

# Emily Rickman

## European Space Agency Research Fellow

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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

## EDUCATION

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

## PROFESSIONAL EXPERIENCE

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- SEPTEMBER 2020 | **European Space Agency (ESA) Research Fellow**  
– PRESENT | Space Telescope Science Institute, Baltimore, USA
- JUNE 2020 | **Postdoctoral Researcher**  
– AUGUST 2020 | University of Geneva, Switzerland. Supervisor: Prof. Damien Ségransan
- JULY 2016 | **Postgraduate Researcher**  
– JUNE 2020 | University of Geneva, Switzerland. Supervisor: Prof. Damien Ségransan
- SEPTEMBER 2015 | **Research Assistant**  
– JUNE 2016 | University of Sheffield, UK. Supervisor: Prof. Simon Goodwin
- JUNE 2015 | **Undergraduate Research Assistant**  
– AUGUST 2015 | University of Sheffield, UK. Supervisor: Dr. Emiliano Cancellieri
- JULY 2014 | **Undergraduate Research Assistant**  
– JUNE 2015 | Australian National University, Australia. Supervisor: Prof. Mike Ireland

## PROFESSIONAL SERVICE

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- Since 2020 | **ESA/Hubble Space Telescope Press Release Outreach Review Committee**, Scientific Reviewer
- Since 2021 | **AAS *Astrophysical Journal***, Reviewer
- Since 2021 | **STScI Exoplanet, Star & Planet Formation Seminar Series**, Co-Organizer
- Since 2021 | **STScI Extrasolar Planetary Systems Imaging Group**, Group Meeting Co-Organizer
- Since 2022 | **NASA Exoplanet Study Analysis Group 23**, leader of sub-group
- Since 2022 | **First Science Results from JWST**, Scientific Organizing Committee
- Since 2022 | **STScI Symposium 2023**, Scientific Organizing Committee
- 2022 | **NASA’s Exoplanet Research Program (XRP) Review**, Panel Chair and Reviewer
- 2022 | **TESS Cycle 5 Review Member**, Panelist
- 2021 | **NASA’s Exoplanet Research Program (XRP) Review**, Panel Chair and Reviewer
- 2021 | **ESO Exoplanet Atmospheres Workshop**, Scientific Organizing Committee
- 2021 | **TESS Cycle 4 Review Member**, Panelist
- 2021 | **JWST Cycle 1 Review Member**, Panel Support Scientist
- 2021 | **HST Cycle 29 Review Member**, Panel Support Scientist
- 2021 | **The 20.5th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun**. Awarded Splinter Session ‘*Brown Dwarf Modelling*’, Session Lead
- 2021 – 2022 | **ESA Research Fellowship Hiring Committee**, Reviewer
- 2020 – 2021 | **Chair of Scientific & Local Organizing Committee**: STScI Symposium 2021, ‘*Towards the comprehensive characterization of exoplanets: Science at the Interface of Multiple Measurement Techniques*’
- 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

## TECHNICAL SKILLS

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**Advanced:** Python, astropy, matplotlib, pandas, L<sup>A</sup>T<sub>E</sub>X, macOS, Linux, bash, Keynote, Microsoft Word/Excel/Powerpoint  
**Beginner/Intermediate:** Github, JIRA, SQL, C, IDL, Fortran, Mathematica

## TELESCOPE EXPERIENCE

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

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

## AWARDED TELESCOPE TIME

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### Principal Investigator

**ESO, P108 VLT/GRAVITY** [3 hours]

*“Towards complete characterisation of the benchmark brown dwarf HD 13724 B”*

**ESO, P105 VLT/SPHERE** [12 hours] (Re-assigned to P107/P108 due to COVID-19)

*“Direct Imaging and Spectral Characterisation of Ultra-Cool companions to Solar type stars.”*

**ESO, P104 VLT/SPHERE** [12 hours]

*“Atmospheric characterisation and orbital monitoring of two brown dwarf companions from radial velocity surveys.”*

**ESO, P104 VLT/SPHERE** [10 hours]

*“Direct Imaging and Spectral Characterisation of Ultra-Cool companions to Solar type stars.”*

