

## **Dr. Bryan E. Penprase**

Vice President of Sponsored Research and External Academic Relations  
Soka University of America, Aliso Viejo CA 92656  
Email: [bpnprase@soka.edu](mailto:bpnprase@soka.edu)

### **Education**

**Ph. D. - University of Chicago, Astronomy and Astrophysics, 1992**

**M.S. - Stanford University, Applied Physics, 1985**

**B.S. - Stanford University, Physics, 1985**

### **Administrative Positions**

#### **2020-present – Vice President of Sponsored Research and External Academic Relations, Soka University of America**

In the Vice President role, I am responsible for managing university partnerships with UC Irvine, CGU and peer liberal arts institutions, managing the sponsored research office and developing relations with private foundations, and working to advance SUA's mission of fostering global citizenship through visiting international scholars, educational conferences and symposia and presentations at external academic conferences.

#### **2017-2020 – Dean of Faculty, Undergraduate Program, Soka University of America**

The Dean of Faculty has administrative responsibility for undergraduate education and research functions with oversight of over 70 faculty. The Dean is responsible for implementation of academic rules and regulations, academic advising, promotion of academic integrity, undergraduate curricula, faculty recruitment and development, research activities, management of academic resources, undergraduate program budget and personnel costs and oversight of academic Concentrations, Programs and Areas. Specific projects include helping to develop a new Life Sciences concentration, including curriculum and hiring plan, planning and organizing an international conference on Globalized Liberal Arts, developing new faculty development programs, incentivizing faculty research, developing new programs to advance diversity and inclusion, and arranging partnerships with liberal arts colleges and universities, including an MOU with Claremont Graduate University for accelerated MA degrees, and new Fellowship advising and internship programs.

#### **2015-2017 – Director, Centre for Teaching and Learning, Yale-NUS College, Singapore**

Founded and Directed the Centre for Teaching and Learning, developed new faculty workshops, teaching innovation grants, and conducted research on teaching and learning. Advised leadership on teaching and learning issues, and played a lead role in faculty development and educational research at Yale-NUS. Advised the Yale-NUS President and Dean on initiatives for Global liberal arts, including co-organizing campus opening symposium in 2015, Global liberal arts meeting at Yale University in 2016, and Liberal Arts in India meetings in 2015 and 2016. Helped develop, teach and co-direct the Foundations of Science Course at Yale-NUS College.

#### **2013-2014 - co-Director, Liberal Arts Consortium for Online Learning (LACOL)**

As founding co-Director, reported to the Presidents of Amherst, Claremont McKenna, Carleton, Swarthmore, Haverford, Pomona, Vassar and Williams Colleges, and developed strategic priorities

and organized a conference on online learning at Pomona College. The LACOL Consortium included nearly 1000 faculty from all eight colleges, and budgets pooled from the President's office in each institution.

**2012-2013 - American Council on Education (ACE) Fellow, Yale University**

Reported to Yale's President Peter Salovey, and developed reports and white papers on topics ranging from online learning, teaching and learning centers, diversity and social mobility in higher education, math teaching, liberal arts in India, and co-authored the blueprint of the Yale-NUS College curriculum. Served on committee with Yale faculty to develop the Freshman Scholars at Yale program for incoming first-generation students and students from underrepresented groups in academia.

**2007-2011 - Chair, Physics and Astronomy, Pomona College**

Led a department of 8 faculty, and four full time staff, with multiple shops and off campus facilities, and worked with a budget of over \$100,000 for capital improvements and operations. Led initial planning of the new Physics, Math and Astronomy building, as well as directed major refurbishments of the Observatory and Planetarium. Expanded the department's faculty and student majors, and revised the Physics curriculum to include more emphasis on inclusive pedagogy and diverse student outcomes.

**1993-2016 - Director, Frank P. Brackett Observatory**

Developed collaborations and joint research programs with NASA's JPL, Caltech and the Carnegie Observatories, and provided substantial research capabilities to Pomona College in Astronomy through external funding from the Fletcher Jones Foundation, NASA, JPL, and NSF, resulting in major upgrades of the 1-meter telescope for remote operations and development of the astronomical computing initiative, as well as international research collaborations centered at Caltech.

**Academic Positions**

**2017-2020 – Vice President for Sponsored Research and External Academic Relations and Professor of Science, Soka University of America**

**2017-2020 - Dean of Faculty and Professor of Science, Soka University of America**

**2016-2019 - Research Professor of Astronomy, Pomona College**

**2016-2017 - Visiting Associate, California Institute of Technology**

**2014-2017 - Professor of Science, Yale-NUS College/NUS Singapore**

**2008-2016 - Frank P Brackett Professor of Astronomy, Pomona College**

**2007-2012 - Visiting Associate, California Institute of Technology**

**2000-2007 - Associate Professor of Physics and Astronomy, Pomona College**

**1993-1999 - Assistant Professor of Physics and Astronomy, Pomona College**

**1992-1993 - National Research Council, Postdoctoral Fellow, California Institute of Technology**

## **Recent Committees and Service**

- Executive Committee Member, Global Engagement in the Liberal Arts, group of learning liberal arts colleges from the US, 2019.
- NUS Teaching Academy, Horizon Scanning Committee, Chair, 2017.
- NUS University Teaching Excellence Committee, Member, 2016-2017.
- Teaching Academy, National University of Singapore, Member, 2016-2017.
- Teaching, Learning and Advising Committee, Chair, Yale-NUS College, 2015-2016
- Dean of Admissions Search Committee, Member, Yale-NUS College, 2015-16
- Presidential Task Force on Technology-Enhanced Teaching, Member, Yale-NUS College, 2015-16
- Science Division Director Search Committee, Member, Yale-NUS College, 2014-15
- Yale-NUS Campus Inauguration Steering Committee, Member, 2014-15
- Future Learning Technologies Committee, Chair, Pomona College, 2013-14
- Science Division, Interim Chair, Pomona College, 2013-14
- Executive Committee, Member, Pomona College, 2013-14
- British Fellowship Committee, Member, Pomona College, 2013-14
- Freshman Scholars at Yale Committee, Member, Yale University, 2012-13
- Yale-NUS Curriculum Committee, Member, Yale University, 2012-13
- Teaching and Learning Committee, Chair, Pomona College, 2006-7
- Faculty Personnel Planning Committee, Member, Pomona College, 2004

