

Kyoung-Soo Lee

Curriculum Vitae

CONTACT INFORMATION

Purdue University
Department of Physics and Astronomy
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EDUCATION

Johns Hopkins University, Department of Physics & Astronomy
Ph.D., Physics, **2007** (Advisor: Mauro Giavalisco, Timothy Heckman)
Dissertation: "Understanding Dark Matter-UV Light Connection at High Redshift"
M.S., Physics, **2004**
Pohang Institute of Science and Technology (POSTECH), Republic of Korea
B.A., Physics, **1999**

RESEARCH EXPERIENCE AND EMPLOYMENT

2014- Assistant Professor at Purdue University
2012-2013 Research Associate at Purdue University
2007-2011 Jaylee and Gilbert Mead Prize Postdoctoral Fellow at Yale University (faculty mentor: Claudia Megan Urry)
2003-2006 Space Telescope Science Institute (with Mauro Giavalisco)
Measurement and interpretation of the clustering properties and UV luminosity function of high-redshift star-forming galaxies $z > 2.5$, studies of multi-wavelength star-formation indicators, X-ray properties of star-forming galaxies
2002-2005 Space Telescope Science Institute (with Mark Dickinson)
Data acquisition/reduction/characterization of near-infrared and Ultraviolet data as part of the observational efforts of the GOODS survey, Supernovae search, morphologies of galaxies from *HST* imaging data (2003-2004)
2001 Johns Hopkins University (Far Ultraviolet Spectroscopic Explorer)
Analysis of FUSE data to study the impact of the South Atlantic Anomaly region on the satellite observations and its time variability

RESEARCH INTERESTS

- Observational Cosmology
- Galaxy Formation and Evolution
- Star Formation and Chemical Enrichment Histories in High-Redshift Galaxies
- Dust Emission and Extinction of Galaxies
- The Role of Active Galactic Nuclei in the Mass Assembly of High-Redshift Galaxies
- Search for Proto-Clusters at High Redshift
- Statistical Association of Galaxies with Dark Matter Halos
- Cosmic Structure Formation and Galaxy Clustering at Large and Small Scales

PRIMARY
PUBLICATIONS:
(‘P’: POSTDOCS,
'G': GRADUATE,

'U': UNDERGRADUATE
IN THE LEE GROUP)

Shi^G, K., Hung^G, Y., **Lee, K.-S.**, Toshikawa, J., Bowen^U, K.N., Malavasi^P, N., Lemaux, B., Cuc-
ciati, O., Le Fevre, O., Dey, A., “How Do Galaxies Trace a Large Scale Structure? A Case Study
around a Massive Protocluster at $z = 3.13$ ”, 2019, ApJ, 879, 9

Shi^G, K., **Lee, K.-S.**, Dey, A., Huang^G, Y., Malavasi^P, N., Hung, C.-L., Inami, H., Ashby, M., Dun-
can, K., Xue^P, R., Reddy, N., Hong, S., Jannuzi, B.T., Cooper, M.C., Gonzalez, A.H., Rottgering,
H.J.A., Best, P.N., Tasse, C., “A Census of Galaxy Constituents in a Coma Progenitor Observed at
 $z > 3$ ”, 2019, ApJ, 871, 83

Hong, S., Dey, A., **Lee, K.-S.**, Orsi, A.A., Gebhardt, K., Vogelsberger, M., Hernquist, L., Xue^P,
R., Jung, I., Finkelstein, S.L., Tuttle, S., Boylan-Kolchin, M., “Statistics of two-point correlation
and network topology for Ly α emitters at $z \sim 2.67$ ”, 2019, MNRAS, 483, 3950

Lee, K.-S., Dey, A., Matheson, T., Shi^G, K., Hung, C.-L., Xue^P, R., Inami, H., Lee, K.-G.,
Ashby, M., Jannuzi, B.T., Reddy, N., Hong, S., Mo, W., Malavasi^P, N., “Discovery of a Very Large
(~ 20 kpc) Galaxy at $z = 3.72$ ”, 2018, ApJ, 852, 24

Xue^P, R., **Lee, K.-S.**, Dey, A., Hong, S., Inami, H. “Ly α Halos around Protocluster Members at
 $z = 3.78$ ”, 2017, ApJ, 837, 172

Dey, A., **Lee, K.-S.**, Reddy, N., Cooper, M.C., Inami, H., Hong, S., Gonzalez, A.H., Jannuzi, B.T.,
“Spectroscopic Confirmation of a Protocluster at $z \sim 3.786$ ”, 2016, ApJ, 823, 11

