Sangeeta Malhotra

Address

School of Earth and Space Exploration
Arizona State University
PO Box 871404, Tempe, AZ 85287

Telephone: 480-965-2552, Fax: 480-965-8102
E-Mail: Sangeeta.Malhotra@asu.edu
URL: http://malhotra.asu.edu/

Courses Taught (as a sole instructor)

Spring 2013: On sabbatical leave.
Fall 2013: AST 422: Cosmology for Senior astrophysics majors from Physics/SESE/Eng.
Spring 2014: AST 112: Introductory level course for non-majors, about 200 students.
Fall 2014: AST 598: Special topics - The distant Universe - for graduate students and upper-level undergraduates.
Spring 2015: AST 112 Introductory level course for non-majors, about 200 students.
Fall 2015: AST 422 Cosmology for Senior astrophysics majors from Physics/SESE/Eng.

Mentoring

High School Student:
1. Kendric Knorr - senior at McLintock High (2014), Barrett Honor student in 2015

Undergraduate mentees at ASU
2. Mark Smith:
3. Kyra Edwards
4. Stephanie Stawinski: Senior thesis.

Graduate advisees at ASU:
1. TianXin Jiang: Started in fall of 2014 (went observing on Keck Telescope in January 2015).
2. Huan Yang: Now a postdoc at Las Campanas observervatory, Chile.
3. Bhavin Joshi: 3rd year graduate student. Being co-advised by Malhotra and Windhorst.
4. Lucia Perez, started in 2016
5. Keunho Kim, Started in 2016
6. Santosh Harish, Started in 2016.

Postdoctoral Advisees:
Karen Olsen: SESE fellow
V. Tilvi: Postdoc

Service: External

1. Chair of panel, for Chandra X-ray Observatory, Time Allocation Committee (201x)
2. Proposal review committee, NASA Advanced Data Analysis Program (201x).
3. Review committee for the NSF postdoctoral fellowship (201x).
4. Chair of Extrgalactic panel, Time Allocation Committee for Spitzer Space Telescope; twice in the last three years.

5. Spitzer Space Telescope user committee (2014-2017).
6. Science Organizing committee for IAU focus meeting: Scale free processes in Astrophysics, August 2015.
7. Science Organizing Committee for REIONIZATION: A MULTI-WAVELENGTH APPROACH, South Africa, June 2015
8. Time Allocation Committee: ALMA (2015-2018)

Service: ASU

1. Faculty Eval. committee 2013-2016.

Talks February 2013, oral presentation at Leiden workshop on "C+ as an astronomical tool"

March 2013, oral presentation at "Infrared and Submillimeter Probes of Gas in Galaxies: From the Milky Way to the Distant Universe" Pasadena, CA, 17-21 March 2013

Spring 2013: Seminar at Columbia University

Spring 2013: Seminar at Rutgers University

October 2013 The Universe Explored by Herschel ESA/ESTEC, Noordwijk, The Netherlands,

November 2013 Colloquium talk at University of Texas, Austin.

April 2014: Colloquium at SESE, Arizona State University

August 2014: Talk at ALMA Transformational Science in the ALMA Era: Multi-Wavelength Studies of Galaxy Evolution.

September 2014: Talk at Dept. of Astrophysical Sciences, Princeton University, on [CII] as tracer of ISM in galaxies near and far

November 2014: Talk on Cosmic Dawn with deep slitless spectroscopy from WFIRST-AFTA at Wide-Field IR surveys meeting in Pasadena.

June 2015: Invited talk at REIONIZATION: A MULTI-WAVELENGTH APPROACH, South Africa,

June 2016: Talk at high redshift universe in Heidelberg.

July 2016: Talk presented at First light in the Universe, Malta

Publications in Refereed Journals

REFEREED PAPERS (24 papers over the last three years)

136. Yang, H., Malhotra, S., Rhoads, J. E., Wang, J. 2017. Blueberry Galaxies: The Lowest Mass Young Starbursts. The Astrophysical Journal 847, 38.