## **National and International Service and Boards**

- GROWTH Project, Caltech, Lead, Undergraduate Education, 2015-2017.
- O.P. Jindal Global University School of Liberal Arts, New Delhi, Board Member, 2015-present
- Future of Liberal Arts and Sciences in India, steering committee member, 2014-present
- Liberal Studies in Engineering – National Academies Meeting, Session Chair and Resource Person, 2015
- ACE Institute for Leading Internationalization, member, 2015.
- Hubble Space Telescope Time Allocation Committee, member, 2011-2013
- NASA Keck Telescope Time Allocation Committee, member, 2010-2013
- Project Kaleidoscope Leadership Institute, mentor, 2007-2010
- Southern California PKAL Regional Network, chair and member, 2008-2011
- Higher Education Working Group, California Space Grant Consortium, Chair, 2008-2011
- Project Kaleidoscope STEM Education Network, F21 member, 1995-present

## **International Education Conferences and Initiatives**

- Globalized Liberal Arts Conference, Soka University, June 2018, Chair, Organizing Committee
- STEM Innovation Conference – Yale-NUS College, June 2017, Chair, Organizing Committee
- Globalizing the Liberal Arts Conference, Yale University, June 2016, co-organizer
- Future of Liberal Arts in India III, Symbiosis University, Pune, May 2016, co-organizer
- Yale-NUS College Inaugural Symposium, October 2015, co-organizer

- Future of Liberal Arts and Sciences in India II, Ashoka University/O.P. Jindal University, New Delhi, India, March 2015, co-organizer
- Liberal Arts Consortium for Online Learning, Pomona College, June 2014, co-Director
- Future of Liberal Arts and Sciences in India, Raman Research Institute, Bangalore, India, Jan. 2014, co-organizer.

## Major Research Grants and Awards

- Sahm Foundation 2019 – “Building a Digital Creativity Space” - M. Golden, B. Penprase, **\$100,000.**
- Teagle Foundation, 2015 - "*Globalizing the Liberal Arts*" - B. Penprase and C. Bailyn, Co-PIs, **\$50,000.**
- NSF PIRE 2015 - "*GROWTH - The Global Relay of Observatories for Watching Transients Happen,*" M. Kasliwal, PI, (Caltech), with co-PI's T. Prince (Caltech), L.Yan (Caltech); with B. Penprase, R. Quimby (SDSU), P. Wozniak (LANL); S. Vogel (U. Maryland), and D. Kaplan (U. Wilwaukee). **\$4,500,000**
- NSF PIRE 2014 - "*The Zwicky Transient Facility,*" S. Kulkarni, PI, (Caltech) with Co-PI's T. Prince, B. Penprase, R. Dekany, and G.Helou, **\$8,980,000**
- Fletcher Jones Foundation 2013 - "Digital Immersive Theatre," M. Ebert, B. Penprase, P. Choi, and D. Tanenbaum, **\$1,000,000.**
- NSF MRI 2010 - "*CCAO-Cam: A Remote-Access, Dual-Band (Optical/NIR) Adaptive Optics System for the Table Mountain 1-meter telescope,*" P. Choi, PI; with R. Erik Spjut (HMC), S. Severson (SSU), and B. Penprase, **\$637,000**
- Fletcher Jones Foundation 2001 - "*Astronomical Computing Initiative at Pomona College*", B. Penprase (PI), **\$567,000.**

## Honors and Awards

- National University of Singapore, Teaching Academy, 2016-2017.
- Postgraduate Certificate, International Faculty Scholarship of Teaching and Learning Leadership Program, University of British Columbia, 2016.
- Fellow, American Council on Education (ACE), 2012-2013.
- Visiting Professor, Raman Research Institute, Bangalore, India, 2008.
- Downing Fellow, Downing College, Cambridge University, UK, 2005.
- Visiting Scientist, Harvard SAO, 2004.
- ASEE JPL faculty fellow, 1997 and 1998.

## Teaching and Curriculum Development

- Life Sciences curriculum for interdisciplinary science and pre-medical education, Soka University of America, 2017-present
- Lead Instructor - Yale-NUS Foundations of Science (8 faculty teaching team), 2015-2017
- Developed Experiential Week 7 Course - "Cosmology and Culture of the Chola" - India, 2014
- Developed Experiential Week 7 Course - "Ancient and Modern Chinese Universe" - China, 2015

- Inaugural Curriculum Committee, Yale-NUS College, member, 2012-13
- Astronomical Computing Initiative, Pomona College - Developed simulations and visualizations with Fletcher Jones Foundations Grant
- Developed courses throughout the curriculum in Astronomy, Astrophysics and Physics at Pomona College, including Archaeoastronomy and World Cosmology, Earth's Cosmic History, Advanced Observational Astronomy, Interstellar Medium and Star Formation, Extragalactic Astronomy and Cosmology

## Publications

### Books and Book Chapters:

**Penprase, B.E.**, 2020, *STEM Education for the 21<sup>st</sup> Century: How Active Learning, Online Technologies and Research Have Transformed STEM Education*, Springer, Inc., Dordrecht, Netherlands.

**Penprase, B.E.**, and Douglass, J., 2020, "Nationalism Versus Globalism – Universities in Hong Kong and Singapore," chapter in *Neo-Nationalism and Universities: Global Perspectives on Politics and Policy and the Future of Higher Education*, JHU Press, to appear in Fall 2020.

**Penprase, B.E.**, 2019, "Educational Strategies and Challenges for 4IR and Beyond," to appear in *Education and Jobs of the Future: Developing Qualified Human Capital to Secure the UAE's Progress*, Emirates Center for Strategic Studies and Research Publication.

**Penprase, B.E.**, 2018, "The Fourth Industrial Revolution and Higher Education," chapter in Gleason, N. (eds), *Higher Education in the Era of the Fourth Industrial Revolution*, Palgrave Macmillan, Singapore.

**Penprase, B.E.**, 2017, "Innovation in Undergraduate Education: The Case of the National University of Singapore," chapter in *Envisioning the Asian New Flagship University - Its Past and Vital Future*, Douglas, J., and Hawkins, J. (eds), Berkeley Public Policy Press – UC Berkeley Center for Studies in Higher Education.

