

Emily Rickman

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Research interests: Detection and characterization of exoplanets and brown dwarfs; high-contrast imaging; atmospheric characterization; integral field spectroscopy; coronagraphy; radial velocities; astrometry; interferometry; orbital monitoring

PROFESSIONAL APPOINTMENTS

NOVEMBER 2022 – PRESENT	ESA/Hubble Science Operation Scientist European Space Agency, Space Telescope Science Institute, Baltimore MD, USA
JANUARY 2023 – APRIL 2023	NASA Astrophysics Mission Design Project Manager NASA Jet Propulsion Laboratory, Pasadena CA, USA
SEPTEMBER 2020 – OCTOBER 2022	ESA Research Fellow Space Telescope Science Institute, Baltimore MD, USA
JUNE 2020 – AUGUST 2020	Postdoctoral Researcher University of Geneva, Switzerland. Supervisor: Prof. Damien Ségransan
JULY 2016 – JUNE 2020	Postgraduate Researcher University of Geneva, Switzerland. Supervisor: Prof. Damien Ségransan
SEPTEMBER 2015 – JUNE 2016	Research Assistant University of Sheffield, UK. Supervisor: Prof. Simon Goodwin
JUNE 2015 – AUGUST 2015	SURE Research Assistant University of Sheffield, UK. Supervisor: Dr. Emiliano Cancellieri
JULY 2014 – JUNE 2015	Research Assistant Australian National University, Australia. Supervisor: Prof. Mike Ireland

EDUCATION

JUNE 2020	Ph.D., Astronomy & Astrophysics University of Geneva, Switzerland. Supervisor: Prof. Damien Ségransan <i>“Direct Imaging and Spectral Characterisation of Long Period Exoplanets and Brown Dwarfs”</i>
JUNE 2016	Master of Physics & Astrophysics University of Sheffield, UK. Supervisor: Prof. Simon Goodwin Classification: 1 st Class with Honours

PROFESSIONAL SERVICE

Since 2023	ESA Space Faculty Council , committee member
Since 2023	Science and Technology Facilities Council (STFC) , grant reviewer
Since 2023	STScI Research Support Advisory Committee , committee member
Since 2021	AAS Astrophysical Journal , Reviewer
Since 2021	STScI Extrasolar Planetary Systems Imaging Group , Research group co-lead
2023	Science with the Habitable Worlds Observatory and Beyond , Local Organizing Committee
	ESA Think Tank on Astrobiology , workshop SOC member
2022	Chair of Dynamical Mass Workshop , STScI
	First Science Results from JWST , Scientific Organizing Committee and session chair
	NASA’s Exoplanet Research Program (XRP) Review , Panel Chair and Reviewer
	TESS Cycle 5 Review Member , Panelist
2021	NASA’s Exoplanet Research Program (XRP) Review , Panel Chair and Reviewer
	ESO Exoplanet Atmospheres Workshop , Scientific Organizing Committee
	TESS Cycle 4 Review Member , Panelist
	JWST Cycle 1 Review Member , Panel Support Scientist
	HST Cycle 29 Review Member , Panel Support Scientist
	The 20.5th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun . Awarded Splinter Session <i>‘Brown Dwarf Modelling’</i> , Session Lead
2021 – 2023	STScI Exoplanet, Star & Planet Formation Seminar Series , Co-Organizer
2022 – 2023	STScI Symposium 2023 , Scientific Organizing Committee
2021 – 2022	ESA Research Fellowship Hiring Committee , Reviewer

PROFESSIONAL SERVICE CONTINUED

2020 – 2021	ESA/Hubble Space Telescope Press Release Outreach Review Committee , Scientific Reviewer
2020 – 2021	Chair of Scientific & Local Organizing Committee: STScI Symposium 2021, ‘ <i>Towards the comprehensive characterization of exoplanets: Science at the Interface of Multiple Measurement Techniques</i> ’
2020 – 2021	ESA Distinguished Visitor Committee , Reviewer
2020	13th ESA Space Science Workshop , Session Chair
2020	NCCR PlanetS General Assembly VI , Session Chair
2019	Extreme Precision in Radial Velocity IV , Local Organizing Committee
2017	NCCR PlanetS Junior Researchers’ Assembly (JURA) , Scientific & Local Organizing Committee

TELESCOPE EXPERIENCE

Coronagraphic Imaging | High Resolution Spectroscopy | Integral Field Spectroscopy | Interferometry | Broad Band Imaging

31 nights	EULER-1.2m, CORALIE and EulerCAM , La Silla Observatory, Chile (Program Coordinator)
52 hours	VLT-8.2m, SPHERE , Paranal Observatory, Chile (Principal Investigator)
22 nights	VLT-8.2m, NaCo , Paranal Observatory, Chile (Observer as GTO Science Team Member)
4 nights	VLT-8.2m, GRAVITY , Paranal Observatory, Chile (Observer as GTO Science Team Member)
1 night	ANU-2.3m, WiFeS , Sliding Spring Observatory, Australia

AWARDED TELESCOPE TIME

Principal Investigator

JWST	Cycle 3, NIRSpec/IFU [30 hours] <i>“Breaking the degeneracy: substellar anchors for evolutionary models”</i>
ESO	P111 VLT/GRAVITY [7 hours] <i>“Towards the comprehensive characterisation of benchmark brown dwarfs”</i>
	P108 VLT/GRAVITY [3 hours] <i>“Towards complete characterisation of the benchmark brown dwarf HD 13724 B”</i>
	P105 VLT/SPHERE [12 hours] (Re-assigned to P107/P108 due to COVID-19) <i>“Direct Imaging and Spectral Characterisation of Ultra-Cool companions to Solar type stars.”</i>
	P104 VLT/SPHERE [12 hours] <i>“Atmospheric characterisation and orbital monitoring of two brown dwarf companions from radial velocity surveys.”</i>
	P104 VLT/SPHERE [10 hours] <i>“Direct Imaging and Spectral Characterisation of Ultra-Cool companions to Solar type stars.”</i>
	P103 VLT/SPHERE [9 hours] <i>“Direct Imaging and Spectral Characterisation of Ultra-Cool companions to Solar type stars.”</i>
	P102 VLT/SPHERE [6 hours] <i>“Direct Imaging and Spectral Characterisation of Ultra-Cool companions to Solar type stars.”</i>

