

Matthew A. Kenworthy

Curriculum Vitae - August 24, 2020

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Education

1995-1999 **PhD** [Institute of Astronomy, University of Cambridge](#), Astronomy
1992-1995 **BA (Hons)** [University of Oxford](#), Physics

Employment

2015- **Associate Professor**, Leiden Observatory, The Netherlands.
2010-2015 **Assistant Professor**, Leiden Observatory, The Netherlands.
2007-2009 **Assistant Astronomer**, Steward Observatory, USA.
2003-2007 **Instrument Scientist for the MMT AO System**, Steward Observatory, USA.
2001-2003 **Postdoctoral Research Associate**, University of Cincinnati, USA.
1999-2001 **Postdoctoral Research Associate**, Steward Observatory, USA.

Main Research Interests

- **Ground-based extrasolar planet imaging:** Using the largest telescopes in the world to directly detect and characterise extrasolar planets. Developing and implementing image processing algorithms to understand the nature of quasi-static aberrations in the telescope and subsequently minimise them.
- **Hill sphere ring systems** Planets in very young stellar systems accrete material from the circumstellar disk through a Hill-sphere filling circumplanetary disk, and onto their cores. There is a transition period where the circumplanetary disk becomes optically thin as gas and dust are accreted into rings and moons, during which time we can detect these giant ring-like structures through their transit signals as seen on Earth. This provides a unique insight into the early history of planet and moon formation and evolution. J1407 and PDS 110 are two prototype transiting Hill sphere systems that we study, and we are searching for more in archival data.
- **Novel instrumentation techniques:** Developing visible and near-infrared instrumentation that complements traditional imaging and long slit spectroscopy, ranging from integral field spectrographs using optical fibers and hexagonal lenslet arrays, through to coronagraphic and phase apodizing techniques for high contrast imaging of extrasolar planet systems.

Teaching

2021 Spring	High Contrast Imaging (Masters course), Leiden
2020 Autumn	Astronomical Telescopes and Instruments (Masters course), Leiden
2019 Autumn	High Contrast Imaging (Masters course), Leiden
2019 Autumn	Astronomical Telescopes and Instruments (Masters course), Leiden
2019 Spring	Detection of Light (Masters course), Leiden
2018 Autumn	Astronomical Telescopes and Instruments (Masters course), Leiden
2017 Autumn	Astronomical Telescopes and Instruments (Masters course), Leiden
2017 Autumn	High Contrast Imaging (Masters course), Leiden
2016 Autumn	Astronomical Telescopes and Instruments (Masters course), Leiden
2015 Autumn	High Contrast Imaging (Masters course), Leiden
2015 Autumn	Astronomy and Instrumentation (Masters course), Leiden
2014 Autumn	Astronomy and Instrumentation (Masters course), Leiden
2014 Spring	Detection of Light (Masters course), Leiden
2013 Autumn	Modern Sterrenkundig Onderzoek (BSc second year), Leiden
2013 Autumn	NOVA Fall School (All incoming graduate students to Netherlands)
2012 Autumn	ACAO Summer School (Bachelor students from all over Africa), South Africa
2012 Autumn	Modern Sterrenkundig Onderzoek (BSc second year), Leiden
2012 Autumn	Detection of Light (Masters course), Leiden
2011 Autumn	Modern Sterrenkundig Onderzoek (BSc second year), Leiden
2011 Spring	Detection of Light (Masters course), Leiden

Research Grants and Awards

2019-2023	NWO/PEPSci - P.I. Matthew Kenworthy 240kEuro for 'Modelling, detection and characterization of tidally heated exomoons'
2016	NWO/NRF - P.I. Matthew Kenworthy 12kEuro for 'Put a ring on it: looking for rings around the exoplanet Beta Pic b'
2015-2019	NWO/FAPESP Collaboration - P.I. Matthew Kenworthy 240kEuro for 4 year graduate student support
2013-2018	NOVA Postdoc for SPHERE ZIMPOL - (as Co-I) P.I. Christoph Keller Funds for 5 year postdoctoral support
2014	NWO/NRF - P.I. Matthew Kenworthy 12kEuro for 'Development of an Economical Adaptive Optics System'
2013	HST Support - supervisor to the P.I. Tiffany Meshkat Funds for multi-cycle observations
2011-2015	ESFRI Graduate student - P.I. Matthew Kenworthy 250kEuro Full graduate student support
2011-2015	Marie Curie IRG - P.I. Matthew Kenworthy 100kEuro over four years
2009-2011	NSF AST ATI - P.I. Matthew Kenworthy US\$433K over two years <i>'Thermal Imaging of Extrasolar Planets with the LBT'</i>
2008-2010	NSF AST ATI - (as Co-I) P.I. Johnan Codona US\$459K over two years <i>'Adaptive Halo Suppression for High-contrast mid-IR imaging'</i>
2005-2009	NASA TPF Foundation Science - P.I. Matthew Kenworthy US\$330K award over 4 years <i>'Detecting exo-Jupiters through Focal Plane Wavefront Sensing'</i>
2003-2005	Chandra Cycle 4 - Proposal 4200417 - P.I. Marc Gagne US\$12K support for Near IR Observations <i>'Deep Inside the Lagoon Nebula'</i>