135. Pirzkal, N., Malhotra, S., and 27 colleagues 2017. FIGS (Faint Infrared Grism Survey): Description and Data Reduction. The Astrophysical Journal 846, 84.

134. Diaz-Santos, T., and 22 colleagues 2017. A Herschel/PACS Far-infrared Line Emission Survey of Local Luminous Infrared Galaxies. The Astrophysical Journal 846, 32.

133. Hu, W., and 18 colleagues 2017. First Spectroscopic Confirmations of z =7.0 Ly-alpha Emitting Galaxies in the LAGER Survey. The Astrophysical Journal 845, L16. 132. Yang, H., Malhotra, S., Gronke, M., Rhoads, J. E., Leitherer, C., Wofford, A., Jiang, T., Dijkstra, M., Tilvi, V., Wang, J. 2017. Ly-alpha Profile, Dust, and Prediction of Ly-alpha Escape Fraction in Green Pea Galaxies. The Astrophysical Journal 844, 171.

131. Zheng, Z.-Y., and 14 colleagues 2017. First Results from the Lyman Alpha Galaxies in the Epoch of Reionization (LAGER) Survey: Cosmological Reionization at z˜7. *TheAstrophysicalJournal*

130. Yang, H., Malhotra, S., Rhoads, J. E., Leitherer, C., Wofford, A., Jiang, T., Wang, J. 2017. Ly-alpha and UV Sizes of Green Pea Galaxies. The Astrophysical Journal 838, 4.

129. Malhotra, S., and 16 colleagues 2017. Herschel Extreme Lensing Line Observations: [CII] Variations in Galaxies at Redshifts z=1-3. The Astrophysical Journal 835, 110.

128. Schirmer, M., Malhotra, S., Levenson, N. A., Fu, H., Davies, R. L., Keel, W. C., Torrey, P., Bennert, V. N., Pancoast, A., Turner, J. E. H. 2016. About AGN ionization echoes, thermal echoes and ionization deficits in low-redshift Lyα blobs. Monthly Notices of the Royal Astronomical Society 463, 1554-1586.

127. Zheng, Z.-Y., Malhotra, S., Rhoads, J. E., Finkelstein, S. L., Wang, J.-X., Jiang, C.-Y., Cai, Z. 2016. Lyα Emitter Galaxies at z˜2.8*intheExtendedChandraDeepFieldSouth.I.TracingtheLarge−scaleStructureviaLy*α Imaging. The Astrophysical Journal Supplement Series 226, 23.

126. Ly, C., Malhotra, S., Malkan, M. A., Rigby, J. R., Kashikawa, N., de los Reyes, M. A., Rhoads, J. E. 2016. The Metal Abundances across Cosmic Time (MACT) Survey. I. Optical Spectroscopy in the Subaru Deep Field. The Astrophysical Journal Supplement Series 226, 5.

125. Tilvi, V., and 24 colleagues 2016. First Results from the Faint Infrared Grism Survey (FIGS): First Simultaneous Detection of Lyα Emission and Lyman Break from a Galaxy at z = 7.51. The Astrophysical Journal 827, L14.

124. Nesvadba, N., and 11 colleagues 2016. Planck's Dusty GEMS. II. Extended [CII] emission and absorption in the Garnet at z = 3.4 seen with ALMA. Astronomy and Astrophysics 593, L2.

123. Yang, H., Malhotra, S., Gronke, M., Rhoads, J. E., Dijkstra, M., Jaskot, A., Zheng, Z., Wang, J. 2016. Green Pea Galaxies Reveal Secrets of Lyα Escape. The Astrophysical Journal 820, 130.

122. Finkelstein, K. et al. (incl Malhotra) 2015, Probing the Physical Properties of z = 4.5 Lyman Alpha Emitters with Spitzer. The Astrophysical Journal, 813, 78.

121. Canameras et al. (incl Malhotra) 2015, Planck's dusty GEMS: The brightest gravitationally lensed galaxies discovered with the Planck all-sky survey. Astronomy & Astrophysics, 581, 105.

