

PROF. CARA BATTERSBY

CONTACT INFORMATION	University of Connecticut, Dept. of Physics 196A Auditorium Road, Unit 3046 Storrs, CT 06269-3046	Phone: (860) 486-3988 E-mail: cara.battersby@uconn.edu https://battersby.physics.uconn.edu/
RESEARCH INTERESTS	1) Star formation in extreme environments, 2) the Central Molecular Zone of the Milky Way, 3) clustered star formation, 4) data visualization and numerical techniques for big data	
PROFESSIONAL PREPARATION	Assistant Professor University of Connecticut (on research leave AY16/17)	August 2016 - present
	Research Associate Smithsonian Astrophysical Observatory	September 2017 - present
	National Science Foundation (NSF) Postdoctoral Fellow Harvard-Smithsonian Center for Astrophysics	August 2016 - July 2017
	Submillimeter Array (SMA) Postdoctoral Fellow Harvard-Smithsonian Center for Astrophysics	Sept. 2013 - July 2016
	Ph.D. Astrophysics, University of Colorado, Boulder, CO, Adviser: John Bally <i>"The Structure, Kinematics, and Evolution of Massive Star and Cluster Forming Regions"</i>	2013
	M.A. Astronomy, Boston University, Adviser: Jim Jackson	2008
	B.S. Physics & Astronomy, University of Massachusetts Amherst <i>summa cum laude, Advisers: Min S. Yun & Grant Wilson</i>	2006
PUBLICATIONS	Cara Battersby has an h-index of 35, is an author on 78 refereed publications with a total citation count of 4,513 (computed May 2022 from the NASA Astrophysics Data Service Page). Complete publication list is below.	
SELECTED HONORS, GRANTS, AND AWARDS	• PI: NSF Early CAREER Faculty Award, 2022 "CAREER: Shining STARS Amidst the Turbulence" (\$697k) • PI: NASA Astrophysics Data Analysis Program Grant, 2021 "3-D MC: Mapping Circumnuclear Molecular Clouds from X-ray to Radio" (\$466k) • PI: National Science Foundation Astronomy and Astrophysics Grant, 2021 "Uncovering the Seeds of Star Clusters across the Galaxy" (\$389k) • UConn Internal Grants (\$59k total): <i>PI: UConn STARS Program Awarded under CLAS DEI Initiative \$4k, Co-I: BRIDGE+ Program Awarded under the President's Commitment to Community Grant 2021 \$13k, Scholarship Facilitation Fund: 2019 \$1k, NFIP: 2017-2021 \$5k total, Co-I: Provost's Open Educational Resources Award 2017 \$10k, Co-I: Provost's Large Course Redesign Award 2017 \$26k.</i> • Co-PI NASA SOFIA Archival Research Program 2021 "IGNITES: Investigating Galactic Nuclear Infrared Thermal Evolution of young Stars" (\$166k) • Robert H. Goddard Honor Award (https://science.gsfc.nasa.gov/sci/awardswon) 2019 "For outstanding team performance resulting in the delivery of a scientifically compelling, executable, low-risk Origins Space Telescope mission concept."	

- **PI: National Radio Astronomy Observatory** **2019**
Student Observing Support Grant (\$34k)
 - **Co-PI: National Science Foundation Campus Cyberinfrastructure Grant** **2019**
CC Compute: Shared Computing Infrastructure for Large-scale Science Problems (\$400k)*
 - **Co-I: NASA Balloon Mission:** **2019**
ASTHROS: Astrophysics Stratospheric Telescope for High-spectral Resolution Observations at Submillimeter-wavelengths (\$18k to UConn)
 - **NASA Group Achievement Award** **2019**
for the “substantial and effective scientific, technical, and management work in developing the Large Mission Concept Studies for the 2020 Astrophysics Decadal Survey.”
 - **Provost’s Letter of Recognition for Teaching Excellence** **2017, 2018, & 2019**
 - **Shortlisted (top 5 of candidates worldwide) for the** **2018**
Nature Research Awards for Inspiring Science
 - **PI: National Science Foundation Astronomy and Astrophysics Grant,** **2018**
“3-D CMZ: Unveiling the Structure of our Galaxy’s Central Molecular Zone” (\$390k)
 - **PI: Templeton Foundation Grant, “BiteScis: K12 Research Brief Engagement Pilot” (\$215k)** **2017**
 - **Appointed by NASA: Science & Technology Definition Team, Origins Space Telescope** **2016**
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SELECTED PRESS

