Dr. Lauren Rhodes (she/her)

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Research Interests: Jets, Black Holes, Radio Interferometry, X-ray Binaries, Gamma-ray Bursts, Tidal Disruption Events

Employment

Sept 2024 – Present **Trottier Space Institute Postdoctoral Research Fellow** McGill University, Canada
Independent research fellow at the Trottier Space Institute.

Sept 2022-Aug 2024 **Post-doctoral Research Associate** Department of Physics, University of Oxford, UK
Funded by the Science Technology and Facilities Council - Astrophysics Consolidated Grant

Oct 2018 – June 2022 **Graduate Student** University of Oxford, UK & MPIfR, Germany

June – Aug 2016 **Sheffield Undergraduate Research Scheme Research Student** University of Sheffield, UK

Education

Oct 2018 – July 2022 **DPhil** Astrophysics St Catherine's College, University of Oxford, UK
Thesis title: The astrophysics of relativistic radio transients
Supervisors: Prof. R. Fender and Prof. M. Kramer.

Sept 2014 – July 2018 **MPhys** Physics and Astrophysics University of Sheffield, UK
Thesis title: Evaluating the effectiveness of the CO[5-4] line as a tracer for instantaneous star formation rate
Supervisors: Dr. J. Mullaney

Service to the Community

July 2025 – present Science reviewer for MeerKAT proposals, SARAO

July 2025 – present TSI seminar organising committee TSI, McGill University

May 2025 – Aug 2025 Summer internship research program co-organiser Department of Physics, McGill University
Vetted and ranked 200+ applicants for acceptance into the Trotter Space Institute (TSI) summer internship program. Organised and co-ran weekly 'research 101' seminars for the 50 accepted TSI and physics undergraduate interns.

Jan 2025 – present Transient Journal Club Co-organiser TSI, McGill University

Jan 2024 – Sep 2025 Science reviewer for NRAO/GBO
Part of the *gravitational wave and energetic transients* science panel

Sep 2023 – present Journal Referee
Nature Astronomy; Astronomy & Astrophysics, Astrophysical Journal

Sept 2023 – Sept 2024 Post-doctoral representative for astrophysics Oxford Astrophysics, University of Oxford
Attend departmental meetings and communication relevant information back to the post-doctoral community. Organise social events. Implement changes within the department that benefit the post-doctoral researchers including ensuring all international researchers are informed of funding available for visa costs.

Oct 2022 – Sept 2024 Seminar Organiser Oxford Astrophysics, University of Oxford
Coordinating the organisation and invitation of speakers for the 'SPI-MAX' (Stars Planets Instrumentation Methods Accretion & eXplosions) seminar series.

Nov 2022 – present
Mentor — Supernova foundation
Part of an international mentor/mentee program to aid in resolving the international gender gap in STEM.

Dec 2022 – present
Undergraduate Interviews — Exeter College, University of Oxford
Assisted Professor Cotter in interviewing physics undergraduates for admission into Exeter College.

Teaching Experience

Jan 2026 – April 2026
Radiative Processes graduate course lecturer — McGill University
Teaching lectures on Synchrotron radiation and Bremsstrahlung within a graduate level course lead by Professor Nicolas Cowan.

Jan 2025 – April 2025
High energy astrophysics graduate course lecturer — McGill University
Taught lectures on gamma-ray bursts and gravitational waves as part of a physics graduate level course. Set and marked problems sets associated with both lectures as well as assessed mock observing proposals written by the students. The course was organised by Professor Vicky Kapsi.

Oct 2020 – June 2021
C1 Astrophysics — University of Oxford
Faculty teaching delivering small group tutorials covering the entirety of the final year, Masters level astrophysics option. The course covered radiative processes, high-energy astrophysics, cosmology, stellar structure and evolution, and galaxies.

Supervisory Experience

Primary supervisor:

Sept 2025 – Aug 2026
Eliot Raschetti — University of Grenoble
Master's Student: The thermal and non-thermal electron population in relativistic Tidal Disruption Event *Swift* J1644+57

May – Aug 2025
Dinah Ibrahim and **Nisrine Sqalli** — McGill University, Canada
Summer internship and Bachelors' thesis work: Studying the radio counterparts of gamma-ray bursts with the AMI–LA telescope

June – Aug 2024
Isabel Stephens — University of Oxford, UK
Summer internship: Does Scorpius-X1 produce fast jets?