Co-Investigator

JWST	Cycle 3, NIRCам Coronagraphy [95 hours] <i>“Into The Spotlight: Unveiling Wide-Separation Sub-Jupiters for Future JWST Characterization”</i>
	Cycle 3, NIRSpec IFU [19.3 hours] <i>“First image and spectrum of a true Jupiter-Saturn Analog”</i>
	Cycle 3, MIRI MRS [6.6 hours] <i>“Catching a cat by the tail: Tracing Dust Dynamics in the Beta Pictoris Debris Disk in the Aftermath of Giant Collisions”</i>
	Cycle 3 Archival Research <i>“Moving forward, get to the point: a forward model approach to the point cloud for accurate spectral extraction with JWST’s IFUs”</i>
	Cycle 2 DDT, NIRCам Coronagraphy [6.5 hours] <i>“Establishing the Formation of AF Lep b with NIRCам: The Lowest-Mass Imaged Exoplanet with a Dynamical Mass”</i>
	Cycle 2, NIRCам Coronagraphy [45.73 hours] <i>“Uncharted Worlds: Towards a Legacy of Direct Imaging of Sub-Jupiter Mass Exoplanets”</i>
	Cycle 2, MIRI MRS [10.7 hours] <i>“GJ504 b is really cool: a new atmospheric window into Jupiter’s evolution with JWST/MIRI”</i>
	Cycle 2, NIRSpec IFU [11.4 hours] <i>“An Empirical Calibration of the NIRSpec IFU Point Spread Function to Enable High Contrast Imaging Spectroscopy”</i>
	Cycle 2, NIRCам Coronagraphy [7.4 hours] <i>“Solving a Solar Neighborhood Crime Scene by Imaging 14 Her c”</i>
	Cycle 2, NIRSpec IFU & MIRI-MRS [7.8 hours] <i>“Imaging Spectroscopy of the Coldest Imaged Exoplanet and a Low-Mass Accreting Protoplanet”</i>

Co-Investigator continued

JWST	<p>Cycle 2, NIRSpec PRISM & MIRI-LRS [24.4 hours] <i>“Dancing 1 - 14 micron spectra to solve the cloudy and chemical puzzle of brown dwarf variability”</i></p> <p>Cycle 1, NIRSpec/IFU & MIRI/LRS [5.2 hours] <i>“Direct Imaging Spectroscopy of two Jovian Exoplanets: Characterization of the TYC 8998-760-1 Multi-Planetary System”</i></p>
ESO	<p>P113, VLT/HiRISE [4 nights] <i>“Direct characterization of substellar companions at high spectral resolution with the HiRISE visitor instrument - Part 2”</i></p> <p>P113, VLT/GRAVITY [6 hours] <i>“Monitoring of a multiple planetary system in a young transition disk around a solar twin”</i></p> <p>P113, VLT/SPHERE [12.5 hours] <i>“Obtaining direct directions of brown dwarf-star boundary objects to determine their dynamical masses”</i></p> <p>P113, VLT/ERIS [3 hours] <i>“Planet migration caught in action: Constraining the mass of HD 4113 C by infrared direct imaging with ERIS”</i></p> <p>P112, VLT/MATISSE [4.33 hours] <i>“A mid-infrared view of the atmosphere of beta Pictoris c with MATISSE/GRA4MAT”</i></p> <p>P112, VLT/ESPRESSO [20.4 hours] <i>“Characterising a planet system around one of our nearest white dwarfs”</i></p> <p>P112, VLT/SPHERE [5 hours] <i>“Imaging hidden brown dwarfs around accelerating stars”</i></p> <p>P112, VLT/GRAVITY [9 hours] <i>“Investigating the 25 Myr L-T transition with VLT/GRAVITY observations of the new planet AF Lep b”</i></p> <p>P112, VLT/GRAVITY + VLT/CRIRES [14 hours] <i>“Is the first T dwarf companion a brown dwarf binary?”</i></p> <p>P112, VLT/MATISSE [0.25 night] <i>“Mid-infrared spectroscopy of the inner planet of HR 8799 with MATISSE and GRA4MAT”</i></p> <p>P112, VLT/SPHERE [7.5 hours] <i>“Obtaining the first direct detections of 3 new brown dwarfs in order to determine their dynamical masses”</i></p> <p>P111 VLT/SPHERE [15 hours] <i>“First images of six new brown dwarfs with dynamical mass constraints through RV and astrometry”</i></p> <p>P111 VLT/GRAVITY [6 hours] <i>“Monitoring 51 Eri b for a perturbing inner companion”</i></p> <p>P111 VLT/GRAVITY [16 hours] <i>“Populating the mass-luminosity diagram of brown dwarfs combining Gaia DR3 and GRAVITY”</i></p> <p>P109 VLT-AT/GRAVITY [46 hours] <i>“Uncovering the Dynamical History of Brown Dwarf Companions”</i></p> <p>P107 VLT/SPHERE [2 hours] <i>“Narrowing down orbital predictions of the exoplanet 51 Eridani b for GRAVITY follow-up”</i></p> <p>P101-P104 VLT/NACO [56 nights] Large Program: <i>“NaCo Imaging Survey for Planets around Young stars (NaCo - ISPY).”</i></p> <p>P101 VLT/SPHERE [6 hours] <i>“Atmospheric Characterization and Orbital Monitoring of a Cold Substellar Companion.”</i></p> <p>P101 VLT/SPHERE [3 hours] <i>“Confirmation of two brown dwarfs around the Herbig Ae/Be star HD 101412”</i></p> <p>P100 VLT/NACO [4 hours] <i>“Confirming a directly imaged gas giant planet candidate at 2.6 AU from its nearby host star”</i></p> <p>P99-P100 VLT/NACO [28 nights] Large Program: <i>“NaCo Imaging Survey for Planets around Young stars (NaCo - ISPY).”</i></p> <p>P98 VLT/NACO [14 nights] <i>“NaCo Imaging Survey for Planets around Young stars (NaCo - ISPY).”</i></p>
Keck	<p>2022B, MOSFIRE [0.5 nights] <i>“Cloud structure of a T-Y transition Brown Dwarf”</i></p>
ESA	<p>ESA, CHEOPS Cycle 3 [30 orbits] <i>“Understanding the formation and evolution of TESS and ASTEP confirmed sub-Neptunes”</i></p>
Subaru	<p>Subaru/REACH [2.5 nights] <i>“Search for C/O tracers by the first high-dispersion coronagraphy”</i></p> <p>Subaru/REACH [3 nights] <i>“Search for C/O tracers by the first high-dispersion coronagraphy”</i></p>