Lee, K.-S., Dey, A., Hong, S., Reddy, N., Wilson^U, C., Jannuzi, B. T., Inami, H., Gonzalez, A. H.
“Discovery of a Very Large Structure at $z = 3.78$ ”, 2014, ApJ, 796, 126

Lee, K.-S., Dey, Arjun, Cooper, M. C., Reddy, N., Jannuzi, B. T. “Probing High-Redshift Galaxy
Formation at the Highest Luminosities: New Insights from DEIMOS Spectroscopy”, 2013, ApJ, 771,
25

Lee, K.-S., Alberts, S., Atlee, D., Dey, A., Pope, A., Jannuzi, B., Reddy, N., Brown, M. J. I.
“*Herschel* Detection of Dust Emission from Star-Forming Galaxies at $3.3 < Z < 4.3$ ”, 2012, ApJ,
758, L31

Lee, K.-S., Ferguson, H. C., Wiklind, T., Dahlen, T., Dickinson, M. E., Giavalisco, M., Grogin, N.,
Papovich, C., Messias, H., Guo, Y., Lin, L., “How Do Star-Forming Galaxies at $Z > 3$ Assemble
Their Masses?”, 2012, ApJ, 752, 66

Lee, K.-S., Dey, A., Reddy, N., Brown, M. J. I., Gonzalez, A., Jannuzi, B. T., Cooper, M., Fan,
X., Bian, F., Glikman, E., Stern, D., Brodwin, M., Cooray, “The Average Physical Properties and
Star Formation Histories of the UV-Brightest Star-forming Galaxies at $z \sim 3.7$ ”, 2011, ApJ, 733, 99

Lee, K.-S., Giavalisco, M., Conroy, C., Wechsler, R. H., Ferguson H. C., Somerville, R. S., Dickin-
son, M. E., Urry, C. M. “Mapping the Dark Matter From UV Light at High Redshift: An Empirical
Approach to Understand Galaxy Statistics”, 2009, ApJ, 695, 368

Lee, K.-S., Giavalisco, M., Gnedin, O. Y., Somerville, R., Ferguson, H., Dickinson, M., Ouchi, M.
“The Large-scale and Small-scale Clustering of Lyman-break galaxies at $2.5 \leq z \leq 5.5$ from the
GOODS survey”, 2006, ApJ, 642, 63

Quadri, R. F., Williams, R. J., **K.-S. Lee**, Franx, M., van Dokkum, P., Brammer, G. B. “A
Confirmation of the Strong Clustering of Distant Red Galaxies at $2 < z < 3$ ”, 2008, ApJ, 685, L1

Somerville, R. S., **Lee, K.-S.**, Ferguson, H. C., Gardner, J. P., Moustakas, L. A., Giavalisco, M.

“Cosmic Variance in the Great Observatories Origins Deep Survey”, 2004, ApJ, 600, L171

OTHER SELECT
PUBLICATIONS

Stefanon, M., Yan, H., Mobasher, B., Barro, G., Donley, J.L., Fontana, A., Hemmati, S., Koekemoer, A.M., Lee, B., Lee, S.-K., Nayyeri, H., Peth, M., Pforr, J., Salvato, M., Wiklind, T., Wuyts, S., Ashby, M.L.N., Castellano, M., Conselice, C.J., Cooper, M.C., Cooray, A.R., Dolch, T., Ferguson, H.C., Galametz, A., Giavalisco, M., Guo, Y., Willner, S.P., Dickinson, M.E., Faber, S.M., Fazio, G.G., Gardner, J.P., Gawiser, E., Grazian, A., Grogin, N.A., Kocevski, D., Koo, D.C., **Lee, K.-S.**, Lucas, R. A., McGrath, E. J., Nandra, K., Newman, J. A., van der Wel, A., “CANDELS Multi-wavelength Catalogs: Source Identification and Photometry in the CANDELS Extended Groth Strip”, 2017, ApJS, 229, 32

Mehta, V., Scarlata, C., Rafelski, M., Gburek, T., Teplitz, H.I., Alavi, A., Boylan-Kolchin, M., Finkelstein, S.L., Gardner, J.P., Grogin, N., Koekemoer, A., Kurczynski, P., Siana, B., Codoreanu, A., de Mello, D. F., **Lee, K.-S.**, and Soto, E., “UVUDF: UV luminosity functions at the cosmic high-noon”, 2017, ApJ, 838, 29

