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## **Educational Background:**

- 2013 PhD Astrophysics University of Colorado, Boulder
- 2009 M.S. Astrophysics University of Colorado, Boulder
- 2006 B.S. Astrophysics Rice University

## **Professional Employment:**

- 2013- Fellow European Southern Observatory, Garching, Germany
- 2007-2013 Graduate Research Assistant Center for Astrophysics and Space Astronomy,  
University of Colorado, Boulder, CO
- 2010, Instructor Department of Astrophysical and Planetary Sciences,  
2012-2013 University of Colorado, Boulder, CO
- 2007-2011 Teaching Assistant Department of Astrophysical and Planetary Sciences,  
University of Colorado, Boulder, CO
- 2007 Research Assistant Department of Physics and Astronomy,  
University of Denver, Denver, CO

## **Areas of Research:**

- The astrophysics of massive star formation and the interstellar medium, with a focus on millimeter observations of proto-cluster clumps, massive outflows, and turbulence.
- Observing with single-dish heterodyne and continuum millimeter instruments, single dish and synthesis array radio imaging, and optical and near infrared imaging and spectroscopy.
- Development of software tools for the analysis of spectral data cubes, images of diffuse and extended emission and development of general-use tools.

## **Honors/Awards:**

- 2011 University of Colorado Chance Irick Cooke Fellowship for Excellence in Research
- 2010 NRAO Green Bank Student Observing Support
- 2008, 2009, 2010 NSF GRFP Honorable Mention
- 2008 NRAO Photo Contest First Prize
- 2008 University of Colorado Astrophysical and Planetary Sciences Excellence in Teaching award
- 2006 National Radio Astronomy Observatory - summer REU with David Meiers

## Teaching:

- Spring 2013 Instructor ASTR 2600: Introduction to Programming for Astronomers (in IDL)
- Fall 2012 Instructor ASTR 2600: Introduction to Programming for Astronomers (in IDL)
- Summer 2010 Co-Instructor ASTR 1020: Stars and Galaxies
- Fall 2011 Co-Instructor ASTR 6000: Graduate Seminar on the Interstellar Medium
- Fall 2011 Teaching Assistant for ASTR 3510: Astronomical Observing (imaging)
- Spring 2010 Teaching Assistant for ASTR 3520: Astronomical Observing (spectroscopy)
- Fall 2009 Teaching Assistant for ASTR 3510: Astronomical Observing (imaging)
- Fall 2008 Teaching Assistant for ASTR 3520: Astronomical Observing (spectroscopy)
- Spring 2008 Teaching Assistant for ASTR 3510: Astronomical Observing (imaging)
- Fall 2007 Teaching Assistant for ASTR 3520: Astronomical Observing (spectroscopy)

## Conferences:

- MPIfR Bonn Workshop on the APEX CMZ 1 mm survey 2014 Organized
- ALMA Arc Node Retreat 2014 Talk ALMA's first look at the extended Sgr B2 Cloud
- Sexten Workshop: The Formation of Globular Clusters 2014 Talk The Galactic population of young massive clusters
- Sexten Workshop: The assembly of massive clusters 2014 Talk The density of W51 and its protoclusters
- Early Phase of Star Formation (EPoS 6) 2014 Talk The density structure of The Brick
- Early Phase of Star Formation (EPoS 6) 2014 Poster The density structure of the W51 Giant Molecular Cloud
- ISM Physical Processes in Garching 2013 Poster A measurement of the turbulence driving parameter
- .Astronomy 5 2013 Talk Astroquery: A toolkit for remote data access in python
- AAS 221 2013 Thesis Talk Surveying massive star formation in the Galactic Plane
- Galactic Scale Star Formation 2012 Poster There are no starless massive proto-clusters in the first quadrant
- Labyrinth of Star Formation 2012 Talk Surveying Pre-Stellar Gas with the BGPS (with an emphasis on what we don't see)
- Milky Way 2011 Talk The Bolocam Galactic Plane Survey
- Stars to Galaxies 2010 Poster Star Formation in Perseus Arm Complexes
- AAS 217 2010 Poster Formaldehyde Densitometry of Dust Clumps: The shapes and densities of massive star forming regions
- AAS 215 2009 Poster The Bolocam Galactic Plane Survey: Data, Early Results, and Future Directions