- 2022 CT Mirror: [UConn faculty winning NSF CAREER awards at record-breaking pace](#)
- 2022 UConn Today: [UConn faculty winning NSF CAREER awards at record-breaking pace](#)
- 2021 Scientific American: [This Report Could Make or Break the Next 30 Years of U.S. Astronomy](#)
- 2021 UConn Today: [The Study of Big Data: How CLAS Researchers Use Data Science](#)
- 2021 How Stuff Works: [Gravitational Constant Is the “G” in Newton’s Law of Universal Gravitation](#)
- 2021 Ask a Scientist Podcast: [Dr. Cara Battersby – Stars and the Universe](#)
- 2021 Universe Today: [The Core of the Milky Way is an Extreme Place](#)
- 2021 Center for Astrophysics | Harvard & Smithsonian Weekly Science Update: [Cold Dust Cores in the Central Zone of the Milky Way](#)
- 2020 NASA Goddard Feature [Piercing the Dark Birthplaces of Massive Stars with Webb](#)
- 2019 Sky & Telescope [Astronomers Dream Big, Consider Four Future Space Telescopes](#)
- 2018 UConn Today [Researcher Profile](#)
- 2018 [Nature Research Awards for Inspiring Science](#)
- 2018 Forbes [NASA’s Next Flagship Mission May Be a Crushing Disappointment for Astrophysics](#)
- 2017 UConn Eclipse Viewing in the News: *Hartford Courant: [UConn Eclipse Viewing](#); [Partial Eclipse, Complete Awe for CT](#), [Patch.com: Eclipse Viewing Tips](#); [Eclipse Event](#); [It was Eclipse and Ice Cream](#), [Stamford Advocate: Sky Gazers Ready for Solar Eclipse](#)*
- 2017 phys.org [The Lifetimes of Massive Star-Forming Regions](#)
- 2016 phys.org [The Milky Way’s central molecular zone](#)
- 2016 SciTechDaily [Astronomers Take A Closer Look at the Milky Way’s Central Molecular Zone](#)
- 2016 Astronomy Now [Unravelling the Milky Way’s Central Molecular Zone](#)
- 2016 United Press International [New study details skeleton of the Milky Way galaxy](#)
- 2015 astrobit.es [The Skeleton of the Milky Way](#)
- 2015 AAS Nova [Companions for “Nessie” in the Milky Way’s Skeleton](#)
- 2015 Sky & Telescope [Making Massive Stars](#)
- 2015 space.com [Milky Way ‘Bones Could Reveal Secrets About Our Galaxy](#)
- 2014 Sky & Telescope [Cooking up High-Mass Stars](#)

SELECTED
SUCCESSFUL
OBSERVING
PROPOSALS

Co-PI, 121 hours , Atacama Large Millimeter Array (ALMA) Large Program “ <i>ACES: The ALMA CMZ Exploration Survey</i> ”	2021
Co-PI, 119 hours , Atacama Large Millimeter Array (ALMA) Large Program “ <i>ALMAGAL: ALMA Evolutionary study of High Mass Protocluster Formation in the Galaxy</i> ”	2019
Over 100 hours as Co-I on the Atacama Large Millimeter Array (ALMA)	2013-2021
Over 30 hours as Co-I on the Very Large Array (VLA)	2013-2019
PI, 550 hours , Submillimeter Array (SMA) “ <i>CMZoom: The SMA Legacy Survey of the Central Molecular Zone</i> ”	2014-2017
PI, 60 hours , IRAM 30-m “ <i>Mapping the Bones of the Milky Way</i> ”	2015
Co-I, 200 hours , Atacama Pathfinder Experiment (APEX) “ <i>H₂CO Thermometry of the CMZ to understand its low star formation rate</i> ”	2014

INVITED
SCIENTIFIC
PRESENTATIONS

Summary: Cara Battersby has given 7 invited review/keynote talks, 52 invited conference presentations and colloquia, and 13 invited public talks since 2013.

