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Educational Background:

1972 B.S. (Astronomy) University of California, Berkeley
1977 M.S. (Physics) University of Massachusetts, Amherst
1980 Ph.D. (Astrophysics) University of Massachusetts, Amherst

Professional Employment:

2000 - present	Professor	Department of Astrophysical and Planetary Sciences, University of Colorado, Boulder, CO
1991 - 1999	Associate Professor	Department of Astrophysical and Planetary Sciences, University of Colorado, Boulder, CO
1996 - 1999	Director	Center for Astrophysics and Space Astronomy, University of Colorado, Boulder, CO
1982 - 1991	Member of Technical Staff	AT&T Bell Laboratories, Holmdel, NJ
1980 - 1982	Post-Doctoral MTS	AT&T Bell Laboratories, Holmdel, NJ
1978 - 1980	Research Assistant	Five College Radio Astronomy Observatory (FCRAO) University of Massachusetts, Amherst, MA
1974 - 1974	Instructor (Physics)	California State University, Hayward, CA

Areas of Research:

The astrophysics of star formation, disks and outflows associated with young stars, the formation of planetary systems, and investigations of the interstellar medium. Line and continuum observations at millimeter, sub-mm, infrared, and visual wavelengths. The hydrodynamics of shocks and ionization fronts. *Other interests:* Galaxy formation and evolution, and the search for extra-Solar planets. *Hardware/engineering experience:* Cryogenic mm-wave mixers, IF systems, and superconducting (SIS) receivers, near-infrared arrays and cameras, optics, and astronomical site characterization.

My current research has primarily focused on the formation of stars and planetary systems using observational tools throughout the spectrum from radio to X-rays, numerical computation, and theoretical analysis. I use of facilities in space such as the Hubble Space Telescope and the Chandra X-ray observatory and major observatories such as Keck, Gemini, and the National Astronomy Observatories in Arizona and Chile and the Apache Point Observatory in which CU is a partner.

My research has shown that most stars form in clusters in close proximity to massive stars whose intense radiation, winds, and supernova explosions profoundly impact the formation and architectures of planetary systems. Forming stars inject high-velocity winds, collimated jets, intense UV radiation, and explosive debris that drive the life cycles of gas, dust, and clouds that inhabit the Galaxy. Thus, star formation is a self-limiting process that controls the “ecology” of

the matter between the stars. Ultimately, star formation determines the cosmic fate of ordinary matter in the Universe through the mixture of long-lived low- and high-mass stars.

In addition to observations, I have worked on a variety of instrumentation projects including radio-astronomy receivers, new-methods of “site-testing” the astro-climate of potential observatory sites, and infrared cameras.

Currently, I am conducting an ambitious surveys of Milky Way Galactic plane in the 1.1 mm wavelength emission produced by dense cloud cores. Observations of over 220 square degrees of sky have revealed about 10,000 cores intimately associated with the birth of stars and star clusters; the most massive objects may evolve into micro-quasars and black holes. I’m also a member of the Herschel Space Observatory Hi-GAL survey of the Galactic plane which is obtaining the first high-resolution survey at 5 wavelengths from 70 to 500 μm from space. I’m investigating the ecology of the interstellar medium and the star-formation / stellar-evolution / stellar death life-cycle.

Committees:

I served on two Atacama Large Millimeter-Array (ALMA) science advisory committees. **ANASAC** (ALMA North-American Science Advisory Committee): 2005 – 2009 and the international **ASAC** (ALMA Science Advisory Committee: (2007 – 2009). I serve on the Apache Point Observatory (APO) User’s Committee. I am Director of the Observatories (Sommers-Bausch Observatory and the CU share of APO). I serve on the Hi-GAL (Herschel Space Observatory Galactic Plane Survey) Steering Committee which is responsible for organizing data acquisition and analysis of the ~650 hour observing program to survey the Galactic Plane with the Herschel Space Observatory. I serve on the SOFIA Science Steering Committee. I serve on the scientific organizing committee (SCO) for the 2011 Meeting “*MW2011: The Milky Way in the Herschel Era: Towards a Galaxy-scale view of the Star Formation Life-cycle*” to be held in Rome, September 19-23. 2011. I’m also serving on the SOC for the proposed IAU Symposium “The Big Picture: Galactic Star Formation through Wide-Field Surveys” to be held in conjunction with the XXVIII General Assembly of the International Astronomical Union in Beijing, China 20-31 August 2012.