## Successful Observing Proposals to open TACs as PI:

Telescope	Title	Time	Status
GBT	GBT14A-329: MUSTANG Galactic Plane survey: HCHIIIs in the brightest massive proto-clusters	14 hours	A-ranked
ALMA	Cycle 2: 2013.1.00269.S: Sgr B2 - The Proving Ground for Star Formation Theories	6 hours	In Progress
LOFAR	Cycle 2: LC2_006: A search for p-H <sub>2</sub> CO, a potential EoR contaminant, toward the Galactic Center, W43, W44, W49, and M82.	8 hours	Observed (2014)
APEX	H <sub>2</sub> CO Thermometry of the CMZ to understand its low star formation rate	300 hours from 3 TACs	Observed (2014)
EVLA	13A/064: Massive stars and ionized gas in the W51 complex	13 hours, 4 configurations	Observed (2014)
GBT	GBT14A-110/GBT12B-221: Density Measurements in G0.253+0.016: Pilot program for CMZ H <sub>2</sub> CO densitometry	18 hours	Observed (2014)
GBT	GBT10B-019: Densitometry of young star-forming complexes throughout the Galaxy	120 hours	Published: 2013ApJ...779...50G
GBT	GBT09C-049 Measuring the dense gas mass fraction with H <sub>2</sub> CO absorption	4 hours	Published: 2011ApJ...736..149G
Arecibo	A2584: Densitometry of young star-forming complexes throughout the Galaxy	60 hours	Published: 2013ApJ...779...50G
Arecibo	A2854: Density Map of the W51 Giant Molecular Cloud complex	13 hours	In Press: 2014 A&A

## Service:

1. Organizer of the python coffee and tutorial series at ESO, 2014
2. Referee for *Science*, the Astrophysical Journal, Astronomy & Astrophysics (main journal and letters), Monthly Notices of the Royal Astronomical Society, Revista Mexicana De Astronomia y Astrofisica
3. Panel chair for a NASA grant review panel 1 year between 2012 and 2014
4. ESO Fellow Duties as ALMA support scientist. Primary duties included software development and maintenance of the Quality Assurance Packager software
5. Co-organizer of the ALMA Postdoc Symposium in Tokyo, December 2014
6. Member of the **astropy** ([astropy.org](http://astropy.org)) collaboration
7. Member of the **Montage** ([montage.ipac.caltech.edu](http://montage.ipac.caltech.edu)) users group