Invited Review Talks (7 since 2013):

- Harvard-Heidelberg Star Formation Workshop Review Talk, Cambridge, MA (11/13/19), Kavli Institute of Astronomy and Astrophysics *Forum on Gas in Galaxies*, Peking, China (09/10/19), Oxford *Origins Space Telescope Meeting*, Oxford, UK (09/05/2018), EWASS *Star formation at the centre of the Galaxy* Prague (06/26/2017), CIERA Fellows at the Frontiers at Northwestern (09/01/2016), Keynote speaker for *Mass Assembly from Clouds to Clusters* at the Sexten Center for Astrophysics, Italy (07/07/2014), BASH Symposium at the University of Texas Austin (10/07/2013).

Invited Conference Presentations and Colloquia (52 since 2013):

- **2022:** Queen’s University Astronomy Seminar (Virtual - 01/31/22), Pontificia Universidad Católica de Chile (Virtual - 04/26/22)
- **2021:** American Museum of Natural History Astronomy Seminar (Virtual - 04/13/21), University of Cologne Astrophysics Colloquium (Virtual - 04/26/21), University of California at Santa Cruz Astrophysics Colloquium (Virtual - 05/05/21), Colby College (Virtual - 10/25/21).
- **2020:** 11th CMB-S4 Workshop: Cosmology and Astrophysics in the Next Decade Virtual Talk in the *Our Galaxy* Session (Virtual - 08/11/2020), NASA Decadal Studies Session at the American Astronomical Society (01/08/2020)
- **2019:** NASA SOFIA Science Center Colloquium (12/18/19), University of Toronto Astrophysics Colloquium (12/11/19), Purdue University Astrophysics Seminar (10/28/19), NASA Goddard Space Flight Center Colloquium (10/01/19), Max Planck Institute for Astronomy Koenigstuhl Colloquium (07/05/2019), University of Toledo Astrophysics Colloquium (04/18/2019), Origins Space Telescope Overview at the Center for Computational Astrophysics (06/21/19), University of Massachusetts Astrophysics Colloquium (04/11/2019), The Space Astrophysics Landscape for the 2020s and Beyond, Invited Overview and Panel Chair of *Extreme Star Formation and Time Domain in Astrophysics* (04/03/2019), Yale Astrophysics Colloquium (01/24/2019)
- **2018:** Brown University Astronomy Seminar (11/29/2018), MIT Astrophysics Colloquium (11/06/2018), University of Arizona Astrophysics Colloquium (10/4/2018), Harvard-Smithsonian Center for Astrophysics Galaxies & Cosmology Seminar (03/27/2018), Oxford Workshop on Giant Molecular Clouds Oxford, UK (03/12/2018), Caltech Astrophysics Colloquium (03/07/2018), Wesleyan Astrophysics Colloquium (02/28/2018),

SMA Special Session at the American Astronomical Society meeting (01/08/2018).

- **2017:** Union of Radio Science General Assembly and Scientific Symposium (08/22/2017), Trinity College Physics Seminar (03/31/2017), National Radio Astronomy Observatory Charlottesville Astronomy Colloquium (02/09/2017), Far-IR Science Interest Group Webinar (02/02/2017),
- **2016:** National Radio Astronomy Observatory Socorro Astronomy Colloquium (12/02/2016), Harvard-Heidelberg Workshop on Star Formation Heidelberg, Germany (11/08/2016), SMA Science in the Next Decade Taipei, Taiwan (10/27/2016), University of Texas Austin Astronomy Colloquium (09/14/2016), Kavli Institute for Theoretical Physics Santa Barbara *The Cold Universe* (04/25/2016), DRAO Astronomy Colloquium Penticton, BC (03/01/2016), NRC Herzberg Institute for Astronomy Colloquium Victoria, BC (02/29/2016), University of Connecticut Physics Seminar (02/11/2016), University of California, Berkeley Astronomy Colloquium (02/04/2016), Amherst College Physics and Astronomy Colloquium (01/26/2016),
- **2015:** Bates College Physics and Astronomy Colloquium (12/4/2015), University of Arizona Tucson FLASH and Origins Talks (11/13/2015), UMass Amherst Astronomy Colloquium (11/5/2015), IAU 'Scale-Free Processes' Focus Meeting Honolulu (08/13/2015), University of Florida, *Star & Planet Formation Workshop* (03/12/2015), American Museum of Natural History Colloquium, (02/05/2015).
- **2014:** National Radio Astronomy Observatory Filaments Workshop Charlottesville (10/10/2014), Boston University Astrophysics Seminar (10/14/2014), MIT Haystack Observatory Colloquium (07/24/2014), Yale University Seminar (04/07/2014).
- **2013:** University of Florida *ASTROWIN* (02/15/2013), University of Florida Seminar, (02/12/2013).