**Penprase, B.E.**, 2017, "Yale-NUS College," chapter in *Envisioning the Asian New Flagship University - Its Past and Vital Future*, Douglas, J., and Hawkins, J. (eds), Berkeley Public Policy Press – UC Berkeley Center for Studies in Higher Education.

**Penprase, B.E.**, 2017, *The Power of Stars – How Celestial Observations Have Shaped Civilization (second edition)*, published by Springer, Inc.

**Penprase, B.E.**, 2016, "The Zwicky Transient Facility," article in AccessScience McGraw-Hill Education Encyclopedia of Science & Technology.

**Penprase, B.E.**, 2016, "New liberal arts and science institutions in India and Singapore – the role of STEM education," contributed article to be published in *The Liberal Arts and*

*Science Education Dialogue across Continents: Experiences and Perspectives from the USA, Europe, and Asia*, Palgrave Macmillan.

**Penprase, B.E.**, 2016 "Calendars and Timekeeping Around the World" an entry in the *Encyclopaedia of the History of Science, Technology, and Medicine in Non-Western Cultures*, H. Selin, editor, Springer Verlag, NY.

Garsten, B., Patke, R., Bailyn, C., Jacobs, J., Chuan, K., and **Penprase, B.**, 2013, "Yale-NUS College - A New Community of Learning" – Yale-NUS Curriculum blueprint booklet.

## **Publications in Refereed Journals**

*(undergraduate student authors indicated with an asterisk):*

**Penprase, B.**, 2020, "Global Liberal Arts and New Institutions for 21<sup>st</sup> Century Higher Education," *Higher Education Forum*, 18.

Bolin, B., ... **Penprase, B.**, with 52 co-authors, 2020, "Characterization of the Nucleus, Morphology, and Activity of Interstellar Comet 2I/Borisov by Optical and Near-infrared GROWTH, Apache Point, IRTF, ZTF, and Keck Observations," *Astronomical Journal*, 160, 1.

Wee, J.\*, Blagorodnova, N., **Penprase, B.E.**, Facey, J.P.\*, Morioka, T.\*, Corbett, H., Barlow, B.N., Kupfer, T., Law, N.M., Ratzloff, J.K., Howard, W.S., Chavez, R.G., Glazier, A., Soto, A.V., and Horiuchi, T., 2020, "Multi-wavelength Photometry and Progenitor Analysis of the Nova V906 Car," *Astrophysical Journal*, in press.

Graham, M.J., ... **Penprase, B.**, with 115 co-authors, 2019, "The Zwicky Transient Facility: Science Objectives," *PASP*, 131, 8001.

Perley, D.A., Mazzali, P.A., Yan, L., Cenko, B., ... **Penprase, B.**, ...and Wee, J.\*, 2018, "The Fast, Luminous Ultraviolet Transient AT2018cow: Extreme Supernova, or Disruption of a Star by an Intermediate-Mass Black Hole?", *Monthly Notices of the Royal Astronomical Society*, 484, 1031.

Wee, J.\*, Chakraborty, N.\*, Wang, J.\*, and **Penprase, B.E.**, 2018, "Optical and Infrared Photometry of the nearby SN 2017cbv," *Astrophysical Journal*, 863, 90.

Swiggum, J.K., McLaughlin, M., Lorimer, D., Kaplan, D.L., Lynch, R., Gentile, P., Rosen, R., Heatherly, S.A., Ray, P.S., Bogdanov, S., Barlow, B.N., Hegedus, R.J., Vasquez Soto, A., Clancy, P., Kondratiev, V.I., Stovall, K., Istrate, A., and **Penprase, B.**, 2017, "A Multi-Frequency Study of PSR J1400-1431, *Astrophysical Journal*, 847, 25.

Marsh, F.M.\*, Simon, A.A., **Penprase, B.E.**, Mettig, H., and Hahn, G. 2016, "The Relationship of Feature Drift Rate to Zonal Wind Velocity in the Northern Equatorial Belt of Jupiter I: Synoptic Scale Features," submitted to *Icarus*.

- Liu, C.T., ..., **Penprase, B.E.**, and 18 co-authors, 2014, "Maximizing LSST's Scientific Return: Ensuring Participation from Smaller Institutions," white paper for astronomical community, arXiv:1410.2526.
- Phillips, M.M., Simon, Joshua D., Madore, Barry F.; **Penprase, B. E.**, (several co-authors omitted for space), 2013, "On the Source of the Dust Extinction in Type Ia Supernovae and the Discovery of Anomalously Strong Na I Absorption," *Astrophysical Journal*, **779**, 38
- Sternberg, A., Gal-Yam, A., Simon, J. D., Leonard, D. C., Quimby, R. M., Phillips, M. M., Morrell, N., Thompson, I. B., Ivans, I., Marshall, J. L., Filippenko, A. V., Marcy, G. W., Bloom, J. S., Patat, F., Foley, R. J., Yong, D., **Penprase, B. E.**, Beeler, D. J.\* , Allende Prieto, C., Stringfellow, G. S., 2011, "Circumstellar Material in Type Ia Supernovae via Sodium Absorption Features," *Science*, **333**, 856.
- Thomas, C.A., Trilling, D.E., Emery, J.P., Mueller, M., Hora, J.L., Benner, L.A.M., Bhattacharya, B., Bottke, W.F., Chesley, S., Delbo, M., Fazio, G., Harris, A.W., Mainzer, A., Mommert, M., Morbidelli, A., **Penprase, B.**, Smith, H.A., Spahr, T.B., and Stansberry, J.A., 2011, "ExploreNEOs. V. Average Albedo by Taxonomic Complex in the Near-Earth Asteroid Population," *Astronomical Journal*, **142**, 85.
- Penprase, B.E.**, Prochaska, J.X., Sargent, W.L.W, Toro Martinez, I.\* , and Beeler, D.\* , 2010, "Keck ESI Observations of Metal-Poor Damped Lyman-alpha Systems," *Ap. J.* **721**, 1.
- Bhattacharya, B., **Penprase, B.E.**, Tedesco, E.T., Meadows, V.S., Giorgini, J., Reach, W.T., Ryan, E.L., Tyler, S.R., Williams, G., and Soifer, B.T., 2010, "A Photometric Study of Asteroids in the Spitzer Space Telescope First Look Survey Ecliptic Plane Component", *Ap. J.*, **720**, 114.
- S. Guieu , L. M. Rebull , J. R. Stauffer , F. J. Vrba , A. Noriega-Crespo , T. Spuck, T. Roelofsen Moody , B. Sepulveda , C. Weehler , A. Maranto , D. M. Cole , N. Flagey , R. Laher , **B. Penprase** , S. Ramirez , S. Stolovy, 2010, "Spitzer Observations of IC 2118 ," *Ap. J.*, **720**, 46.
- Trilling, D.E., Mueller, M., Hora, J.L., Harris, A.W., Bhattacharya, B., Bottke, W.F., Chesley, S., Delbo, M., Emery, J.P., Fazio, G., Mainzer, A., **Penprase, B.**, Smith, H.A., Spahr, T.B., Stansberry, J.A., and Thomas, C.A., 2010, "ExploreNEOs. I. Description and First Results from the Warm Spitzer Near-Earth Object Survey", *A.J.*, **140**, 770.
- Tanvir, N. R.; Fox, D. B.; Levan, A. J.; Berger, E.; ..., **Penprase, B. E.**, 2009, "A  $\gamma$ -ray burst at a redshift of  $z \sim 8.2$ ", 2009, *Nature*, **461**, Issue **7268**, pp. 1254-1257 (2009). (some co-authors removed for space)
- Gal-Yam, A., Nakar, E., Ofek, E.O., Cenko, S.B., Kulkarni, S.R., Soderberg, A.M., Harrison, F., Fox, D.B., Price, P.A., **Penprase, B.E.**, Frail, D.A., Atteia, J.L., Berger, E., Gladders, M., Mulchaey, J., 2008, "New Imaging and Spectroscopy of the Locations of Several Short-Hard Gamma-Ray Bursts", *Astrophysical Journal*, **686**, 408.

