

Eliza Kempton
(Formerly: Eliza Miller-Ricci)
Grinnell College
Department of Physics
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EDUCATION

Harvard University, Cambridge, MA – Ph.D. Astronomy – June 2009
Dissertation: Towards Detecting and Characterizing Earth-like Extrasolar Planets
Adviser: Dimitar Sasselov

Middlebury College, Middlebury, VT – B.A. *summa cum laude* – May 2003
Major: Physics, Minors: Mathematics & French
Senior Thesis: The Molecular Zeeman Effect and the G-Band: Stokes Polarimetry
Modeling of Solar CH Lines (Advisers: Rich Wolfson & Han Uitenbroek)

POSITIONS

Assistant Professor of Physics – Grinnell College – August 2012 - present

Sagan Postdoctoral Fellow – University of California, Santa Cruz – September 2009 - July 2012

RESEARCH INTERESTS

Theoretical models of planetary atmospheres
Detection and characterization of extrasolar planets
Transiting extrasolar planets

GRANTS, HONORS, AND AWARDS

Iowa Women of Innovation Award Finalist, “Rising Star” Category - 2017

NSF CAREER Award (\$694k) - 2017-2022

NASA Astrophysics Theory Program (PI Emily Rauscher, total award \$518k, \$36k awarded to co-I Kempton) - 2017-2020

American Association for University Women (AAUW) – American Postdoctoral Fellowship
(\$30k for sabbatical leave) - 2016-2017

Research Corporation for Science Advancement – Cottrell Scholar Award (\$100k) - 2016-2019

Grinnell College Harris Faculty Fellowship (yearlong sabbatical fellowship) - 2016/2017

Research Corporation for Science Advancement – Cottrell College Science Award (\$40k plus \$15k match from Grinnell College) - 2015-2017

Kavli Frontiers Fellow (National Academy of Sciences) - 2010, 2011, 2012

ADVANCE Junior Scientist Lecturer – University of Arizona - winter 2011

Sagan Postdoctoral Fellowship - 2009-2012

Harvard University Teaching Certificate of Distinction - 2006

Phi Beta Kappa - 2003

RESEARCH ACTIVITIES

JWST Early Release Science (ERS) Program Co-Investigator, “The Transiting Exoplanet Community Early Release Science Program” – 78.1 hours - 2017

FINESSE NASA MIDEX Mission Co-Investigator (selected for Phase II concept study) - 2016 - present

Contribution to *ARIEL* Spectroscopy of Exoplanets (CASE) Co-Investigator (conditionally selected NASA partner mission of opportunity) - 2016 - present

Co-Investigator on 10 *Hubble Space Telescope* GO and DDT programs – 250 total orbits, cycles 18, 20, 22 - 25 - 2010 - present

Co-Investigator on 3 *Spitzer Space Telescope* GO and DDT programs – 770 total hours - 2010, 2015 - present

TEACHING

Grinnell College

PHY-180, “Bridges, Towers, & Skyscrapers” - fall 2015

PHY-234L, “Computational Mechanics Lab” - spring 2016

TUT-100, “First-Year Tutorial – Perspectives on Life in the Universe” - fall 2014

PHY-131, “General Physics I with Lab” - spring 2013, 2014, 2015, fall 2014, 2015, 2017