Invited Public Talks (13 since 2016):

- Avon High School Classroom Presentation (12/09/19), Early College Experience Presentation to Visiting High School Teachers (09/30/19), Manchester Public Library (08/21/19), UConn Astronomy Association (04/24/2019), Wachusett Science Seminar at Holden public High School, MA (11/13/2018), Science Seminar at Avery Heights Assisted Living, Hartford, CT (10/31/2018), Sky Scrapers Amateur Astronomy Club, RI (05/11/2018), Keene Public Library in New Hampshire (03/09/2017), Sturbridge Rotary Club Massachusetts (01/30/2017), Arlington Retired Men's Club Massachusetts (10/12/2016), Aldrich Astronomical Society Massachusetts (10/08/2016), Astronomy on Tap in Cairns, Australia, (07/20/2016), Center for Astrophysics Observatory Nights, Posted online: [The Wild West of Star Formation](#) (04/21/2016).

Students Advised and Co-Advised:

Summary: Cara Battersby has advised or co-advised 35 research students since 2013.

• **Two Current Graduate Students:**

- Dani Lipman - UConn Graduate Student - "*3-D CMZ: Uncovering the Structure of our Galaxy's Central Molecular Zone*" (Fall 2020 - present)
- Jennifer Wallace - UConn Graduate Student - "*Cataloging High-Mass Star Formation from the Galactic Disk to the Galactic Center*" (Spring 2020 - present)

• **Seven former Graduate Students**

- H Perry Hatchfield - UConn Graduate Student - "*Star Formation in the Central Molecular Zone*" (Summer 2017 - Spring 2022), completed PhD in Spring 2022.
- Yiyang Kuang - UConn Graduate Student - "*Simulated Observations of the Core Mass Function*" (Fall 2020)
- Steven Walczyk - UConn Graduate Student - "*Tidal Compression of Clouds in the Central Molecular Zone*" (Spring 2019 - Fall 2019)

RESEARCH
MENTORSHIP

- Mark Graham - Southampton Master's Student at Harvard - "*Extreme Star Formation in the Center of Our Galaxy*" (2014 - 2015)
- Catherine Zucker - Harvard Graduate Student (primary adviser Alyssa Goodman) - "*Milky Way Bones*" (2014 - 2018)
- Brian Svoboda - Graduate Student at University of Arizona (primary adviser Yancy L. Shirley) - "*The Nature of Starless Clumps*" (2013 - 2018)
- Nalin Vutisalchavakul - UT Austin (primary adviser: Neal J. Evans II) - "*The Star Formation Relation for Regions in the Galactic Plane: The Effect of Spatial Resolution*" (2013)
- **Nineteen UConn Undergraduate Students:** Taevis Kolz (Spring 2022 - present), Stefania Schuler (Fall 2021 - present), Lexie DeMarco (Summer 2021 - Spring 2022), Danya Alboslani (Spring 2021 - present), Eric Hilhorst (Spring 2020 - Spring 2021), Hannah Koziol (Spring 2020 - Spring 2022), Payal Shah (Spring 2020 - Spring 2022), Eddie Herndon (Fall 2019 - Spring 2021), Sean Oh (Fall 2019 - Spring 2020), Bryan Garcia-Medina (Fall 2019 - Spring 2020), Jonah Cerbin (Spring 2019), Joseph Giangregorio (Fall 2017 - Spring 2019), Alice Hall (Spring 2018 - Summer 2019), Aisha Massiah (2018, Spring 2021), Brian Zelickovics (Spring 2018), Anthony (Josh) Machado (Spring 2018 - Summer 2020), Alexa Abul (Fall 2017 - Spring 2018), Christopher Annuzzi (Fall 2017 - Fall 2018), Cooper Biancur (Fall 2017 - Spring 2018), Stephanie Santillo (Fall 2017).
- **Seven other Undergraduate and High School Students:** Elizabeth Gutierrez - Harvard Banneker Summer Student (co-adviser: Meredith MacGregor) (2017), Emma Kleiner - Nyack High School Student (2016-2018), Irene Vargas-Salzar - Harvard Summer REU student (2016), Dennis Lee - Harvard undergraduate student (2015 - 2016), Jimmy Castaño - Harvard undergraduate student (2015 - 2016), Liz Gehret - Harvard Summer REU student (2015 - 2016), AJ Cohn - Harvard undergraduate student (2015 - 2017).

