

6. *A survey of methyl formate and isomers in prestellar cores* (PI: Y. Shirley), **ARO 12m**, Fall 2022, 40 hrs

5. *Probing the Heart of a DUDE - The Central 200 AU of the Expanding Disk in the Carbon Star, V Hya* (PI: R. Sahai), **ALMA**, Cycle 9, 10 hr 12m

4. *Shocked and Scorched in the W5 Star-Forming Region* (PI: R. Sahai), **VLA**, 2018A, 'A', 7 hrs

3. *Distribution of methanol towards the dense cores of the L1495 filament* (PI: A. Punanova), **IRAM 30m**, Summer 2019 (+Winter 2018, +Summer 2018), 'B', 35 hrs

2. *High-Velocity Bullet Ejections From a Dying Star: A VLA Study of V Hya* (PI: R. Sahai), **VLA**, 2018A, 'B', 10 hrs

1. *The Nature of the Central Disk in V Hya: A Carbon Star Ejecting High-Velocity Bullets* (PI: R. Sahai), **ALMA**, Cycle 5 (+Cycle 6), 10 hr 12m & 3 hr ACA time

CONFERENCES AND TALKS

I have given **over 50 science talks** and more than a dozen poster presentations

Invited Talks (18):

Scheduled: Prestellar core workshop, 8 -12 June, 2026, Kyushu University, Japan

18. EAS SS8a: Astrochemical Horizons: From Galaxies to Comets, Cork, Ireland, June 24th, 2025

17. Astrochemistry Seminar, NASA GSFC, Greenbelt, MD, June 5th, 2025

16. Keynote Speaker for GBO Summer Student 'Radio Bootcamp', May 29th, 2025

15. Commencement Keynote Speaker for Stony Brook University Women in Science and Engineering (WISE) Honors College, May 22nd, 2025

14. Towards New Frontiers, March 10th, 2025, ESO, Garching, Germany **(*Review Talk)**

13. IPAG/IRAM Seminar, December 12th, 2024, Grenoble, France

12. ACS AstroCheminar, October 15th, 2024, Virtual Talk
11. Centro de Astrobiologia (CAB) Seminar, September 10th, 2024, Spain
10. Astronomy Department Colloquium, August 22nd, 2024, University of Florida, Gainesville, FL
9. Special Astrochemistry Colloquium, August 20th, 2024, Florida Tech, Melbourne, FL
8. Radio Millimeter Submillimeter (RMS) Seminar, Feb. 9th 2024, CfA, Cambridge, MA
7. GBT Large Program Special Session at AAS 243rd Annual Winter Meeting, 7-11 Jan. 2024, New Orleans, LA
6. NRAO/UVa Joint Colloquium Series, September 28, 2023, Charlottesville, Virginia
5. The NASA Astrobiology Program's Prebiotic Chemistry and Early Earth Environments (PCE3) Seminar Series, 1st December 2022, Virtual
4. Carnegie Observatories Lunch Talk, 20th January 2023, Pasadena, California
3. NRAO Colloquium, 16th November 2022, Socorro, New Mexico
2. K-Band Science Using the GBT, 19th – 21st Sep. 2022, Green Bank, West Virginia
1. EAS Symposium SS15: Molecules in starless and pre-stellar cores: tools to understand low- and high-mass star-formation, June 28 - July 2, 2021, Virtual

Contributed Talks (36):

Scheduled: Astronomy Seminar, August 19, 2025, University of Rochester, Rochester, NY

36. Stony Brook University Astronomy Department Lunch Talk, May 23rd, 2025
35. VICO/CICO Spring Workshop, May 20-22, 2025 Charlottesville, Virginia
34. Annual NRAO/GBO Postdoc Symposium, May 19-21 2024, Virtual
33. AAS 245th Winter Meeting, 12-16 Jan. 2025, National Harbor, MD
32. Fractionation II: from the Solar System to galaxies, Nov. 4-7, 2024, Florence, Italy
31. 53rd Young European Radio Astronomers Conference (YERAC), Sep. 3-6, 2024, Madrid, Spain
30. COSPAR 45th Scientific Assembly Session, July 14-21, 2024, Busan, South Korea
29. EAS Annual Meeting held at Padova Congress, Italy, from July 1-5, 2024
28. Annual NRAO/GBO Postdoc Symposium, March 19th 2024, Green Bank Observatory, WVA
27. Institute for Theory and Computation (ITC) Lunch Seminar, Feb. 8th 2024, Center for Astrophysics, Cambridge, MA
26. Astrobiology Session at AAS 243rd Annual Winter Meeting, 7-11 Jan. 2024, New Orleans, LA
25. VICO/CICO Spring Workshop, December 6-8, 2023 Charlottesville, Virginia
24. Kavli-IAU Astrochemistry Symposium, July 10-14, 2023, Traverse City, Michigan
23. The 38th Annual New Mexico Symposium, Feb. 17, 2023, Socorro, New Mexico
22. Dissertation Presentation for AAS 241st Annual Meeting, 8-12 Jan. 2023
21. From Clouds to Planets II: The Astrochemical Link, Oct. 3-7, 2022, Berlin, Germany
20. NRAO TUNA Lunch Series Talk, September 22, 2022, Charlottesville, Virginia