**ESO, P103 VLT/SPHERE** [9 hours]

*“Direct Imaging and Spectral Characterisation of Ultra-Cool companions to Solar type stars.”*

**ESO, P102 VLT/SPHERE** [6 hours]

*“Direct Imaging and Spectral Characterisation of Ultra-Cool companions to Solar type stars.”*

### Co-Investigator

**Keck 2022B, MOSFIRE** [0.5 nights]

*“Cloud structure of a T-Y transition Brown Dwarf”*

**ESA, CHEOPS Cycle 3** [30 orbits]

*“Understanding the formation and evolution of TESS and ASTEP confirmed sub-Neptunes”*

**ESO, P109 VLT-AT/GRAVITY** [46 hours]

*“Uncovering the Dynamical History of Brown Dwarf Companions”*

**ESO, P107 VLT/SPHERE** [2 hours]

*“Narrowing down orbital predictions of the exoplanet 51 Eridani b for GRAVITY follow-up”*

**JWST Cycle 1, NIRSpec/IFU Spectroscopy & MIRI/LRS** [5.2 hours]

*“Direct Imaging Spectroscopy of two Jovian Exoplanets: Characterization of the TYC 8998-760-1 Multi-Planetary System”*

**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”*

**ESO, P101-P104 VLT/NACO** [56 nights]

Large Program: *“NaCo Imaging Survey for Planets around Young stars (NaCo - ISPY).”*

**ESO, P101 VLT/SPHERE** [6 hours]

*“Atmospheric Characterization and Orbital Monitoring of a Cold Substellar Companion.”*

**ESO, P101 VLT/SPHERE** [3 hours]

*“Confirmation of two brown dwarfs around the Herbig Ae/Be star HD 101412”*

**ESO, P100 VLT/NACO** [4 hours]

*“Confirming a directly imaged gas giant planet candidate at 2.6 AU from its nearby host star”*

**ESO, P99-P100 VLT/NACO** [28 nights]

Large Program: *“NaCo Imaging Survey for Planets around Young stars (NaCo - ISPY).”*

**ESO, P98 VLT/NACO** [14 nights]

*“NaCo Imaging Survey for Planets around Young stars (NaCo - ISPY).”*

## ADDITIONAL TRAINING

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2022	<b>Introduction to Data Science course</b> , Space Telescope Science Institute, online
2022	<b>NASA Exoplanet Science Institute Summer Workshop: Exoplanet Science in the Gaia Era</b> , online
2021	<b>Advanced Git training course</b> , Space Telescope Science Institute, online
2021	<b>Introductory Git training course</b> , Space Telescope Science Institute, online
2021	<b>JWebbinar: “Pipeline Information and Data Products”</b> , Space Telescope Science Institute, online
2021	<b>NASA Exoplanet Science Institute Summer Workshop: Circumstellar Disks &amp; Young Planets</b> , online
2020	<b>NASA Exoplanet Science Institute Summer Workshop: Extreme Precision Radial Velocity</b> , online
2018	<b>PyData Workshop</b> , London, UK
2018	<b>Exoplanets in Binary Stars Workshop</b> , Bern, Switzerland
2018	<b>Penn State Astrostatistics Summer School</b> , State College, USA
2017	<b>CADMOS High Performance Computing Course</b> , Château d’Ex, Switzerland

## AWARDS AND GRANTS

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2022	<b>Emerging Researchers in Exoplanetary Science</b> , The Heising-Simons Foundation, USA (~1,500 USD)
2022	<b>NASA Exoplanet Program Analysis Group Meeting travel funding</b> , NASA/JPL, USA (~3,000 USD)
2022	<b>Exoplanet Summer Program Funding, Other Worlds Laboratory</b> , UC Santa Cruz, USA (~3,000 USD)
2021	<b>Outstanding Achievement Award</b> , The Sutton Trust, University of Cambridge, UK (100 GBP)
2021	<b>IAU Junior Member of the Month</b> , International Astronomical Union
2020	<b>European Space Agency Postdoctoral Fellowship</b> , Space Telescope Science Institute, USA
2019	<b>National Center of Competence in Research Switzerland ‘Planets’ Grant</b> , Switzerland (800 CHF)
2019	<b>Women in Space Grant</b> , Arizona State University, Phoenix, USA (660 USD)
2018	<b>National Center of Competence in Research Switzerland ‘Planets’ Grant</b> , Switzerland (1,000 CHF)
2018	<b>PyData Scholarship</b> , London, UK (180 GBP)
2016	<b>Sheffield Graduate Award</b> , University of Sheffield, UK
2015	<b>Sheffield Undergraduate Research Experience Grant</b> , University of Sheffield, UK (1,500 GBP)
2016	<b>QS Impact Award</b> - nominated for research undertaken at ANU, Australia
2011	<b>Selected participant for UNIQ</b> , Oxford University, UK
2011	<b>Selected participant for Sutton Trust</b> , University of Cambridge, UK