TEACHING

Developed and Instructed an Advanced Physics Course for Undergraduate Majors and Graduate Students: PHYS 4720/6720: Galaxies and the Interstellar Medium, University of Connecticut, Storrs, CT.

- Taught Spring 2021 online. *SET median scores of 5.0 for instructor and 5.0 for course*

Prepped and Instructed a Large, Interactive Physics Course for Non-Majors: PHYS 1025Q: Introductory Astronomy, University of Connecticut, Storrs, CT.

- Taught Spring 2022. *SET median scores of XX for instructor and XX for course in Spring 2022*
- Taught Spring 2020. *Covid 2019 partial online semester, no SET scores.*
- Taught Spring 2019. *SET median scores of 5.0 for instructor and 5.0 for course Spring 2019*

Developed and Instructed a New Interactive Physics Course for Majors: PHYS 2701: The Foundations of Modern Astrophysics, University of Connecticut, Storrs, CT.

- Taught Fall 2017, Fall 2018, Fall 2019, Fall 2021. *SET median scores of 5.0 for instructor and 5.0 for course 2017, 2018, 2019, 2021.*

Additional Teaching:

***Measuring the Stars* for the Astronomy Summer Course at the Stedu Association,** a youth-led non-profit that is focused on making STEM education more accessible.

- Taught July 16, 2021.

Big Data and Computation Workshop

- Taught at the UConn Summer BRIDGE+ Program August 19, 2021 • Guest lecture in the PHYS

2200 Computation Physics, November 3, 2021

The Holistic STEMInist: Work Life Balance

• Taught at the UConn Summer BRIDGE+ Program August 24, 2021 • Astronomy Seminar Series Professional Development Workshop, December 8, 2021

SELECTED
SERVICE

UConn Service:

• **Advising and Mentorship:**

- Co-founder of the UConn Graduate BRIDGE+ Program, Summer 2021.
- Cientifico Latino Graduate Student Mentoring Initiative ([GSMI](#)) Mentor Fall 2020, Fall 2021
- Informal Mentor (meet for career advice, navigating challenges, etc.) for tens of UConn graduate and undergraduate students in the Astronomy program (Fall 2017 - present)
- Research Mentor to 19 UConn undergraduate students and 5 graduate students. Wrote over 100 reference letters for over 30 students and postdocs, including 25 UConn undergraduate and 2 UConn graduate students (Fall 2017-present)
- UConn Physics Club Faculty Advisor (Fall 2018 - Spring 2022)
- Undergrad Faculty Mentor for SPS Chapter (Spring 2019, 2020, 2021, 2022)
- UConn Astronomy Association Faculty Advisor (2018 - present)
- Organizer for Graduate Student Fellowship Information Presentation (Fall 2017 & 2018)