PHY-132, “General Physics II with Lab” - fall 2012, 2013, spring 2016, 2018

PHY-395, “Stellar & Planetary Astrophysics” - spring 2015, 2018

PHY-314, “Thermodynamics and Statistical Physics” - spring 2013, 2014, 2016

PHY-116, “The Universe and its Structure” - fall 2012, 2013

Harvard University

Teaching Fellow, “Cosmic Connections” - fall 2005 & 2007

Teaching Assistant, “Astrobiology” - Harvard Summer School - summer 2005 & 2006

Teaching Fellow, “Matter in the Universe” - spring 2005

PROFESSIONAL SERVICE

NASA *TESS* Mission Atmospheric Characterization Working Group member - 2017 - present
NSF/NASA/DoE Astronomy and Astrophysics Advisory Committee member - 2017 - present
NASA Exoplanet Exploration Program Analysis Group (ExoPAG) Executive Committee member - 2017 - present
NASA Origins Space Telescope Exoplanet Working Group member - 2017 - present
Enabling Transiting Exoplanet Observations with *JWST* Workshop organizing committee member - 2017
NASA Hubble Fellowship Selection Committee member - 2016
Hubble Space Telescope Exoplanet Advisory Committee member - 2015 - 2016
NASA Keck Telescopes Time Allocation Committee (TAC) member - 2014 - 2015
NASA proposal review panel member and external reviewer - 2011, 2013, 2014
Kavli Frontiers of Science Symposium organizing committee member - 2010, 2011
Referee for papers in *Nature*, *PASP*, *ApJ*, *AJ*, *MNRAS*, and *Astrobiology* - 2009 - present
Harvard Astronomy Department graduate student admissions committee member - 2007

INSTITUTIONAL SERVICE

Grinnell College Center for Teaching, Learning, and Assessment (CTLA) Advisory Committee Member - 2017 - present
Grinnell College Science Teaching and Learning Group (STaLG) co-leader - 2014 - 2016
Grinnell College Open Internship Grant Selection Committee member - 2014 - 2016

EQUITY, INCLUSION, & OUTREACH

Grinnell College Science Peer Mentors program founder and organizer - 2017 - present
Grinnell College Women in Physics co-leader - 2013 - present
Grinnell Science Project lab facilitator (pre-orientation program for students from underrepresented backgrounds) - 2013 - 2015
National Consortium for Specialized Secondary Schools of Mathematics, Science, and Technology workshop facilitator - 2013
Bay Area Project ASTRO participant (yearlong partnership with a local teacher) - 2011 - 2012
Harvard College science mentors program - 2003 / 2004

RESEARCH STUDENTS

Josh Cottle (Grinnell '18) – KELT Follow-up of Transiting Exoplanet Candidates with Grinnell's Gale Observatory Telescope – summer/fall 2017

Hung Lee (Grinnell '19) – Coupled Models of Water-World Atmospheres and Interiors – summer/fall 2017

Carlos Muñoz (Grinnell '20) – Host Star Metallicity and the Kepler Dichotomy – summer/fall 2017

Erin Flowers (Columbia '17, U. Michigan REU student) – Doppler Shifted Transmission Spectra of HD 189733b as Compared to Observational Data – summer 2016 - present

Jisheng Zhang (Grinnell '17) – Doppler Shifted Emission Spectra and Phase Curves of Hot Jupiter Atmospheres – 2016-2017

Natasha Batalha (Penn State Ph.D. student) – Transmission Spectroscopy as a Probe for Planetary Mass – fall 2016

Yun (Sunny) Zhao (Grinnell '18) – Observing Transiting Extrasolar Planets with Grinnell's Gale Observatory Telescope – summer 2016

Andrew Baldrige (Grinnell '17) – Observing Transiting Extrasolar Planets with Grinnell's Gale Observatory Telescope – summer 2015, 2016

Jack Muskopf (Grinnell '16) – Observing Transiting Extrasolar Planets with Grinnell's Gale Observatory Telescope – summer 2015

Rostom Mbarek (Grinnell '16) – Cloud Chemistry of Extrasolar Super-Earths (*recipient of the Chambliss student poster prize honorable mention at the 2015 winter meeting of the American Astronomical Society*) – 2014-2015 – Transmission Spectroscopy as a Probe for Planetary Mass – summer 2015

Albert Owusu-Asare (Grinnell '16) – Modeling Transmission Spectra of Transiting Super-Earths – summer 2014