- Chandra, P., Cenko, S.B., Frail, D.A., Chevalier, R.A., Macquart, J, Kulkarni, S.R., Bock, D.C., Bertoldi, F., Kasliwal, M., Fox, D.B., Price, P.A., Berger, E., Soderberg, A.M., Harrison, F., Gal-Yam, A., Ofek, E., Rau, A., Schmidt, B.P., Cameron, B.P., Cowie, L.L., Cowie, A., Roth, K.C., Dopita, M., Peterson, B., **Penprase, B.E.**, 2008, "A Comprehensive Study of GRB 070125, A Most Energetic Gamma-Ray Burst", *Astrophysical Journal*, **683**,924.
- Britton, M., Velur, V., Law, N., Choi, P., and **Penprase, B.E.**, 2008, "CAMERA: a compact, automated, laser adaptive optics system for small aperture telescopes", *SPIE Proc. Vol 7015*, 701516.
- Cenko, S.B., Fox, D.B., **Penprase, B.E.**, Cucchiara, A., Price, P.A., Berger, E., Kulkarni, D.R., Harrison, F.A., Gal-Yam, A., Ofek, E.O., Rau, A., Chandra, P., Frail, D.A., Kasliwal, M., Schmidt, B.P., Soderberg, A.M., Cameron, P.B., and Roth, K.C., 2007, "GRB 070125: The First Long-Duration Gamma-ray Burst in a Halo Environment", *Astrophysical Journal*, **677**,441.
- Simon, J.D., Gal-Yam, A., **Penprase, B. E.**, Li, W., Quimby, R.M., Silverman, J.M., Allende Prieto, C., Wheeler, J.C., Filippenko, A.V., Toro Martinez, I.\*, Beeler, D.J.\*, 2007, "Constraints on Circumstellar Material Around the Type Ia Supernova 2007af", *Astrophysical Journal (Letters)*, **671**, 25.
- Berger, E., Fox, D.B., Price, P.A., Nakar, E., Gal-Yam, A., Holz, D.E., Schmidt, B.P., Cucchiara, A., Cenko, S.B., Kulkarni, S.R., Soderberg, A.M., Frail, D.A., **Penprase, B.E.**, Rau, A., Ofek, E., Burnell, S.J., Cameron, P.B., Cowie, L.L., Dopita, M.A., Hook, I., Peterson, B., Podsiadlowski, P., Roth, K.C., Rutledge, R.E., Sheppard, S.S., Songaila, A., 2007, "A New Population of High-Redshift Short-Duration Gamma Ray Bursts", *Astrophysical Journal*, **664**, 1000-1010.
- Price, P.A., Songaila, A., Cowie, L.L., Bell Burnell, J., Berger, E., Cucchiara, A., Fox, D.B., Hook, I., Kulkarni, S.R., **Penprase, B.**, Roth, K.C., and Schmidt, B., 2007, "Properties of a Gamma-Ray Burst Host Galaxy at  $z \sim 5$ ", *Astrophysical Journal (Letters)*, **663**, L57-60.
- Ofek, E.O., Cenko, S.B., Gal-Yam, A., Fox, D.B., Nakar, E., Rau, A., Frail, D.A., Kulkarni, S.R., Price, P.A., Schmidt, B.P., Soderberg, A.M., Peterson, B., Berger, E., Sharon, K., Shemmer, O., **Penprase, B.E.**, Chevalier, R.A., Brown, P.J., Burrows, D.N., Gehrels, N., Harrison, F., Holland, S.T., Mangano, V., McCarthy, P.J., Moon, D.-S., Nousek, J.A., Persson, S.E., Piran, T., Sari, R., 2007, "GRB 060505: A Possible Short-Duration Gamma-Ray Burst in a Star Forming Region at a Redshift of 0.09", *Astrophysical Journal*, **662**, 1129-1135.
- Wainwright, C.\*, Berger, E., and **Penprase, B.E.**, 2007, "A Morphological Study of Gamma-Ray Burst Host Galaxies", *Astrophysical Journal*, **657**, 367-377.
- Gal-Yam, A., Fox, D., Price, P., Davis, M., Leonard, D., Soderberg, A., Nakar, E., Ofek, E., Schmidt, B., Lewis, K., Peterson, B., Kulkarni, S., Berger, E., Cenko, B., Sari, R., Sharon, K., Frail, D., Gehrels, N., Nousek, J., Burrows, D., Mangano, V., Holland, S., Brown, P., Moon, D.-S., Harrison, F., Piran, T., McCarthy, P., **Penprase, B.**, Chevalier, R. 2006, "A Novel Explosive Process is required for the  $\gamma$ -ray burst GRB 060614", *Nature*, **444**, 1053-1055.
- Shin, M-S., Berger, E., **Penprase, B. E.**, Fox, D. B., Price, P. A., Kulkarni, S. R., Soderberg, A. M., West, M. J., Cote, P., Jordan, A., 2006, "High Resolution Spectroscopy of GRB030226:



Features of a Massive Star Progenitor or Intervening Absorption Systems?”, *Astrophysical Journal*, submitted; referee comments being addressed. Astro-ph 0608327.

