

Curriculum Vita

Giles Novak

Northwestern University,
Center for Interdisciplinary Exploration and Research in Astrophysics (CIERA)
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Appointments:

Princeton University:		
Instructor of Physics		1992 – 1993
Northwestern University:		
Assistant Professor of Physics and Astronomy		1993 – 1999
Associate Professor of Physics and Astronomy		1999 – 2008
Professor of Physics and Astronomy		2008 – present
Faculty Director, Northwestern University Research Shop		2020 – present

Professional Preparation:

Massachusetts Institute of Technology	B.S. (physics)	1981
University of Chicago	Ph.D. (physics)	1988
University of Massachusetts at Amherst, Dept. of Physics and Astronomy	Postdoctoral Res. Assoc.	1988 – 1991
Princeton University, Dept. of Physics	Postdoctoral Res. Assoc.	1991 – 1992

Awards and Honors:

Gregor Wentzel Award "for excellence as a graduate student tutor"	Dept. of Physics, Univ. of Chicago	1982
William Rainey Harper Fellowship	University of Chicago	1986
Faculty Early Career Development (CAREER) Award	National Science Foundation	1997
Honored as "Outstanding Professor at Northwestern University"	Delta Zeta sorority, Northwestern Univ.	1997
Weinberg College Award for Excellence in Mentoring Undergraduate Research	Northwestern Univ.	2012
Faculty and Administrator Honor Roll	Assoc. Student Govt., Northwestern Univ.	2013, & 2015
Elected Fellow of the APS	American Physical Society	2025

Research Interests:

Formation of Stars and Planets; Galactic Center; Interstellar Medium; Instrumentation for Infrared, Submillimeter, and Millimeter Astronomy

Professional Service – Selected Contributions:

Chair	Scientific Organizing Committee for ASP Symposium on “Astrophysics from Antarctica”	1997
Member	SOFIA Science Steering Committee	1997 – 2001
Member	NASA-APRA (Astrophysics and Physics Research and Analysis) proposal review panels	2004, 2006, 2007
Member	NSF astronomy division proposal review panels	2007, 2022
Member	National Science and Engineering Research Council Physics Evaluation Group (Canada)	2009 – 2012
Member	ALMA Science Advisory Committee	2017 – 2019
Member	ALMA North American Science Advisory Committee	2017 – 2018
Chair	ALMA North American Science Advisory Committee	2018 – 2020

H-index (NASA ADS): $h = 39$

Selected Publications (with ADS citations):

1. First Results from the Submillimeter Polarimeter for Antarctic Remote Observations: Evidence of Large-scale Toroidal Magnetic Fields in the Galactic Center, Novak, G., Chuss, D. T., Renbarger, T., Griffin, G. S., Newcomb, M. G., Peterson, J. B., Loewenstein, R. F., Pernic, D., and Dotson, J. L., 2003, *Astrophys. J.*, 583, L83 (103 citations).
2. Results of SPARO 2003: Mapping Magnetic Fields in Giant Molecular Clouds, Li, H., Griffin, G. S., Krejny, M., Novak, G., Loewenstein, R. F., Newcomb, M. G., Calisse, P. G., and Chuss, D. T., 2006, *Astrophys. J.*, 648, 340 (67 citations).
3. Design and Initial Performance of SHARP, a Polarimeter for the SHARC-II Camera at the Caltech Submillimeter Observatory, Li, H., Dowell, C. D., Kirby, L., Novak, G., and Vaillancourt, J. E., 2008, *Applied Optics*, 47, 422 (42 citations).
4. Alignment between Flattened Protostellar Infall Envelopes and Ambient Magnetic Fields, Chapman, N. L., Davidson, J. A., Goldsmith, P. F., Houde, M., Kwon, W., Li, Z.-Y., Looney, L. W., Matthews, B., Matthews, T. G., Novak, G., Peng, R., Vaillancourt, J. E., and Volgenau, N. H., 2013, *Astrophys. J.*, **770**, 151 (99 citations).
5. The Magnetic Field Morphology of the Class 0 Protostar L1157-mm, Stephens, I. W., Looney, L. W., Kwon, W., Hull, C. L. H., Plambeck, R. L., Crutcher, R. M., Chapman, N. L., Novak, G., Davidson, J. A., Vaillancourt, J. E., Shinnaga, H., and Matthews, T. G., 2013, *Astrophys. J.*, **769**, L15 (98 citations).