RESEARCH COLLABORATIONS

Since 2021	JWST Telescope Scientist Team , Project-Level Member – Coronagraphic Imaging
Since 2021	JWST High Contrast Imaging Early Release Science Program , Spectroscopy Theme Co-Lead & Science Team Member
Since 2021	LIFE Space Mission concept , Science Team Member
Since 2020	ExoGRAVITY Consortium , Science Team Member
Since 2020	STScI Extrasolar Planetary Systems Imaging Group , Group Member
Since 2016	NACO-ISPY Consortium , Science Team Member and Collaborator
2021 – 2022	JWST/NIRSpec Science Readiness Team , Team Member
2016 – 2020	CORALIE Survey Team , Program Coordinator
2016 – 2020	SPHERE-SHINE Consortium , Science Team Member

AWARDS AND GRANTS

2024	JWST Cycle 3 Grant , JWST-GO-6362, NASA, <i>final amount pending</i> USA Science and Sustainability Award , British Council (1,500 USD)
2023	NASA Astrophysics Mission Design School selected participant , NASA/JPL (1,700 USD) ESA Think Tank on Astrobiology , PI: M. Günther, ESA Faculty Funding (30,000 EUR)
2022	Director’s Discretionary Research Funds , Chair of Dynamical Mass Workshop at STScI Emerging Researchers in Exoplanetary Science , The Heising-Simons Foundation, USA (~1,500 USD) NASA Exoplanet Program Analysis Group Meeting travel funding , NASA/JPL, USA (~3,000 USD) Exoplanet Summer Program Funding, Other Worlds Laboratory , UC Santa Cruz, USA (~3,000 USD)
2021	Outstanding Achievement Award , The Sutton Trust, University of Cambridge, UK (100 GBP) IAU Junior Member of the Month , International Astronomical Union
2020	European Space Agency Postdoctoral Fellowship , Space Telescope Science Institute, USA Successful proposal to lead the 2021 STScI Spring Symposium (500 participants; ~\$20,000)
2019	National Center of Competence in Research Switzerland ‘Planets’ Grant , Switzerland (800 CHF) Women in Space Grant , Arizona State University, Phoenix, USA (660 USD)
2018	National Center of Competence in Research Switzerland ‘Planets’ Grant , Switzerland (1,000 CHF) PyData Scholarship , London, UK (180 GBP)
2017	Successful proposal to organise the 1st Swiss NCCR PlanetS Junior Researchers’ Assembly (JURA) , (budget of ~ 25,000 CHF), Sainte-Croix, Switzerland
2016	Sheffield Graduate Award , University of Sheffield, UK
2015	Sheffield Undergraduate Research Experience Grant , University of Sheffield, UK (1,500 GBP)

ADDITIONAL TRAINING

2023	NASA Astrophysics Mission Design , NASA/Jet Propulsion Laboratory, Pasadena, USA
2023	Intermediate Python Training , Space Telescope Science Institute
2023	INS Division Training , Space Telescope Science Institute, online
2022	Introduction to Data Science course , Space Telescope Science Institute, online
2022	NASA Exoplanet Science Institute Summer Workshop: Exoplanet Science in the Gaia Era , online
2021	Advanced Git training course , Space Telescope Science Institute, online
2021	Introductory Git training course , Space Telescope Science Institute, online
2021	JWebbinar: “Pipeline Information and Data Products” , Space Telescope Science Institute, online
2021	NASA Exoplanet Science Institute Summer Workshop: Circumstellar Disks & Young Planets , online
2020	NASA Exoplanet Science Institute Summer Workshop: Extreme Precision Radial Velocity , online
2018	PyData Workshop , London, UK
2018	Exoplanets in Binary Stars Workshop , Bern, Switzerland
2018	Penn State Astrostatistics Summer School , State College, USA
2017	CADMOS High Performance Computing Course , Château d’Ex, Switzerland

PROFESSIONAL MEMBERSHIPS

International Astronomical Union (IAU), American Astronomical Society (AAS), Europlanet Society (EPS), European Astronomical Society (EAS), Women in Astronomy Forum (WIAF) at STScI, Space Generation Advisory Council (SGAC)

INVITED COLLOQUIA, SEMINARS, AND TALKS

- 2023 **Invited seminar**, International Space Science Institute, Bern, Switzerland
Invited seminar, Carnegie Earth & Planets Laboratory, Washington DC, USA
Invited seminar, NASA/JPL, Pasadena, USA
Invited seminar, Penn State University, State College, USA
Invited seminar, University of Sheffield, Sheffield, UK
- 2022 **Invited seminar**, European Southern Observatory, Santiago, Chile
Invited seminar, University of Michigan, Ann Arbor, USA
Invited talk, Other Worlds Laboratory, UC Santa Cruz, USA
Invited talk, NASA Exoplanet Program Analysis Group Meeting, Pasadena, USA
Invited seminar, STScI Discovery Seminar Series, USA, online
- 2021 **Invited colloquium**, Florida Institute of Technology, USA, online
Invited lecture, European Southern Observatory, Germany, online
Invited colloquium, Center for Space and Habitability, University of Bern, Switzerland, online
Invited seminar, JILA - University of Colorado Boulder, USA, online
Invited talk, NASA Goddard Space Flight Center, USA, online
- 2020 **Invited seminar**, European Space Agency Science Seminar Series, Spain, online
Invited talk, Space Telescope Science Institute Colloquium, USA, online
Invited talk, European Space Astronomy Centre, Spain
- 2019 **Invited talk**, University of Sheffield, UK
Invited seminar, Lancaster University, UK