M. Rafelski, H. I. Teplitz, J. P. Gardner, D. Coe, N. A. Bond, A. M. Koekemoer, N. Grogin, P. Kurczynski, E. J. McGrath, M. Bourque, H. Atek, T. M. Brown, J. W. Colbert, A. Codoreanu, H. C. Ferguson, S. L. Finkelstein, E. Gawiser, M. Giavalisco, C. Gronwall, D. J. Hanish, **K.-S. Lee**, V. Mehta, D. F. De Mello, S. Ravindranath, R. E. Ryan, C. Scarlata, B. Siana, E. Soto, E. N. Voyer, “UVUDF: ultraviolet through near-infrared catalog and photometric redshifts of galaxies in the Hubble Ultra Deep Field”, 2015, ApJ, 150, 1

A. Grazian, A. Fontana, P. Santini, J. S. Dunlop, H.C. Ferguson, M. Castellano, R. Amorin, M.L.N. Ashby, G. Barro, P. Behroozi, K. Boutsia, K. I. Caputi, R. R. Chary, A. Dekel, M. E. Dickinson, S. M. Faber, G. G. Fazio, S. L. Finkelstein, A. Galametz, E. Giallongo, M. Giavalisco, N. A. Grogin, Y. Guo, D. Kocevski, A. M. Koekemoer, D. C. Koo, **K.-S. Lee**, Y. Lu, E. Merlin, B. Mobasher, M. Nonino, C. Papovich, D. Paris, L. Pentericci, N. Reddy, A. Renzini, B. Salmon, M. Salvato, V. Sommariva, M. Song, E. Vanzella, “The galaxy stellar mass function at $z=3.5-7.5$ in the CANDELS/UDS, GOODS-South, and HUDF fields”, 2015, Astronomy & Astrophysics, 575, 96

C. C. Williams, M. Giavalisco, B. Lee, E. Tundo, B. Mobasher, H. Nayyeri, H. C. Ferguson, A. Koekemoer, J. R. Trump, P. Cassata, A. Dekel, Y. Guo, **K.-S. Lee**, L. Pentericci, E. F. Bell, M. Castellano, S. L. Finkelstein, A. Fontana, A. Grazian, N. Grogin, D. Kocevski, D.v C. Koo, R. A. Lucas, S. Ravindranath, P. Santini, E. Vanzella, B. J. Weiner, “The Interstellar Medium and Feedback in the Progenitors of the Compact Passive Galaxies at $z \sim 2$ ”, 2015, ApJ, 800, 21

P. Kurczynski, E. Gawiser, M. Rafelski, H. I. Teplitz, V. Acquaviva, T. M. Brown, D. Coe, D. F. de Mello, S. L. Finkelstein, N.A. Grogin, A. M. Koekemoer, **K.-S. Lee**, C. Scarlata, and B. D. Siana., “The UV Continuum of $z > 1$ Star-forming Galaxies in the Hubble Ultraviolet UltraDeep Field”, 2014, ApJ, 793, 5

H. I. Teplitz, M. Rafelski, P. Kurczynski, N. A. Bond, N. Grogin, A. M. Koekemoer, H. Atek, T. M. Brown, D. Coe, J. W. Colbert, H. C. Ferguson, S. L. Finkelstein, J. P. Gardner, E. Gawiser, M. Giavalisco, C. Gronwall, D. J. Hanish, **K.-S. Lee**, D. F. De Mello, S. Ravindranath, R. E. Ryan, B. D. Siana, C. Scarlata, E. Soto, E. N. Voyer, A. M. Wolfe, “UVUDF: Ultraviolet imaging of the Hubble ultra deep field with wide-field camera 3”, 2013, ApJ, 146, 6

T. Dahlen, B. Mobasher, S. M. Faber, H. C. Ferguson, G. Barro, S. L. Finkelstein, K. Finlator, A. Fontana, R. Gruetzbauch, S. Johnson, J. Pforr, M. Salvato, T. Wiklind, S. Wuyts, V. Acquaviva, M. E. Dickinson, Y. Guo, J. Huang, K.-H. Huang, J. A. Newman, E. F. Bell, C. J. Conselice, A. Galametz, E. Gawiser, M. Giavalisco, N. A. Grogin, N. Hathi, D. Kocevski, A. M. Koekemoer, D. C. Koo, **K.-S. Lee**, E. J. McGrath, C. Papovich, M. Peth, R. Ryan, R. Somerville, B. Weiner, G. Wilson, “A critical assessment of photometric redshift methods: a CANDELS investigation”, 2013,