Supervision of PhD students and post graduates

From 2010 to 2020, I have supervised 14 MSc projects and 7 undergraduate projects on astronomy and instrumentation, (see Table 1). I have supervised two PhD students, Tiffany Meshkat and Gilles Otten, co-supervised Tim van Werkhoven (2014) and supervised postdoctoral fellow Christian Ginski (2014—2018).

My current graduate students are Emiel Por (2016—), Alex Bohn (2017—) and Dirk van Dam (2018—).

Name	Level	Title	Dates	Grade
Jens Hoeijmakers & Ritse Heinsbroek	Bachelor	"Looking for faint stellar companions to A-type stars using image convolution"	11/2011	
Sascha Zeegers	Masters	"Transit Spectroscopy of nearby debris disks"	2011/2012	
Joris Voorn	Bachelor	"Stability of multimode fibers for exoplanet spectroscopy"	2011/12	
Mason Carney	Masters	"Modeling a Stepped Luneberg Lens for All-Sky Imaging"	2011/12	
Ari Karisli & Stefano Metafuni	Bachelor	"Allskycam at Leiden Observatory"	2013	
Emiel Por	Bachelor	"Sparse Aperture Masking at the Leiden Old Observatory"	2013	
Arisa Hatagaya	Masters	"Searching for Transiting Planets around β Pictoris"	2013-14	
Martijn Oei	Bachelor	"A Polarization induced dOTF wavefront sensor"	2014	
Luis Henry Quiroga Nunez	Masters	"Principal Component Analysis on HST Data"	2013/14	
Tim van Werkhoven	PhD Chapter	"Exomoons in the J1407 system"	2013/14	
Pim Overgaauw	Masters	"Finding the Drake Equation for Tidally Heated Exomoons"	2014	
Julia Heuritsch	Masters	"Searching for J1407b Analogues in All-Sky Surveys"	2014/15	
Kiera Brooks	Masters	"On-sky testing of the Polarization dOTF Wavefront Sensor Camera"	2014	
Tiffany Meshkat	PhD	"Direct Imaging of Extrasolar Planets"	2011/15	
Gilles Otten	PhD	"Developing High Contrast Optics and PSI"	2011/16	
Emiel Por	PhD	"Focal Plane Wavefront Sensing for Exoplanet detection"	2016	
Alexander Bohn	PhD	"The YOUNG SUNS Survey for Exoplanets in Sco Cen"	2017	
Patrick Dorval	Masters	"Developing bRing - the Beta Pictoris Monitoring Camera for the Hill Sphere Transit"	2016/17	
Dirk van Dam	Masters	"Upper limits on polarization light from exorings around J1407b"	2016/17	
Nilofar Khorshid	Masters	"Improving the photometry from bRing"	2017/18	
Jorge Andres Villa Vandez	Masters	"Determining the occurrence rates of exoring systems using GAIA"	2017/18	
Erik Weenk and Marit Mol Lous	Bachelor	"Constraining the existence of Beta Pictoris c"	2017	

Service & Committees (Institutional, active in italics)

I contribute to the Leiden Observatory department in several areas of management and administration, notably:

- *Diversity Committee 2019—*
- *Editor of Leiden Observatory Annual Report 2018—*
- *Social Committee 2018—*
- *Opleidingscommissie van Natuurkunde en Sterrenkunde 2014—*
- *Opleidingscommissie 2014—*
- Masters Admission Committee 2014—2019
- Promotie Belidings Committee 2013—2014: Leiden Observatory has one of the largest graduate programs in Europe with over 70 students in the academic year 2013. We talk with all the students once a year to listen to any concerns they might have and to ensure that they are progressing with their studies.
- Leiden Observatory Colloquium organiser 2011—2014.
- Masters Students Astronomy colloquium 2010—2012.