• **Student Project / Thesis Committees**

- PhD Thesis Exam Committee Member for Gloria Fonseca Alvarez (06/08/22)
- Dissertation Proposal Defense Committee Member for J. Andrew Casey-Clyde (05/17/22)
- General Oral Exam Committee Chair for Jennifer Wallace (04/28/22)
- PhD Thesis Exam Committee Chair for H Perry Hatchfield (04/08/22)
- University Scholar Program Committee Member for Nathan Wetherell (2020-2022)
- Dissertation Proposal Defense Committee Member for Jonathan Mercedes-Feliz (01/24/22)
- Dissertation Proposal Defense Committee Member for Gloria Fonseca Alvarez (07/14/21)
- Master's Thesis Exam Committee Member for Nikko Cleri (03/18/2021)
- PhD Thesis Exam Committee Member for Yasaman Homayouni (02/26/2021)
- University Scholar Program Committee Member for Nathan Wetherell (Fall 2020 - present)
- Dissertation Proposal Defense Chair for H Perry Hatchfield (04/25/2019)
- Dissertation Proposal Defense Committee Member for Mohammed Akhshik (11/02/2018)
- University Scholar Program Committee Member for Emmerson Dang (2017-2018)
- Dissertation Proposal Defense Committee Member for Yasaman Homayouni (05/19/2017)

• **Committees:**

- Department of Physics Advisory Committee (Fall 2019 - Spring 2022)
- CLAS Big Data Task Force (Spring 2019)
- Faculty Search Committee Member (Fall 2018 - Spring 2019)
- Furniture Committee Member (Fall 2018 - Spring 2019)

• **Development of UConn Astrophysics Program:**

- Astronomy Seminar Organizer (Fall 2019 - present)
- Facilitator of Professional Development Seminars / Discussions at least once per semester in UConn Astronomy (Fall 2017 - present)
- Development of Interactive New Advanced Astrophysics Course PHYS 4720/6720 (2021) and New Astrophysics Course for Majors PHYS 2701 (2017)
- Co-Creation of 6 new Astrophysics Courses, PHYS 2701, 2702, 4710, 4720, 4740, and 1040QE along with Profs. Whitaker and Trump (2016-2021)
- Co-Development of Astrophysics Minor, along with Profs. Whitaker and Trump (2017)

Service to Scientific Community:

- **NSF Program Reviews**
 - Green Bank Observatory (GBO) NSF Program Review (2021)
 - National Radio Astronomy Observatory (NRAO) NSF Program Review (2018)
- **Proposal Review Panels:**
 - NASA Astrophysics Data Analysis Program, Chair (2020)
 - Large Millimeter Telescope Proposal Review Committee (2020)
 - Atacama Large Millimeter Array Time Allocation Committee (2019)
 - NASA Hubble Postdoctoral Fellowship Program (2018)
 - Smithsonian Astrophysics Observatory Submillimeter Array (2015-2017)
 - NASA Astrophysics Data Analysis Program (2015)
- **External PhD Thesis Defense Committee Member:**
 - Boston University, Taylor Hogge, (Dec. 2018 - Oct. 2021)
 - University of Victoria, Jared Keown (Sept. 2019)
- **Referee:** Astrophysical Journal (*ApJ*), Astronomy & Astrophysics (*A&A*)
- **Co-I and Science Working Group Lead for the *PRIMA Far-IR Probe Mission Concept*** (February 2022 - present)
- **NASA-appointed member of the *Science & Technology Definition Team (STDT): Origins Space Telescope (OST)*** (March 2016 - January 2020)
- **NASA OST Group Leader** for:
 - The Milky Way, ISM, and Local Galaxy Science Group (2016 - 2020)
 - The OST Advocacy Group (2017 - 2020)
- **Science Organizing Committees:**
 - New England Star Formation Workshop, UConn (01/17/20)
 - Galactic Center Workshop, *New Horizons in the Galactic Center Astronomy and Beyond*, Keio University, Japan 2019
 - Olympian Symposium *Gas and Stars from milli- to mega-parsecs*, Greece in 2018
 - Chair of the Science and Local Organizing Committees for the [Harvard-Heidelberg Workshop on Star Formation](#) in 2015

SELECTED OUTREACH ACTIVITIES

Founder and co-leader of the UConn STARs (Science Technology and Astronomy Recruits) Program: New program to recruit and retain students from historically excluded groups in the physics major. (Spring 2022 - present)

Co-Founder of the UConn Graduate BRIDGE+ program: A summer bridge program for incoming UConn STEM graduate students from traditionally underrepresented backgrounds. Funded through the Presidents Commitment to Community Initiative (2021 - present).