Secondary supervisor:

June – Aug 2024
Alex Scott — University of Oxford, UK
Summer internship: Extreme jets from black holes and neutron stars

Publications

Refereed (First author: 11, co-authored: 42, h-index: 22, total citations: 1,454):

ADS Library
MNRAS: Monthly Notices of the Royal Astronomical Society
A&A: Astronomy & Astrophysics
ApJ(L): Astrophysical Journal (Letters)
indicates student led work
First author:

- **Thermal electrons in the radio afterglow of jetted tidal disruption event ZTF22aaajecp/AT2022cmc**
  Rhodes L., Margalit B., Bright, J.S., Dykaar H., Fender R., Green, D.A., Haggard D., Horesh A., van der Horst, A.J., Hughes A., Mooley K., Sfaradi I., Titterington D., WIlliams-Baldwin, D.R.A., 2025, ApJ, 992, 146

- **Long term optical variations in Swift J1858.6–0814: comparisons to radio properties**
  Rhodes L., Russell D., Saikia P., Alabarta K., van den Eijnden J., Knight A. H., Baglio M. C. , Lewis F., 2025, MNRAS, 536, 3421

- **Rocking the BOAT: the ups and downs of the radio light curve of GRB 221009A**
  Rhodes L. van der Horst A.J., Bright J. S., Leung J. K., Anderson G. E., Fender R., Agüí Fernandez J. F., Bremer M., Chandra P., Dobie D., Farah W., Giarratana S., Gourdji K., Green D. A., Lenc E., Michałowski M. J., Murphy T., Nayana A. J., Pollak A. W., Rowlinson A., Schussler F., Siemion A., Starling R. L. C., Scott P., Thöne C. C., Titterington D., de Ugarte Postigo A., 2024, MNRAS, 533, 4435

- **Discovery of the optical and radio counterpart to the fast X-ray transient EP240315a**
  Gillanders J. H. & **Rhodes L.** & Srivastav S. (joint first authors), and Carotenuto F. and Bright J. Huber M. E. Stevance H. F. Smartt S. J. Chambers K. C. Chen T. -W. Fender R. Andersson A. Cooper A. J. Jonker P. G. Cowie F. J. deBoer T. Erasmus N. Fulton M. D. Gao H. Herman J. Lin C. -C. Lowe T. Magnier E. A. Miao H. -Y. Minguez P. Moore T. Ngeow C. -C. Nicholl M. Pan Y. -C. Pignata G. Rest A. Sheng X. Smith I. A. Smith K. W. Tonry J. L. Wainscoat R. J. Weston J. Yang S. Young D. R., 2024, ApJL, 969, L14.

- **Precise Measurements of Self-absorbed Rising Reverse Shock Emission from Gamma-ray Burst 221009A**
  Bright J. S. & **Rhodes L.** (joint first authors), Farah W, Fender R., van der Horst A., Leung J.K., Williams D.R.A., Anderson G., Atri P., DeBoer D.R., Giarratana S., Green D.A., Heywood I., Lenc E., Murphy T., Pollak A.W., Premnath P.H., Scott P.F., Sheikh S.Z., Siemion A., Titterington D.J., 2023, Nature Astronomy, 7, 986

- **FRB 20121102A: images of the bursts and the varying radio counterpart**
  Rhodes L., Caleb M., Stappers B. W., Andersson A, Bezuidenhout M.C., Driessen L. N., Heywood I., Woudt P. A., 2023, MNRAS, 525, 3, 3626

- **Day-timescale variability in the radio light curve of the Tidal Disruption Event AT2022cmc: confirmation of a highly relativistic outflow**
  Rhodes L., Bright J. S., Fender R., Green D. G., Horesh A., Mooley K., Pasham D., Sfaradi I., Smartt S., Titterington D. J., van der Horst A. and Williams D. R. A., 2023, MNRAS, 521, 389

- **Two component jet observed in the afterglow of the dark very high energy GRB 201216C**
  Rhodes L., van der Horst A. J., Fender R., Aguilera-Dena D. R., Bright J. S., Vergani S. and Williams D. R. A., 2022, MNRAS, 513, 2, 1895

- **Long term radio monitoring of neutron star X-ray binary *Swift* J1858.8-0814**
  Rhodes L., Fender R. P., Motta S., van den Eijnden J., Williams D. R. A., Bright J. and Sivakoff G. R., 2022, MNRAS, 513, 2, 2708