Service & Committees (External, active in bold)

- **2018—** Reviewer for NWO VENI proposals.
- **2012—** **Coronagraphic design lead** for [ERIS](#), a second generation thermal infrared imaging camera for the VLT.
- **2013 — 2016 ING Time Allocation Committee.**
- **Program Committee for the SPIE Astronomical Telescopes + Instrumentation 2016, 2018**
- 2014—2018 Simulations of first light [E-ELT](#) instrument Workshop Organiser, with the goal to unify the atmospheric and instrument parameters for consistent modeling.
- 2014—2016 [ESO Users Committee](#), representing the opinions of Dutch astronomers to the European Southern Observatory.
- 2012—2018 Coronagraphic design lead for the E-ELT instrument METIS as part of an international consortium.
- Review papers for ApJ, PASP, MNRAS, and other major astronomy journals.
- 2013 Group leader for the Rocky Exoplanets panel on the NWO [PEPSci](#) program, coordinating several proposals within the funding agency.
- 2011—2014 NOVA Colloquium Organiser for the four astronomy institutes, organising week long visits from international prominent researchers.

- **NSF and ERC Panel Reviewer** in 2010, 2013, 2015 and 2016, typically reading over a dozen proposals and acting as lead reviewer on 3 to 4 proposals each time.
- Reviewer for several international astronomy proposals.
- Canadian National Science Panel Reviewer in 2012.
- [Lorentz Center Workshop](#) Organiser for:
 - [“Tackling the Complexities of Substellar Objects”](#) in February 2020.
 - [“Rocks, Rubble and Rings: Understanding Deep and Irregular Transits”](#) in October 2016.
 - [“Combining Coronagraphs and Wavefront Control”](#) in October 2014.
 - [“How to find our Nearest Neighbours”](#) in October 2012

Invited Colloquia and Research Talks

- 2020 April - Queens University Belfast Colloquium (Remote talk)
- 2020 March - Exeter Astrophysics Colloquium
- 2020 February - Patreon talk at Science Museum, London
- 2020 January - Oxford Astrophysics Colloquium, Oxford University
- 2020 January - HCI Workshop Direct Imaging review (Invited talk), Berlin
- 2019 November - Leicester University
- 2019 September - PLATO Science Meeting (Invited Talk), Warwick University
- 2019 May - NOAO Flash Talk
- 2019 May - SESE Coffee Talk, Arizona State University
- 2018 November - ROE Coffee Talk, Edinburgh
- 2018 June - Exeter Astrophysics Colloquium
- 2018 April - Caltech Coffee Talk
- 2018 April - JPL/MPIA Workshop
- 2017 October - NAOJ, Japan
- 2017 October - ELSI, Kobe
- 2017 September - Imperial College
- 2017 August - Exorings, Boise, ID
- 2017 May - University of Marburg
- 2017 April - Joan van der Waals, Leiden Physics
- 2017 January - Aarhus University

- 2016 August - BRITE Consortium
- 2016 May - NAC
- 2016 May - University of Wisconsin, Madison Lunch Talk
- 2016 April - NOAO FLASH Lunch Talk
- 2016 February - TU Delft
- 2016 January - Queens University Belfast
- 2015 December - Oxford University
- 2015 November - University of Cardiff
- 2015 September - Keynote talk at EPSC, Nantes.
- 2015 July - University of Cambridge
- 2015 April - University of Warwick
- 2015 April - SRON, NL
- 2015 March - University of Exeter
- 2015 February - ETH Zurich
- 2014 November - Royal Observatory Edinburgh
- 2014 October - University College London
- 2014 June - Gordon Research Conference
- 2013 October - Grenoble Observatory
- 2013 April - STScI
- 2012 December - ACAO Summer School
- 2012 September - ASTRON Colloquium
- 2012 April - Lund Colloquium
- 2012 March - Groningen
- 2012 March - OSP II Talks
- 2011 September - AO4ELT2 Conference
- 2011 September - ESTEC
- 2011 April - Groningen

Bibliography of Publications

2914	citations for 245 bibliographic references in the Astrophysics Data System
100	Refereed publications
28	Hirsch h-index (i.e. 28 publications with ≥ 28 citations)
57	SPIE Instrumentation Papers