ApJ, 775, 93

G. Barro, S. M. Faber, P. G. Prez-Gonzalez, D. C. Koo, C. C. Williams, D. D. Kocevski, J. R. Trump, M. Mozena, E. J. McGrath, A. van der Wel, S. Wuyts, E. F. Bell, D. J. Croton, D. Ceverino, A. Dekel, M. L. N. Ashby, E. Cheung, H. C. Ferguson, A. Fontana, J. Fang, M. Giavalisco, N. A. Grogin, Y. Guo, N. P. Hathi, P. F. Hopkins, K.-H. Huang, A. M. Koekemoer, J. S. Kartaltepe, **K.-S. Lee**, J. A. Newman, L. A. Porter, J. R. Primack, R. E. Ryan, D. Rosario, R. S. Somerville, M. Salvato, L.-T. Hsu, “CANDELS: The progenitors of compact quiescent galaxies at $z \sim 2$ ”, 2013, ApJ, 765, 104

F. Bian, X. Fan, L. Jiang, I. McGreer, A. Dey, R. Green, R. Maiolino, F. Walter, **K.-S. Lee**, R. Dave, “The LBT Bootes Field Survey: I. The Rest-frame Ultraviolet and Near-infrared Luminosity Functions and Clustering of Bright Lyman Break Galaxies at $z \sim 3$ ”, 2013, ApJ, 775, 28

Y. Guo, H. C. Ferguson, M. Giavalisco, G. Barro, S.P. Willner, M. L. N. Ashby, T. Dahlen, J. L. Donley, S. M. Faber, A. Fontana, A. Galametz, A. Grazian, K.-H. Huang, D. D. Kocevski, A. M. Koekemoer, D. C. Koo, E. J. McGrath, M. Peth, M. Salvato, S. Wuyts, M. Castellano, A. R. Cooray, M. E. Dickinson, J. S. Dunlop, G. G. Fazio, J. P. Gardner, E. Gawiser, N. A. Grogin, N. P. Hathi, L.-T. Hsu, **K.-S. Lee**, R. A. Lucas, B. Mobasher, K. Nandra, J. A. Newman, A. van der Wel, “CANDELS Multiwavelength Catalogs: Source Detection and Photometry in the GOODS-South Field”, 2013, ApJS, 207, 24

A. Galametz, A. Grazian, A. Fontana, H. C. Ferguson, M. L. N. Ashby, G. Barro, M. Castellano, T. Dahlen, J. L. Donley, S. M. Faber, N. Grogin, Y. Guo, K.-H. Huang, D. D. Kocevski, A. M. Koekemoer, **K.-S. Lee**, E. J. McGrath, M. Peth, S. P. Willner, O. Almaini, M. Cooper, A. Cooray, C. J. Conselice, M. Dickinson, J. S. Dunlop, G. G. Fazio, S. Foucaud, J. P. Gardner, M. Giavalisco, N. P. Hathi, W. G. Hartley, D. C. Koo, K. Lai, D. F. de Mello, R. J. McLure, R. A. Lucas, D. Paris, L. Pentericci, P. Santini, C. Simpson, V. Sommariva, T. Targett, B. J. Weiner, S. Wuyts, “CANDELS Multiwavelength Catalogs: Source Identification and Photometry in the CANDELS UKIDSS Ultra-deep Survey Field”, 2013, ApJS, 206, 10

H. Yan, S. L. Finkelstein, K.-H. Huang, R. E. Ryan, H. C. Ferguson, A. M. Koekemoer, N. A. Grogin, M. Dickinson, J. A. Newman, R. S. Somerville, R. Dav, S. M. Faber, C. Papovich, Y. Guo, M. Giavalisco, **K.-S. Lee**, N. Reddy, A. R. Cooray, B. D. Siana, N. P. Hathi, G. G. Fazio, M. Ashby, B. J. Weiner, R. A. Lucas, A. Dekel, L. Pentericci, C. J. Conselice, D. D. Kocevski, K. Lai, “Luminous and High Stellar Mass Candidate Galaxies at $z \sim 8$ discovered in the CANDELS”, 2012, ApJ, 761, 177

S. L. Finkelstein, C. Papovich, B. Salmon, K. Finlator, M. Dickinson, H. C. Ferguson, M. Giavalisco, A. M. Koekemoer, N. A. Reddy, R. Bassett, C. J. Conselice, J. S. Dunlop, S. M. Faber, N. A. Grogin, N. P. Hathi, D. D. Kocevski, K. Lai, **K.-S. Lee**, R. J. McLure, B. Mobasher, and J. A. Newman., “CANDELS: The evolution of Galaxy Rest-frame Ultraviolet Colors from $z = 8$ to $z = 4$ ”, 2012, ApJ, 756, 164