- **An early peak in the radio light curve of short-duration Gamma-Ray Burst 200826A**
  Rhodes L., Fender R., Williams D. R. A. and Mooley K, 2021, MNRAS, 503, 2966

- **Radio afterglows of very high-energy gamma-ray bursts 190829A and 180720B**
  Rhodes L., van der Horst A. J., Fender R., Monageng I. M., Anderson G. E., Antoniadis J., Bietenholz M. F., Böttcher M., Bright J. S., Green D. A., Kouveliotou C., Kramer M., Motta S. E., Wijers R. A. M. J., Williams D. R. A. and Woudt P. A., 2020, MNRAS, 496, 3326

Co-authored

- **Exploring the potential for ultra-relativistic jets in Sco X-1 with low angular resolution radio observations***
  Stephens I., **Rhodes L.**, et al, MNRAS *in press*

- **First results from the PanRadio GRB Collaboration: the 400-day afterglow of GRB 230815A**
  Leung J. ... **Rhodes L.**, et al, ApJ, *in press*

- **Radio observations of the ultra-long GRB 220627A reveal a hot cocoon supporting the blue supergiant progenitor scenario**
  Leung J. ... **Rhodes L**, et al, ApJ, 996, 1, id.22, 17 pp.

- **A multi-wavelength view of the outflowing short-period X-ray binary UW CrB**
  Fijma S., ... **Rhodes L.** et al. MNRAS, 544, 4, pp.4702-4721.
- **Evidence for an intrinsic luminosity-decay correlation in GRB radio afterglows**
  Shilling S., ... **Rhodes L.** et al. 2025, MNRAS, 542, 3, pp.2421-2430.
- **Variability of X-ray polarization of Cyg X-1**
  Kravtsov V. ... **Rhodes L**, et al. 2025, A&A, 701, id.A115, 12 pp.
- **The Double Tidal Disruption Event AT 2022dbl Implies That at Least Some "Standard' Optical TDEs are Partial Disruptions**
  Makrygianni L., ... **Rhodes L.** et al. 2025, ApJL, 987, 1, L20
- **Blast waves and reverse shocks: from ultra-relativistic GRBs to moderately relativistic X-ray binaries**
  Matthews J., Cooper A., **Rhodes L.** et al. 2025, MNRAS, 539, 2665.
- **The Long-lived Broadband Afterglow of Short Gamma-Ray Burst 231117A and the Growing Radio-Detected Short GRB Population**
  Schroeder G., ... **Rhodes L.** et al., 2025, ApJ, 982, 42.
- **Constraints on Relativistic Jets from the Fast X-ray Transient 210423 using Prompt Radio Follow-Up Observations**
  Ibrahimzade D., ... **Rhodes L.** et al., 2025, ApJ, 980, 92
- **Multi-Wavelength Analysis of AT 2023sva: a Luminous Orphan Afterglow With Evidence for a Structured Jet**
  Srinivasaragavan G.P. ... *Rhodes L*, et al., 2025, MNRAS, 538, 351.
- **The observed phase space of mass-loss history from massive stars based on radio observations of a large supernova sample**
  Sfaradi I., ... **Rhodes L.** et al. 2025, ApJ, 979, 189
- **Discovery of the optical counterpart of the fast X-ray transient EP240414a**
  Srivastav S, Chen J., Gillanders J., **Rhodes L.** et al. 2025, ApJL, 978, L21
- **The Radio Counterpart to the Fast X-ray Transient EP240414a**
  Bright J.S., ... **Rhodes L.**, et al. 2025, ApJ, 981, 48
- **Simultaneous Optical and X-ray Detection of a Thermonuclear Burst in the 2024 Outburst of EXO 0748-676**
  Knight A., **Rhodes L.** et al. 2025, MNRAS, 536, L26.
- **Late-time radio brightening and emergence of a radio jet in the changing-look AGN 1ES 1927+654**
  Meyer E.T., ... **Rhodes L.** et al. 2025, ApJL, 979, L2
- **The early radio afterglow of short GRB 230217A**
  Anderson G., ... **Rhodes L.** et al 2024, ApJL, 975, L13.
- **An IXPE-led X-Ray Spectropolarimetric Campaign on the Soft State of Cygnus X-1: X-Ray Polarimetric Evidence for Strong Gravitational Lensing**
  Steiner J. F., ... **Rhodes L.** et al., 2024, ApJL, 969, L30
- **The expansion of the GRB 221009A afterglow**
  Giarratana S., ... **Rhodes L.** et al. A&A, 690, A74
- **A Radio Flare in the Long-Lived Afterglow of the Distant Short GRB 210726A: Energy Injection or a Reverse Shock from Shell?**
  Schroeder G., **Rhodes L.** et al. 2024, ApJ, 970, 2, 139
- **Ultrasoft state of microquasar Cygnus X-3: X-ray polarimetry reveals the geometry of the astronomical puzzle**
  Veledina A., ... **Rhodes L** et al., 2024, A&A, 688, L27