Cenko, S.B., Kasliwal, M., Harrison, F., Pal’shin, V., Frail, D.A., Cameron, P.B., Berger, E., Fox, D.B., Gal-Yam, A., Kulkarni, S.R., Moon, D.-S., Nakar, E., Ofek, E.O., **Penprase, B.E.**, Price, P.A., Sari, R., Schmidt, B.P., Soderberg, A.M., Aptekar, R., Frederiks, D., Golenetskii, S., Burrows, D.N., Chevalier, R.A., Gehrels, N., McCarthy, P.J., Nousek, J.A., and Piran, T., 2006, “Multiwavelength Observations of GRB 050820A: An Exceptionally Energetic Event Followed from Start to Finish”, *Ap. J.*, **652**, 490-506.

Soderberg, A., Kulkarni, S.R., Nakar, E., Berger, E., Cameron, P.B., Fox, D.B., Frail, D., Gal-Yam, A., Sari, R., Cenko, S.B., Kasliwal, M., Chevalier, R.A., Piran, T., Price, P.A., Schmidt, B.P., Pooley, G., Moon, D.-S., **Penprase, B.E.**, Ofek, E., Rau, A., Gehrels, N., Nousek, J.A., Burrows, D.N., Persson, S.E., McCarthy, P.J., 2006, “Relativistic ejecta from X-ray flash XRF 060218 and the rate of cosmic explosions”, *Nature*, **442 (7016)**, p. 1014-1017.

**Penprase, B.E.**, Berger, E., Fox, D.B., Kulkarni, S.R., Kadish, S.\*, Kerber, L.\*, Schaefer, B., and Reed, M., 2006, “Spectroscopy of GRB 051111 at  $z=1.54948$ : Kinematics and Elemental Abundances of the GRB environment and Host Galaxy”, *Ap. J.*, **646**, 358-368.

Berger, E., **Penprase, B.E.**, Fox, D.B., Kulkarni, S.R., Hill, G., Schaefer, B., and Reed, M., 2006, “Fine-Structure FeII and SiII Absorption in the Spectrum of GRB 051111: Implications for the the Burst Environment”, *submitted to the Astrophysical Journal Letters*. (astro-ph/0512280).

Berger, E., **Penprase, B.E.**, Cenko, S.B., Kulkarni, S.R., Fox, D.B., Steidel, C.C., and Reddy, N.A., 2005, “Spectroscopy of GRB 050505 at  $z=4.275$ : a  $\log N(\text{HI})=22.1$  DLA Host Galaxy and the Nature of the Progenitor”, *Ap. J.*, **642**, 979-988.

Berger, E., Price, P.A., Cenko, S.B., Gal-Yam, A., Soderberg, A.N., Kasliwal, M., Leonard, D.C., Cameron, P.B., Frail, D.A., Kulkarni, S.R., Murphy, D.C., Krzeminskiy, W., Piran, T., Lee, B.L., Roth, K.C., Moon, D.-D., Fox, D.B., Harrison, F.A., Persson, S.E., Schmidt, B.P., **Penprase, B.E.**, Rich, J., Peterson, B.A., and Cowie, L.L. 2005, “The Afterglow and Elliptical Host Galaxy of the Short Gamma-Ray Burst GRB 050724”, *Nature*, **438 (7070)**, p. 988-990.

Fox, D.B., Frail, D.A., Price, P.A., Kulkarni, S.R., Berger, E., Piran, T., Soderberg, A.M., Cenko, S.B., Cameron, P.B., Gal-Yam, A., Kasliwal, M.M., Moon, D.-S., Harrison, F.A., Nakar, E., Schmidt, P., **Penprase, B.**, Chevalier, R.A., Kumar, P., Roth, K., Watson, D., Lee, B.L., Shtetman, S., Phillips, M.M., Roth, M., McCarthy, P.J., Rauch, M., Cowie, L., Peterson, B.A., Rich, J., Kawai, N., Aoki, K., Kosugi, G., Totani, T., Park, H.-S., MacFadyen, A., and Hurley, K.C., 2005, “The afterglow of GRB050709 and the nature of the short-hard gamma-ray bursts”, *Nature*, **437**, 845-850.

Meech, K., et al, Ates, A., Peterno-Mahler, R.\*, Stecklein, G.\*, **Penprase, B.**, Zook, A., 2005 (very large list of coauthors shortened to include only Pomona College coauthors + first author), “Deep Impact: Observations from a World-Wide Earth-Based Campaign”, *Science*, **310** (5746), p. 265-269.

Gal-Yam, V., Nakar, E., Ofek, E., Fox, D.B., Cenko, S.B., Kulkarni, S.R., Soderberg, A.M., Harrison, F., Price, P.A., **Penprase, B.E.**, Frail, D., Berger, E., Gladders, M., and Mulchaey, J., 2005, “The Progenitors of Short-Hard Gamma-Ray Bursts from an Extended Sample of Events”, *Submitted to the Astrophysical Journal*, astro-ph/0509891.