OUTREACH AND DEI ACTIVITIES

- Upcoming **Selected speaker**, Soapbox Science, NY, USA
- Since 2023 **NASA Inspires Futures for Tomorrow's Youth (NIFTY)**, Role Model
- 2024 **Invited speaker**, Total Eclipse of the Park, Sci-Tech Discovery Center, TX, USA
Invited speaker, **EDSnaps Global Youth Leadership Program**, Kenya and Ghana
- 2023 **Invited Speaker**, Kopernik Observatory & Science Center, NY, USA
Speaker, Astronomy on Tap, Baltimore, MD, USA
Invited Panelist, Webb's First Anniversary: One Year of Science Panel Discussion
Invited Talk, Boy Scouts of America, Blue & Gold Award Ceremony, MD, USA
Alumni Coach for Science and Engineering, University of Sheffield, UK
Invited speaker, *Legends at Lunchtime*, Oriel High School, UK
Featured Alumni, LGBTQ+ History Month as presented by the University of Sheffield, UK
- 2022 **Invited Speaker**, The Boardroom Masterclasses, University of Sheffield, UK
Invited Speaker, NASA Subject Matter Expert for JWST, Space Talks, Liberty Science Center, NJ, USA
Invited Panelist, Space Panel, Women in Science & Engineering Conference, University of Toronto, Canada
Invited Speaker, Astronomical Society, Ohio State University, OH, USA
Invited Speaker, Inspirational Speaker Series, Sheffield Insights, University of Sheffield, UK
Invited Panelist, Insight into STEM Careers, The Sutton Trust, UK
Invited Speaker, Youth for Astronomy & Engineering Forum, Space Telescope Science Institute, MD, USA
Invited Speaker, Outreach talk at Oriel High School, UK
Social Media and Communications Team Member, Women in Aerospace Society Europe
- 2021 **Invited Subject Matter Expert for NASA JWST Events**, McWane Science Center, AL, USA
Lecturer, **STScI Public Lecture Series**, Space Telescope Science Institute (>30K YouTube views)
Caroline Herschel Visitor Program, Space Telescope Science Institute, Committee Member
"A Scientist Just Like Me", Primary Science Teaching Trust UK, Invited Featured Scientist
- 2020 **Wow! Signal Episode 2: Aliens**, Adler Planetarium, Featured Scientist
"I'm a scientist" **Physics Zone**, UK Research and Innovation, Featured Scientist
- 2018 **Gender Summit Europe**, Participant
- 2017 **Impact Hub Gender Hackathon: Girls in Technology**, Project Lead
- 2020 – 2023 **@LGBTQIAinAstro Twitter Account**, Founder and Curator
- 2019 – 2020 *"The Female Scientist"* Magazine, Author
- 2017 – 2020 **Diversity in Science Committee**, Geneva Observatory, Co-Founder and Member
- 2016 – 2020 **Geneva Observatory Tour Guide**
- 2016 – 2020 **NCCR PlanetS**, Member
- 2015 **Australian National University Astronomy Society**, Secretary and Member
- 2014 – 2015 **Australian National University Physics Society**, Secretary and Member
- 2013 – 2016 **Student Ambassador for Learning and Teaching**, University of Sheffield
- 2013 – 2014 **University of Sheffield Mentor**
- 2012 – 2016 **STEMNET Ambassador**
- 2012 – 2016 **University of Sheffield Physics Society**, Member
- 2011 **Herstmonceaux Observatory Tour Guide**

SELECTED MEDIA APPEARANCES AND PRESS RELEASES

NASA/ESA/STScI	“NASA’s Webb Spots Swirling, Gritty Clouds on Remote Planet”, 2023
SETI Institute	“The First Direct Images of Exoplanets with JWST ft. Dr. Emily Rickman”, 2023
Quanta Magazine	“Webb Space Telescope Snaps Its First Photo of an Exoplanet”, 2022
Scientific American	“Scientists Plan Private Mission to Hunt for Earths around Alpha Centauri”, 2021
Scientific American	“Astronomers May Have Captured the First Ever Image of Nearby Exoplanet Proxima C”, 2020
Forbes	“At Last, Scientists Have Found The Galaxy’s Missing Exoplanets: Cold Gas Giants”, 2019
Astronomy Now	“Five long-period exoplanets found after 20 years of observation”, 2019
CNRS	“SPHERE-SHINE: Celebrating Two Decades Of Sphere Challenges And Achievements”, 2021
Le Temps	“Nouvelles exoplanètes à révolution longue”, 2019
Agencia EFE	“Cientistas descobrem 5 exoplanetas gigantes através de observações no Chile”, 2019
Aerospace For All	Podcast: “How are exoplanets actually discovered?”, 2020
AccuWeather	“We’re not invisible people’: Meet these 6 LGBTQ scientists who are changing the world”, 2021
All About Space	Magazine Feature: “Ask an expert: How does the interstellar medium help form stars?”, 2021
Berthine	“Gender inequalities in astronomy: A discussion with astrophysicist Emily Rickman”, 2020
UN ITU News	“‘Gender equality hackathon’ in Geneva pools fresh ideas to bridge digital divide”, 2017
Twitter curator	@People_of_Space, @astrotweeps, @RealScientists, @ResearchHersCode, @LGBTQIAinAstro
Profile features & interviews	<i>The Female Scientist</i> (@ScientistFemale), <i>Women Doing Science</i> (@WomenDoingSci), <i>Women of Aeronautics & Astronautics</i> (@woaaofficial), <i>1 Million Women in STEM</i> (@MillionStem), <i>The Sutton Trust Alumni Stories</i> (@SuttonTrust), <i>The University of Sheffield Alumni Highlights</i> (@Physic-sShef), <i>Faces of the Australian National University</i> (@FacesofANU)

PUBLICATION LIST

54 total refereed publications; *H*-index = 19; 1300+ total citations (NASA/ADS)

First-author:

5. **E. L. Rickman**, W. Ceva, E. Matthews et al. “*The discovery of two new benchmark brown dwarfs with precise dynamical masses at the stellar-substellar boundary*”, *A&A* 684, A88 (2024)
4. **E. L. Rickman**, E. Matthews, W. Ceva et al. “*Precise dynamical masses of new directly imaged companions from combining relative astrometry, radial velocities, and Hipparcos-Gaia eDR3 Accelerations*”, *A&A* 668, A140 (2022)
3. **E. L. Rickman**, D. Ségransan, J. Hagelberg et al. “*Spectral and atmospheric characterisation of a new benchmark brown dwarf HD 13724 B*”, *A&A*, 635, A203 (2020)
2. **E. L. Rickman**, D. Ségransan, M. Marmier et al. “*The CORALIE survey for southern extrasolar planets XVIII: Three new massive planets and two low-mass brown dwarfs at greater than 5 AU separation*”, *A&A* 625, A71 (2019)
1. **E. L. Rickman**, W. Balmer, et al. “*Comprehensive characterization of benchmark brown dwarfs*”, in preparation