- **Testing EMRI models for Quasi-Periodic Eruptions with the 3-year NICER campaign of eRO-QPE1**
  Chakraborty J., ... **Rhodes L.** et al. 2024, *ApJ*, 965, 12
- **JWST detection of heavy neutron-capture elements in a compact object merger**
  Levan A., ... **Rhodes L.** et al. 2024, Nature, 626, 8000, p.737-741
- **The dense and non-homogeneous circumstellar medium revealed in radio wavelengths around the Type Ib SN 2019oys**
  Sfaradi I., ... **Rhodes L.** et al. 2024, A&A 686, A129, 14
- **An off-axis relativistic jet seen in the long-lasting delayed radio flare of the TDE AT2018hyz** Sfaradi I., ... **Rhodes L.** et al. MNRAS, 527, 3, 7672
- **SN 2022jli: A Type Ic Supernova with Periodic Modulation of Its Light Curve and an Unusually Long Rise**
  Moore T., ... **Rhodes L.** et al, 2023, ApJL, 956, L31
- **Commensal Transient Searches in Eight Short Gamma Ray Burst Fields**
  Chastain S., ... **Rhodes L.** et al. 2023, MNRAS, 526, 2, 1888
- **AT2022aedm and a new class of luminous, fast-cooling transients in elliptical galaxies**
  Nicholl M., ... **Rhodes L.** et al. 2023, ApJ, 954, L28
- **Bursts from Space: MeerKAT - The first citizen science project dedicated to commensal radio transients**
  Anderson A., ... **Rhodes L.** et al, 2023, MNRAS, 523, 2, 2219
- **The False Widow Link Between Neutron Star X-ray Binaries and Spider Pulsars**
  Knight A., ... **Rhodes L.** et al, 2023, MNRAS, 520, 3, 3416
- **The optical light curve of GRB 221009A: the afterglow and detection of the emerging supernova SN 2022xiw**
  Fulton M., Smartt S., **Rhodes L.,** et al, 2023, ApJL, 946, 1, L22, 12 pp
- **The Birth of a Relativistic Jet Following the Disruption of a Star by a Cosmological Black Hole**
  Pasham D., ... **Rhodes L.** et al, 2023, Nature Astronomy, 7, 88
- **Serendipitous discovery of radio flaring behaviour from a nearby M dwarf with MeerKAT**
  Andersson A., ... **Rhodes L**, et al, 2022, MNRAS, 513, 3
- **GRB 201015A: VLBI observations of the shortest Gamma-Ray Burst ever detected at Very High Energy**
  Giarratana S., **Rhodes L.**, et al, 2022, A&A, 664, A36
- **A persistent ultraviolet outflow from an accreting neutron star binary transient**
  Castro Segura N., .. **Rhodes L.**, et al, 2022, Nature, 603, 52
- **Radio and X-ray observations of the luminous Fast Blue Optical Transient AT2020xnd**
  Bright J. S., ... **Rhodes L.**, et al, 2022, ApJ, 926, 2.
- **An analysis of the time-frequency structure of several bursts from FRB 121102 detected with MeerKAT**
  Platts E., ... **Rhodes L**. et al, 2021, MNRAS, 505, 3041.
- **Observations of a radio-bright, X-ray obscured GRS 1915+105**
  Motta S. E., ... **Rhodes L.**, et al, 2021, MNRAS, 503, 152
- **Simultaneous multi-telescope observations of FRB 121102**
  Caleb M., ... **Rhodes L.**, et al, 2020, MNRAS, 496, 4565
- **The 2018 outburst of BHXB H1743-322 as seen with MeerKAT**
  Williams D. R. A. ... **Rhodes L.**, et al, 2020, MNRAS, 491, L29
- **Full orbital solution for the binary system in the northern Galactic disc microlensing event Gaia16aye**
  Wyrzykowski Ł., ... **Rhodes L.**, et al., 2020, A&A, 633, A98