6. The Link between Magnetic Fields and Cloud/Star Formation, Li, H.-B., Goodman, A., Sridharan, T. K., Houde, M., Li, Z.-Y., and Novak, G., 2014, book chapter in "Protostars and Planets VI", Henrik Beuther, Ralf S. Klessen, Cornelis P. Dullemond, and Thomas Henning (eds.), University of Arizona Press, Tucson, p.101 (*115 citations*).
7. Balloon-Borne Submillimeter Polarimetry of the Vela C Molecular Cloud: Systematic Dependence of Polarization Fraction on Column Density and Local Polarization-Angle Dispersion, Fissel, L. M., and 29 co-authors including G. Novak, P. Ashton, T. G. Matthews, and F. P. Santos, 2016, *Astrophys. J.*, Vol. 824, p. 134 (*118 citations*).
8. First Observation of the Submillimeter Polarization Spectrum in a Translucent Molecular Cloud, Ashton, P. C., and 29 co-authors including G. Novak and F. P. Santos, 2018, *Astrophys. J.*, 857:10 (*40 citations*).
9. HAWC+, the Far-Infrared Camera and Polarimeter for SOFIA, Harper, D. A., and 67 co-authors including N. L. Chapman, C. J. Hansen, G. Novak, and F. P. Santos, 2018, *Journal of Astronomical Instrumentation*, Vol. 7, No. 4, 1840008 (*121 citations*).
10. Gravity, Magnetic Field, and Turbulence: Relative Importance and Impact on Fragmentation in the Infrared Dark Cloud G34.43, Tang, Y.-W., Koch, P. M., Peretto, N., Novak, G., Duarte-Cabral, A., Chapman, N. L., Hsieh, P.-Y., and Yen, H.-W., 2019, *Astrophys. J.*, 878:10 (*69 citations*).

Books edited:

Astrophysics from Antarctica, edited by Giles Novak and Randall H. Landsberg, 1998, Vol. 141 of ASP Conference Series (San Francisco:Astron. Soc. of the Pacific), 388 pages.

Links to full publication list:

Refereed: <https://ui.adsabs.harvard.edu/public-libraries/r22T6CtESgW923Az4sX9ag>

All: <https://ui.adsabs.harvard.edu/public-libraries/6fldd2zxRQyCSB4ElgXIJw>

Ph.D. students:

Thomas Renbarger - Professor of Physics and Astronomy, Merritt College
 David Chuss - Chair, Department of Physics, Villanova University
 Hua-bai Li - Associate Professor of Physics, Chinese University of Hong Kong
 Megan Krejny - owner, Jane Reaction Fitness, Santa Barbara, CA
 Tristan Matthews - Senior Director of Software Engineering, Grail, Inc.
 Peter Ashton - Research Engineer, SRI International
 Paul Williams - Labor Organizer, United Auto Workers
 Dennis Lee - Postdoctoral Research Associate, Jet Propulsion Laboratory
 Hailin Wang - 2024-25 CIERA Board of Visitors Graduate Fellow, Northwestern Univ.

Postdoctoral Research Associates/Fellows and South Pole Winter-over Scientists:

Jessie Dotson - Astrophysicist, NASA Ames Research Center
Gregory Griffin - Technologist, Jet Propulsion Laboratory
Paolo Calisse - Site Manager, Northern Cherenkov Telescope Array
Nicholas Chapman - Engineering Specialist, Aerospace Corporation
Laura Fissel - Associate Professor, Department of Physics, Engineering Physics, and Astronomy, Queen's University, Canada
Fabio Santos - Associate Editor of Physics and Astronomy Journals, Springer Nature Publishing Company, Germany
Marc Berthoud – Research Engineer, Dept. of Astronomy & Astrophysics, U. of Chicago
Erin Cox – Assistant Director of Education and Outreach, SkAI Institute, Northwestern U.
Patrick Sheehan – Scientist, National Radio Astronomy Observatory

Northwestern Undergraduate Research Assistants:

Tobias Keidl, Mark Wu, Winston Tse, Elizabeth Felton, Adam Roth, Prashant Malhotra, Jill Hanna, Jennifer Marshall, Shawn Stevens, Chris Greer, Janet Colucci, Philip Man, Maulin Shah, Mi Zou, Isabel Abbott, Mitchell Drew, Andrew Srisuwananukorn, Matthew Hroma, Christopher Hansen, Kyle Condrón, Eric van Camp, Ethan Rengifo, Nathan Scott, Ariel Wong

Summer Student Researchers:

David Chuss (Villanova), Daniel Hayes (Luther College), Soren Dayton (Univ. of Chicago), Erik Limpaecher (high school student at Phillips Academy, Andover, MA; then Princeton U), Samuel Moseley (high school student at Lab School of Washington, Wash. D.C.), Sharon Loverde (U. of Illinois at Urbana), Timothy O'Hara (Carnegie Mellon University), Sarah Williams (Bryn Mawr), Aaron Kime (high school at Evanston Township H.S., Evanston, IL), Aaron Juarez (U. Texas at Austin), Amanda Newmark (high school at New Trier H.S., Wilmette, IL; then Princeton U.), Hananiel Setiawan (Michigan State), Eric Scott (high school at Niles West H.S.; Skokie, IL), Qifeng Cheng (U. of Illinois, Urbana-Champaign), Micaela Foreman (Williams College), Aidan Rodts (De Paul University)

Service to Northwestern University – Selected Contributions:

Director of Graduate Studies in Physics and Astronomy	2000 – 2004
Member, CIERA Advisory Board	2010 – 2011
Member, Weinberg College of Arts & Sciences Committee on Promotion	2016 – 2019
Co-chair, CIERA Social Justice Coordinating Committee	2020 – 2021
Member, CIERA Executive Committee	2024 – present