Co-author:

58. Maire, A.-L.; Leclerc, A.; Balmer, W. O.; et al.; including **E. Rickman**, “*Direct imaging and dynamical mass of a T-type brown dwarf companion to HD 167665*”, in preparation
57. Balakrishnan, M.; Bowens R.; Cruz Aguirre, F.; et al.; including **E. Rickman**, “*MAUVE: An Ultraviolet Astrophysics Probe Mission Concept*”, submitted to JATIS/SPIE
56. Hoch, K.; Ruffio, J.-B.; Theissen, C.; et al.; including **E. Rickman**, “*JWST-TST High Contrast: Spectroscopic characterization of the substellar companion HD 19467 B with the NIRSpec Integral Field Spectrograph*”, submitted to AAS journals
55. Winterhalder, T. O.; Lacour, S.; Mérand, A.; et al.; including **E. Rickman** “*Combining Gaia and GRAVITY: Characterising Eight New Directly Detected Substellar Companions*”, submitted to A&A
54. N. Pórré, N.; Winterhalder, T.; Le Bouquin, J.-B.; et al.; including **E. Rickman**, “*High contrast at short separation with VLTI/GRAVITY: bringing Gaia companions to light*”, submitted to A&A
53. Nowak, M.; Lacour S.; Abuter, R.; et al.; including **E. Rickman**, “*A catalogue of dual-field interferometric binary calibrators*”, submitted to A&A
52. Nasedkin, E.; Mollière, P.; Lacour, S.; et al.; including **E. Rickman**, “*Four-of-a-kind? Comprehensive atmospheric characterisation of the HR 8799 planets with VLTI/GRAVITY*”, submitted to A&A
51. Ruffio, J.-B.; Perrin, M.; Hoch K.; et al.; including **E. Rickman**, “*JWST-TST High Contrast; Achieving direct spectroscopy of faint substellar companions next to bright stars with the NIRSpec IFU*”, submitted to AJ
50. Ray, S.; Sallum, S.; Hinkley, S.; et al.; including **E. Rickman**, “*The JWST Early Release Science Program for Direct Observations of Exoplanetary Systems III: Aperture Masking Interferometric Observations of the star HIP 65426 at 3.8 μ m*”, submitted to AAS Journals

49. Petrus, S.; Whiteford, N.; Patapis, P.; including **E. Rickman**, “*The JWST Early Release Science Program for Direct Observations of Exoplanetary Systems V: Do Self-Consistent Atmospheric Models Represent JWST Spectra? A Showcase With VHS 1256-1257 b.*”, accepted for publication in ApJ
48. Sallum, S.; Ray, S.; Kammerer, J.; et al.; including **E. Rickman**, “*The JWST Early Release Science Program for Direct Observations of Exoplanetary Systems IV: NIRISS Aperture Masking Interferometry Performance and Lessons Learned*”, ApJ, Volume 963, Issue 1, L2 (2024)
47. Balmer, W.; Pueyo, L.; Lacour, S.; et al.; including **E. Rickman**, “*VLTI/GRAVITY Provides Evidence the Young, Substellar Companion HD 136164 Ab Formed Like a “Failed Star”*”, AJ, Volume 167, Issue 2, 64 (2024)
46. Rebollido, I.; Stark, C.; Kammerer, J.; et al.; including **E. Rickman**, “*JWST-TST High Contrast: Asymmetries, dust populations and hints of a collision in the beta Pictoris disk*”, AJ, Volume 167, 69 (2024)
45. Rogers, L.; Debes, J.; Anslow, R. J.; et al.; including **E. Rickman**, “*WD0141-675: A case study on how to follow-up astrometric planet candidates around white dwarfs*”, MNRAS, Volume 527, Issue 1 (2024)
44. Grant, D.; Lewis, N.; Wakeford, H.; et al.; including **E. Rickman**, “*JWST-TST DREAMS: Quartz Clouds in the Atmosphere of WASP-17b*”, ApJ, Volume 956, Issue 2, L29 (2023)
43. Blunt, S.; Balmer, W.; Wang, J.; et al., including **E. Rickman**, “*First VLTI/GRAVITY Observations of HIP 65426 b: Evidence for a Low or Moderate Orbital Eccentricity*”, AJ, Volume 166, Issue 6, 257 (2023)
42. Balmer W.; Pueyo, L.; Stolker, T.; et al., including **E. Rickman**, “*VLTI/GRAVITY Observations and Characterization of the Brown Dwarf Companion HD 72946 B*”, ApJ, Volume 956, Issue 2, 99 (2023)
41. Hoch, K.; Konopacky, Q.; Theissen, C.; et al., including **E. L. Rickman**, “*Assessing the C/O Ratio Formation Diagnostic; A Potential Trend with Companion Mass*”, AJ, Volume 166, Issue 3, 85 (2023)
40. Libralato, M.; Bellini, A.; van der Marel, R. P. et al., including **E. Rickman**, “*JWST-TST Proper Motions: I. High-Precision NIRISS Calibration and Large Magellanic Cloud Kinematics*”, ApJ, Volume 950, Issue 2, 101 (2023)
39. Rigby, Jane; Perrin, Marshall; McElwain, Michael; et al., including **E. L. Rickman**, “*The Science Performance of JWST as Characterized in Commissioning*”, PASP, Volume 135, Issue 1046 (2023)
38. A. L. Carter; B. A. Biller; J. H. Girard; et al., including **E. Rickman**, “*JWST Early Release Science: High Contrast Imaging of the Exoplanet HIP 65426 b from 2–16 μm* ”, accepted to AAS Journals (2023)
37. B. E. Miles; B. A. Biller; P. Patapis; K. Worthen; **E. Rickman** et al. “*The JWST Early Release Science Program for Direct Observations of Exoplanetary Systems II: A 1 to 20 Micron Spectrum of the Planetary-Mass Companion VHS 1256-1257 b*”, ApJL, 946, 1 (2023)
36. G. Cugno, R. Launhardt, T. D. Pearce et al., including **E. L. Rickman**, “*ISPY-NACO Imaging Survey for Planets around Young stars. The demographics of forming planets embedded in protoplanetary disks*”, A&A, 669, A145 (2023)
35. S. Hinkley, S. Lacour, G.-D. Marleau et al., including **E. L. Rickman**, “*Direct Discovery of the Inner Exoplanet in the HD206893 System. Evidence for Deuterium Burning in a Planetary Mass Companion?*”, A&A, 671, L5 (2023)
34. A. J. Bohn, C. Ginski, M. A. Kenworthy et al., including **E. L. Rickman**, “*Unveiling wide-orbit companions to K-type stars in Sco-Cen with Gaia EDR3*”, A&A, 657, A53, (2022)
33. N. Godoy, J. Olofsson, A. Bayo et al., including **E. L. Rickman**, “*ISPY - NaCo Imaging Survey for Planets around Young stars. CenteR: the impact of centering and frame selection*”, A&A, 663, A53, (2022)
32. M. Bonavita, R. Gratton, S. Desidera et al., including **E. L. Rickman**, “*New binaries from the SHINE Survey*”, A&A, 663, A144 (2022)
31. S. Hinkley, A. Carter, A. Skemer et al., including **E. L. Rickman**, “*The JWST Early Release Science Program for the Direct Imaging and Spectroscopy of Exoplanetary Systems*”, PASP, Volume 134, Issue 1039 (2022)
30. D. Mesa, M. Bonavita, S. Benatti et al., including **E. L. Rickman**, “*Constraining the presence of planetary mass companions around five young stars using direct imaging, radial velocity and astrometric data*”, A&A, 665, A73 (2022)
29. A. Zurlo, K. Goździewski, C. Lazzoni et al., including **E. L. Rickman**, “*Orbital and dynamical analysis of the system around HR 8799. New VLT/SPHERE and LBT/LUCI astrometrical measurement*”, A&A, 666, A133 (2022)
28. R. Gratton, V. D’Orazi, T. A. Pacheco et al., including **E. L. Rickman**, “*Investigating Sirius-like systems with SPHERE*”, A&A, 646, A61 (2021)
27. D. Mesa, S. Marino, M. Bonavita et al., including **E. L. Rickman**, “*Limits on the presence of planets in systems with debris disks: HD 92945 and HD 107146*”, MNRAS, Volume 503, Issue 1 (2021)
26. A. Vigan, C. Fontanive, M. Meyer et al., including **E. L. Rickman**, “*The SPHERE infrared survey for exoplanets (SHINE) III. The demographics of young giant exoplanets below 300 AU with SPHERE*”, A&A 651, A72 (2021)