## INVITED COLLOQUIA, SEMINARS AND TALKS

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Upcoming	<b>Invited seminar</b> , Carnegie Earth & Planets Laboratory, Washington DC, USA
2022	<b>Invited seminar</b> , European Southern Observatory, Santiago, Chile
2022	<b>Invited seminar</b> , University of Michigan, Ann Arbor, USA
2022	<b>Invited talk</b> , Other Worlds Laboratory, UC Santa Cruz, USA
2022	<b>Invited talk</b> , NASA Exoplanet Program Analysis Group Meeting, Pasadena, USA
2022	<b>Invited seminar</b> , STScI Discovery Seminar Series, USA, online
2021	<b>Invited colloquium</b> , Florida Institute of Technology, USA, online
2021	<b>Invited lecture</b> , European Southern Observatory, Germany, online
2021	<b>Invited colloquium</b> , Center for Space and Habitability, University of Bern, Switzerland, online
2021	<b>Invited seminar</b> , JILA - University of Colorado Boulder, USA, online
2021	<b>Invited talk</b> , NASA Goddard Space Flight Center, USA, online
2020	<b>Invited seminar</b> , European Space Agency Science Seminar Series, Spain, online
2020	<b>Invited talk</b> , Space Telescope Science Institute Colloquium, USA, online
2020	<b>Invited talk</b> , European Space Astronomy Centre, Spain
2019	<b>Invited talk</b> , University of Sheffield, UK
2019	<b>Invited seminar</b> , Lancaster University, UK
2019	<b>Invited talk</b> , NCCR PlanetS General Assembly V, Beatenberg, Switzerland
2018	<b>Invited talk</b> , NACO-ISPY Science Team Meeting, ETH Zürich, Switzerland
2018	<b>Invited talk</b> , NCCR PlanetS General Assembly IV, Grindelwald, Switzerland
2017	<b>Invited talk</b> , NACO-ISPY Science Team Meeting, MPIA, Heidelberg, Germany

## RESEARCH COLLABORATIONS

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

## PROFESSIONAL MEMBERSHIPS

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International Astronomical Union  
American Astronomical Society  
Europlanet Society  
Royal Astronomical Society  
Institute of Physics  
European Astronomical Society  
Women in Astronomy Forum, STScI  
Space Generation Advisory Council  
UK Students for the Exploration and Development of Space  
Women in Aerospace Society – Europe