- **Gaia16apd - a link between fast and slowly declining type I superluminous supernovae** Kangas T., ... **Rhodes L.**, et al, 2017, MNRAS, 469, 1246

White papers, conference preceedings & book chapters:

- **Multidisciplinary Science in the Multi-diagnostic era of astrophysics (White paper)** Burns E., Fryer C.L., ... **Rhodes L.** et al arxiv:2502.03577
- **The Advanced X-ray Imaging Satellite Community Science Book** Koss M., Aftab N., ... **Rhodes L.** et al arxiv:2511.00253
- **Radio afterglows of Very High Energy Gamma-ray Bursts.** Rhodes L, van der Horst A & Fender R., 2020, Proceedings of the International Astronomical Union. 16(S363):220-223.

Submitted:

- **Puzzling two-stage size evolution of an ultraluminous gamma-ray burst jet** Geng J.J. ... **Rhodes L**, et al, *submitted to Nature Communications*
- **Unprecedentedly bright X-ray flaring in Cygnus X-1 observed by INTEGRAL** Thalhammer P. ... **Rhodes L.**, et al, *submitted to A&A*
- **Revisiting FRB 20121102A: milliarcsecond localisation and a decreasing dispersion measure** Snelders M. ... **Rhodes L.**, et al, *submitted to A&A*

In acknowledgements:

CHIME/FRB Collaboration, et al., 2025, ApJL, 989, L48;
Barnard M., Ghosh A., Joshi J. C., Razzaque S., 2025, MNRAS, 543, 4218
Gillanders J. H., Smartt S. J., 2025, MNRAS, 538, 1663.
Liu Y., et al., 2025, NatAs, 9, 564.
Aharonian F., et al., 2023, ApJL, 946, L27.
Gasealahwe K. V. S., et al., 2023, MNRAS, 521, 2806.
Mummery A., 2021, MNRAS, 504, 5144.
Fender R., Bright J., 2019, MNRAS, 489, 4836.

Additionally: a number of Astronomer's Telegrams, General Coordinate Network (GCN) notices and Transient Name Server (TNS) reports to disseminate the results of observations to the wider community.

Conferences and seminars

Seminars/Colloquia 2025
University of Sheffield, UK
OzGrav, Swinburne University, Melbourne, Australia
University College Dublin, Ireland
Anton Pannekoek Institute for Astronomy, University of Amsterdam, Netherlands
Max Planck Institute für Radioastronomie, Germany

Conference Presentations 2025
22ND HEAD meeting, St Louis, USA
5TH Philip Wetton Workshop, Oxford, UK (Invited)
The Dynamic Radio Sky, Sydney Australia
Celebrating 20 years of Swift Discoveries, Florence, Italy (talk and poster)

Seminars/Colloquia 2024
Université de Montréal, Canada
NASA Goddard Space Flight Centre, USA
Cavendish Astrophysics, University of Cambridge, UK

Conference Presentations 2024
TDAMM Meeting, Baton Rouge, USA (invited)
NAM Hull 2024 (invited)
EAS Padova 2024
COSPAR 2024, South Korea (Invited - but declined)
Hotwiring the Transient Universe, Toronto, Canada (poster)
A thinkshop on fast-evolving extragalactic transients, Bormio, Italy (Invited)

Seminars/Colloquia 2023
INAF-IRA, Italy
INAF-Brera Astronomical Observatory, Italy
Columbia University, USA
VAST Telecon, Australia (zoom)
OzGrav Seminar, Australia (zoom)
Niels Bohr Institute, Denmark
Max Planck Institute for Extraterrestrial Physics, Munich, Germany
Erlangen Centre for Astroparticle Physics, Germany
University of Manchester, UK

Conference Presentations 2023
GRB50 conference, US
European Astronomical Society Annual Meeting 2023, Poland
Timing and Imaging of compact sources with SKA pathfinders, Greece
Overcoming disconnects in understanding of accreting black holes, Leiden (invited)

Seminars 2022
Foundation for Research and Technology, Crete
University of Oxford, UK
University of College London, UK

Conferences Presentations 2022
VHE GRB Workshop 2022, Germany (Invited)
National Astronomy Meeting 2022, UK