Patrick Slough (Grinnell '15) – Observing Transiting Extrasolar Planets with Grinnell's Gale Observatory Telescope – summer 2013 – Modeling Transmission Spectra of Transiting Super-Earths – summer 2014

Bryson Cale (Grinnell '16) – Observing Transiting Extrasolar Planets with Grinnell's Gale Observatory Telescope – 2012-2014

Roman Grigorii (Grinnell '15) – Modeling Extrasolar Super-Earth Atmospheres – 2013-2014

Julia Sauerhaft (Grinnell '15) – Observing Transiting Extrasolar Planets with Grinnell's Gale Observatory Telescope – 2012-2014

Molly Gallagher (Grinnell '14) – Observing Transiting Extrasolar Planets with Grinnell's Gale Observatory Telescope – fall 2012

PROFESSIONAL AFFILIATIONS

American Astronomical Society

INVITED TALKS

American Astronomical Society Meeting “Big Bang to Biosignatures: The Science of the LUVVOIR Mission Concept” Splinter Session – National Harbor, MD - January 2018

NASA Goddard Astrophysics Science Division Colloquium – Greenbelt, MD - December 2017

The Origins of Volatiles in Habitable Planets: the Solar System and Beyond – Ann Arbor, MI - October 2017

University of Minnesota Institute for Astrophysics (MifA) Colloquium – Minneapolis, MN - October 2017

Drake University Physics & Astronomy Seminar – Des Moines, IA - September 2017

Enabling Transiting Exoplanet Observations with *JWST* – Baltimore, MD - July 2017

CRAQ Exoplanet Atmospheres Summer School – Montreal, Canada - June 2017

NASA JPL Astrophysics Colloquium – Pasadena, CA - May 2017

Space Telescope Science Institute Colloquium – Baltimore, MD - April 2017

University of Toronto Centre for Planetary Sciences Planet Day – Toronto, Canada - April 2017

University of Maryland Astronomy Colloquium – College Park, MD - February 2017

McGill University Physics Seminar – Montreal, Canada - February 2017

Cal State Los Angeles Physics & Astronomy Colloquium – Los Angeles, CA - October 2016

Opportunity M – Cambridge, MA - August 2016

Truman State University Physics Colloquium – Kirksville, MO - October 2015

Planetary Systems: A Synergistic View – Quy Nhon, Vietnam - July 2015

Iowa State University Astronomy Seminar – Ames, IA - September 2014

Sagan Exoplanet Summer Workshop – Imaging Planets and Disks – Pasadena, CA - July 2014

JWST Transit Planning Meeting – Pasadena, CA - March 2014

Swarthmore College Physics & Astronomy Colloquium – Swarthmore, PA - December 2013

University of Michigan Astronomy Colloquium – Ann Arbor, MI - November 2013

Université de Montréal CRAQ Colloquium – Montreal, Canada - December 2012

University of Colorado Department of Astronomical and Planetary Sciences (APS) Colloquium – Boulder, CO - October 2012

University of Iowa Physics & Astronomy Colloquium – Iowa City, IA - October 2012

Carnegie Observatories Colloquium Series – Pasadena, CA - November 2011

The Future of Astronomy: Fellows at the Frontiers of Science – Evanston, IL - August 2011

U.C. Santa Cruz Institute of Geophysics and Planetary Physics (IGPP) Seminar – Santa Cruz, CA - March 2011

University of Washington Astronomy Colloquium – Seattle, WA - February 2011

University of Florida Astronomy Colloquium – Gainesville, FL - February 2011

Joint Steward Observatory / NOAO Colloquium (ADVANCE Junior Scientist Lecturer) –
Tucson, AZ - January 2011

IAU Symposium #276: The Astrophysics of Planetary Systems – Torino, Italy - October 2010

Berkeley Theoretical Astrophysics Center (TAC) Seminar – Berkeley, CA - May, 2010