## Publications:

- [1] Bally, J., **Ginsburg**, A., Silvia, D., & Youngblood, A., *The Orion Fingers: Near-IR Adaptive Optics Imaging of an Explosive Protostellar Outflow*, Nov, 2014, A&A Submitted
- [2] Ellsworth-Bowers, T. P., Glenn, J., Riley, A., Rosolowsky, E., **Ginsburg**, A., Evans, II, N. J., Battersby, C., & Shirley, Y. L., *The Bolocam Galactic Plane Survey. XIII. Physical Properties and Mass Functions of Dense Molecular Cloud Structures*, Nov, 2014, ApJ Submitted
- [3] Ellsworth-Bowers, T. P., Rosolowsky, E., Glenn, J., **Ginsburg**, A., Evans, II, N. J., Battersby, C., Shirley, Y. L., & Svoboda, B., *The Bolocam Galactic Plane Survey. XII. Distance Catalog Expansion using Kinematic Isolation of Dense Molecular Cloud Structures with 13CO(1-0)*, Nov, 2014, ApJ Accepted
- [4] **Ginsburg**, A., Bally, J., Battersby, C., Youngblood, A., Darling, J., Rosolowsky, E., Arce, H., & Lebrón Santos, M. E., *The dense gas mass fraction in the W51 cloud and its protoclusters*, Nov, 2014, A&A Accepted
- [5] Bally, J., **Ginsburg**, A., Probst, R., Reipurth, B., Shirley, Y. L., & Stringfellow, G. S., *Outflows, Dusty Cores, and a Burst of Star Formation in the North America and Pelican Nebulae*, September, 2014, ApJ accepted
- [6] Bally, J., Rathborne, J. M., Longmore, S. N., Jackson, J. M., Alves, J. F., Bressert, E., Contreras, Y., Foster, J. B., Garay, G., **Ginsburg**, A., Johnston, K. G., Kruijssen, J. M. D., Testi, L., & Walsh, A. J., *Absorption Filaments Towards the Massive Clump G0.253+0.016*, Sep, 2014
- [7] 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
- [8] 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*, May, 2014
- [9] Levesque, E. M., Stringfellow, G. S., **Ginsburg**, A. G., Bally, J., & Keeney, B. A., *The Peculiar Balmer Decrement of SN 2009ip: Constraints on Circumstellar Geometry*, January, 2014, AJ, 147, 23
- [10] Mills, E. A. C., **Ginsburg**, A., Kruijssen, J. M. D., Sjouwerman, L., Lang, C. C., Mao, S. A., Walsh, A., Su, M., Longmore, S. N., Zhao, J.-H., Meier, D., & Morris, M. R., *VLA SICK: The VLA Sky Survey in the Central Kiloparsec*, Jan, 2014
- [11] **Ginsburg**, A., Federrath, C., & Darling, J., *A Measurement of the Turbulence-driven Density Distribution in a Non-star-forming Molecular Cloud*, December, 2013, ApJ, 779, 50
- [12] Shirley, Y. L., Ellsworth-Bowers, T. P., Svoboda, B., Schlingman, W. M., **Ginsburg**, A., Rosolowsky, E., Gerner, T., Mairs, S., Battersby, C., Stringfellow, G., Dunham, M. K., Glenn, J., & Bally, J., *The Bolocam Galactic Plane Survey. X. A Complete Spectroscopic Catalog of Dense Molecular Gas Observed toward 1.1 mm Dust Continuum Sources with  $7.5 \leq l \leq 194$* , November, 2013, ApJS, 209, 2
