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Education:

Ph.D. **University of Wisconsin-Madison**, Astronomy, May 1999
Dissertation Title: *Extraplanar Dust in Nearby Edge-on Galaxies*
Advisor: Blair D. Savage
B.A. **Hanover College**, Physics, *cum laude*, May 1994

Research Interests:

- Multiphase interstellar medium
- Damped Lyman- α systems
- Galaxy formation and evolution
- Low-redshift intergalactic medium

Experience:

- **Assistant Professor** September 2005–present
Department of Physics
University of Notre Dame
Notre Dame, IN
- **Assistant Research Physicist** September 2002–August 2005
Principal Collaborator: A.M. Wolfe
Center for Astrophysics & Space Sciences
University of California, San Diego
La Jolla, CA
- **Associate Research Scientist** January 2001–August 2002
Principal Collaborator: K.R. Sembach
Member of the FUSE PI Team
Department of Physics & Astronomy
The Johns Hopkins University
Baltimore, MD
- **Postdoctoral Fellow** May 1999–December 2000
Advisor: K.R. Sembach
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- **Physics Teacher** September 1993–May 1994
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Refereed Publications:

1. *A Method for Deriving Accurate Gas-Phase Abundances for the Multiphase Interstellar Galactic Halo*
Howk, J.C., Sembach, K.R., & Savage, B.D. 2006, **ApJ**, 637, 333
2. *Cold Neutral Gas in a $z = 4.2$ Damped Lyman- α System: The Fuel for Star Formation*
Howk, J.C., Wolfe, A.M., & Prochaska, J.X. 2005, **ApJL**, 622, L81
3. *Evidence of Correlated Titanium and Deuterium Depletion in the Galactic Interstellar Medium*
Prochaska, J.X., Tripp, T.M., & Howk, J.C. 2005, **ApJL**, 620, L39
4. *Elemental Abundances in Two High Column Density Damped Lyman Alpha Systems at $z < 1.5$*
Rao, S.M., Prochaska, J.X., Howk, J.C., & Wolfe, A.M. 2005, **AJ**, 129, 9
5. *Probing the IGM/Galaxy Connection Tward PKS0405-123 I: UV Spectroscopy and Metal-Line Systems*
Prochaska, J.X., Chen, H.-W., Howk, J.C., Weiner, B., & Mulchaey, J. 2004, **ApJ**, 617, 718
6. *On the Nature of the Heat Source for Damped Ly α Systems*
Wolfe, A.M., Howk, J.C., Gawiser, E., Prochaska, J.X., & Lopez, S. 2004, **ApJ**, 615, 625
7. *Small-Scale Structure of O VI Interstellar Gas in the Direction of the Globular Cluster NGC 6752*
Lehner, N., & Howk, J.C. 2004, **PASP**, 116, 895
8. *Hubble Space Telescope Imaging of Extraplanar Dust Structures in the Edge-On Spiral NGC 4217*
Thompson, T.W.J., Howk, J.C., & Savage, B.D. 2004, **AJ**, 128, 662
9. *Cooling in Coronal Gas in the M82 Starburst Superwind*
Hoopes, C.G., Heckman, T.M., Strickland, D.K., & Howk, J.C. 2003, **ApJL**, 586, L175
10. *On the Origin of the High-Ionization Intermediate-Velocity Gas Toward HD 14434*
Knauth, D.C., Howk, J.C., Sembach, K.R., Lauroesch, J.T., & Meyer, D.M. 2003, **ApJ**, 592, 964
11. *Oxygen Gas Phase Abundance Revisited*
Andre, M.K., et al. [10 authors including J.C. Howk] 2003, **ApJ**, 591, 1000
12. *Probing O VI Emission in the Halos of Edge-on Spiral Galaxies*
Otte, B., Murphy, E.M., Howk, J.C., et al. 2003, **ApJ**, 591, 821
13. *H₂ Absorption in a Dense Interstellar Filament in the Milky Way Halo*
Richter, P., Sembach, K.R., & Howk, J.C. 2003, **A&A**, 405, 1013
14. *The elemental abundance pattern in a galaxy at $z=2.626$*
Prochaska, J.X., Howk, J.C., & Wolfe, A.M. 2003, **Nature**, 423, 57
15. *Interstellar Deuterium, Nitrogen, and Oxygen Abundances Toward GD 246, WD2331-475, HZ 21, and Lan 23: Results from the FUSE Mission*
Oliveira, C., Hebrard, G., Howk, J.C., Kruk, J.W., Chayer, P., & Moos, H.W. 2003, **ApJ**, 587, 235