Y. Guo, M. Giavalisco, P. Cassata, H. C. Ferguson, C. C. Williams, M. Dickinson, A. Koekemoer, N.A. Grogin, R.-R. Chary, H. Messias, E. Tundo, L. Lin, S.-K Lee, S. Salimbeni, A. Fontana, A. Grazian, D. Kocevski, **K.-S. Lee**, E. Villanueva, and A. van der Wel., “Rest-Frame UV-optically Selected Galaxies at $2.3 < z < 3.5$: Searching for Dusty Star-Forming and Passively-Evolving Galaxies”, 2012, ApJ, 749, 149

J. M. Lotz, C. Papovich, S. M. Faber, H. C. Ferguson, N. Grogin, Y. Guo, D. Kocevski, A.M. Koekemoer, **K.-S. Lee**, D. McIntosh, I. Momcheva, G. Rudnick, A. Saintonge, K.-V. Tran, A. van der Wel, and C. Willmer., “Caught in the Act: The Assembly of Massive Cluster Galaxies at $z = 1.62$ ”, 2012, ApJ, 773, 154

A. van der Wel, A. N. Straughn, H.-W. Rix, S. L. Finkelstein, A. M. Koekemoer, B. J. Weiner, S. Wuyts, E. F. Bell, S. M. Faber, J. R. Trump, D. C. Koo, H. C. Ferguson, C. Scarlata, N. P. Hathi, J. S. Dunlop, J. A. Newman, M. Dickinson, K. Jahnke, B. W. Salmon, D. F. De Mello, D. D. Kocevski, K. Lai, N. A. Grogin, S. A. Rodney, Y. Guo, E. J. McGrath, **K.-S. Lee**, G. Barro, K.-H. Huang, A. G. Riess, M. L. N. Ashby, S. P. Willner, “Extreme Emission-Line Galaxies in CANDELS: Broadband-selected, Starbursting Dwarf Galaxies at $z > 1$ ”, 2011, ApJ, 741, 111

N. A. Grogin, D. D. Kocevski, S. M. Faber, H. C. Ferguson, A. M. Koekemoer, A. G. Riess, V. Acquaviva, D. M. Alexander, O. Almaini, M. L. N. Ashby, M. Barden, E. F. Bell, F. Bournaud, T. M. Brown, K. I. Caputi, S. Casertano, P. Cassata, M. Castellano, P. Challis, R. R. Chary, E. Cheung, M. Cirasuolo, C. J. Conselice, A. R. Cooray, D. J. Croton, E. Daddi, T. Dahlen, R. Dav, D. F. De Mello, A. Dekel, M. Dickinson, T. Dolch, J. L. Donley, J. S. Dunlop, A. A. Dutton, D. Elbaz, G. G. Fazio, A. V. Filippenko, S. L. Finkelstein, A. Fontana, J. P. Gardner, P. M. Garnavich, E. Gawiser, M. Giavalisco, A. Grazian, Y. Guo, N. P. Hathi, B. Hussler, P. F. Hopkins, J. Huang, K.-H. Huang, S. W. Jha, J. S. Kartaltepe, R. P. Kirshner, D. C. Koo, K. Lai, **K.-S. Lee**, W. Li, J. M. Lotz, R. A. Lucas, P. Madau, P. J. McCarthy, E. J. McGrath, D. H. McIntosh, R. J. McLure, B. Mobasher, L. A. Moustakas, M. Mozena, K. Nandra, J. A. Newman, S.-M. Niemi, K. G. Noeske, C. J. Papovich, L. Pentericci, A. Pope, J. R. Primack, A. Rajan, S. Ravindranath, N. A. Reddy, A. Renzini, H.-W. Rix, A. R. Robaina, S. A. Rodney, D. J. Rosario, P. Rosati, S. Salimbeni, C. Scarlata, B. Siana, L. Simard, J. Smidt, R. S. Somerville, H. Spinrad, A. N. Straughn, L.-G. Strolger, O. Telford, H. I. Teplitz, J. R. Trump, A. Van Der Wel, C. Villforth, R. H. Wechsler, B. J. Weiner, T. Wiklind, V. Wild, G. Wilson, S. Wuyts, H. Yan, M. S. Yun, “CANDELS: The Cosmic Assembly Near-infrared Deep Extragalactic Legacy Survey”, 2011, ApJS, 197, 35