- [13] Astropy Collaboration, Robitaille, T. P., Tollerud, E. J., Greenfield, P., Droettboom, M., Bray, E., Aldcroft, T., Davis, M., **Ginsburg**, A., Price-Whelan, A. M., Kerzendorf, W. E., Conley, A., Crighton, N., Barbary, K., Muna, D., Ferguson, H., Grollier, F., Parikh, M. M., Nair, P. H., Unther, H. M., Deil, C., Woillez, J., Conseil, S., Kramer, R., Turner, J. E. H., Singer, L., Fox, R., Weaver, B. A., Zabalza, V., Edwards, Z. I., Azalee Bostroem, K., Burke, D. J., Casey, A. R., Crawford, S. M., Dencheva, N., Ely, J., Jenness, T., Labrie, K., Lim, P. L., Pierfederici, F., Pontzen, A., Ptak, A., Refsdal, B., Servillat, M., & Streicher, O., *Astropy: A community Python package for astronomy*, October, 2013, A&A, 558, A33
- [14] **Ginsburg**, A., Glenn, J., Rosolowsky, E., Ellsworth-Bowers, T. P., Battersby, C., Dunham, M., Merello, M., Shirley, Y., Bally, J., Evans, II, N. J., Stringfellow, G., & Aguirre, J., *The Bolocam Galactic Plane Survey. IX. Data Release 2 and Outer Galaxy Extension*, October, 2013, ApJS, 208, 14
- [15] Ellsworth-Bowers, T. P., Glenn, J., Rosolowsky, E., Mairs, S., Evans, II, N. J., Battersby, C., **Ginsburg**, A., Shirley, Y. L., & Bally, J., *The Bolocam Galactic Plane Survey. VIII. A Mid-infrared Kinematic Distance Discrimination Method*, June, 2013, ApJ, 770, 39
- [16] Margutti, R., Milisavljevic, D., Soderberg, A. M., Chornock, R., Zauderer, B. A., Murase, K., Guidorzi, C., Sanders, N. E., Kuin, P., Fransson, C., Levesque, E. M., Chandra, P., Berger, E., Bianco, F. B., Brown, P. J., Challis, P., Chatzopoulos, E., Cheung, C. C., Choi, C., Chomiuk, L., Chugai, N., Contreras, C., Drout, M. R., Fesen, R., Foley, R. J., Fong, W., Friedman, A. S., Gall, C., Gehrels, N., Hjorth, J., Hsiao, E., Kirshner, R., Im, M., Leloudas, G., Lunnan, R., Marion, G. H., Martin, J., Morrell, N., Neugent, K. F., Omodei, N., Phillips, M. M., Rest, A., Silverman, J. M., Strader, J., Stritzinger, M. D., Szalai, T., Utterback, N. B., Vinko, J., Wheeler, J. C., Arnett, D., Campana, S., Chevalier, R., **Ginsburg**, A., Kamble, A., Roming, P. W. A., Pritchard, T., & Stringfellow, G., *A panchromatic view of the restless SN2009ip reveals the explosive ejection of a massive star envelope*, May, 2013
- [17] Smith, N., Arnett, W. D., Bally, J., **Ginsburg**, A., & Filippenko, A. V., *The ring nebula around the blue supergiant SBW1: pre-explosion snapshot of an SN 1987A twin*, February, 2013, MNRAS, 429, 1324