19. COSPAR 44th Scientific Assembly Session, July 21, 2022, Athens, Greece
18. Astrophysics Seminar, June 6, 2022, Jet Propulsion Laboratory, Pasadena, CA
17. Leiden Astrochemistry Seminar, May 12, 2022, Virtual
16. Origins Seminar, May 9, 2022, Steward Observatory
15. The 37th Annual New Mexico Symposium, Nov. 18, 2021, Virtual
14. Arizona Astrobiology Research Symposium, Nov. 12th, 2021, Virtual
13. ARCS Virtual Site Visit, Sep. 15th 2021, Virtual
12. Wider and Deeper at Green Bank: The New Argus-144 Instrument, Sep. 22-24, 2020, Virtual
11. Origins Seminar, July 13th, 2020, Virtual
10. Astrochemical Frontiers, June 15 - 19, 2020, Virtual Zoom Conference
9. The 35th Annual New Mexico Symposium, Feb. 2020, NRAO, Socorro, NM
8. The Physics and Chemistry of the Interstellar Medium, 2-6 Sep. 2019, Avignon, France
7. Astrochemistry: Past, Present, Future, Caltech, July 2018, Pasadena, CA
6. The Olympian Symposium 2018: gas and stars from milli- to mega- parsecs, Mediterranean Village Hotel & Spa, Paralia, Keterini, Greece, May 2018
5. The 33rd Annual New Mexico Symposium, NRAO, Socorro, NM, Nov. 2017
4. SAO Summer Symposium, Center for Astrophysics, Cambridge, MA, Aug. 2016
3. FLASH Talk, NOAO, January, 2019, Tucson, AZ
2. Special Astrophysics Seminar, Jet Propulsion Laboratory, Pasadena, CA, Dec. 2015
1. Physics and Nature Conference, Pace University, White Plains, NY, Nov. 2013

Poster Presentations (14):

14. European Astronomical Society Annual Meeting, June 27 - July 1, 2022, Virtual ePoster
13. Science and Engineering Excellence Banquet, University of Arizona, Jan. 2020
12. Star and Planet Formation (SPF2), Biosphere, Tucson, AZ, March 2018
11. American Astronomical Society Meeting, Grapevine, TX, Jan. 2017
10. Undergraduate Research and Creative Activities Symposium, Stony Brook, May 2016
9. CUWiP Women in Physics Conference, Wesleyan University, CT, January 2016
8. Exploration in STEM Symposium, Stony Brook, NY, Aug. 2015
7. Undergraduate Research and Creative Activities Symposium, Stony Brook, April 2015
6. Undergraduate Research and Creative Activities Symposium, Stony Brook, April 2014
5. Frontiers in Optics and Exhibit/Laser Science XXIX, Orlando, FL, Oct. 2013
4. Symposium for Summer Research, Stony Brook, NY, Aug. 2013
3. American Astronomical Society Meeting, Long Beach, CA, Winter 2013
2. Astronomical Society Meeting (NY), Stony Brook University, Stony Brook, NY, 2012

1. Astronomical Society Meeting (NY), Skidmore College, Saratoga, NY, 2011

PUBLICATIONS

22 total refereed articles [ADS LINK], 9 first author, 376 total citations (119 first-author citations)

In preparation/headed to submission OR submitted (4):

1. *The Evolution of Carbon-chain Chemistry from Prestellar to Protostellar Cores in The Taurus Molecular Cloud*
   Ramos, J., Yao-Lun, Y., Sakai, N., **Scibelli, S.**, Murillo, N., *submitted to A&A*
2. **Carbon-chain chemistry in starless and prestellar cores in the Perseus Molecular Cloud*
   Pokorny-Yadav, A., **Scibelli, S.**, et al., *to be submitted to MNRAS* *(UG student project)
3. *c-C_3H_2 deuteration towards pre-stellar and starless cores in the Perseus Molecular Cloud*
   Ferrer Asensio, J., **Scibelli, S.**, L. Steffes, et al., *to be submitted to A&A*
4. *Overview and First Results for GLUCOSE: The GBT L1544 Unbiased Complex Organics SurvEy*
   Scibelli, S., & the GLUCOSE collaboration *to be submitted to ApJ*

Major Contributions (14):