A. M. Koekemoer, S. M. Faber, H. C. Ferguson, N. A. Grogin, D. D. Kocevski, D. C. Koo, K. Lai, J. M. Lotz, R. A. Lucas, E. J. McGrath, S. Ogaz, A. Rajan, A. G. Riess, S. A. Rodney, L. Strolger, S. Casertano, M. Castellano, T. Dahlen, M. Dickinson, T. Dolch, A. Fontana, M. Giavalisco, A. Grazian, Y. Guo, N. P. Hathi, K.-H. Huang, A. van der Wel, H. Yan, V. Acquaviva, D. M. Alexander, O. Almaini, M. L. N. Ashby, M. Barden, E. F. Bell, F. Bournaud, T. M. Brown, K. I. Caputi, P. Cassata, P. J. Challis, R. R. Chary, E. Cheung, M. Cirasuolo, C. J. Conselice, A. R. Cooray, D. J. Croton, E. Daddi, R. Dav, D. F. de Mello, L. de Ravel, A. Dekel, J. L. Donley, J. S. Dunlop, A. A. Dutton, D. Elbaz, G. G. Fazio, A. V. Filippenko, S. L. Finkelstein, C. Frazer, J. P. Gardner, P. M. Garnavich, E. Gawiser, R. Gruetzbauch, W. G. Hartley, B. Hussler, J. Herrington, P. F. Hopkins, J. Huang, S. W. Jha, A. Johnson, J. S. Kartaltepe, A. A. Khostovan, R. P. Kirshner, C. Lani, **K.-S. Lee**, W. Li, P. Madau, P. J. McCarthy, D. H. McIntosh, R. J. McLure, C. McPartland, B. Mobasher, H. Moreira, A. Mortlock, L. A. Moustakas, M. Mozena, K. Nandra, J. A. Newman, J. L. Nielsen, S. Niemi, K. G. Noeske, C. J. Papovich, L. Pentericci, A. Pope, J. R. Primack, S. Ravindranath, N. A. Reddy, A. Renzini, H.-W. Rix, A. R. Robaina, D. J. Rosario, P. Rosati, S. Salimbeni, C. Scarlata, B. Siana, L. Simard, J. Smidt, D. Snyder, R. S. Somerville, H. Spinrad, A. N. Straughn, O. Telford, H. I. Teplitz, J. R. Trump, C. Vargas, C. Villforth, C. R. Wagner, P. Wandro, R. H. Wechsler, B. J. Weiner, T. Wiklind, V. Wild, G. Wilson, S. Wuyts, M. S. Yun, “CANDELS: The Cosmic Assembly Near-infrared Deep Extragalactic Legacy Survey ? The Hubble Space Telescope Observations, Imaging Data Products, and Mosaics”, 2011, ApJS, 197, 36

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G.B. Brammer, K. E. Whitaker, P. G. van Dokkum, D. Marchesini, M. Franx, M. Kriek, I. Labb, **K.-S. Lee**, A. Muzzin, R. F. Quadri, G. Rudnick, and R. Williams, “The Number Density and Mass Density of Star-forming and Quiescent Galaxies at $z = 0.4 - 2.2$ ”, 2011, ApJ, 739, 24

C. C. Williams, M. Giavalisco, C. Porciani, M. S. Yun, A. Pope, K. S. Scott, J. E. Austermann, I. Aretxaga, B. Hatsukade, **K.-S. Lee**, G. W. Wilson, R. Cybulski, D. H. Hughes, R. Kawabe, K. Kohno, T. Perera, and F. P. Schloerb., “On the Clustering of Submillimeter Galaxies”, 2011, *ApJ*, 733, 92

Glikman, E., Djorgovski, S. G., Stern, D., Dey, A., Jannuzi, B. T., **K.-S. Lee** “The Faint End of the Quasar Luminosity Function at $z \sim 4$. II. Implications for Ionization of the Intergalactic Medium and Cosmic Downsizing”, 2011, *ApJ*, 728, 26

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INVITED TALKS
(SINCE 2014)

“From Protoclusters to Clusters: the Formation of the Largest Cosmic Structure”, Physics Colloquium, Purdue University, September 2019

“Protoclusters in the era of Extremely Large Telescopes”, invited talk at Kavli Institute for Physics and Mathematics of the Universe workshop: Extremely Big Eyes on the Early Universe conference, March 2019

“Cosmic Mega City: Diverse Galaxy Constituents in a Coma Progenitor at $z > 3$ and connection to clusters”, Astronomy Colloquium, Yale University, January 2019

“Cosmic Mega City: from protoclusters to clusters”, Physics Colloquium, Rutgers University, December 2018

“Dissecting the Early Stage of Cluster Formation”, Invited lecture, the 8th Korea Institute of Advanced Study Workshop on Cosmology and Structure Formation, Seoul, Korea, November 2018