- [18] Bressert, E., **Ginsburg**, A., Bally, J., Battersby, C., Longmore, S., & Testi, L., *How to Find Young Massive Cluster Progenitors*, October, 2012, ApJ, 758, L28
- [19] **Ginsburg**, A., Bressert, E., Bally, J., & Battersby, C., *There are No Starless Massive Proto-clusters in the First Quadrant of the Galaxy*, October, 2012, ApJ, 758, L29
- [20] Bally, J., Youngblood, A., & **Ginsburg**, A., *The Spindle: An Irradiated Disk and Bent Protostellar Jet in Orion*, September, 2012, ApJ, 756, 137
- [21] **Ginsburg**, A., Bally, J., & Williams, J. P., *JCMT HARP CO 3-2 observations of molecular outflows in W5*, December, 2011, MNRAS, 418, 2121
- [22] 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
- [23] **Ginsburg**, A., Darling, J., Battersby, C., Zeiger, B., & Bally, J., *Galactic H<sub>2</sub>CO Densitometry. I. Pilot Survey of Ultracompact H II Regions and Methodology*, August, 2011, ApJ, 736, 149
- [24] Schlingman, W. M., Shirley, Y. L., Schenk, D. E., Rosolowsky, E., Bally, J., Battersby, C., Dunham, M. K., Ellsworth-Bowers, T. P., Evans, II, N. J., **Ginsburg**, A., & Stringfellow, G., *The Bolocam Galactic Plane Survey: V. HCO<sup>+</sup> and N<sub>2</sub>H<sup>+</sup> Spectroscopy of 1.1 mm Dust Continuum Sources*, August, 2011, ApJS, 195, 14
- [25] van Aarle, E., van Winckel, H., Lloyd Evans, T., Ueta, T., Wood, P. R., & **Ginsburg**, A. G., *The optically bright post-AGB population of the LMC*, June, 2011, A&A, 530, A90+
- [26] Aguirre, J. E., **Ginsburg**, A. G., Dunham, M. K., Drosback, M. M., Bally, J., Battersby, C., Bradley, E. T., Cyganowski, C., Dowell, D., Evans, II, N. J., Glenn, J., Harvey, P., Rosolowsky, E., Stringfellow, G. S., Walawender, J., & Williams, J. P., *The Bolocam Galactic Plane Survey: Survey Description and Data Reduction*, January, 2011, ApJS, 192, 4
- [27] Bally, J., Aguirre, J., Battersby, C., Bradley, E. T., Cyganowski, C., Dowell, D., Drosback, M., Dunham, M. K., Evans, II, N. J., **Ginsburg**, A., Glenn, J., Harvey, P., Mills, E., Merello, M., Rosolowsky, E., Schlingman, W., Shirley, Y. L., Stringfellow, G. S., Walawender, J., & Williams, J., *The Bolocam Galactic Plane Survey:  $\lambda = 1.1$  and 0.35 mm Dust Continuum Emission in the Galactic Center Region*, September, 2010, ApJ, 721, 137
- [28] 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
- [29] Yan, C.-H., Minh, Y. C., Wang, S.-Y., Su, Y.-N., & **Ginsburg**, A., *Star-forming Region Sh 2-233IR. I. Deep Near-infrared Observations toward the Embedded Stellar Clusters*, September, 2010, ApJ, 720, 1
- [30] Bally, J., Anderson, L. D., Battersby, C., Calzoletti, L., Digiorgio, A. M., Faustini, F., **Ginsburg**, A., Li, J. Z., Nguyen-Luong, Q., Molinari, S., Motte, F., Pestalozzi, M., Plume, R., Rodon, J., Schilke, P., Schlingman, W., Schneider-Bontemps, N., Shirley, Y., Stringfellow, G. S., Testi, L., Traficante, A., Veneziani, M., & Zavagno, A., *Herschel observations of the W43 “mini-starburst”*, July, 2010, A&A, 518, L90+
- [31] Dunham, M. K., Rosolowsky, E., Evans, II, N. J., Cyganowski, C. J., Aguirre, J., Bally, J., Battersby, C., Bradley, E. T., Dowell, D., Drosback, M., **Ginsburg**, A., Glenn, J., Harvey, P., Merello, M., Schlingman, W., Shirley, Y. L., Stringfellow, G. S., Walawender, J., & Williams, J. P., *The Bolocam Galactic Plane Survey: III. Characterizing Physical Properties of Massive Star-forming Regions in the Gemini OB1 Molecular Cloud*, July, 2010, ApJ, 717, 1157
- [32] Rosolowsky, E., Dunham, M. K., **Ginsburg**, A., Bradley, E. T., Aguirre, J., Bally, J., Battersby, C., Cyganowski, C., Dowell, D., Drosback, M., Evans, II, N. J., Glenn, J., Harvey, P., Stringfellow, G. S., Walawender, J., & Williams, J. P., *The Bolocam Galactic Plane Survey: II. Catalog of the Image Data*, May, 2010, ApJS, 188, 123
- [33] **Ginsburg**, A. G., Bally, J., Yan, C.-H., & Williams, J. P., *Outflows and Massive Stars in the Protocluster IRAS 05358+3543*, December, 2009, ApJ, 707, 310
- [34] Rubin, D., Hony, S., Madden, S. C., Tielens, A. G. G. M., Meixner, M., Indebetouw, R., Reach, W., **Ginsburg**, A., Kim, S., Mochizuki, K., Babler, B., Block, M., Bracker, S. B., Engelbracht, C. W., For, B.-Q., Gordon, K., Hora, J. L., Leitherer, C., Meade, M., Misselt, K., Sewilo, M., Vijh, U., & Whitney, B., *A spatially resolved study of photoelectric heating and [C II] cooling in the LMC. Comparison with dust emission as seen by SAGE*, February, 2009, A&A, 494, 647
- [35] van de Steene, G. C., Ueta, T., van Hoof, P. A. M., Reyniers, M., & **Ginsburg**, A. G., *Kinematics and H<sub>2</sub> morphology of the multipolar post-AGB star IRAS 16594-4656*, March, 2008, A&A, 480, 775