

Emily Rickman, Ph.D.

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Astronomer and operations scientist for the European Space Agency (ESA) based at the Space Telescope Science Institute in Baltimore, Maryland, supporting the science operations of the NASA/ESA Hubble Space Telescope (HST).

Research interests and background: Exoplanets, brown dwarfs, low mass stars; high-contrast imaging; spectroscopy; coronagraphy; radial velocities; astrometry; interferometry; orbital monitoring; instrumentation – UV/Optical/IR

EDUCATION

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| 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 and The Australian National University, Australia.
Supervisors: Prof. Simon Goodwin and Prof. Mike Ireland
Classification: 1 st Class with Honours |

PROFESSIONAL APPOINTMENTS

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| NOVEMBER 2022
– PRESENT | ESA Astronomer / Science Operation Scientist
European Space Agency, Space Telescope Science Institute, Baltimore MD, USA <ul style="list-style-type: none">• 50+ refereed research publications and instrument science reports in peer-reviewed journals.• Documentation lead for the Space Telescope Imaging Spectrograph (STIS) onboard HST.• Principal investigator of a 30-hour science program with JWST Near-Infrared spectroscopy.• Calibration lead of 3 programs across optical and UV wavelengths with HST/STIS.• Member of the JWST Telescope Scientist Team for high-contrast imaging. |
| JANUARY 2023
– APRIL 2023 | NASA Astrophysics Mission Design Project Manager
NASA Jet Propulsion Laboratory, Pasadena CA, USA <ul style="list-style-type: none">• Selected for a competitive program and elected as project manager to lead the organization of the mission design team to develop a \$1Billion, probe-class, space-based ultraviolet mission.• Designed the science traceability and worked alongside NASA/JPL’s concurrent design engineering team to develop a hypothesis-driven robotic space mission and instrumentation while getting an in-depth, first-hand look at mission design, life cycle, costs, engineering requirements, schedule, and the trade-offs inherent in each. |
| SEPTEMBER 2020
– OCTOBER 2022 | ESA Postdoctoral Research Fellow
Space Telescope Science Institute, Baltimore MD, USA <ul style="list-style-type: none">• Awarded a competitive fellowship to lead a research program to develop new techniques to incorporate radial velocity, direct imaging, and absolute astrometric data from ESA missions Hipparcos and Gaia to detect and characterize exoplanets.• Principal Investigator of JWST/NIRSpec commissioning program.• Principal Investigator of multiple ground- and space-based observing programs. |
| JUNE 2020
– AUGUST 2020 | Postdoctoral Researcher
University of Geneva, Switzerland. Supervisor: Prof. Damien Ségransan <ul style="list-style-type: none">• Principal investigator of five awarded ESO ground-based observing proposals on VLT/SPHERE on direct imaging and spectral characterization of ultra-cool companions to Solar type stars, as well as atmospheric characterization and orbital monitoring of brown dwarf companions from radial velocity surveys.• Program co-ordinator of the search for long-period radial-velocity exoplanets using the CORALIE spectrograph on EULER telescope in La Silla, Chile, looking for giant planets and brown dwarfs to image using VLT/SPHERE. |

AWARDS, HONORS AND GRANTS

- 2024 | **Awarded PI of JWST-GO-6362**, NASA (*358,111 USD*)
Global Winner, Science and Sustainability Award, British Council
USA Science and Sustainability Award, British Council (1,500 USD)
- 2023 | **NASA Astrophysics Mission Design 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 USD)
- 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)

TECHNICAL SKILLS

Advanced: Python, astropy, matplotlib, pandas, L^AT_EX, macOS, Linux, bash, Keynote, Microsoft Word/Excel/Powerpoint
Beginner/Intermediate: Github, JIRA, SQL, C, IDL, Fortran, Mathematica

PROFESSIONAL SERVICE

- Ongoing | **ESA Space Science Faculty Council**, committee member
Science and Technology Facilities Council (STFC), grant reviewer
STScI Research Support Advisory Committee, proposal reviewer
AAS Astrophysical Journal, reviewer
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 | **NASA Exoplanet Research Program (XRP) Review**, Panel Chair and Reviewer
NASA TESS Cycle 5 Review Member, Panelist
First Science Results from JWST, Scientific Organizing Committee and session chair
STScI Symposium 2023, Scientific Organizing Committee
STScI Dynamical Mass Workshop, chair
- 2021 | **NASA Exoplanet Research Program (XRP) Review**, Panel Chair and Reviewer
NASA TESS Cycle 4 Review Member, Panelist
JWST Cycle 1 Review Member, Panel Support Scientist
HST Cycle 29 Review Member, Panel Support Scientist
STScI Exoplanet, Star & Planet Formation Seminar Series, Co-Organizer
ESO Exoplanet Atmospheres Workshop, Scientific Organizing Committee
ESA Research Fellowship Hiring Committee, Reviewer
The 20.5th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun. Awarded Splinter Session '*Brown Dwarf Modelling*', Session Lead
- 2020 | **ESA/Hubble Space Telescope Press Release Outreach Review Committee**, Scientific Reviewer
Chair of Scientific & Local Organizing Committee: STScI Symposium 2021, '*Towards the comprehensive characterization of exoplanets: Science at the Interface of Multiple Measurement Techniques*'
ESA Distinguished Visitor Committee, Reviewer

TELESCOPE EXPERIENCE

Ground- and space-based observations in the ultraviolet and optical through to the near and mid-infrared.