16. *Far-Ultraviolet and H α Spectroscopy of SNR 0057 – 7226 in the SMC H II Region N66*
Danforth, C.D., Sankrit, R., Blair, W.P., **Howk, J.C.**, & Chu, Y.-H. 2003, **ApJ**, 586, 1179
17. *Highly-Ionized Gas in the Galactic Halo: A FUSE Survey of O VI Absorption Toward 22 Halo Stars*
Zsargó, J., Sembach, K.R., **Howk, J.C.**, & Savage, B.D. 2003, **ApJ**, 586, 1019
18. *Ionized Gas in the First 10 kpc of the Interstellar Galactic Halo*
Howk, J.C., Sembach, K.R., & Savage, B.D. 2003, **ApJ**, 586, 249
19. *Origins of the Highly Ionized Gas along the Line of Sight towards HD 116852*
Fox, A.J., Savage, B.D., Sembach, K.R., Fabian, D., Richter, P., Meyer, D.M., Lauroesch, J., & **Howk, J.C.**, 2003, **ApJ**, 582, 793
20. *An Atlas of Galactic OB Spectra Observed with the Far Ultraviolet Spectroscopic Explorer*
Pellerin, A., Fullerton, A.W., Robert, C., **Howk, J.C.**, Hutchings, J.B., Walborn, N.R., Bianchi, L., Crowther, P.A., & Sonneborn, G. 2002, **ApJS**, 143, 159
21. *FUSE Observations of Degree-Scale Variations in Galactic Halo O VI*
Howk, J.C., Savage, B.D., & Sembach, K.R. 2002, **ApJ**, 572, 264
22. *The UCSD HIRES/Keck I Damped Ly α Abundance Database. III. An Empirical Study of Photoionization in the Damped Ly α System Toward GB1759+7539*
Prochaska, J.X., **Howk, J.C.**, O’Meara, J.M., Tytler, D., Wolfe, A.M., Kirkman, D., Lubin, D., & Suzuki, N. 2002, **ApJ**, 571, 693
23. *Abundances of Deuterium, Oxygen, and Nitrogen in the Local Interstellar Medium: First Results from the Far Ultraviolet Spectroscopic Explorer*
Moos, H.W., *et al.* [35 authors including **J.C. Howk**] 2002, **ApJS**, 140, 3
24. *Interstellar Deuterium, Nitrogen, and Oxygen Abundances Toward HZ 43A: Results from the Far Ultraviolet Spectroscopic Explorer (FUSE) Mission*
Kruk, J.W., **Howk, J.C.**, *et al.* 2002, **ApJS**, 140, 19
25. *Deuterium and Oxygen Toward Feige 110: Results from the Far Ultraviolet Spectroscopic Explorer (FUSE) Mission*
Friedman, S.D., **Howk, J.C.**, *et al.* 2002, **ApJS**, 140, 37
26. *Interstellar Deuterium, Nitrogen, and Oxygen Abundances Toward BD +28 4211: Results from the Far Ultraviolet Spectroscopic Explorer (FUSE) Mission*
Sonneborn, G., *et al.* [25 authors including **J.C. Howk**] 2002, **ApJS**, 140, 51
27. *Deuterium Abundance Toward G191-B2B: Results from the Far Ultraviolet Spectroscopic Explorer (FUSE) Mission*
Lemoine, M. *et al.* [22 authors including **J.C. Howk**] 2002, **ApJS**, 140, 67
28. *Deuterium Toward the White Dwarf WD 0621 – 376: Results from the Far Ultraviolet Spectroscopic Explorer (FUSE) Mission*
Lehner, N., Gry, C., Sembach, K.R., Hébrard, G., Chayer, P., Moos, H.W., **Howk, J.C.**, & Désert, J.-M. 2002, **ApJS**, 140, 81