PUBLIC TALKS

Cedar Amateur Astronomers Public Observatory Night – Ely, IA - November 2015

Lick Observatory Summer Visitors Program – Mount Hamilton, CA - June 2011

SETI Institute Science Talk Series – Mountain View, CA - June 2011

Steward Observatory Public Evening Lecture Series – Tucson, AZ - January 2011

PUBLICATIONS (* denotes student advisee co-author)

Refereed

- 1) J.D. Lothringer, B. Benneke, I.J.M. Crossfield, C. Morley, D. Dragomir, T. Barman, G.W. Henry, H. Knutson, **E. Kempton**, J. Fortney, P. McCullough, A.W. Howard, “An HST / STIS Optical Transmission Spectrum of the Warm Neptune GJ 436b”, *Astronom. Journal*, in press
- 2) *J. Zhang, **E. M.-R. Kempton**, E. Rauscher, “Constraining Hot Jupiter Atmospheric Structure and Dynamics Through Doppler Shifted Emission Spectra”, *Astrophys. Journal*, in press
- 3) **E. M.-R. Kempton**, J. L. Bean, V. Parmentier, “An Observational Diagnostic for Distinguishing Between Clouds and Haze in Hot Exoplanet Atmospheres”, *Astrophys. Journal Letters*, 845 L20, 2017
- 4) J. Chapman, R. T. Zellem, M. R. Line, G. Bryden, K. Willacy, A. R. Iyer, J. L. Bean, N. B. Cowan, J. J. Fortney, T. Kataria, **E. M.-R. Kempton**, L. Kreidberg, J. I. Moses, K. B. Stevenson, M. R. Swain, “Quantifying the Impact of Spectral Coverage on the Retrieval of Molecular Abundances from Exoplanet Transmission Spectra”, *Publications of the Astronomical Society of the Pacific*, 129, 104402, 2017
- 5) J. L. Bean, D. S. Abbot, **E. M.-R. Kempton**, “A Statistical Comparative Planetology Approach to the Hunt for Habitable Exoplanets and Life Beyond the Solar System”, *Astrophys. Journal Letters*, 841, L24, 2017
- 6) K. K. McLeod, J. E. Rodriguez, R. J. Oelkers, et al. (**includes E. Kempton**, *A. Baldrige, *Y. S. Zhao), “KELT-18b: Puffy Planet, Hot Host, Probably Perturbed”, *Astronom. Journal*, 153, 263, 2017
- 7) **E. M.-R. Kempton**, R. Lupu, *A. Owusu-Asare, *P. Slough, *B. Cale, “Exo-Transmit: An Open-Source Code for Calculating Transmission Spectra for Exoplanet Atmospheres of Varied Composition”, *Publications of the Astronomical Society of the Pacific*, 129, 044402, 2017