120. Díaz-Santos, T., and 22 colleagues 2014. Extended [C II] Emission in Local Luminous Infrared Galaxies. The Astrophysical Journal 788, LL17.

119. Wardlow, J. L., Malhotra, S., Zheng, Z., et al (incl. Rhoads) 2014, "Constraining the Lyman α Escape Fraction with Far-infrared Observations of Lyman α Emitters", *The Astrophysical Journal* 787, 9.

118. Rhoads, J. E., Malhotra, S., Allam, S., Carilli, C., Combes, F., Finkelstein, K., Finkelstein, S., Frye, B., Gerin, M., Guillard, P., Nesvadba, N., Rigby, J., Spaans, M., & Strauss, M. 2014, "Herschel Extreme Lensing Line Observations: Dynamics of Two Strongly Lensed Star-forming Galaxies near Redshift z=2", *The Astrophysical Journal* 787, 8.

117. Zheng, Z. Y., Wang, J. X., Malhotra, S., Rhoads, J. E., Finkelstein, S. L., & Finkelstein, K. 2014, "Lyman-α equivalent width distribution of Lyman-α emitting galaxies at redshift $z \sim 4.5$", *Monthly Notices of the Royal Astronomical Society*, 439, 1101.

116. McLinden, E. M., Rhoads, J. E., Malhotra, S., Finkelstein, S. L., Richardson, M. L. A., Smith, B., & Tivi, V. S. 2014, "Galactic winds and stellar populations in Lyman alpha emitting galaxies at $z \sim 3.1$", *Monthly Notices of the Royal Astronomical Society*, 439, 446.

115. Yang, H., Wang, J. X., Zheng, Z. Y., Malhotra, S., Rhoads, J. E., & Infante, L. 2014, "A $z \sim 5.7$ Lyman α Emission Line with an Ultrabroad Red Wing," *The Astrophysical Journal* 784, 35.

114. Rhoads, J. E., Malhotra, S., Richardson, M. L. A., Finkelstein, S. L., Fynbo, J. P. U., McLindenden, E. M., & Tilvi, V. S. 2014, "The Dynamical Masses, Densities, and Star Formation Scaling Relations of Lyman alpha Galaxies," *The Astrophysical Journal* 780, 20.

Grants:

2015 "Studying Cosmic Dawn with WFIRST" NASA, about 1.5 million, approved, co-I (40%).

2015 "Give Peas a chance" Hubble Space Telescope, approved, about 90,000 PI, (50% credit)

2015A "Lyman alpha galaxies at redshift 8.8", JPL, 16000, Approved, PI (50%)

2015B "Lyman alpha galaxies at redshift 8.8", JPL, 12000, Approved, PI (50%)

2015 "The Infrared Widefield Imager for the 6.5m MMT," about $14 million Limited submission to NSF. Declined. Role: Co-I (20%)

2014 "Studying Cosmic Dawn And Emission Line Galaxies With Wfirst-Afta" , NASA, 148,637, approved (co-PI).

2014 "Integrated Diagnostics Of Star-Forming Galaxies Using Archival Herschel Spectroscopy", NASA, 360,215, PI (100%). Declined.

2014 “Understanding Episodic Star Formation Through Stellar Mass Measurements Of Emission Line Galaxies”, NASA, 224,965, Declined. Co-PI(50%).

2014 “The Faint Infrared Grism Survey (Figs)” STScI, Approved, 378,158, PI share (800,000 total).

2014 “First Light and Reionization with Lyman Alpha Galaxies”, 354,793, NSF, Approved, co-I (50%).

2014, “Lyman alpha galaxies at redshift 8.8”, JPL, 16000, Approved, PI (50%)

2013“FLARE: First Light and Reionization,” NSF, $407,740, Declined. Role: co-PI (50%)

2013 NASA Keck Observatory observing support, $12,750, awarded.

2013 “The Infrared Widefield Imager for the 6.5m MMT,” $12,415,270. Limited submission to NSF. Declined. Role: Co-PI (20%)