Conferences Presentations 2021
National Astronomy Meeting, Online
IAU Symposium 363, Online
Annual Meeting of the German Astronomical Society, Online

SOC
Dynamic Radio Sky 2026 (Chair)
Inaugural University of Oxford Physics Post-doc Conference, 2024 (Chair)
Parallel sessions, National Astronomy Meeting 2024
Parallel sessions, National Astronomy Meeting 2023
Parallel sessions National Astronomy Meeting 2022 (Chair)

LOC
FRB 2025
UK Neutron Star Conference 2023

ThunderKAT Collaboration Meetings
Presentations and updates between 2018 -2023

Telescope Experience and observing proposals

Feb 2023 – Sept 2024

AMI–LA Telescope Operator MRAO, University of Cambridge

Primary scheduler for the AMI–LA (Arcminute Microkelvin Imager – Large Array) telescope at MRAO (Mullard Radio Astronomical Observatory) Cambridge, UK. Responsible for ensuring that the telescope is observing the most appropriate targets at any given time for a given science goal and ensuring the telescope is running efficiently. Also responsible for selecting new transients to observe that align with the Oxford transient research group's science goals and subsequently perform data reduction and interpretation of the observations.

Telescope Scheduler

Scheduled radio observations with MeerKAT and the Karl G. Jansky Very Large Array. Trained to observe with the Australia Telescope Compact Array and Effelsberg 100m telescopes. Experience reducing data for all aforementioned facilities as well as NOEMA. At optical frequencies, have scheduled observations on the pt5m in La Palma and with ULTRACAM (a fast photometer) on the NTT.

PI for >2000 hours of telescope time

Open Time Proposals

PI :
ATCA: C3640 "*Searching for a break in the late time radio light curve of GRB 221009A*"

eMERLIN: CY9005, CY10002 (with long term status) and CY12003 (with long term status); CY14002 (with long term status); CY16204 (with long term status); CY18202 (with long term status); CY20203 (with long term status) "*High-resolution observations of short GRBs beyond the LIGO horizon*"; CY13003 and CY14001 "*Studying the radio properties of the emerging class of VHE GRBs*"; CY15206 "*Late time observations of GRB 221009A: the brightest radio afterglow to date*"; CY16004, CY18002 (with long term status), CY20006 (with long term status) "*Continued eMERLIN monitoring of ZTF22aaajecp/AT2022cmc: the first jetted tidal disruption event in a decade*"; CY21207 "*e-MERLIN observations of the next relativistic Tidal Disruption Event*"
GMRT: 47_073 "*Searching for a break in the late time radio light curve of GRB 221009a*"

MeerKAT: MKT-20185 and MKT-22097 "*Searching for off-axis radio emission from binary neutron star mergers using optically detected kilonovae*" MKT-23101 "*MeerKAT monitoring of ZTF22aaajecp/AT2022cmc: the first jetted tidal disruption event in a decade*"; MKT-24208 "*Searching for a break in the late time radio light curve of GRB 221009A*"; MKT-24207 "*Continued MeerKAT monitoring of ZTF22aaajecp/AT2022cmc: exploring the differences between thermal and non-thermal electron populations*"

NOEMA: S22BT " *NOEMA Observations of the ZTF22aaajecp/AT2022cmc: the first relativistic tidal disruption event in a decade*"; W22CZ "*Continued NOEMA monitoring of AT2022cmc: the first relativistic tidal disruption event in a decade*"

NTT: Period 116 "*High-time resolution observations of False Widow EXO 0748-676*"

SMA: 2022B-S001, 2023A-S007 "*Searching for early-time emission from gamma-ray bursts with the SMA*"

VLA: 21B-170 "*Studying the radio properties of the emerging class of VHE GRBs*"; VLA/25A-015 "*Searching for a break in the late time radio light curve of GRB 221009A*"; VLA/25A-066 "*Finding the radio counterpart to a rare long GRB binary neutron star merger*

Co-I:
ATCA: C3542 (for three years) "*A Panoptic Radio View of Long Gamma-ray Bursts*"; C3204 "ATCA rapid-response triggering on Swift detected short gamma-ray bursts: Exploring the link with gravitational wave events"

eMERLIN: CY20209 "*Understanding black hole birth and jet formation by pinning hard state jets in X-ray binaries*"

GBT: GBT25A-273 "*GBT Observations of a Candidate Transitional Millisecond Pulsar*"