- 8) *N. E. Batalha, **E. M.-R. Kempton**, *R. Mbarek, “Challenges to Constraining Exoplanet Masses via Transmission Spectroscopy”, *Astrophys. Journal Letters*, 836, L5, 2017
- 9) P. A. Dalba, P. S. Muirhead, B. Croll, **E. M.-R. Kempton**, “Kepler Transit Depths Contaminated by a Phantom Star”, *Astronom. Journal*, 153, 59, 2017
- 10) *R. Mbarek, **E. M.-R. Kempton**, “Clouds in Super-Earth Atmospheres: Chemical Equilibrium Calculations”, *Astrophys. Journal*, 827, 121, 2016
- 11) K. B. Stevenson, N. K. Lewis, J. L. Bean, et al. (**includes E. Kempton**), “Transiting Exoplanet Studies and Community Targets for JWST's Early Release Science Program”, *Publications of the Astronomical Society of the Pacific*, 128, 094401, 2016
- 12) C. V. Morley, J. J. Fortney, M. S. Marley, K. Zahnle, M. Line, **E. Kempton**, N. Lewis, K. Cahoy, “Thermal Emission and Reflected Light Spectra of Super-Earths with Flat Transmission Spectra”, *Astrophys. Journal*, 815, 110, 2015
- 13) C. Beichman, B. Beneke, H. Knutson, R. Smith, P.-O. LaGage, C. Dressing, D. Latham, J. Lunine, S. Birkmann, P. Ferruit, G. Giardino, **E. Kempton**, et al., “Observations of Transiting Exoplanets with the James Webb Space Telescope (JWST)”, *Publications of the Astronomical Society of the Pacific*, 126, 1134, 2014
- 14) **E. M.-R. Kempton**, R. Perna, K. Heng, “High Resolution Transmission Spectroscopy as a Diagnostic for Jovian Exoplanet Atmospheres: Constraints from Theoretical Models”, *Astrophys. Journal*, 795, 24, 2014
- 15) H. A. Knutson, D. Dragomir, L. Kreidberg, **E. M.-R. Kempton**, P. R. McCullough, J. J. Fortney, J. L. Bean, M. Gillon, D. Homeier, A. W. Howard, “Hubble Space Telescope Near-IR Transmission Spectroscopy of the Super-Earth HD 97658b”, *Astrophys. Journal*, 794, 155, 2014
- 16) E. Rauscher, **E. M.-R. Kempton**, “The Atmospheric Circulation and Observable Properties of Non-Synchronously Rotating Hot Jupiters”, *Astrophys. Journal*, 790, 79, 2014
- 17) C. Cáceres, P. Kabath, S. Hoyer, V. D. Ivanov, P. Rojo, J. H. Girard, **E. Miller-Ricci Kempton**, J. J. Fortney, D. Minniti, “Ground Based Transit Observations of the Super-Earth GJ 1214 b”, *Astronomy & Astrophysics*, 565, A7, 2014
- 18) J. J. Fortney, C. Mordasini, N. Nettelmann, **E. M.-R. Kempton**, T. P. Greene, K. Zahnle, K., “A Framework for Characterizing the Atmospheres of Low-Mass Low-Density Transiting Planets”, *Astrophys. Journal*, 775, 80, 2013
- 19) C. V. Morley, J. J. Fortney, **E. M.-R. Kempton**, M. S. Marley, C. Visscher, Zahnle, K., “Quantitatively Assessing the Role of Clouds in the Transmission Spectrum of GJ 1214b”, *Astrophys. Journal*, 775, 33, 2013
- 20) **E. Miller-Ricci Kempton**, E. Rauscher, “Constraining High Speed Winds in Exoplanet Atmospheres Through Observations of Anomalous Doppler Shifts During Transit”, *Astrophys. Journal*, 751, 117, 2012

