

SARAH KENDREW

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Employment

- 2013-present **Postdoctoral Researcher, University of Oxford**
Junior Research Fellow, St Cross College, University of Oxford
- Simulation Scientist on HARMONI, the first-light integral field spectrograph for the E-ELT
 - Test, calibration & science team member, MIRI for JWST
 - The Milky Way Project: galactic scale massive star formation and massive stellar feedback studies with IR bubbles.
 - Massive star formation in the Central Molecular Zone.
 - Organiser of the [dotAstronomy](#) conference series
- 2010-2013 **Postdoctoral Researcher/Systems Engineer, Max Planck Institut für Astronomie, Heidelberg, Germany**
Systems Engineer on adaptive optics systems for VLT-GRAVITY, MPIA Adaptive Optics Lab (W. Brandner).
- 2007-2010 **Postdoctoral Researcher in Instrumentation for Astronomy, Leiden Observatory, Netherlands**
Projects: METIS for E-ELT, MIRI for JWST, ASSIST
- Sep – Nov 2006 **Science Journalism Intern, ESO, Germany**
Press office assistant at ESO.
- April - Aug 2006 **Postdoctoral Researcher/Mechanical Engineer, University College London, UK**
Instrumentation work for the JWST/NIRSpec calibration source.
- 2001 - 2002 **National Hospital for Neurology & Neurosurgery and Royal Brompton Hospital, London**
Medical secretary/Personal Assistant

Education

- 2002-2006 **PhD in Physics: Lightweight deformable mirrors for ground- and space-based imaging systems**
University College London, UK (Supervisor: Dr. Peter Doel)
- 1997-2001 **Msci. Astronomy (1st class honours)**
Diploma in Science Communication (distinction)

University College London, UK.

1991-1997 **Secondary school diploma with distinction.**
Regina Caelilyceum, Dilbeek, Belgium (Greek/Latin specialisation)

Teaching

2013-2014 Astrophysics tutor for 4th year general Masters-level astrophysics course, covering early Universe and structure formation, galaxy evolution, interstellar medium, advanced stellar astrophysics and high energy astrophysics

2012 Taught modules in an introductory course on scientific computing with Python, for students, postdocs and staff at MPIA.

2005-2006 GCSE/A-level tutor in maths and Physics, London Home Tutors, London

2002-2005 TA in practical astronomy classes and observing sessions at the University of London Observatory, London

Observing experience

- 2013-2014 co-I for large APEX survey for H₂CO Thermometry in the Central Molecular Zone (PI: A. Ginsburg, ESO)
- May 2014: SWIFT observer support, 200 in. Palomar Observatory
- April 2013: 4-m at Kitt Peak (NEWFIRM near-IR imaging; 6 nights)
- Oct 2012: Participated in observing run at Paranal Observatory, using VLTI with the Unit Telescopes and MIDI, AMBER and PIONIER. This was an engineering visit to study the MACAO visible adaptive optics systems in the context of GRAVITY (4 nights).
- July 2005: Participated in the on-sky commissioning of the bHROS optical spectrograph at Gemini-South, Cerro Pachon (8 nights).

Grants, awards, invited talks

- March 2015: Friday Evening Discourse, Royal Institution of Great Britain, London (Giant Telescopes of the Future & Technology in Astronomy).
- June 2014: £1300 Institute of Physics Public Engagement Grant for “Little Green Man’s Guide to the Galaxy”, an outreach project at Green Man Festival (Aug 2014)
- April 2014: Invited seminar at the University of Hertfordshire (Milky Way Project)
- February 2014: Invited seminar at University College London (Milky Way Project)
- Featured in the SPIE Women in Optics 2013-2014 calendar
- Dec 2012: Invited seminar on JWST-MIRI, University of Cardiff
- 2012: Invited Speaker at SPIE Astronomical Telescopes **Women in Optics** event (Amsterdam) on public engagement and citizen science work.
- 2012: 6000 euro for **dotAstronomy 2012** conference, Deutsche Forschungsgemeinschaft (DFG)
- 2011: Invited participant for the **SciFoo** conference, organised by O’Reilly Media and Google at the Googleplex, Mountain View, CA.
- 2009: 1250 euro for **dotAstronomy 2009** conference, Nederlandse Wetenschapsorganisatie (NWO)
- 2009: 3000 euro for **dotAstronomy 2009** conference, British Council Netherlands
- 2009: \$3000 **SPIE Outreach grant** for Universe Awareness programme

- 2002-2005: Perren (full) PhD studentship, University College London

Professional membership, Committees

- Member of the IAU Office of Astronomy for Development (OAD) taskforce on **Astronomy and the Public** (2012-2015)
- Member of the MPIA **Strategic Time Allocation Committee (2011-2013)**
- Member of **SPIE**, from 2006-2009 Member of the SPIE Membership Committee and from 2006-2008 Co-chair of the Early Career Professionals Advisory Committee
- Fellow of the **Royal Astronomical Society**

Reviewing

- Editorial Board member for Royal Society Open Science (2014-2016)
- Referee for the Astrophysical Journal, MNRAS, Optical Engineering
- Technical reviewer for O'Reilly Media books

Skills

- **Programming** : IDL, Python, MatLab, C/C++.
- **Instrument data analysis**: Mainly experience with spectroscopic data: Spitzer/IRS (using SMART), CRIRES, JWST-MIRI test data using custom software. Infrared imaging analysis for NEWFIRM (4-m Mayall Telescope). Exploration and statistics of large numerical datasets; data mining.
- **CAD/Design and FEA**: Pro-Engineer and I-DEAS. Finite element analysis (structural, quasi-static, thermal) using I-DEAS, Pro-Mechanica. Completed Pro-E and Pro-M training courses.
- **Project management, business**: Experience with project scheduling and management as Systems Engineer for the GRAVITY AO systems (2010-present). Completed week-long Faraday Partnership workshop on entrepreneurship, intellectual property law, leadership & management, systems engineering (London, 2005).

Science communication and writing

2012	Interviewed on ZDF science programme Nano, interviewed for The Sky At Night magazine, on my involvement in Milky Way Project.
2011	Writing published in The Guardian science blogs (http://gu.com/p/33vmm , http://gu.com/p/3vf5e)
2008 -	Popular astronomy blogger at One Small Step
2006	Science journalism internship, ESO, Germany
2004	Interviewee on BBC's The Sky at Night
2003	Runner-up, BASF/Daily Telegraph science writing competition
2003	Researcher, BBC, London