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

Principal Investigator

JWST	Cycle 3, NIRSpec/IFU [30 hours] <i>“Breaking the degeneracy: substellar anchors for evolutionary models”</i>
HST	Cycle 31/32, STIS Calibration <i>“STIS MAMA Full Field Sensitivity Monitor”</i> Cycle 31/32, STIS Calibration <i>“STIS CCD Full Field Sensitivity”</i> Cycle 31/32, STIS Calibration <i>“STIS CCD Imaging Flat-Field Monitor”</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> 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> 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>
ESO	P114, VLT/GRAVITY [72 hours] <i>“Direct detection of giant exoplanets near the water-ice line”</i> P114, VLT/SPHERE [2 hours] <i>“Direct detection of the hidden companion responsible for the migration of the iconic planet GJ 436 b”</i>

Co-Investigator continued

- P114, VLT/HiRISE** [38.1 hours]
“Direct characterization of substellar companions at high spectral resolution with the HiRISE visitor instrument - Part 3”
- P114, VLT/SPHERE** [15 hours]
“Peering into JWST’s blind spot: a SPHERE SAM search for inner companions around JWST Cycle 3 coronagraphy targets”
- P114, VLTI/MATISSE** [18.6 hours]
“Disentangling the atmospheres & circumplanetary disks of the PDS 70 protoplanets”
- P114, VLTI/GRAVITY** [7 hours]
“The ExoGRAVITY+ Orbital Refinery”
- P113, VLT/HiRISE** [4 nights]
“Direct characterization of substellar companions at high spectral resolution with the HiRISE visitor instrument - Part 2”
- P113, VLTI/GRAVITY** [6 hours]
“Monitoring of a multiple planetary system in a young transition disk around a solar twin”
- P113, VLT/SPHERE** [12.5 hours]
“Obtaining direct directions of brown dwarf-star boundary objects to determine their dynamical masses”
- P113, VLT/ERIS** [3 hours]
“Planet migration caught in action: Constraining the mass of HD 4113 C by infrared direct imaging with ERIS”
- P112, VLTI/MATISSE** [4.33 hours]
“A mid-infrared view of the atmosphere of beta Pictoris c with MATISSE/GRA4MAT”
- P112, VLT/ESPRESSO** [20.4 hours]
“Characterising a planet system around one of our nearest white dwarfs”
- P112, VLT/SPHERE** [5 hours]
“Imaging hidden brown dwarfs around accelerating stars”
- P112, VLTI/GRAVITY** [9 hours]
“Investigating the 25 Myr L-T transition with VLTI/GRAVITY observations of the new planet AF Lep b”
- P112, VLTI/GRAVITY + VLT/CRIFES** [14 hours]
“Is the first T dwarf companion a brown dwarf binary?”
- P112, VLTI/MATISSE** [0.25 night]
“Mid-infrared spectroscopy of the inner planet of HR 8799 with MATISSE and GRA4MAT”
- P112, VLT/SPHERE** [7.5 hours]
“Obtaining the first direct detections of 3 new brown dwarfs in order to determine their dynamical masses”
- P111 VLT/SPHERE** [15 hours]
“First images of six new brown dwarfs with dynamical mass constraints through RV and astrometry”
- P111 VLTI/GRAVITY** [6 hours]
“Monitoring 51 Eri b for a perturbing inner companion”
- P111 VLTI/GRAVITY** [16 hours]
“Populating the mass-luminosity diagram of brown dwarfs combining Gaia DR3 and GRAVITY”
- P109 VLTI-AT/GRAVITY** [46 hours]
“Uncovering the Dynamical History of Brown Dwarf Companions”
- P107 VLT/SPHERE** [2 hours]
“Narrowing down orbital predictions of the exoplanet 51 Eridani b for GRAVITY follow-up”
- P101-P104 VLT/NACO** [56 nights]
Large Program: “NaCo Imaging Survey for Planets around Young stars (NaCo - ISPY).”
- P101 VLT/SPHERE** [6 hours]
“Atmospheric Characterization and Orbital Monitoring of a Cold Substellar Companion.”
- P101 VLT/SPHERE** [3 hours]
“Confirmation of two brown dwarfs around the Herbig Ae/Be star HD 101412”
- P100 VLT/NACO** [4 hours]
“Confirming a directly imaged gas giant planet candidate at 2.6 AU from its nearby host star”
- P99-P100 VLT/NACO** [28 nights]
Large Program: “NaCo Imaging Survey for Planets around Young stars (NaCo - ISPY).”
- P98 VLT/NACO** [14 nights]
“NaCo Imaging Survey for Planets around Young stars (NaCo - ISPY).”
- Keck **2022B, MOSFIRE** [0.5 nights]
“Cloud structure of a T-Y transition Brown Dwarf”
- ESA **ESA, CHEOPS Cycle 3** [30 orbits]
“Understanding the formation and evolution of TESS and ASTEP confirmed sub-Neptunes”
- Subaru **Subaru/REACH** [2.5 nights]
“Search for C/O tracers by the first high-dispersion coronagraphy”
- Subaru/REACH** [3 nights]
“Search for C/O tracers by the first high-dispersion coronagraphy”