- Berger, E., Kulkarni, S.R., Fox, D.B., Soderberg, A.N., Harrison, F.A., Nakar, E., Kelson, D.D., Gladders, M.D., Mulchaey, J.S., Oemler, A., Dressler, A., Cenko, S.B., Price, P.A., Schmidt, B.P., Frail, D.A., Morrell, N., Gonzalez, S., Krzeminski, W., Sari, R., Gal-Yam, A., Moon, D.S., **Penprase, B.E.**, Jayawardhana, R., Scholz, A., Rich, J., Peterson, B.A., Anderson, G., McNaught, R., Minexaki, T., Yoshii, Y., Cowie, L., L., and Pimbbler, K, 2005, "The Afterglows, Redshifts, and Properties of Swift Gamma-Ray Bursts", *Ap. J.*, **634**, 501-508.
- Akeson, R.L., Walker, C.H., Wood, K., Eisner, J.A., Scire, E.\* , **Penprase, B.E.**, Ciardi, D.R., van Belle, G.T., Whitney, B., and Bjorkman, J.E., 2005, "Observations and Modeling of the Inner Disk Region of T Tauri Stars", *Ap. J.*, **622**, 440-450.
- Elliot, J.L., Ates, A., Babcock, B.A., Bosh, A.S., Buie, M.W., Clancy, K.B., Dunham, E.W., Eikenberry, S.S., Hall, D.T., Kern, S.D., Leggett, S.K., Levine, S.E., Moon, D.-S., Olkin, C.B., Osip, D.J., Pasachoff, J.M., **Penprase, B.E.**, Person, M.J., Qu, S., Rayner, J.T., Roberts, L.C., Salyk, C.V., Souza, S.P., Stone, R.C., Taylor, B.W., Tholen, D.J., Thomas-Osip, J.E., Ticehurst, D.R., and Wasserman, L.H., 2003, "The Recent Expansion of Pluto's Atmosphere", *Nature*, **242**, 165-168.
- Penprase, B.E.**, Rhodes, J.\* , and Harris, E\*. 2000, "Optical Observations of the Draco Molecular Cloud I. Catalog of B and V magnitudes for Selected Areas", *Astron. Ap.*, **364**, 712-722.
- Penprase, B.E.**, and Blades, J.C., 2000, "Ultra-High Dispersion Spectroscopy of the High Latitude Cloud in the Foreground of the Star HD 22252", *Ap. J.* **535**, 293-297.
- Wannier, P., Andersson, B-G, **Penprase, B.E.**, Federman, S.R. and Lambert D. 1999, "Perseus B5 Molecular Cloud Halo: Measurements of Pressure, Temperature, and Composition", *Ap. J.*, **510**, 291-304.
- Penprase, B.E.**, Lauer, J.\* , Aufrecht, J.\* , and Welsh, B. 1998, "Photometric and Spectroscopic Observations of a Diffuse Interstellar Filament in the Foreground of the Magellanic Clouds", *Ap. J.* , **492**, 617.
- Wannier, P., **Penprase, B.E.**, and Andersson, B-G., 1997, "Rotational Excitation of CO in the Diffuse Interstellar Medium: Effects of Line Emission from Dense Molecular Clouds", *Ap. J. Letters*, **487**, 165.
- Covino, E., Palazzi, E., **Penprase, B.E.**, Schwartz, H., and Terranegra, L. 1997, "Optical Polarimetry, High-Resolution Spectroscopy and IR Analysis of the Chamaeleon I Dark Cloud", *Astron. Ap. Supp.*, **122**, 95.
- Guo, Z., Burrows, D.N., Sanders, W.T., Snowden, S.L., and **Penprase, B.E.** 1995, "X-Ray Morphology, Kinematics and Geometry of the Eridanus Soft X-Ray Enhancement", *Ap. J.*, **453**, 256.
- Penprase, B.E.** 1993, "Photometric and Spectroscopic Analysis of High Galactic Latitude Molecular Clouds. II. High Resolution Spectroscopic Observations of Na I, Ca II, Ca I, CH and CH<sup>+</sup>", *Ap. J. Supp*, **88**, 433.
- Penprase, B.E.** 1992, "Photometric and Spectroscopic Analysis of High Galactic Latitude Molecular Clouds. I. Distances and Extinctions of Stars Toward 25 Selected Regions", *Ap. J. Supp*, **83**, 273.

**Penprase, B.E.** and Blades, J.C. 1992, "Detection of a Local High-Velocity Absorption-Line System Toward HD 93721", *Ap. J.*, **391**, 276.

Gilliland, R.L., Brown, T.M., Duncan, D., Suntzeff, N.B., Lockwood, G.W., Thompson, D.T., Schild, R.E., Jeffrey, W.A., and **Penprase, B.E.**, 1991, "Time-Resolved CCD Photometry of an Ensemble of Stars in the Open Cluster M67", *A. J.*, **101**, 541.

**Penprase, B.E.**, Blades, J.C., Danks, A.C., and Crane, P., 1990, "Optical Spectroscopy of the High-Latitude Cloud Lynds 1569", *Ap. J.*, **365**, 241.

Welty, D. E., Hobbs, L.M., **Penprase, B.E.**, and Blitz, L., 1989, "On the Nearest Molecular Clouds. III - MBM 40, 53, 54, and 55", *Ap. J.*, **346**, 232.

Hobbs, L.M., **Penprase, B.E.**, Welty, D.E., Blitz, L., and Magnani, L. 1988, "On the Nearest Molecular Clouds. II - MBM 12 and 16", *Ap. J.*, **327**, 356.

### **Selected Research Conference Publications and Presentations:**

**Penprase, B.E.**, "Mapping of the Local Interstellar Medium using Absorption Line Spectroscopy," Poster at the 2017 AAS meeting.

**Penprase, B.E.**, 2019, "The Soka University of America Observatory and Undergraduate Time-Domain Astrophysics," Talk at Caltech/GROWTH team meeting, San Diego State University, August 2019.

**Penprase, B.E.**, 2019, "Supernovae, Novae and Transient Observations - with ZTF and GROWTH and the new SUA Observatory," Astrophysics Colloquium given at Radboud University, Netherlands (July 2019), and Tokyo Institute of Technology (June 2019).

**Penprase, B.E.**, 2017, "Astronomy Education with GROWTH - a case study with Yale-NUS College," Talk at Caltech/GROWTH team meeting, California Institute of Technology, August 2017.