“Diffuse Lyman Alpha Emission in Distant Universe”, Astronomy Colloquium, New Mexico State University, September 2017

“The Diverse Sizes of Lyman Alpha Halos in High-Redshift Galaxies”, Physics Colloquium, Tufts University, November 2016

“What Powers Diffuse $\text{Ly}\alpha$ Emission?”, Physics Colloquium, University of Missouri, Columbia, February 2016

“Probing the Early Epoch of Massive Cluster Formation”, invited talk, Yonsei University, Republic of Korea, October 2015

“ Probing the Early Stage of Cluster Formation”, Laboratório Interinstitucional de e-Astronomia, Brazil, August 2015

“Probing the Early Stage of Cluster Formation”, Purdue University, Physics Colloquium, March 2015

“The First Era of Cluster Formation”, Astronomy Colloquium, University of Missouri, Kansas City, Physics Colloquium, February 2015

“Galaxy Formation and its Many Pathways”, Kavli Institute for Astronomy and Astrophysics, Colloquium, February 2014

PROFESSIONAL SERVICES

Purdue Representative for the Wisconsin-Yale-Indiana-NOAO Board

Purdue Representative for the Wisconsin-Yale-Indiana-NOAO Science Steering Committee

Served as a panelist for the National Optical Astronomy Observatory Time Allocation Committee, Hubble Space Telescope Time Allocation Committee, China Telescope Access Program

Served as a referee for Nature, the Astrophysical Journal, the Astrophysical Journal Letters, the Monthly Notices for Royal Academy of Sciences, the Royal Astronomical Society of Canada

Served as an organizer for the US-Korea Conference

SELECT OUTREACH ACTIVITIES

Saturday Morning Astrophysics (≈ 20 middle-school students) at Purdue University, ‘Stellar Evolution’ and ‘Physics of Stars!’, January 2017 and December 2018

Astro Day at the Imagination Station (a local science museum at Lafayette, Indiana), hosted an exhibition to > 100 children between age 5–15, April 2018

NOAO/Purdue joint press release: I led a coordinated NOAO/Purdue press release on the discovery of the most distant cluster in formation (<http://www.noao.edu/news/2016/pr1701.php>). The story

was picked up by multiple media outlets including phys.org, Sky & Telescope magazine, Astronomy Now, and International Business Times

Observing Night Sky, an event for a Girl Scout troop (20 middle-school aged girls) at the Cumberland Observatory (May 2016)

APS Conference for Undergraduate Women in Physics at Purdue University (May 2015)

COLLABORATIONS
AND
COLLABORATORS

- HST/JWST sciences: Henry C. Ferguson (STScI), Mauro Giavalisco (University of Massachusetts, Amherst), Mark Dickinson (NOAO), Rachel Somerville (Flatiron Institute), Haojing Yan (University of Missouri, Columbia), Bahram Mobasher (University of California, Riverside), Tomas Dahlen (formerly, STScI), Tommy Wiklind (Catholic University), Steve Finkelstein (University of Texas, Austin), Danilo Marchesini (Tufts University), Adam Muzzin (York University, Canada), Greg Rudnick (University of Kentucky), Christina Williams (University of Arizona)
- (proto)cluster sciences: Arjun Dey (NOAO), Buell Jannuzi (University of Arizona), Naveen Reddy (University of California, Riverside), Anthony Gonzalez (University of Florida, Gainesville), Michael Brown (Monash University, Australia), Alexandra Pope (University of Massachusetts, Amherst), Stacey Alberts (University of Arizona), Mark Brodwin (University of Missouri, Kansas City), Yi-Kuan Chiang (Johns Hopkins University), Rui Xue (Iowa State University), Nicola Malavasi (Institut d'Astrophysique Spatiale, France), Eric Gawiser (Rutgers University), Changbom Park (Korea Institute of Advanced Study)