- 21) Z. K. Berta, D. Charbonneau, J.-M. Désert, **E. Miller-Ricci Kempton**, P. McCullough, C. J. Burke, J. Fortney, J. Irwin, P. Nutzman, and D. Homeier, "The Flat Transmission Spectrum of the Super-Earth GJ1214b from Wide Field Camera 3 on the Hubble Space Telescope", *Astrophys. Journal*, 747, 35, 2012
- 22) **E. Miller-Ricci Kempton**, K. Zahnle, J. J. Fortney, "The Atmospheric Chemistry of GJ 1214b: Photochemistry and Clouds", *Astrophys. Journal*, 745, 3, 2012
- 23) J. L. Bean, J.-M. Désert, P. Kabath, B. Stalder, S. Seager, **E. Miller-Ricci Kempton**, Z. Berta, D. Homeier, S. Walsh, A. Seifahrt, "The Optical and Near-Infrared Transmission Spectrum of the Super-Earth Planet GJ 1214b: Further Evidence for a Metal-Rich Atmosphere", *Astrophys. Journal*, 743, 92, 2011
- 24) B. Croll, L. Albert, R. Jayawardhana, **E. Miller-Ricci Kempton**, J. J. Fortney, N. Murray, D. Lafreniere, H. Neilson, "Broadband Transmission Spectroscopy of the Super-Earth GJ 1214b Suggests a Low Mean Molecular Weight Atmosphere", *Astrophys. Journal*, 736, 78, 2011
- 25) J.-M. Désert, J. Bean, **E. Miller-Ricci Kempton**, Z. K. Berta, D. Charbonneau, J. Irwin, J. Fortney, C. J. Burke, P. Nutzman, "Observational Evidence for a Metal-rich Atmosphere on the Super-Earth GJ1214b", *Astrophys. Journal Letters*, 731, L40, 2011
- 26) J. L. Bean, **E. Miller-Ricci Kempton**, D. Homeier, "A Ground-Based Transmission Spectrum of the Super-Earth Planet GJ 1214b", *Nature*, 468, 669, 2010
- 27) **E. Miller-Ricci**, J. J. Fortney, "The Nature of the Atmosphere of the Transiting Super-Earth GJ 1214b", *Astrophys. Journal Letters*, 716, L74, 2010
- 28) **E. Miller-Ricci**, M. R. Meyer, S. Seager, L. Elkins-Tanton, "On the Emergent Spectra of Hot Protoplanet Collision Afterglows", *Astrophys. Journal*, 704, 770, 2009
- 29) D. Deming, S. Seager, J. Winn, **E. Miller-Ricci**, M. Clampin, D. Lindler, T. Greene, D. Charbonneau, G. Laughlin, G. Ricker, D. Latham, K. Ennico, "Discovery and Characterization of Transiting Super Earths Using an All-Sky Transit Survey and Follow-up by the James Webb Space Telescope", *Publications of the Astronomical Society of the Pacific*, 121, 952, 2009
- 30) **E. Miller-Ricci**, D. Sasselov, S. Seager, "The Atmospheric Signatures of Super Earths: How to Distinguish Between Hydrogen-Rich and Hydrogen-Poor Atmospheres", *Astrophys. Journal*, 690, 1056, 2009
- 31) J. F. Rowe, J. M. Matthews, S. Seager, **E. Miller-Ricci**, D. Sasselov, R. Kuschnig, D. B. Guenther, A. F. J. Moffat, S. M. Rucinski, G. A. H. Walker, W. W. Weiss, "The Very Low Albedo of an Extrasolar Planet: MOST Space-based Photometry of HD 209458", *Astrophys. Journal*, 689, 1345, 2008
- 32) H. Bruntt, N. R. Evans, D. Stello, A. J. Penny, J. A. Eaton, D. L. Buzasi, D. D. Sasselov, H. L. Preston, **E. Miller-Ricci**, "Polaris the Cepheid Returns: 4.5 Years of Monitoring from Ground and Space", *Astrophys. Journal*, 683, 433, 2008
- 33) **E. Miller-Ricci**, J. F. Rowe, D. Sasselov, J. M. Matthews, R. Kuschnig, B. Croll, D. B. Guenther, A. F. J. Moffat, S. M. Rucinski, G. A. H. Walker, W. W. Weiss, "MOST Space-based Photometry of the Transiting Exoplanet System HD 189733: Precise Timing Measurements for Transits Across an Active Star", *Astrophys. Journal*, 682, 593, 2008