**Penprase, B.E.** and Marsh, F.M.\*, "A Study of Cyclones and Anti-Cyclones in Jupiter's North Tropical Zone, 2003-2013," Poster at the 2014 DPS meeting, Tucson, AZ.

Hedlund, A.\*, Madore, B.F., **Penprase, B.E.**, and Choi, P., "High-Mass Star Formation in NGC6822: The Ultraviolet as a Tool for Identification," 2014 AAS meeting presentation.

Sternberg, A., **Penprase, B.E.**, et al., 2011, "Evidence for Circumstellar Material in Type Ia supernovae via NaI D Absorption Features," 2011 AAS meeting presentation.

Guieu, S., **Penprase, B.E.**, et al, 2010, "Spitzer Observations of Young Stars in IC2118, the Witch Head Nebula," 2010 AAS meeting presentation.

**Penprase, B.E.**, Sargent, W.L.W., Toro Martinez, I.\*, Prochaska, J.X., and Beeler, D.J.\*, 2007, "Elemental Abundances in GRB Afterglows and High-Redshift DLAs", presented at the First Stars III conference, Santa Fe, New Mexico, proceedings to be published by the AIP.

**Penprase, B.E.**, Beeler, D.J.\*, and Toro Martinez, I.\*, 2007, "Absorption Line Spectroscopy of High Latitude Cirrus and HVC Sightlines", *BAAS*, **210**, 4404.

Beeler, D.J.\*, Rabinowitz, D.L., **Penprase, B.E.**, Tourtellotte, S.W., and Roe, H.G., 2006, "The Rotational Light Curve of 2005 FY9", AAS DPS meeting #38, 4419.

**Penprase, B.**, Berger, E., Sargent, W., 2006, "Evolution of Dust and Elemental Abundances in Quasar DLAs and GRB Afterglows As a Function of Cosmic Time," presented at the "High Metallicity Universe" conference, La Palma, Spain, in press.

**Penprase, B.** 2006, "High Resolution Spectroscopy of Gamma-Ray Burst Afterglows", presented at the June 2006 Venice conference on "Gamma Ray Bursts in the Swift Era", in press.

**Penprase, B.** 2006, "Discovering Remote Observing in the Undergraduate Curriculum - Remote Observing with the Pomona College 1-meter telescope and other undergraduate laboratories in astronomy", 2006, Innovation in Teaching/Learning Astronomy Methods, 26<sup>th</sup> Meeting of the IAU, Special Session 2, Prague, Czech Republic.

**Penprase, B.** 2006, "Many Words, Many Universes - A Consideration of Cosmology and Astrophysics from a Multicultural Perspective", presented at the Claremont Graduate University - Cosmology and Philosophy conference, October 2006.

Wang, Z., **Penprase, B.E.**, Fazio, G.G., Willner, S.P., Ashby, M.L.N., and Smith, H.A., 2005, "Measuring Star Forming Activities in The Antennae: Region by region", to appear in "The Spectral Energy Distribution of Gas-Rich Galaxies: Confronting Models with Data", ed. C.C. Popescu and R.J. Tuffs, AIP Conf. Series 761, 433.

**Penprase, B.**, 2005, "Remote Observing with the Pomona College 1-meter telescope", AAS 207, 1908.

Wang, Z., Fazio, G.G., Ashby, M.L.N., Huang, J-S., Pahre, M.A., Smith, H.A., Willner, S.P., **Penprase, B.E.**, Surace, J.A., Pipher, J.L., and Forrest, W.J., 2004, "Imaging Observations of Interacting and Starburst Galaxies with Spitzer", AAS 205, 169.

**Penprase, B.**, 2004, "Archaeoastronomy in the Undergraduate Astronomy Curriculum", in the Cosmos in the Classroom 2004 proceedings.

Scire, E.\*; **Penprase, B.**; Akeson, R. 2004, "J and K photometry of T Tauri Stars", Presented at the AAS meeting 204, Denver, Colorado, BAAS, 204, 6210.

**Penprase, B.**; Ates, A.; Donovan, J.\*; Keohane, J.; Scire, E., 2004, "Remote Astronomy in the Undergraduate Astronomy Curriculum at Pomona College", Presented at the AAS Meeting 204, BAAS 204, 1201.

**Penprase, B.**; Wannier, P.; Andersson, B.-G.; Ates, A.; Carson, J.\*; 2004, "The Pomona College Polarimeter and Filter Wheel", Presented at the AAS meeting 204, BAAS 204, 1007.

Church, C.\*; **Penprase, B.**; Wannier, P. 2004, "Analysis of HST/STIS absorption line spectra for Perseus Molecular Cloud Sightlines", Presented at the AAS meeting 204, BAAS, 204, p.6106.