[Google Scholar citations](#)

Refereed Papers

- A103. [Disk Evolution Study Through Imaging of Nearby Young Stars \(DESTINYs\): A close low mass companion to ET Cha](#)
Ginski, C., Ménard, F., Rab, C., Mamajek, E. E., van Holstein, R. G., Benisty, M., Manara, C. F., et al., **2020**, arXiv, arXiv:2007.05274.
- A102. [Two Directly Imaged, Wide-orbit Giant Planets around the Young, Solar Analog TYC 8998-760-1](#)
Bohn, A. J., Kenworthy, M. A., Ginski, C., Rieder, S., Mamajek, E. E., Meshkat, T., Pecaut, M. J., et al., **2020**, ApJL, 898, L16.
- A101. [A planet within the debris disk around the pre-main-sequence star AU Microscopii](#)
Plavchan, P., Barclay, T., Gagné, J., Gao, P., Cale, B., Matzko, W., Dragomir, D., et al., **2020**, Natur, 582, 497.
- A100. [First Images of the Protoplanetary Disk around PDS 201](#)
Wagner, K., Stone, J., Dong, R., Ertel, S., Apai, D., Doelman, D., Bohn, A., et al., **2020**, AJ, 159, 252.
- A99. [A low-mass stellar companion to the young variable star RZ Psc](#)
Kennedy, G. M., Ginski, C., Kenworthy, M. A., Benisty, M., Henning, T., van Holstein, R. G., Kral, Q., et al., **2020**, MNRAS, 496, L75.
- A98. [Robustness of prediction for extreme adaptive optics systems under various observing conditions. An analysis using VLT/SPHERE adaptive optics data](#)
van Kooten, M. A. M., Doelman, N., & Kenworthy, M., **2020**, A&A, 636, A81.
- A97. [SPHERE+: Imaging young Jupiters down to the snowline](#)
Boccaletti, A., Chauvin, G., Mouillet, D., Absil, O., Allard, F., Antonucci, S., Augereau, J.-C., et al., **2020**, arXiv, arXiv:2003.05714.
- A96. [A multiplicity study of transiting exoplanet host stars. II. Revised properties of transiting planetary systems with companions](#)
Southworth, J., Bohn, A. J., Kenworthy, M. A., Ginski, C., & Mancini, L., **2020**, A&A, 635, A74.
- A95. [A multiplicity study of transiting exoplanet host stars. I. High-contrast imaging with VLT/SPHERE](#)
Bohn, A. J., Southworth, J., Ginski, C., Kenworthy, M. A., Maxted, P. F. L., & Evans, D. F., **2020**, A&A, 635, A73.
- A94. [MASCARA-4 b/bRing-1 b: A retrograde hot Jupiter around a bright A-type star](#)
Dorval, P., Talens, G. J. J., Otten, G. P. P. L., Brahm, R., Jordán, A., Torres, P., Vanzi, L., et al., **2020**, A&A, 635, A60.