## OUTREACH AND DEI ACTIVITIES

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Upcoming | **Invited Speaker**, The Boardroom Masterclasses, University of Sheffield, UK  
2022 | **Invited Speaker**, NASA Subject Matter Expert for JWST, Space Talks, Liberty Science Center, USA  
2022 | **Invited Panelist**, Space Panel, Women in Science & Engineering Conference, University of Toronto, Canada  
2022 | **Invited Speaker**, Astronomical Society, Ohio State University, USA  
2022 | **Invited Speaker**, Inspirational Speaker Series, Sheffield Insights, University of Sheffield, UK  
2022 | **Invited Panelist**, Insight into STEM Careers, The Sutton Trust, UK  
2022 | **Invited Speaker**, Youth for Astronomy & Engineering Forum, Space Telescope Science Institute, USA  
2022 | **Invited Speaker**, Outreach talk at Oriel High School, UK  
2021 | **Invited Subject Matter Expert for NASA JWST Events**, McWane Science Center, USA  
2021 | **Lecturer, STScI Public Lecture Series**, Space Telescope Science Institute (>30K YouTube views)  
Since 2022 | **Social Media and Communications Team Member**, Women in Aerospace Society Europe  
Since 2021 | **Caroline Herschel Visitor Program**, Space Telescope Science Institute, Committee Member  
Since 2020 | **@LGBTQIAinAstro Twitter Account**, Founder and Curator  
Since 2019 | **“The Female Scientist” Magazine**, Author  
2021 | **“A Scientist Just Like Me”**, Primary Science Teaching Trust UK, Invited Featured Scientist  
2020 | **Wow! Signal Episode 2: Aliens**, Adler Planetarium, Featured Scientist  
2020 | **“I’m a scientist” Physics Zone**, UK Research and Innovation, Featured Scientist  
2018 | **Gender Summit Europe**, Participant  
2017 – 2020 | **Diversity in Science Committee**, Geneva Observatory, Co-Founder and Member  
2017 | **Impact Hub Gender Hackathon: Girls in Technology**, Project Lead  
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

## SELECTED MEDIA APPEARANCES AND PRESS RELEASES

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**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  
**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** | *The Female Scientist* (@ScientistFemale), *Women Doing Science* (@WomenDoingSci), *Women of Aeronautics & Astronautics* (@woaaofficial), *1 Million Women in STEM* (@MillionStem), *The Sutton Trust Alumni Stories* (@SuttonTrust), *The University of Sheffield Alumni Highlights* (@Physic-sShef), *Faces of the Australian National University* (@FacesofANU)

## PUBLICATION LIST

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34 total refereed publications; *H*-index = 14; 550+ total citations (NASA/ADS)

### First-author:

4. **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)
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**, 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*”, submitted to A&A
1. **E. L. Rickman** et al. “*The discovery of two new benchmark brown dwarfs with precise dynamical masses*”, in preparation

### Co-author:

40. 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)
39. 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)
38. M. Bonavita, R. Gratton, S. Desidera et al., including **E. L. Rickman**, “*New binaries from the SHINE Survey*”, A&A, 663, A144 (2022)
37. 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*”, accepted to PASP, in press (2022)
36. 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*”, accepted to A&A, in press (2022)
35. 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*”, accepted to A&A, in press (2022)
34. 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  $\mu\text{m}$* ”, submitted to AAS Journals
33. 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*”, submitted to AAS Journals
32. 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)
31. 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)
30. 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)
29. 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)
28. R. Asensio-Torres, T. Henning, F. Cantalloube et al., including **E. L. Rickman**, “*Perturbbers: SPHERE detection limits to planetary-mass companions in protoplanetary disks*”, A&A 652, A101 (2021)
27. 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)
26. 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)
25. 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)
24. 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)
23. S. Lacour, J. J. Wang, L. Rodet et al., including **E. L. Rickman**, “*The mass of  $\beta$  Pictoris c from  $\beta$  Pictoris b orbital motion*”, A&A, 654, L2 (2021)

22. 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)
21. 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)
20. 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)
19. 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)
18. 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)
17. 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)
16. 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)
15. 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)
14. 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)
13. 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)
12. 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)
11. 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)
10. 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)
9. 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)
8. 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)
7. 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)
6. 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)
5. 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)
4. M. Raimbault, D. Ségransan, S. Udry et al., including **E. L. Rickman**, “*The CORALIE survey for southern extrasolar planets XX. Nine new giant planets at various separation up to 6 AU. Update of four known planetary systems*”, submitted to A&A
3. J. Aguilar, L. Pueyo, R. Nilsson et al., including **E. L. Rickman**, “*Discovery of a low-mass stellar companion to 102 Aqr using high-contrast imaging*”, in preparation
2. 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?*”, submitted to A&A
1. 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*”, submitted to A&A

## Other publications:

5. **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)
4. Rigby, Jane; Perrin, Marshall; McElwain, Michael; et al., including **E. L. Rickman**, “*Characterization of JWST science performance from commissioning*”, STScI Technical Document for JWST (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)

## CONFERENCE PRESENTATIONS

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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, Universität 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.