- 34) **E. Miller-Ricci**, J. F. Rowe, D. Sasselov, J. M. Matthews, D. B. Guenther, R. Kuschnig, A. F. J. Moffat, S. M. Rucinski, G. A. H. Walker, W. W. Weiss, "MOST Space-based Photometry of the Transiting Exoplanet System HD 209458: Transit Timing to Search for Additional Planets", *Astrophys. Journal*, 682, 586, 2008
- 35) B. Croll, J. M. Matthews, J. F. Rowe, B. Gladman, **E. Miller-Ricci**, D. Sasselov, G. A. H. Walker, R. Kuschnig, D. N. C. Lin, D. B. Guenther, A. F. J. Moffat, S. M. Rucinski, W. W. Weiss, "Looking for Super Earths in the HD 189733 System: A Search for Transits in MOST Space-based Photometry", *Astrophys. Journal*, 671, 2129, 2007
- 36) H. Uitenbroek, **E. Miller-Ricci**, A. Asensio Ramos, J. Trujillo Bueno, "The Zeeman Effect in the G Band", *Astrophys. Journal*, 604, 960, 2004
- 37) **E. Miller-Ricci**, H. Uitenbroek, "Improving the Numerical Modeling of the O I Resonance Triplet in the Solar Spectrum", *Astrophys. Journal*, 566, 500, 2002
- 38) D. Hall, E. C. Palm, T. P. Murphy, S. W. Tozer, C. Petrovic, **E. Miller-Ricci**, L. Peabody, C. Q. H. Li, U. Alver, R. G. Goodrich, J. L. Sarrao, P. G. Pagliuso, J. M. Wills, Z. Fisk, "Electronic Structure of CeRhIn₅: de Haas-van Alphen and Energy Band Calculations", *Phys. Rev. B*, 64, 4506, 2001

Selected Proceedings

- 1) **E. M. R. Kempton**, in Proceedings of *IAU Symposium No. 276: The Astrophysics of Planetary Systems: Formation, Structure, and Dynamical Evolution*, "The Properties of Super-Earth Atmospheres", 2011
- 2) **E. Miller-Ricci**, S. Seager, D. Sasselov, in Proceedings of *IAU Symposium No. 253: Transiting Planets*, "The Atmospheres of Extrasolar Super Earths" 2009
- 3) **E. Miller-Ricci**, J. F. Rowe, D. Sasselov, J. M. Matthews, D. B. Guenther, R. Kuschnig, A. F. J. Moffat, S. M. Rucinski, G. A. H. Walker, W. W. Weiss, in ASP Conf. Ser. *Proceedings of the Transiting Extrasolar Planets Workshop*, "MOST Space-based Photometry of the Transiting Exoplanet System HD 209458: Transit Timing to Search for Additional Planets", ed. C. Afonso & D. Wel Drake (San Francisco: ASP), 2007

Scientific Commentaries

- 1) **E. M. R. Kempton**, "Extrasolar Planets: Window on a Watery World", *Nature*, 513, 493, 2014
- 2) **E. M. R. Kempton**, "Planetary Science: The Ultimate Fate of Planets", *Nature*, 480, 460, 2011

Submitted

- 1) B. Benneke, H. Knutson, J. Lothringer, I. Crossfield, J. Moses, C. Morley, B. J. Fulton, D. Dragomir, A. Howard, I. Wong, J.-M. Désert, P. R. McCullough, **E. Kempton**, J. Fortney, R. Gilliland, D. Deming, J. Kammer, "Carbon Deficiency on a Close-in Sub-Neptune Exoplanet", *Nature*, submitted

- 2) S. M. Hörst , C. He, N. K. Lewis, **E. M.-R. Kempton**, M. S. Marley, C. V. Morley, J. I. Moses, J. A. Valenti, V. Vuitton, "Haze Production in the Atmospheres of Super-Earths and Mini-Neptunes: Insights from the Lab", *Nature Astronomy*, submitted
- 3) *C. E. Munoz-Romero, **E. M.-R. Kempton**, "No Metallicity Correlation Associated with the Kepler Dichotomy", *AAS Journals*, submitted
- 4) C. He, S. M. Hörst, N. K. Lewis, X. Yu, J. I. Moses, **E. M.-R. Kempton**, P. McGuiggan, C. V. Morley, J. A. Valenti, V. Vuitton, "Laboratory Simulations of Haze Formation in the Atmospheres of Super-Earths and Mini-Neptunes: Particle Color and Size Distribution", *Astrophys. Journal Letters*, submitted