CURRENT 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 2020	ExoGRAVITY Consortium , Science Team Member
Since 2020	STScI Extrasolar Planetary Systems Imaging Group , Co-Lead and Group Member

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)

ADDITIONAL TRAINING

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

INVITED COLLOQUIA, SEMINARS, AND TALKS

2023	Invited colloquium , International Space Science Institute, Bern, Switzerland Invited seminar , Carnegie Earth & Planets Laboratory, Washington DC, USA Invited seminar , NASA/JPL, Pasadena, USA Invited seminar , NASA Goddard, Greenbelt, 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

SELECTED MEDIA APPEARANCES AND PRESS RELEASES

Space for All Podcast	“Exploring the world of exoplanets with Dr. Emily Rickman”, 2024
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
Le Temps	“Nouvelles exoplanètes à révolution longue”, 2019
Agencia EFE	“Cientistas descobrem 5 exoplanetas gigantes através de observações no Chile”, 2019
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

RECENT OUTREACH AND DEI ACTIVITIES

2024	Selected speaker , Soapbox Science, NY, USA Invited speaker , STEM Center Africa, Kenya Invited speaker , Total Eclipse of the Park, Sci-Tech Discovery Center, TX, USA Invited speaker , EDSnaps Global Youth Leadership Program, Kenya and Ghana
2023/24	NASA Inspires Futures for Tomorrow’s Youth (NIFTY) , Role Model
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 , <i>Legends at Lunchtime</i> , 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

PUBLICATION LIST

59 total refereed publications; *H*-index = 20; 1600+ 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:

62. Winterhalder, T. O.; Lacour, S.; Mérand, A.; et al.; including **E. Rickman** “*Combining Gaia and GRAVITY: Characterising Eight New Directly Detected Substellar Companions*”, A&A 688, A44 (2024)
61. 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”, AJ, Volume 168, Issue 2, 35 (2024)

60. Nowak, M.; Lacour S.; Abuter, R.; et al.; including **E. Rickman**, “A catalogue of dual-field interferometric binary calibrators”, A&A, 687, A248 (2024)
59. N. Pourré, 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”, A&A, 686, A258 (2024)
58. 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”, A&A, 687, A298 (2024)
57. 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.”, AJ, Volume 966, Issue 1, L11 (2024)
56. 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)
55. 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)
54. Rebolledo, 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)
53. 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)
52. 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)
51. 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)
50. 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)
49. 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)
48. 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)
47. 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)
46. 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 ”, AJL, Volume 951, Issue 1, 29 (2023)
45. 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)
44. 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)
43. 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)
42. 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)
41. 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)
40. M. Bonavita, R. Gratton, S. Desidera et al., including **E. L. Rickman**, “New binaries from the SHINE Survey”, A&A, 663, A144 (2022)
39. 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)
38. 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)
37. 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)

36. 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)
35. 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)
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10. **E. Rickman** & J. Brown, "*Space Telescope Spectrograph Data Handbook*", Hubble Space Telescope User Documentation (2024)
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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

14. **E. Rickman.** Contributed talk: “*Combining (non-transiting) exoplanet measurement techniques to discover, weigh and characterize cold gas giants*”. SEEC Symposium (2024), NASA Goddard, Greenbelt, MD, USA.
13. **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 AAS Meeting (2023), Albuquerque, USA.
12. **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.
11. **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.
10. **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.
9. **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 AAS Meeting (2022), Pasadena, USA.
8. **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.
7. **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.
6. **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.
5. **E. L. Rickman.** Invited Lecture: “*Obtaining Spectra from Direct Imaging Observations*”, European Southern Observatory Exoplanet Atmospheres Workshop (2021), online.
4. **E. L. Rickman.** Contributed Talk: “*Preparing for the future of direct imaging exoplanets through combining other exoplanet detection techniques*”. Europlanet Society Congress (2021), online.
3. **E. L. Rickman.** Contributed Talk: “*Preparing for the future of direct imaging*”. European Astronomical Society Annual Meeting (2021), online.
2. **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.
1. **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.