29. *An Atlas of FUSE Sight Lines Toward the Magellanic Clouds*
Danforth, C.W., **Howk, J.C.**, Fullerton, A.W., Blair, W.P., & Sembach, K.R. 2002, **ApJS**, 139, 81
30. *The Global Content, Distribution, and Kinematics of Interstellar O VI in the Large Magellanic Cloud*
Howk, J.C., Sembach, K.R. Savage, B.D., Massa, D., Friedman, S.D., & Fullerton, A.W. 2002, **ApJ**, 569, 214
31. *A FUSE Survey of Interstellar O VI in the Small Magellanic Cloud*
Hoopes, C.G., Sembach, K.R., **Howk, J.C.**, Savage, B.D., & Fullerton, A.W. 2002, **ApJ**, 569, 233
32. *Far Ultraviolet Spectroscopic Explorer Observations of Intergalactic and Interstellar Absorption Toward 3C273*
Sembach, K.R., **Howk, J.C.**, Savage, B.D., & Shull, J.M. 2001, **ApJ**, 561, 573
33. *Observations of O VI Emission from the Diffuse Interstellar Medium*
Shelton, R.L., *et al.* [25 authors including **J.C. Howk**] 2001, **ApJ**, 560, 730
34. *Far Ultraviolet Spectroscopic Explorer Observations of a Supernova Remnant in the Line of Sight to HD 5980 in the Small Magellanic Cloud*
Hoopes, C.G., Sembach, K.R., **Howk, J.C.**, & Blair, W.P. 2001, **ApJL**, 558, L35
35. *Spectroscopic Classification of 42 LMC OB Stars: Selection of Probes for the Hot Gaseous Halo of the LMC*
Jaxon, E.G., Guerrero, M.A., **Howk, J.C.**, Walborn, N.R., Chu, Y.-H., & Wakker, B.P. 2001, **PASP**, 113, 1130
36. *Ionization Corrections and Elemental Abundances in Damped Ly- α Systems*
Vladilo, G., Centurión, M., Bonifacio, P., & **Howk, J.C.** 2001, **ApJ**, 557, 1007
37. *FUSE Observations of Molecular Hydrogen in the Leading Arm of the Magellanic Stream*
Sembach, K.R., **Howk, J.C.**, Savage, B.D., & Shull, J.M. 2001, **AJ**, 121, 992
38. *STIS and GHRs Observations of Warm and Hot Gas Overlying the Scutum Supershell (GS 018-04+44)*
Savage, B.D., Sembach, K.R., & **Howk, J.C.** 2001, **ApJ**, 547, 907
39. *Empirical Verification of the Fe II Oscillator Strengths in the FUSE Bandpass*
Howk, J.C., Sembach, K.R., Roth, K.C., & Kruk, J.W. 2000, **ApJ**, 544, 867
40. *The Abundance of Interstellar Boron*
Howk, J.C., Sembach, K.R., & Savage, B.D. 2000, **ApJ**, 543, 278
41. *FUSE Observations of Interstellar Gas Towards the LMC Star Sk-67 05*
Friedman, S.D., **Howk, J.C.**, *et al.* 2000, **ApJL**, 538, L35
42. *No Diffuse H₂ in the Metal Deficient Galaxy I Zw 18*
Vidal-Madjar, A., *et al.* [15 authors including **J.C. Howk**] 2000, **ApJL**, 538, L77
43. *Background and Scattered Light Subtraction in the High-Resolution Echelle Modes of the Space Telescope Imaging Spectrograph*
Howk, J.C., & Sembach, K.R. 2000, **AJ**, 119, 2481.