- A93. *The Single-mode Complex Amplitude Refinement (SCAR) coronagraph. II. Lab verification, and toward the characterization of Proxima b*
Haffert, S. Y., Por, E. H., Keller, C. U., Kenworthy, M. A., Doelman, D. S., Snik, F., & Escuti, M. J., **2020**, A&A, 635, A56.
- A92. *The Young Suns Exoplanet Survey: Detection of a wide-orbit planetary-mass companion to a solar-type Sco-Cen member*
Bohn, A. J., Kenworthy, M. A., Ginski, C., Manara, C. F., Pecaut, M. J., de Boer, J., Keller, C. U., et al., **2020**, MNRAS, 492, 431.
- A91. *ALMA and NACO observations towards the young exoring transit system J1407 (V1400 Cen)*
Kenworthy, M. A., Klaassen, P. D., Min, M., van der Marel, N., Bohn, A. J., Kama, M., Triaud, A., et al., **2020**, A&A, 633, A115.
- A90. *Bright Southern Variable Stars in the bRing Survey*
Mellon, S. N., Mamajek, E. E., Stuik, R., Zwintz, K., Kenworthy, M. A., Talens, G. J. J., Burggraaff, O., et al., **2019**, ApJS, 244, 15.
- A89. *Revisiting the pulsational characteristics of the exoplanet host star β Pictoris*
Zwintz, K., Reese, D. R., Neiner, C., Pigulski, A., Kuschnig, R., Müllner, M., Zieba, S., et al., **2019**, A&A, 627, A28.
- A88. *Spectroscopic transit search: a self-calibrating method for detecting planets around bright stars*
van Sluijs, L., de Mooij, E., Kenworthy, M., Celeste, M., Hooton, M. J., Mamajek, E. E., Sipócz, B., et al., **2019**, A&A, 626, A97.
- A87. *The PDS 110 observing campaign - photometric and spectroscopic observations reveal eclipses are aperiodic*
Osborn, H. P., Kenworthy, M., Rodriguez, J. E., de Mooij, E. J. W., Kennedy, G. M., Relles, H., Gomez, E., et al., **2019**, MNRAS, 485, 1614.
- A86. *Impact of time-variant turbulence behavior on prediction for adaptive optics systems*
van Kooten, M., Doelman, N., & Kenworthy, M., **2019**, JOSAA, 36, 731.
- A85. *Transiting exocomets detected in broadband light by TESS in the β Pictoris system*
Zieba, S., Zwintz, K., Kenworthy, M. A., & Kennedy, G. M., **2019**, A&A, 625, L13.
- A84. *Discovery of a directly imaged disk in scattered light around the Sco-Cen member Wray 15-788*
Bohn, A. J., Kenworthy, M. A., Ginski, C., Benisty, M., de Boer, J., Keller, C. U., Mamajek, E. E., et al., **2019**, A&A, 624, A87.
- A83. *The little dippers: transits of star-grazing exocomets?*
Ansdell, M., Gaidos, E., Jacobs, T. L., Mann, A., Manara, C. F., Kennedy, G. M., Vanderburg, A., et al., **2019**, MNRAS, 483, 3579.
- A82. *Discovery of δ Scuti Pulsations in the Young Hybrid Debris Disk Star HD 156623*
Mellon, S. N., Mamajek, E. E., Zwintz, K., David, T. J., Stuik, R., Talens, G. J. J., Dorval, P., et al., **2019**, ApJ, 870, 36.
- A81. *Post-conjunction detection of β Pictoris b with VLT/SPHERE*
Lagrange, A.-M., Boccaletti, A., Langlois, M., Chauvin, G., Gratton, R., Beust, H., Desidera, S., et al., **2019**, A&A, 621, L8.

- A80. *Substellar and low-mass dwarf identification with near-infrared imaging space observatories*
Holwerda, B. W., Bridge, J. S., Ryan, R., Kenworthy, M. A., Pirzkal, N., Andersen, M., Wilkins, S., et al., **2018**, A&A, 620, A132.
- A79. *Constraining the period of the ringed secondary companion to the young star J1407 with photographic plates*
Mentel, R. T., Kenworthy, M. A., Cameron, D. A., Scott, E. L., Mellon, S. N., Hudec, R., Birkby, J. L., et al., **2018**, A&A, 619, A157.
- A78. *Data calibration for the MASCARA and bRing instruments*
Talens, G. J. J., Deul, E. R., Stuik, R., Burggraaff, O., Lesage, A.-L., Spronck, J. F. P., Mellon, S. N., et al., **2018**, A&A, 619, A154.
- A77. *Feasibility of the debris ring transit method for the solar-like star HD 107146 by an occulted galaxy*
van Sluijs, L., Vaendel, D. A. J. H., Holwerda, B. W., Kenworthy, M. A., & Schneider, G., **2018**, MNRAS, 480, 914.
- A76. *First direct detection of a polarized companion outside a resolved circumbinary disk around CS Chamaeleonis*
Ginski, C., Benisty, M., van Holstein, R. G., Juhász, A., Schmidt, T. O. B., Chauvin, G., de Boer, J., et al., **2018**, A&A, 616, A79.
- A75. *A search for transiting planets in the β Pictoris system*
Lous, M. M., Weenk, E., Kenworthy, M. A., Zwintz, K., & Kuschnig, R., **2018**, A&A, 615, A145.
- A74. *A New Standard for Assessing the Performance of High Contrast Imaging Systems*
Jensen-Clem, R., Mawet, D., Gomez Gonzalez, C. A., Absil, O., Belikov, R., Currie, T., Kenworthy, M. A., et al., **2018**, AJ, 155, 19.
- A73. *Characterizing exo-ring systems around fast-rotating stars using the Rossiter-McLaughlin effect*
de Mooij, E. J. W., Watson, C. A., & Kenworthy, M. A., **2017**, MNRAS, 472, 2713.
- A72. *bRing: An observatory dedicated to monitoring the β Pictoris b Hill sphere transit*
Stuik, R., Bailey, J. I., Dorval, P., Talens, G. J. J., Luginja, I., Mellon, S. N., Lomberg, B. B. D., et al., **2017**, A&A, 607, A45.
- A71. *Periodic eclipses of the young star PDS 110 discovered with WASP and KELT photometry*
Osborn, H. P., Rodriguez, J. E., Kenworthy, M. A., Kennedy, G. M., Mamajek, E. E., Robinson, C. E., Espaillat, C. C., et al., **2017**, MNRAS, 471, 740.
- A70. *Looking for rings and things*
Kenworthy, M., **2017**, NatAs, 1, 0099.
- A69. *The transiting dust clumps in the evolved disc of the Sun-like UXor RZ Psc*
Kennedy, G. M., Kenworthy, M. A., Pepper, J., Rodriguez, J. E., Siverd, R. J., Stassun, K. G., & Wyatt, M. C., **2017**, RSOS, 4, 160652.
- A68. *On-sky Performance Analysis of the Vector Apodizing Phase Plate Coronagraph on MagAO/Clio2*
Otten, G. P. P. L., Snik, F., Kenworthy, M. A., Keller, C. U., Males, J. R., Morzinski, K. M., Close, L. M., et al., **2017**, ApJ, 834, 175.