GRANTS

- NASA Astrophysical Data Analysis Program (PI: 2019-present): “The Rise and Fall of Dusty Star Formation seen by Herschel and WISE”, 471,855 USD
- Jet Propulsion Laboratory Grant (PI: 2018-present): “Measuring the True Extent of a Coma Cluster Analog at $z = 3.78$ ”, 12,750 USD
- Purdue College of Science and the Purdue Office of Executive Vice President for Research and Partnership (PI: 2017-present): “Purdue Astrophysics Group Proposal for WIYN”, 200,000 USD
- Purdue Research Foundation (PI: 2017-2019): “Understanding the Formation of the Largest Cosmic Structures”, 60,280 USD
- NSF/NOAO/NASA observing resources: dollar equivalent of the observing resources awarded to my group since 2014: $\approx 600,000$ USD (34.5 nights on a 4m telescope, 7 nights on a 6.5m telescope, 0.5 night on an 8m telescope, 2.5 nights on a 10m telescope)
- NASA *Hubble* Grant (co-Investigator; 2012-2013): “HUDF WFC3/UVIS observations” (PI: H. Teplitz); the amount awarded to Purdue: 7,401 USD
- NASA *Spitzer* Grant (co-Investigator; 2010-2011): “A *Spitzer* Public Legacy Survey of the UKIDSS Ultra Deep Survey” Grant with J.S. Dunlop and H. C. Ferguson; the amount awarded to Yale: 25,996 USD
- NASA *Hubble* Grant (co-Investigator; 2010-2011): “Cosmic Assembly Near Infra-red Deep Extragalactic Legacy Survey”; the amount awarded to Yale: 90,550 USD (2011; total grant: ≈ 9 million USD)
- NASA *Hubble* Archival Research Grant (Principal Investigator; 2009-2010): “Constraining the small-scale clustering: Towards Better Understanding of Galaxy and Dark Matter Connection”; the amount awarded to Yale: 38,179 USD (total grant: 38,179 USD)

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| RESEARCH SUPERVISION | 2014- Present | Supervised two Purdue postdocs and two graduate students Rui Xue, Nicola Malavasi (postdoc), Ke Shi (graduated with PhD in May 2019), Yun Huang (graduate) |
| | 2014- Present | Supervised 15 Purdue undergraduate students (as tenure-track faculty) Gregory Neeser, Christian Wilson, Samuel Frampton, Guobao Tang, Liam Stout, Robert Caddy, Rachel Lee, Adrian Helmling-Cornell, Connor Johnston, Kathryn Nicole Bowen, Yuze Lin, Luke Dow, Kaustub Pavir Anand, George Mitchell, Eshwar Puvvada |
| | 2012-2013 | Supervised 4 Purdue undergraduate students (as research scientist) Logan O'Beirne, Nathan Houtz, Weijie Chen, Sicong Li, |
| | 2011 | Supervised three Purdue undergraduate students Sai Zhang, Tim Klamo, & Logan O'Beirne (Purdue) |
| | 2010 | Supervised one undergraduate student for summer research program Nick Ferreri (Boston University) |
| | 2008 | Supervised two undergraduate students for summer research program Michele Dufault, Laura Kreidberg (Yale University) |
| TEACHING | Spring 2019 | ASTR364, Purdue University, Intermediate Astronomy II |
| | 2017-2019 | ASTR370, Purdue University, Cosmology |
| | 2015-2018 | ASTR560, Purdue University, Stellar Structure and Evolution |
| | 2014-2016 | PHYS172, Purdue University, Modern Mechanics |
| | 2001-2002 | <i>Teaching Assistant</i> , Johns Hopkins University, Electromagnetic Theory |
| | 2000-2001 | <i>Teaching Assistant</i> , Johns Hopkins University General Physics Lab and General Physics I, II for physics majors |
| OBSERVING EXPERIENCE | | <ul style="list-style-type: none"> • Keck II (10m) DEIMOS Multiobject Spectroscopy (2018A) as PI • Gemini North (8m) GMOS Multi-object Spectroscopy (2017A-DD) as PI • Wisconsin-Yale-Indiana-NOAO Telescope (3.5m) One Degree Imager (6 semesters since 2017A) as PI • Keck II (10m) DEIMOS Multiobject spectroscopy (2015A) as co-I • Optical imaging on the KPNO-4m (2017B; 4 nights) as PI • Near-infrared imaging on the KPNO-4m (2015A; 6 nights) as PI • Keck II (10m) DEIMOS Multiobject spectroscopy (2014A) as PI • Optical imaging on the KPNO-4m (2014A; 6 nights) as PI • Optical narrow-band imaging on the KPNO-4m (2012; 4 nights) as PI • MMT (6.5m) Hectospec observations (2012) as PI • Keck II (10m) DEIMOS Multiobject spectroscopy of high-redshift galaxies (2010) as PI • NEWFIRM medium-band imaging on the KPNO-4m (2009) |

- Optical Spectroscopy with the DEIMOS on the Keck II 10-m telescope (2006)
- Optical Spectroscopy with the GMOS on the Gemini 8-m north telescope (2005)
- U-band wide-field imaging with the MOSAIC II camera on the CTIO-4m (2003)

REFERENCES

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