25. M. Langlois, R. Gratton, A.-M. Lagrange et al., including **E. L. Rickman**, “*The SPHERE infrared survey for exoplanets (SHINE). II. Observations, Data reduction and analysis, Detection performances and early-results*”, A&A 651, A71 (2021)
24. R. Asensio-Torres, T. Henning, F. Cantalloube et al., including **E. L. Rickman**, “*Perturbers: SPHERE detection limits to planetary-mass companions in protoplanetary disks*”, A&A 652, A101 (2021)
23. S. Desidera, G. Chauvin, M. Bonavita et al., including **E. L. Rickman**, “*The SPHERE infrared survey for exoplanets (SHINE)- I Sample definition and target characterization*”, A&A 651, A70 (2021)
22. G. Singh, T. Bhowmik, A. Boccaletti et al., including **E. L. Rickman**, “*Revealing asymmetrical dust distribution in the inner regions of HD 141569*”, A&A 653, A79 (2021)
21. A.-L. Maire, M. Langlois, P. Delorme et al., including **E. L. Rickman**, “*Lessons learned from SPHERE for the astrometric strategy of the next-generation of exoplanet imaging instruments*”, JATIS, Volume 7 (2021)
20. S. B. Brown-Sevilla, M. Keppler, M. Barraza-Alfraro et al., including **E. L. Rickman**, “*A multi-wavelength analysis of the spiral arms in the protoplanetary disk around WaOph 6*”, A&A, 654, A35 (2021)
19. S. Lacour, J. J. Wang, L. Rodet et al., including **E. L. Rickman**, “*The mass of β Pictoris c from β Pictoris b orbital motion*”, A&A, 654, L2 (2021)
18. S. Hunziker, H.M. Schmid, D. Mouillet et al., including **E. L. Rickman**, *RefPlanets: Search for reflected light from extra-solar planets with SPHERE / ZIMPOL*, A&A 634, A69 (2020)
17. N. Engler, C. Lazzoni, R. Gratton et al., including **E. L. Rickman**, “*HD 117214 debris disk: scattered light images and constraints on the presence of planets*”, A&A 635, A19 (2020)
16. R. Launhardt, T. Henning, A. Quirrenbach et al., including **E. L. Rickman**, “*ISPY - the NaCo Imaging Survey for Planets around Young stars: I. Survey description and results from the first 2.5 years of observations*”, A&A, 635, A162 (2020)
15. R. Gratton, A. Zurlo, H. Le Coroller et al., including **E. L. Rickman**, “*Searching for the near-infrared counterpart of Proxima c using multi-epoch high-contrast SPHERE data at VLT*”, A&A 638, A120 (2020)
14. A.-L. Maire, K. Molaverdikhani, S. Desidera et al., including **E. L. Rickman**, “*Orbital and spectral characterization of the benchmark T-type brown dwarf HD 19467 B*”, A&A 639, A47 (2020)
13. S. M. Caballero-Nieves, D. R. Gies, E. K. Baines et al., including **E. L. Rickman**, “*A High Angular Resolution Survey of Massive Stars in Cygnus OB2: JHK Adaptive Optics Results from the Gemini Near-InfraRed Imager*”, AJ, Vol 160, Issue 3, 115 (2020)
12. C. Lazzoni, A. Zurlo, S. Desidera et al., including **E. L. Rickman**, “*The search for disks or planetary objects around directly imaged companions: A candidate around DH Tau B’*”, A&A 641, A131 (2020)
11. M. Kasper, K. K. R. Santhakumari, T. M. Herbst et al., including **E. L. Rickman**, “*A triple star in disarray. Multi-epoch observations of T Tauri with VLT-SPHERE and LBT-LUCI*”, A&A, 644, A114 (2020)
10. A. C. Cheetham, M. Samland, S. S. Brems et al., including **E. L. Rickman**, “*Spectral and orbital characterisation of the directly imaged giant planet HIP 65426 b*”, A&A 622, A80 (2019)
9. D. Mesa, M. Bonnefoy, R. Gratton et al., including **E. L. Rickman**, “*Exploring the R CrA environment with SPHERE: Discovery of a new stellar companion*”, A&A 624, A4 (2019)
8. G. Cugno, S.P. Quanz, R. Launhardt et al., including **E. L. Rickman**, “*ISPY - the NACO Imaging Survey for Planets around Young stars: A young companion candidate embedded in the R CrA cloud*”, A&A 624, A29 (2019)
7. A.-L. Maire, L. Rodet, F. Cantalloube et al., including **E. L. Rickman**, “*Hint for curvature in the orbital motion of the exoplanet 51 Eridani b using 3 years of VLT/SPHERE monitoring*”, A&A 624, A118 (2019)
6. A. Boccaletti, P. Thébault, N. Pawellek et al., including **E. L. Rickman**, “*Two cold belts in the debris disk around the G-type star NZ Lup*”, A&A 625, A21 (2019)
5. A. Musso Barucci, R. Launhardt, G. M. Kennedy et al., including **E. L. Rickman**, “*ISPY - the NaCo Imaging Survey for Planets around Young stars: Discovery of an M dwarf inside the gap between HD 193571 and its ring*”, A&A 627, A77 (2019)
4. D. Mesa, M. Langlois, A. Garufi et al., including **E. L. Rickman**, “*Determining mass limits around HD 163296 through SPHERE direct imaging data*”, MNRAS, Volume 488, Issue 1 (2019)
3. A. Garufi, L. Podio, F. Bacciotti et al., including **E. L. Rickman**, “*The SPHERE view of the jet and the envelope of RY Tau*”, A&A 628, A68 (2019)
2. E. Rigliaco, R. Gratton, D. Mesa et al., including **E. L. Rickman**, “*Investigating the nature of the extended structure around the Herbig star RCrA using integral field and high-resolution spectroscopy*”, A&A 632, A18 (2019)