Co-Founder and Leader of [BiteScis](#): A program that brings together science graduate students with K-12 teachers to develop lesson plans to bring modern science research into the K-12 classroom. Lesson plans are freely available online at [bitescis.org](#). (2014-2020)

Co-Founder and Leader of [CU-STARs](#): Founded a new program at CU-Boulder to retain undergraduate students from traditionally underrepresented backgrounds in STEM during their first year. Organized public talk series, outreach events in underserved communities, and more. Estimated to have impacted 50 undergraduate and hundreds of high school students. The program is in its 9th year and is estimated to have impacted about 45 undergraduate and 100s of high school students (Leader: 2010-2013)

Additional Highlighted Outreach Activities:

- Led Astronomy Activity at Hartford Schools Physics Open House. (April 2018)
 - Co-organized solar eclipse viewing party. (August 2017)
 - Science Advisor for the Play "The Women who Mapped the Stars" by Joyce Van Dyke, premiering at the Central Square Theater. (07/01/2016 - 09/01/2017)
 - [ComSciCon](#) workshop organizer (2015-2017)
 - [WorldWide Telescope Ambassador](#) (2014-2016)
 - Leader of the Colorado Women in Astronomy Group: Organized the first-ever women in astronomy retreat and department public forum, in addition to leading monthly meetings and hosting guest speakers. (2010-2012)
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PROF. CARA BATTERSBY

PUBLICATIONS

Summary: C. Battersby has an h-index of 35, is an author on 78 refereed publications with a total citation count of 4,513 (computed May 2022 from the NASA Astrophysics Data Service Page). Complete publication list is below.

