

Louis-Gregory (Lou) Strolger

Curriculum Vitae

ROLES

- 2020–present Deputy Head of Instruments Division (INS)
Space Telescope Science Institute, Baltimore, MD
- 2015–2020 Science Policies Group, Science Mission Office (SMO)
Space Telescope Science Institute, Baltimore, MD
- 2005–2013 Observatory Manager, RCT 1.3-meter Telescope
Western Kentucky University, Bowling Green, KY

APPOINTMENTS

- 2013–present AURA Observatory Scientist Space Telescope Science Institute, Baltimore, MD
- 2017–present Research Scientist, Associate Research Scientist (2017–2019),
Dept. of Physics and Astronomy,
Johns Hopkins University, Baltimore, MD
- 2005–2013 Associate Professor (Tenured 2011), Assistant Professor (2005–2009),
Department of Physics & Astronomy,
Western Kentucky University, Bowling Green, KY
- 2002–2005 Postdoctoral Associate, Science Division,
Space Telescope Science Institute, Baltimore, MD
Sponsor: Adam G. Riess (Johns Hopkins Univ./STScI)
- 1998–2001 Visiting Astronomer
Cerro Tololo Interamerican Observatory, La Serena, Chile
Sponsor: R. Chris Smith (CTIO/AURA)

EDUCATION

- 2003 Ph.D., Astronomy & Astrophysics, University of Michigan, Ann Arbor, MI
Thesis: *The Rate of Supernovae in the Local Universe*
Advisors: R. Chris Smith (CTIO) and Joel N. Bregman (Michigan)
- 1997 M.S., Astronomy, University of Michigan, Ann Arbor, MI
- 1995 B.A., Physics, Earlham College, Richmond, IN. Advisor: Ray Hively (Earlham)

HIGHLIGHTED AREAS OF INTEREST

I have primarily been interested in supernova cosmology, probes of the distance scale and dark energy, and supernova rates as a tool for constraining progenitor scenarios. The identity of the progenitors of SNe Ia is one of the great unsolved problems in astrophysics, with important consequences to our understanding of dark energy. I have been involved in several projects aimed at constraining the mechanisms that white-dwarfs use to become type Ia events, through analyses of the type Ia supernova rates at all redshifts. I also have interests in using core-collapse event rates to independently measure the cosmic star formation rate history, for which these high redshift data provide unique evolutionary constraints, and tests on the universality of IMFs. My collaboration has published results on the type Ia and core-collapse supernova rates out to $z \sim 2.5$ emphasizing HST deep surveys (Strolger et al. 2015 & 2020).

I played a key role in developing the policies for the dual-anonymous review of proposals for HST and JWST time, and was the architect of the current review process. I also developed the software management tools which use machine learning techniques to match reviewers to proposals (Strolger et al. 2017).

I am keenly involved with a number of initiatives addressing underrepresented minorities in astronomy and physics, and looking at approaches to improve recruitment and retention. I contribute to national societies on the status of minorities in physics and astronomy, in the context of improving participation before critical losses in workforce preparedness are realized.

SELECTED LEADERSHIP AND SERVICE

American Astronomical Society, Board of Trustees At-Large member, 2021
Committee on Increasing Diversity and Inclusion in the Leadership of Competed Space Missions, the National Academies (NAS), 2021
NASA Astrophysics Advisory Committee, Astrophysics Division, Science Mission Directorate, 2020-present
Astro2020 Decadal Survey on Astronomy and Astrophysics (NAS), *Stars, the Sun, and Stellar Populations* panelist, 2019-2020
Inclusive Astronomy 2 Organizing Committee, Chair, 2019
NOAO-LSST Community Science Working Group, 2017
American Astronomical Society, Governance Task Force, 2016-2017
American Astronomical Society, Pierce/Warner Prize selection committee, 2016 - 2017; Chair, 2017
NASA Senior Review, Chandra X-ray Observatory, 2016
American Astronomical Society, Strategic Planning Exercise, 2015
NSF, Division of Astronomical Sciences, Committee of Visitors, 2014 - 2015
STScI Research Computing Forum (2013-present); Chair (2013-2016)
Hubble Space Telescope Users Committee (2009 - 2012); Chair (2011 - 2012)
National Optical Astronomy Observatory Visiting Committee (2008-2009; 2012-2013)
American Physical Society Committee on Minorities (2009 - 2012); Chair (2012 - 2013)
American Astronomical Society Committee on the Status of Minorities, Chair (2008 - 2013)

PROFESSIONAL TRAINING

AMA Business Boot Camp: Management and Leadership Essentials, American Management Association (0217200042), 2020.
STScI Leadership Development Program, 2020-2022