22. *Nascent chemical complexity in prestellar core IRAS 16293 E: complex organics and deuterated methanol*
    Scibelli, S., Drozdovskaya, M. N., Caselli, P., et al., *accepted to A&A*.
21. *First detections of PN, PO and PO+ toward a shocked low-mass starless core*
    Scibelli, S., Megías, A., Jiménez-Serra, et al., 2025, ApJL, 985, 2
20. *NEATH IV: an early onset of complex organic chemistry in molecular clouds*
    Priestley, F. D., Clark, P. C., Ragan, S. E., **Scibelli, S.**, et al., 2025, MNRAS, 537, 3
19. *Molecular Distributions and Abundances in the Binary-Shaped Outflow of V Hya*
    Siebert, M., Sahai, R., **Scibelli, S.**, and Remijan, A., 2025, ApJ, 979, 119
18. *Survey of Complex Organic Molecules in Starless and Prestellar Cores in the Perseus Molecular Cloud*
    Scibelli, S., Shirley, Y., Megías, A., and Jiménez-Serra, I., 2024, MNRAS, 533, 4
17. *3D Radiative Transfer Modeling and Virial Analysis of Starless Cores in the B10 region of the Taurus Molecular Cloud*
    Scibelli, S., Shirley, Y., Schmiedeke, A., et al., 2023, MNRAS, 521, 3
16. *The Rapidly Evolving Asymptotic Giant Branch Star, V Hya: ALMA Finds a Multiring Circus with High-velocity Outflows*
    Sahai, R., Huang, P.-S., **Scibelli, S.**, et al., 2022, ApJ, 929, 59
15. *Detection of Complex Organic Molecules in Young Starless Core L1521E*
    Scibelli, S., Shirley, Y., Vasyunin, A., et al., 2021 MNRAS, 504, 4
14. **A survey of CH2DOH towards starless and pre-stellar cores in the Taurus molecular cloud*
    Ambrose, H., Shirley, Y., & **Scibelli, S.** 2021, MNRAS, 891, 1 *(UG student project)
13. *Prevalence of Complex Organic Molecules in Starless and Prestellar Cores within the Taurus Molecular Cloud*
    Scibelli, S. & Shirley, Y., 2020, ApJ, 891, 1

12. *Biases in inferring dark matter profiles from dynamical and lensing measurements*
Scibelli, S., Perna, R., & Keeton, C., 2019, MNRAS, 485, 5880

11. *High-Velocity Bullets from V Hydrae, an AGB Star in Transition: Ejection History and Spatio-Kinematic Modeling*
Scibelli, S., Sahai, R., & Morris, M. R., 2019, ApJ, 870, 117

10. *High-speed Bullet Ejections during the AGB-to-Planetary Nebular Transition: HST Observations of the Carbon Star, V Hydrae*
Sahai, R., **Scibelli, S.,** & Morris, M. R., 2016, ApJ, 827, 92

9. *Census of Blue Stars in SDSS DR8*
Scibelli, S., Newberg, H. J., Carlin, J.L., & Yanny, B., 2014, ApJS, 215, 24

Minor Contributions (8):

8. *Alignment of dense molecular core morphology and velocity gradients with ambient magnetic fields*
Pandhi, A., and 17 others including **Scibelli, S.**, 2023, MNRAS, 525, Issue 1, pp.364-392

7. *Velocity-Coherent Substructure in TMC-1: Inflow and Fragmentation*
Smith, S., and 13 others including **Scibelli, S.**, 2023, MNRAS, 519, Issue 1, pp.285-299

6. *A survey of deuterated ammonia in the Cepheus star-forming region L1251*
Galloway-Sprietsma, M., and 6 others including **Scibelli, S.**, 2022, MNRAS, 515, 5219

5. *Methanol Mapping in Cold Cores: Testing Model Predictions*
Punanova, A., and 7 others including **Scibelli, S.**, 2022, ApJ, 927, 213

4. *Relative alignment between dense molecular cores and ambient magnetic field: the synergy of numerical models and observations*
Chen, C.-Y., and 28 others including **Scibelli, S.**, 2020, MNRAS, 494, 1971

3. *Velocity-coherent Filaments in NGC 1333: Evidence for Accretion Flow?*
Chen, M. C.-Y., and 13 others including **Scibelli, S.**, 2020, ApJ, 891, 84

2. *Droplets. II. Internal Velocity Structures and Potential Rotational Motions in Pressure-dominated Coherent Structures*
Chen, H. H.-H., and 8 others including **Scibelli, S.**, 2019, ApJ, 886, 119

1. *Droplets. I. Pressure-dominated Coherent Structures in L1688 and B18*
Chen, H. H.-H., and 24 others including **Scibelli, S.**, 2019, ApJ, 877, 93

Media & Press:

· "Unlocking the Origins of Life: Phosphorus Discovered in the Earliest Stage of the Formation of Solar-type Stars", IRAM newsroom, June 19, 2025 [available here]

· Featured on podcast "Astrochem Coffee", September 2024 edition [available here]

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