Teaching:

I teach at all levels, including introductory and advanced undergraduate, graduate courses, and I supervise students at all levels. I contributed to the development of our Observational Astronomy I and II (ASTR 3520/3520 sequence for majors, and the Extraterrestrial Life (ASTR 3300) which is our introduction to astrobiology. I have given many popular lectures to astronomy groups and the public including the Denver Museum of Nature and Science and at the Fiske Planetarium. I typically supervise between 1 and 2 graduate students at any one time who are working on PhD dissertations. Most of my ex-students have move onto successful careers in the sciences. I supervised several post-docs including Jon Morse, Nathan Smith and am I’m currently supervising Sean Raymond.

Publications:

Schlingman, W. M., and 10 colleagues 2011. *The Bolocam Galactic Plane Survey. V. HCO⁺ and N₂H⁺ Spectroscopy of 1.1mm Dust Continuum Sources.* The Astrophysical Journal Supplement Series 195, 14.

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Russeil, D., and 21 colleagues 2011. *Giving physical significance to the Hi-GAL data: determining the distance of cold dusty cores in the Milky Way.* Astronomy and Astrophysics 526, 151.

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Armond, T., Reipurth, B., Bally, J., Aspin, C. 2011. *Star Formation in the Gulf of Mexico.* A&A, 528, 125-138.

Battersby, C., and 11 colleagues 2011. *Characterizing Precursors to Stellar Clusters with Herschel.* ArXiv e-prints arXiv:1101.4654.

Aguirre, J. E., and 15 colleagues 2011. *The Bolocam Galactic Plane Survey: Survey Description and Data Reduction.* The Astrophysical Journal Supplement Series 192, 4.

Battersby, C., Bally, J., Jackson, J. M., Ginsburg, A., Shirley, Y. L., Schlingman, W., Glenn, J. 2010. *An Infrared Through Radio Study of the Properties and Evolution of IRDC Clumps.*

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Bally, J., and 19 colleagues 2010. *The Bolocam Galactic Plane Survey: $\lambda = 1.1$ and 0.35 mm Dust Continuum Emission in the Galactic Center Region*. The Astrophysical Journal 721, 137-163.

Reipurth, B., Aspin, C., Bally, J., Tobin, J. J., Walawender, J. 2010. *Faint Collimated Herbig-Haro Jets from Visible Stars in L1641*. The Astronomical Journal 140, 699-712.

Bally, J. 2010. *Astrophysics: Waves on Orion's shores*. Nature 466, 928-929.

Smith, N., Povich, M. S., Whitney, B. A., Churchwell, E., Babler, B. L., Meade, M. R., Bally, J., Gehrz, R. D., Robitaille, T. P., Stassun, K. G. 2010. *Spitzer Space Telescope observations of the Carina nebula: the steady march of feedback-driven star formation*. Monthly Notices of the Royal Astronomical Society 406, 952-974.

Throop, H. B., Bally, J. 2010. *Accretion of Jupiter's atmosphere from a supernova-contaminated molecular cloud*. Icarus 208, 329-336.

Dunham, M. K., and 18 colleagues 2010. *The Bolocam Galactic Plane Survey. III. Characterizing Physical Properties of Massive Star-forming Regions in the Gemini OBI Molecular Cloud*. The Astrophysical Journal 717, 1157-1180.

Molinari, S., and 123 colleagues 2010. *Clouds, filaments, and protostars: The Herschel Hi-GAL Milky Way*. Astronomy and Astrophysics 518, L100.

Peretto, N., and 24 colleagues 2010. *Mapping the column density and dust temperature structure of IRDCs with Herschel*. Astronomy and Astrophysics 518, L98.

Elia, D., and 30 colleagues 2010. *A Herschel study of YSO evolutionary stages and formation timelines in two fields of the Hi-GAL survey*. Astronomy and Astrophysics 518, L97.

Bally, J., and 22 colleagues 2010. *Herschel observations of the W43 "mini-starburst"*. Astronomy and Astrophysics 518, L90.

Smith, N., Bally, J., Walborn, N. R. 2010. *HST/ACS $H\alpha$ imaging of the Carina Nebula: outflow activity traced by irradiated Herbig-Haro Jets*. Monthly Notices of the Royal Astronomical Society 405, 1153-1186.

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Rosolowsky, E., and 15 colleagues 2010. *The Bolocam Galactic Plane Survey. II. Catalog of the Image Data*. The Astrophysical Journal Supplement Series 188, 123-138.

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