SELECTED RECENT INVITED TALKS

SUNY Geneseo, “High Redshift Supernovae: Beyond the Epoch of Dark Energy”, Colloquium, October 2021
Massachusetts Institute of Technology, “High Redshift Supernovae: Beyond the Epoch of Dark Energy”, Colloquium, October 2020
University of Delaware, “High Redshift Supernovae: Beyond the Epoch of Dark Energy”, Seminar, October 2020
Fermilab, “High Redshift Supernovae: Beyond the Epoch of Dark Energy”, Colloquium, July 2020
The INVISIBLES community: Call for Action on Diversity and Inclusion in Academia, Panelist, June 2020
The Pennsylvania State University, “High Redshift Supernovae: Beyond the Epoch of Dark Energy”, Colloquium, March 2018
STScI Engineering and Technology Colloquium, “Policies and Machine Learning Processes Which Reduce Bias in HST Time Allocation”, September 2019
Northwestern University, Hot-Wiring the Transient Universe IV meeting, “Policies and Machine-learning Processes which Reduce Bias in the Allocation of Follow-up Resources”, August 2019
University of Minnesota, “High Redshift Supernovae: Beyond the Epoch of Dark Energy”, Colloquium, March 2018

Florida Atlantic University, “On the eve of Hubble’s 30th, How the Space Telescope Enlightened Our Dark Universe”, Invited Frontiers in Science Lecture, March 2018

2018 AAS Status of the Workforce Discussion, Contributed talk, “Diversity in Astronomy”, January 2018

Rutgers University, “High Redshift Supernovae: Beyond the Epoch of Dark Energy”, Colloquium, October 2017

Purdue University, “The Rates of Supernovae, Far and Near”, Astrophysics Seminar, September 2017

University of Michigan, Department Distinguished Alumni Colloquium, April 2017

SELECTED BIBLIOGRAPHY

Strolger, L.-G., Rest, A., Fox, O., Calamida, A., Ryan, R., and Reid, N. 2020, “Recommendations for optimizing rapid ultraviolet HST observations of gravitational wave optical counterparts”, arXiv:2002.09392

Strolger, L.-G., Rodney, S. A., Pacifici, C., Narayan, G., and Graur, O. 2020, “Delay Time Distributions of Type Ia Supernovae From Galaxy and Cosmic Star Formation Histories”, the Astrophysical Journal, 890, 140

Strolger, L.-G., Porter, S., Lagerstrom, J., Weissman, S., Reid, I. N., & Garcia, M. 2017, “The Proposal Auto-Categorizer and Manager for Time Allocation Review at the Space Telescope Science Institute”, the Astronomical Journal, 153, 181

Rodney, S. A., **Strolger, L.-G.**, Kelly, P. L., Bradač, M., Brammer, G., Filippenko, A. V., Foley, R. J., Graur, O., Hjorth, J., Jha, S. W., McCully, C., Molino, A., Riess, A. G., Schmidt, K. B., Selsing, J., Sharon, K., Treu, T., Weiner, B. J., & Zitrin, A. 2016, “SN Refsdal: Photometry and Time Delay Measurements of the First Einstein Cross Supernova”, the Astrophysical Journal, 820, 50

Strolger, L.-G., Dahlen, T., Rodney, S. A., Graur, O., Riess, A. G., McCully, C., Ravindranath, S., Mobasher, B., & Shahady, A. K. 2015, “The Rate of Core Collapse Supernovae to Redshift 2.5 from the CANDELS and CLASH Supernova Surveys”, the Astrophysical Journal, 813, 93

Strolger, L.-G., Gott, A. M., Carini, M., Engle, S., Gelderman, R., Guinan, E., Laney, C. D., McGruder, C., Treffers, R. R. and Walter, D. K. 2014, “The RCT 1.3 m Robotic Telescope: Broadband Color Transformation and Extinction Calibration”, the Astronomical Journal, 147, 49

Riess, A. G., **Strolger, L.-G.**, Tonry, J., Casertano, S., Ferguson, H. C., Mobasher, B., Challis, P., Filippenko, A. V., Jha, S., Li, W., Chornock, R., Kirshner, R. P., Leibundgut, B., Dickinson, M., Livio, M., Giavalisco, M., Steidel, C. C., Benítez, T., and Tsvetanov, Z. 2004, “Type Ia Supernova Discoveries at $z > 1$ From the Hubble Space Telescope: Past Deceleration and Constraints on Dark Energy Evolution”, the Astrophysical Journal, 607, 665

Strolger, L. -G., Riess, A. G, Dahlen, T, Livio, M, Panagia, N, Challis, P, Tonry, J. L, Filippeno, A. V, Chornock, R, Ferguson, H., Koekemoer, K., Mobasher, B., Dickinson, M., Giavalisco, M., Casertano, S., Hook, R., Bondin, S., Leibundgut, B., Nonino, M., Rosati, P., Spinrad, H., Steidel, C., Stern, D., Garnavich, P. M., Matheson, T., Grogin, N., Hornschemeier, A., Kretchmer, C., Laidler, V., Lee, K., Lucas, R., de Mello, D., Moustakas, L. A., Ravindranath, S., Richardson, M., and Taylor, E. 2004, “The *Hubble* Higher z Supernova Search: Supernovae to $z \approx 1.6$ and Constraints on Type Ia Progenitor Models”, the Astrophysical Journal, 613, 200

LGS: March 15, 2022