44. *Infalling Material in the Stellar Wind of τ Scorpii*
Howk, J.C., Cassinelli, J.P., Bjorkman, J.E., & Lamers, H.J.G.L.M., 2000, **ApJ**, 534, 348.
45. *An Empirical Test of the Mg II λ 1240 Doublet Branching Ratio and Oscillator Strength*
Sofia, U.J., Fabian, D., & **Howk, J.C.** 2000, **ApJ**, 531, 384.
46. *The Multiphase Halo of NGC 891: WIYN $H\alpha$ and BVI Imaging*
Howk, J.C., & Savage, B.D. 2000, **AJ**, 119, 644.
47. *Modeling the Warm Ionized Interstellar Medium and Its Impact on Elemental Abundance Studies*
Sembach, K.R., **Howk, J.C.**, Ryans, R.S.I., & Keenan, F.P. 2000, **ApJ**, 528, 310
48. *Extraplanar Dust in Spiral Galaxies: Observations and Implications*
Howk, J.C. 1999, **ApSS**, 269/270, 293 (Toward a New Millennium in Galaxy Morphology, eds. D.L. Block, I. Puerari, A. Stockton & D. Ferreira).
49. *Observational Evidence for the Accretion of Low-Metallicity Gas onto the Milky Way*
Wakker, B.P., **Howk, J.C.**, Savage, B.D., Tufte, S.L., Reynolds, R.J., Benjamin, R., van Woerden, H., Schwarz, U.J., Peletier, R.F., & Kalberla, P.M.W. 1999, **Nature**, 402, 388
50. *Abundances and Physical Conditions in the Interstellar Gas Towards μ Columbae*
Howk, J.C., Savage, B.D., & Fabian, D. 1999, **ApJ**, 525, 253
51. *Ionized Gas in Damped Lyman- α Systems and Its Effects on Elemental Abundance Studies*
Howk, J.C., & Sembach, K.R. 1999, **ApJL**, 523, L141
52. *Dust in the Ionized Medium of the Galaxy: GHRS Measurements of Al III and S III*
Howk, J.C., & Savage, B.D. 1999, **ApJ**, 517, 746
53. *A Search for Extraplanar Dust in Nearby Edge-On Spirals*
Howk, J.C., & Savage, B.D. 1999, **AJ**, 117, 2077
54. *Echelle Spectroscopy of Interstellar Absorption Toward μ Columbae with the Goddard High Resolution Spectrograph*
Brandt, J.C. *et al.* [21 authors including **J.C. Howk**] 1999, **AJ**, 117, 400
55. *Coronal C^{+3} in the Large Magellanic Cloud: Evidence for a Hot Halo*
Wakker, B., **Howk, J.C.**, Chu, Y.-H., Bomans, D., & Points, S. 1998, **ApJL**, 499, L87
56. *A Search for Optical Afterglow from GRB 970828*
Groot, P.J., *et al.* [21 authors including **C. Howk**] , 1998, **ApJL**, 493, L27.
57. *Extraplanar Dust in the Edge-On Spiral NGC 891*
Howk, J.C., & Savage, B.D. 1997, **AJ**, 114, 2463.
58. *The Distance to Two Hydrogen Clouds: the High-Velocity Complex A and the Low-Latitude Intermediate-Velocity Cloud*
Wakker, B., **Howk, C.**, Schwarz, U., van Woerden, H., Beers, T., Wilhelm, R., Kalberla, P., & Danly, L. 1996, **ApJ**, 473, 834.

Selected Works in Preparation:

- *Cold Neutral Gas in Damped Lyman- α Systems*
Howk, J.C., Wolfe, A.M., Prochaska, J.X., & Dessuages-Zavadsky, M.
- *Ionized Gas in the First 10 kpc of the Interstellar Galactic Halo. II.*
Howk, J.C., Sembach, K.R., & Savage, B.D.