- Penprase, B. E.**, Brown, B.\* 2003, "Observations of Rotating Protostars with CLIRCAM", Presented at the AAS meeting 201, Seattle Washington. BAAS, Vol. 34, p.1261.
- Ates, A.; **Penprase, B. E.**; Johnson, V. 2003, "N-body Simulations of Star Clusters and Observational Comparisons", BAAS, Vol. 34, p.1170.
- Johnson, V., Teuben, P., and **Penprase, B.E.**, 2002, "NBodyLab: A Testbed for Undergraduates Utilizing a Web Interface to NEMO and MD-GRAPE2 Hardware", Astronomical Data Analysis Software and Systems XII ASP Conference Series, Vol. 295, 2003 H. E. Payne, R. I. Jedrzejewski, and R. N. Hook, eds., p.365.
- Penprase, B.**, Quadri, R.\* , Clemons, A.\* , and Madore, B., 2002, "Narrow Band Observations of Cen A and M 83", Presented at the AAS Meeting 200, BAAS 200, 9708.
- Penprase, B.E.**, Wertheimer, J.\* , and Johnson, V.L., 2002, "N-body Simulations of the Evolution of the Local Group", Presented at the AAS meeting 200, BAAS, 200, 9707.
- Rivera, J.L.\* , and **Penprase, B.E.**, "Finding Circumstellar Disks Using Polarization and Infrared Excesses", Presented at the AAS meeting 195, BAAS, Vol. 32, 876.
- Penprase, B.E.**, Harris, E.L.\* , Palazzi, E., Covino, E., Schwartz, H., Rhodes, J.D. 1998, "Optical Spectroscopy of the Draco Molecular Cloud and other Halo Regions in the Milky Way", in *The Galactic Halo: Bright Stars and Dark Matter*, Canberra, Australia, Aug, 1998.
- Penprase, B.E.**, Harris, E.L.\* , Covino, E., Palazzi, E., Rhodes, J.D.\* , and Schwarz, H., 1999, "Optical Spectroscopy and Photometry of the Draco Molecular Cloud", in the Stromlo Workshop on High Velocity Clouds, eds. Gibson, B.K, and Putman, M.E., ASP Conference Series, Vol. 166, p. 56.
- Penprase, B.E.**, Wang, Q.D., and Herbstmeier, U. 1998, "Optical Studies of a Local Filament Towards the Magellanic Clouds and a Local IVC Region", in *Proceedings of the IAU Colloquium No. 166*, D. Breitschwerdt, M.J. Freyberg, and J. Trumper, eds., Lecture Notes in Physics, vol. 506, p.447-450.
- Wannier, P., Andersson, B.-G., **Penprase, B.E.**, Federman, S., and Lambert, D. 1998, "The B5 Molecular Cloud Halo: The Cool Atomic and Molecular Medium, in *The Scientific Impact of the Goddard High Resolution Spectrograph*, ASP conference Series, Vol. 143, p. 285-289.
- Penprase, B.E.**, Covino, E., Palazzi, E., Rhodes, J., Harris, E., and Schwarz, H., 1998, "Optical Photometric and Spectroscopic Studies of the Draco and Other High Latitude Molecular Clouds", presented at the AAS meeting 193, BAAS 193, 6519.
- Wannier, P.G., Andersson, B.-G., Federman, S.L., and **Penprase, B.E.**, 1998, "The Perseus/B5 Molecular Cloud Halo: Pressure, Temperature and Composition", presented at the AAS meeting 193, BAAS 193, 6514.
- Penprase, B.E.** 1997, "Ancient Cosmology Resource Center", presented at the *Oxford V conference on Archeoastronomy, Santa Fe, N.M.*, proceedings are in press.

**Penprase, B.E.**, Covino, E., Palazzi, E. Terranegra, L, and Schwartz, H. 1995, "Polarimetry and High Resolution Spectroscopy of the Cha I Star Forming Region", in *Polarimetry of the Interstellar Medium*, ASP Conference Series, Vol. 97, p. 274-278.

**Penprase, B.E.** 1994, "Digital Spectral Classification: An Automated Method", in *The MK Process at 50 Years: A Powerful Tool for Astrophysical Insight*, C.J. Corbally, ed., ASP Conference Series, Vol. 60, p. 325-333.

Danks, A.C., and **Penprase, B.E.** 1994, "Neutral Gas and Diffuse Interstellar Bands in the LMC", in *The Diffuse Interstellar Bands: Contributed Papers*, p. 1-6.

**Penprase, B.E.**, and Helou, G. 1994, "IR Properties of Galactic Cirrus Near the Polar Caps", in *Proceedings of the First Symposium on the Infrared Cirrus and Diffuse Interstellar Clouds*, R. Cutri and W. Latter, ed., ASP Conference Series, vol. 58.

**Penprase, B.E.**, Gilmozzi, R., Bowen, D., and Madau, P. 1993, "The Lyman Alpha Forest of the High Redshift Quasar QSO 0000-263", in *The Evolution of Galaxies and Their Environment*, D. Hollenbach, H. Thronson, and M. Shull, ed., p. 377-378.

#### **Selected Invited Talks and Media Appearances:**

**Times Higher Education Fourth MENA Summit, October 2020, Abu Dhabi, UAE**, invited talk to present on Global Liberal Education.

**American Association of Colleges and Universities, January 2020, Washington D.C.**, panelist in session on "Liberal Arts Education Outside the United States – Innovations, Challenges and Opportunities."

**Dialog between China and the West, January 3, 2020, Peking University**, "*Global Liberal Arts and New Institutions for 21st Century Higher Education*," invited talk to global liberal arts conference sponsored by Chen Yidan Foundation and Peking University.

**Education and Jobs of the Future: Developing Qualified Human Capital to Secure the UAE's Progress, November 12, 2019, Abu Dhabi**, "*Educational Strategies and Challenges for 4IR and Beyond*," invited talk to UAE's Emirates Center for Strategic Studies and Research.

**NYU Abu Dhabi Colloquium, November 11, 2019, Abu Dhabi**, "*INTERDISCIPLINARY SCIENCE AND STEM IN THE GLOBAL LIBERAL ARTS*," talk given to NYU Abu Dhabi faculty as part of a day-long meeting at NYU Abu Dhabi.

**L.A. After Dark, November 16, 2019, University of Southern California**, "*Archaeoastronomy*," talk for public symposium on LA after Dark - Night in the City, which explored scientific and cultural aspects of night in Los Angeles.

**American Association of Colleges and Universities, January, 2018, Washington D.C.**, convener of session on "*Global Citizenship in 2018 - Linking Experience, Curriculum, and Student Development*."

**First Light Conference, Huntington Library, November 17, 2017**, *“Horizons: Conceptions of Cosmology from a Multi-Cultural Perspective,”* Presentation with Wendy Freedman exploring ancient and modern conceptions of the universe.

**Astronomy 2017 – Singapore Art-Science Museum**, *“Chasing Cosmic Explosions”* talk about ZTF and time-domain astronomy.

**Benjamin Dean Lecture** - California Academy of Sciences, December 9, 2013. Sold-out talk discussing “The Power of Stars” with new visualizations created with the CAS staff in their digital planetarium theatre.

**“The Universe - Ancient Mysteries Solved”** History Channel 2 (2014) - Appeared in two episodes - one on Stonehenge and one on the Egyptian Pyramids.

**Griffith Observatory FOTO talk** - Feb. 28, 2011. Lecture based on the “The Power of Stars” included over 200 people and was sold out.

**“Known Universe - Ancient Observers”** - National Geographic Channel (2010); several clips were included on the broadcast international version - can be viewed at <http://natgeotv.com/ca/known-universe/videos>

**Huntington Library Scholarly Books Lecture Series**, June 20, 2011 - “Power of Stars” book talk with full house and over 200 attendees.