- A67. *The peculiar dipping events in the disc-bearing young-stellar object EPIC 204278916*
Scaringi, S., Manara, C. F., Barenfeld, S. A., Groot, P. J., Isella, A., Kenworthy, M. A., Knigge, C., et al., **2016**, MNRAS, 463, 2265.
- A66. *Constraints on the size and dynamics of the J1407b ring system*
Rieder, S., & Kenworthy, M. A., **2016**, A&A, 596, A9.
- A65. *Direct detection of scattered light gaps in the transitional disk around HD 97048 with VLT/SPHERE*
Ginski, C., Stolker, T., Pinilla, P., Dominik, C., Boccaletti, A., de Boer, J., Benisty, M., et al., **2016**, A&A, 595, A112.
- A64. *All NIRspec Needs is HST/WFC3 Pre-Imaging? The Use of Milky Way Stars in WFC3 Imaging to Register NIRspec MSA Observations*
Holwerda, B. W., Bouwens, R. J., Trenti, M., & Kenworthy, M. A., **2016**, JAI, 5, 1650008.
- A63. *The size and shape of the Milky Way disc and halo from M-type brown dwarfs in the BoRG survey*
van Vledder, I., van der Vlugt, D., Holwerda, B. W., Kenworthy, M. A., Bouwens, R. J., & Trenti, M., **2016**, MNRAS, 458, 425.
- A62. *A narrow, edge-on disk resolved around HD 106906 with SPHERE*
Lagrange, A.-M., Langlois, M., Gratton, R., Maire, A.-L., Milli, J., Olofsson, J., Vigan, A., et al., **2016**, A&A, 586, L8.
- A61. *Rings of a Super Saturn*
Kenworthy, M., **2015**, SciAm, 314, 34.
- A60. *Searching for gas giant planets on Solar system scales - a NACO/APP L'-band survey of A- and F-type main-sequence stars*
Meshkat, T., Kenworthy, M. A., Reggiani, M., Quanz, S. P., Mamajek, E. E., & Meyer, M. R., **2015**, MNRAS, 453, 2533.
- A59. *Discovery of a low-mass companion to the F7V star HD 984*
Meshkat, T., Bonnefoy, M., Mamajek, E. E., Quanz, S. P., Chauvin, G., Kenworthy, M. A., Rameau, J., et al., **2015**, MNRAS, 453, 2378.
- A58. *Taking the river inside: Fundamental advances from laboratory experiments in measuring and understanding bedload transport processes*
Yager, E. M., Kenworthy, M., & Monsalve, A., **2015**, Geomo, 244, 21.
- A57. *The dependence of the A_V prior for SN Ia on host mass and disc inclination*
Holwerda, B. W., Keel, W. C., Kenworthy, M. A., & Mack, K. J., **2015**, MNRAS, 451, 2390.
- A56. *Confirmation and Characterization of the Protoplanet HD 100546 b—Direct Evidence for Gas Giant Planet Formation at 50 AU*
Quanz, S. P., Amara, A., Meyer, M. R., Girard, J. H., Kenworthy, M. A., & Kasper, M., **2015**, ApJ, 807, 64.
- A55. *Measuring individuality in habitat use across complex landscapes: approaches, constraints, and implications for assessing resource specialization*
Fodrie, F. J., Yeager, L. A., Grabowski, J. H., Layman, C. A., Sherwood, G. D., & Kenworthy, M. D., **2015**, Oecol, 178, 75.