1. D. Mesa, M. Keppler, F. Cantalloube et al., including **E. L. Rickman**, “*VLT/SPHERE exploration of the young multiplanetary system PDS70*”, A&A 632, A25 (2019)

Other publications:

7. **E. L. Rickman**, “*STScI’s 2021 Symposium: Toward the Comprehensive Characterization of Exoplanets: Science at the Interface of Multiple Measurement Techniques*”, STScI Newsletters, Volume 38 Issue 02 (2021)
6. S. Medallon, **E. Rickman**, J. Brown, “*Space Telescope Imaging Spectrograph Instrument Handbook for Cycle 32*”, Hubble Space Telescope User Documentation (2023)
5. S. Hinkley, B. Biller, A. Skemer et al., including **E. L. Rickman**, “*The JWST Early Release Science Program for Direct Observations of Exoplanetary Systems: Best Practices for Data Collection in Cycle 2 and Beyond*”, A community resource for JWST Cycle 2 proposal preparation as part of JWST ERS Program 1386 (2023)
4. Hinkley, Sasha; Carter, Aarynn L.; Ray, Shrishmoy et al., including **Emily Rickman**, “*Direct imaging and spectroscopy of exoplanetary systems with the JWST early release science program*”, Proceedings of the SPIE, Volume 12180 (2022)
3. H. M. J. Boffin, E. Alei, N. Casasayas Barris et al., including **E. L. Rickman**, “*Report on the ESO workshop: Atmospheres, Atmospheres! Do I look like I care about atmospheres?*”, The ESO Messenger, vol. 186, p. 32-36 (2022)
2. A.-L. Maire, G. Chauvin, A. Vigan et al., including **E. L. Rickman**, “*High-precision astrometric studies in direct imaging with SPHERE*”, The ESO Messenger, vol. 183, p. 7-12 (2021)
1. A. Nota, A. Aloisi, S. Hernandez et al., including **E. L. Rickman**, “*The Women in Astronomy Forum at STScI: Affecting Change in the Local and Global Astronomical Communities*”, STScI Newsletters, Volume 37 Issue 02 (2020)

SELECTED CONFERENCE PRESENTATIONS

35. **E. Rickman**. Contributed talk: “*Combining (non-transiting) exoplanet measurement techniques to discover, weigh and characterize cold gas giants*”. SEEC Symposium, NASA Goddard, Greenbelt, MD, USA.
34. **E. Rickman**. Poster: “*Towards the comprehensive characterization of benchmark brown dwarfs*”. Extreme Solar Systems V, Christchurch, New Zealand.
33. **E. Rickman**. Poster: “*Towards the comprehensive characterization of benchmark brown dwarfs*”. 243rd American Astronomical Society Meeting (2024), New Orleans, USA.
32. **Rickman, E.**, Carlberg, J.; Brown, J.; Dallas, M.; Ding, K.; Dos Santos, L.; Fullerton, A.; Jones, A.; Lockwood, S.; Medallon, S.; Monroe, T.; Siebert, M.; Stapleton, D.; Welty, D. Poster: “*Updates of the Space Telescope Imaging Spectrograph onboard the Hubble Space Telescope*”. 242nd American Astronomical Society Meeting (2023), Albuquerque, USA.
31. Stapleton, D.; Hernandez, S.; Carlberg, J.; Monroe, T.; Lockwood, S.; Fullerton, A.; Jones, A.; Dos Santos, L.; Welty, D.; Ding, K.; Siebert, M.; Medallon, S.; Dallas, M.; Brown, J.; **Rickman, E.**. Poster “*Investigations of STIS Time Dependent Sensitivity Corrections*”. 242nd American Astronomical Society Meeting (2023), Albuquerque, USA.
30. **E. L. Rickman**. Poster: “*Two new benchmark brown dwarfs with precise dynamical masses*”. STScI Symposium: Planetary Systems and the Origins of Life in the Era of JWST (2023), Baltimore, USA.
29. Bardalez Gagliuffi, D.; Faherty, J.; Bowler, B.; Carter, A.; Follette, K.; Fontanive, C.; Gelino, C.; Kirkpatrick, J.; Marocco, F.; **Rickman, E.**; Ward-Duong, K. “*Accelerating stars in the solar neighborhood*”. 241st American Astronomical Society Meeting (2023), Seattle, USA.
28. **E. L. Rickman**. Contributed Talk: “*Precise dynamical masses of new directly imaged companions from combining relative astrometry, radial velocities, and Hipparcos-Gaia eDR3 accelerations*”. European Space Agency Space Science Workshop (2022), Akersloot, The Netherlands.
27. **E. L. Rickman**. Contributed Talk: “*Precise dynamical masses of new directly imaged companions from combining relative astrometry, radial velocities, and Hipparcos-Gaia eDR3 accelerations*”. Exoplanets IV Conference (2022), Las Vegas, USA.
26. **E. L. Rickman**. Contributed Talk: “*Precise dynamical masses of new directly imaged companions from combining relative astrometry, radial velocities, and Hipparcos-Gaia eDR3 accelerations*”. Emerging Researchers in Exoplanet Science VII Symposium (2022), Penn State, USA.
25. **E. L. Rickman**. Contributed Talk: “*Precise dynamical masses of new directly imaged companions from combining relative astrometry, radial velocities, and Hipparcos-Gaia eDR3 accelerations*”. 240th American Astronomical Society Meeting (2022), Pasadena, USA.
24. **E. L. Rickman**. Contributed Talk: “*Precise dynamical masses of new directly imaged companions from combining relative astrometry, radial velocities, and Hipparcos-Gaia eDR3 accelerations*”. Spirit of Lyot Conference (2022), Leiden, The Netherlands.