First and Second Author or Advised Student Lead

- [1] Hatchfield, H. P., Sormani, M. C., Tress, R. G., **Battersby, Cara**, Smith, R. J., Glover, S. C. O., & Klessen, R. S., *Dynamically Driven Inflow onto the Galactic Center and its Effect upon Molecular Clouds*, November. 2021, ApJ, 922, 79 [\[ADS\]](#)
- [2] Hatchfield, H. P., **Battersby, Cara**, Keto, E., Walker, D., Barnes, A., Callanan, D., Ginsburg, A., Henshaw, J. D., Kauffmann, J., Kruijssen, J. M. D., Longmore, S. N., Lu, X., Mills, E. A. C., Pillai, T., Zhang, Q., Bally, J., Butterfield, N., Contreras, Y. A., Ho, L. C., Ott, J., Patel, N., & Tolls, V., *CMZoom. II. Catalog of Compact Submillimeter Dust Continuum Sources in the Milky Way's Central Molecular Zone*, November. 2020, ApJS, 251, 14 [\[ADS\]](#)
- [3] **Battersby, C.**, Keto, E., Walker, D., Barnes, A., Callanan, D., Ginsburg, A., Hatchfield, H. P., Henshaw, J., Kauffmann, J., Kruijssen, J. M. D., Longmore, S. N., Lu, X., Mills, E. A. C., Pillai, T., Zhang, Q., Bally, J., Butterfield, N., Contreras, Y. A., Ho, L. C., Ott, J., Patel, N., & Tolls, V., *CMZoom: Survey Overview and First Data Release*, August. 2020, ApJS, 249, 35 [\[ADS\]](#)
- [4] Zucker, C., **Battersby, Cara**, & Goodman, A., *Physical Properties of Large-scale Galactic Filaments*, September. 2018, ApJ, 864, 153 [\[ADS\]](#)
- [5] **Battersby, Cara**, Armus, L., Bergin, E., Kataria, T., Meixner, M., Pope, A., Stevenson, K. B., Cooray, A., Leisawitz, D., Scott, D., Bauer, J., Bradford, C. M., Ennico, K., Fortney, J. J., Kaltenegger, L., Melnick, G. J., Milam, S. N., Narayanan, D., Padgett, D., Pontoppidan, K., Roellig, T., Sandstrom, K., Su, K. Y. L., Vieira, J., Wright, E., Zmuidzinas, J., Staguhn, J., Sheth, K., Benford, D., Mamajek, E. E., Neff, S. G., Carey, S., Burgarella, D., De Beck, E., Gerin, M., Helmich, F. P., Moseley, S. H., Sakon, I., & Wiedner, M. C., *The Origins Space Telescope*, August. 2018, Nature Astronomy, 2, 596 [\[ADS\]](#)
- [6] **Battersby, C.**, Bally, J., & Svoboda, B., *The Lifetimes of Phases in High-mass Star-forming Regions*, February. 2017, ApJ, 835, 263 [\[ADS\]](#)
- [7] Mills, E. A. C. & **Battersby, C.**, *Origins of Scatter in the Relationship between HCN 1-0 and Dense Gas Mass in the Galactic Center*, January. 2017, ApJ, 835, 76 [\[ADS\]](#)
- [8] Svoboda, B. E., Shirley, Y. L., **Battersby, C.**, Rosolowsky, E. W., Ginsburg, A. G., Ellsworth-Bowers, T. P., Pestalozzi, M. R., Dunham, M. K., Evans, II, N. J., Bally, J., & Glenn, J., *The Bolocam Galactic Plane Survey. XIV. Physical Properties of Massive Starless and Star-forming Clumps*, May. 2016, ApJ, 822, 59 [\[ADS\]](#)
- [9] Zucker, C. & **Battersby, C.** and Goodman, A., *The Skeleton of the Milky Way*, December. 2015, ApJ, 815, 23 [\[ADS\]](#)
- [10] Vutisalchavakul, N., Evans, II, N. J., & **Battersby, C.**, *The Star-formation Relation for Regions in the Galactic Plane: The Effect of Spatial Resolution*, December. 2014, ApJ, 797, 77 [\[ADS\]](#)
- [11] **Battersby, C.**, Ginsburg, A., Bally, J., Longmore, S., Dunham, M., & Darling, J., *The Onset of Massive Star Formation: The Evolution of Temperature and Density Structure in an Infrared Dark Cloud*, June. 2014, ApJ, 787, 113 [\[ADS\]](#)
- [12] **Battersby, C.**, Bally, J., Dunham, M., Ginsburg, A., Longmore, S., & Darling, J., *The Comparison of Physical Properties Derived from Gas and Dust in a Massive Star-forming Region*, May. 2014, ApJ, 786, 116 [\[ADS\]](#)

- [13] **Battersby, C. D.** 2013, in *The Formation of Massive Stars and Star Clusters in the Milky Way* New Horizons in Astronomy (BASH 2013) - Invited Review Paper [\[ADS\]](#)
- [14] **Battersby, C.**, Bally, J., Ginsburg, A., Bernard, J.-P., Brunt, C., Fuller, G. A., Martin, P., Molinari, S., Mottram, J., Peretto, N., Testi, L., & Thompson, M. A., *Characterizing precursors to stellar clusters with Herschel*, November. 2011, A&A, 535, A128 [\[ADS\]](#)
- [15] **Battersby, C.**, Bally, J., Jackson, J. M., Ginsburg, A., Shirley, Y. L., Schlingman, W., & Glenn, J., *An Infrared Through Radio Study of the Properties and Evolution of IRDC Clumps*, September. 2010, ApJ, 721, 222 [\[ADS\]](#)

Other Collaborative Publications

- [1] Myers, P. C., Hatchfield, H. P., & **Battersby, Cara**, *Virial Clumps in Central Molecular Zone Clouds*, April. 2022, ApJ, 929, 34 [\[ADS\]](#)
- [2] Henshaw, J. D., Barnes, A. T., **Battersby, Cara**, Ginsburg, A., Sormani, M. C., & Walker, D. L., *Star Formation in the Central Molecular Zone of the Milky Way*, March. 2022, To appear in Protostars and Planets VII; Editors: Shu-ichiro Inutsuka, Yuri Aikawa, Takayuki Muto, Kengo Tomida, and Motohide Tamura, arXiv:2203.11223 [\[ADS\]](#)
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