- A54. *Combining high-dispersion spectroscopy with high contrast imaging: Probing rocky planets around our nearest neighbors*
Snellen, I., de Kok, R., Birkby, J. L., Brandl, B., Brogi, M., Keller, C., Kenworthy, M., et al., **2015**, A&A, 576, A59.
- A53. *Modeling Giant Extrasolar Ring Systems in Eclipse and the Case of J1407b: Sculpting by Exomoons?*
Kenworthy, M. A., & Mamajek, E. E., **2015**, ApJ, 800, 126.
- A52. *Searching for Planets in Holey Debris Disks with the Apodizing Phase Plate*
Meshkat, T., Bailey, V. P., Su, K. Y. L., Kenworthy, M. A., Mamajek, E. E., Hinz, P. M., & Smith, P. S., **2015**, ApJ, 800, 5.
- A51. *Mass and period limits on the ringed companion transiting the young star J1407*
Kenworthy, M. A., Lacour, S., Kraus, A., Triaud, A. H. M. J., Mamajek, E. E., Scott, E. L., Ségransan, D., et al., **2015**, MNRAS, 446, 411.
- A50. *Performance characterization of a broadband vector Apodizing Phase Plate coronagraph*
Otten, G. P. P. L., Snik, F., Kenworthy, M. A., Miskiewicz, M. N., & Escuti, M. J., **2014**, OExpr, 22, 30287.
- A49. *Fundamental Limitations of High Contrast Imaging Set by Small Sample Statistics*
Mawet, D., Milli, J., Wahhaj, Z., Pelat, D., Absil, O., Delacroix, C., Boccaletti, A., et al., **2014**, ApJ, 792, 97.
- A48. *Analysis of ISWASP J140747.93-394542.6 eclipse fine-structure: hints of exomoons*
van Werkhoven, T. I. M., Kenworthy, M. A., & Mamajek, E. E., **2014**, MNRAS, 441, 2845.
- A47. *Fast & Furious focal-plane wavefront sensing*
Korkiakoski, V., Keller, C. U., Doelman, N., Kenworthy, M., Otten, G., & Verhaegen, M., **2014**, ApOpt, 53, 4565.
- A46. *Oyster reefs can outpace sea-level rise*
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Outreach

Popular science talks given:

- 2017 October 26 - Science Cafe Wegeningen - "Large Telescopes"
- 2017 October 12 - Mr. Withers - Wood End School, Harpenden, Hertfordshire. Skype with 3 classes.
- 2017 September 11 - Ewell Astronomical Society -
- 2017 June - Primary School Skype
- 2017 May - Lions Club, Leiden
- 2017 March 27 - Leiden inaugural "Astronomy On Tap"
- 2017 March 17 - Skype talks with Group 5 at St Cuthbert's school in Quorn, England
- 2016 September - [Ewell Astronomical Society](#), London - "The discovery of a giant ring system around the exoplanet J1407b"
- 2016 November 22 - Beth Spear, Westosha Central High School
- 2016 February - Cuba City High School
- 2015 October 27 - [Leidse Weer- en Sterrekundige Kring](#) - "The discovery of a giant ring system around the exoplanet J1407b"
- 2015 April 22 - American School of the Hague - "Extrasolar Planets and Rings"
- 2015 July 05 - Leiden LEAPS Program - "Introduction to Exoplanet Detection"

Popular press articles written:

- "Sharpening the Sky with Adaptive Optics" in *Yearbook of Astronomy 2006*, ed. Patrick Moore, MacMillan.
- "Challenges with the MMT Adaptive Optics System" an Invited article for the *Center for Adaptive Optics Newsletter*, **3**, 1 (Winter 2006)
- "One in a trillion comet" - News article for *Astronomy* magazine (November 2004)
- "Einstein's Mirror" - a book review written for *Astronomy Now*, p.12 (March 1998)
- "A dark cloud on the horizon" - "Objective" (op-ed article) written for *Astronomy Now*, p.66 (September 1997)
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