23. **E. L. Rickman.** Contributed Talk: “*Precise dynamical masses of new directly imaged companions from combining relative astrometry, radial velocities, and Hipparcos-Gaia eDR3 accelerations*”. Bay Area Exoplanet Meeting 41 (2022), Santa Cruz, USA.
22. **E. L. Rickman.** Contributed Talk: “*Preparing for the future of direct imaging exoplanets*”. IR2022: An Infrared Bright Future for Ground-based IR Observatories in the Era of JWST (2022), online.
21. **E. L. Rickman.** Invited Lecture: “*Obtaining Spectra from Direct Imaging Observations*”, European Southern Observatory Exoplanet Atmospheres Workshop (2021), online.
20. **E. L. Rickman.** Contributed Talk: “*Preparing for the future of direct imaging exoplanets through combining other exoplanet detection techniques*”. Europlanet Society Congress (2021), online.
19. **E. L. Rickman.** Contributed Talk: “*Preparing for the future of direct imaging*”. European Astronomical Society Annual Meeting (2021), online.
18. **E. L. Rickman.** Poster: “*Deriving the most precise dynamical masses of brown dwarfs & low mass stars*”. European Space Agency Young Professionals Event (2021), online.
17. **E. L. Rickman.** Poster & short talk: “*Direct imaging and spectral characterisation of benchmark brown dwarfs*”. The 20.5th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun (2021), online.
16. **E. L. Rickman.** Contributed Talk: “*Direct imaging and spectral characterisation of long period exoplanets and brown dwarfs*”. The 13th European Space Agency Space Science Workshop (2020), online.
15. **E. L. Rickman.** Contributed Talk: “*Direct imaging and spectral characterisation of long period exoplanets and brown dwarfs*”. Chesapeake Bay Area Exoplanet Meeting (2020), online.
14. **E. L. Rickman.** Contributed Talk: “*Direct imaging and spectral characterisation of long period exoplanets and brown dwarfs*”. Bay Area Exoplanet Meeting (2020), online.
13. **E. L. Rickman.** Contributed Talk: “*Direct imaging and spectral characterisation of long period exoplanets and brown dwarfs*”. Physikerinnentagung, Unveristät Hamburg (2020), online.
12. **E. L. Rickman.** Contributed Talk: “*Direct imaging and spectral characterisation of long period exoplanets and brown dwarfs*”. NASA Exoplanet Science Institute Exoplanets Demographics Conference (2020), online.
11. **E. L. Rickman.** Dissertation Talk: “*Direct imaging and spectral characterisation of long period exoplanets and brown dwarfs*”. 236th American Astronomical Society Meeting (2020), online.
10. **E. L. Rickman, D. Ségransan, A. Cheetham.** Contributed Talk: “*Direct imaging and spectral characterisation of long period exoplanets and brown dwarfs*”. European Space Agency JWST Workshop (2020), online.
9. **E. L. Rickman, D. Ségransan, A. Cheetham.** Poster: “*Direct imaging and spectral characterisation of long period exoplanets and brown dwarfs*”. Exoplanets III Conference (2020), online.
8. **E. L. Rickman, D. Ségransan, A. Cheetham.** Poster: “*Spectral and atmospheric characterisation of a new benchmark brown dwarf*”. American Astronomical Society, Extreme Solar Systems 4 (2019), Reykjavik, Iceland.
7. **E. L. Rickman & D. Ségransan.** Contributed Talk: “*Investigating giant planet formation through the detection and characterisation of these sub-stellar companions*”. Women in Space Conference (2019), Phoenix, USA.
6. **E. L. Rickman, D. Ségransan, A. Cheetham.** Invited Talk: “*Direct imaging and spectral characterisation of a new benchmark brown dwarf*”. NCCR PlanetS General Assembly V (2019), Beatenberg, Switzerland.
5. **E. L. Rickman, D. Ségransan, A. Cheetham.** Invited Talk: “*NACO-ISPY: An Imaging Survey for Planets around Young Stars*”. NCCR PlanetS General Assembly IV (2018), Grindelwald, Switzerland.
4. **E. L. Rickman.** Invited Talk: “*Report on the 1st NCCR JUnior Researchers’ Assembly (JURA)*”. NCCR PlanetS General Assembly IV (2018), Grindelwald, Switzerland.
3. **E. L. Rickman, D. Ségransan, A. Cheetham.** Poster: “*Understanding the puzzling nature of the ultracool brown dwarf HD 4113 C*”, Exoplanets II Conference (2018), Cambridge, UK.
2. **E. L. Rickman, D. Ségransan, A. Cheetham.** Poster: “*Investigating giant planet and brown dwarf formation and evolution through the detection and characterisation of these sub-stellar companions*”. The 20th Cambridge Workshop on Cool Stars, Stellar Systems and the Sun (2018), Boston, USA.
1. **E. L. Rickman & D. Ségransan.** Contributed Talk: “*Direct Imaging: The Next Wave of Exoplanetary Science*”. The 1st Swiss Junior Researchers’ Assembly (2017), Sainte-Croix, Switzerland.