LBA: V660 "*The expanding afterglow of GRB 221009A*"

MeerKAT: MKT-22078 "*Constraining the properties of Very High Energy detected GRBs with MeerKAT*", MKT-23011 "*Relativistic Jets from Stellar Mass Black Holes and Neutron Stars*", MKT-23022 "*Long-term monitoring of the compact persistent counterpart to the repeating FRB 20121102A*", MKT-23177 "*Probing the Astrophysics of Neutron Star Mergers with Radio Afterglows*", MKT-23128 "*Exploring the New Phenomenon of Delayed Radio Flares in Tidal Disruption Events*", MKT-25150 "*Broadband observations of ZTF22aaajecp/AT2022cmc with MeerKAT to constrain the late time hydrodynamics*"

VLA: VLA/24B-183 "*Chasing Gamma Ray Burst radio afterglows in the early Universe*"; VLA/24B-347 "*A comprehensive systematic exploration of the phase space of TDE outflows*"; VLA/25A-254 "*Studying Relativistic Shocks with Fast VLA Follow-Up of Gamma-Ray Bursts*"; VLA/25A-078 "*Probing the slow and fast jets in the blac hole X-ray binary GRS 1915+105*" VLA/26A-330 "*Confirmation of Late-time Radio Emission from a Short Gamma-ray Burst*"

Director's Discretionary Time

PI:

eMERLIN: DD8004 "*Observations of sGRB 190326A*"; DD9006 "*High-resolution radio observations of a candidate neutron star merger event*"; DD10003 "*Very High Energy Gamma-ray Burst 201015A*"; DD10010 "*Very High Energy Gamma-ray Burst 201216C*"; DD11001 "*Further radio follow up Very High Energy Gamma Ray Burst 201216C at 5 GHz*"; DD12002 "*Late time radio follow up of short GRB 210726A at 5GHz*"; RRT13002 "*eMERLIN Observations of the ZTF22aaajecp/AT2022cmc: the most luminous gamma-ray burst to date or jetted tidal disruption event?*"; RR14001 "*5GHz observations of GRB 221009A*; DD17003 "*eMERLIN observations of new Fast X-ray Transient EP240315a*; DD18001 "*SN2022jli: the birth of an X-ray binary?*".

GTC: GTC2019-121 "*The mysterious, possible radio counterpart to a short GRB*"

LOFAR: DDT20_003 "*Catching the BOAT at low frequencies: the first explosive transient detected by LOFAR*"

MeerKAT: DDT-20210107-LR-01 "*Studying the radio properties of the emerging class of VHE GRBs with GRB 201216C*"; DDT-20210908-RA-01 "*MeerKAT follow-up of a QPE source*"; DDT-20230313-LR-01 "*DDT observations of GRB 230307A: a bright southern hemisphere GRB*"; DDT-20231124-SA-01 "*MeerKAT observations of the new bright short GRB 231117A*; DDT-20240228-LR-01 "*MeerKAT observations of GRB 240205B*"

SMA: 2022A-S053 "*Early-time observations of GRB 221009A with the SMA*"; 2025A-S056 "*Sub-mm observations of a new mysterious extragalactic transient GRB 250702BDE*"

VLA: 20B-456 "*Studying the radio properties of the emerging class of VHE GRBs with GRB 201216C*"

Co-I:
eMERLIN: DD14001 "*Search for a radio counterpart to SN 2022jli*", DD16001 "*Continued monitoring of GRS 1915+105 as it undergoes repeated massive radio flares*"

EVN: RG013 "*Studying the structure and the dynamics of the outstanding GRB 221009A*"

Chandra: 402356 "*The Wide-Angle Outflow of SGRB 210726A*"; 23708837 "The first relativistic tidal disruption flare in a decade"

Hubble Space Telescope: GO/DD 15984 "*Time-resolved UV spectroscopy of the accretion disk and wind in a super-Eddington black-hole X-ray transient*"

MeerKAT: DDT-20220705-SG-01 "*Searching for the afterglow of the lensed GRB 220627A*"

Parkes: "*Assessing the Feasibility of Detecting Radio Pulsations from EXO 0748–676*"

VLA: 21A-422 "*Searching for Radio Emission from a Fast X-ray Transient*", VLA/24A-455 "*Measuring the Spectrum of the First Radio Loud Fast X-ray Transient*", VLA/24A-474 "*The changing-angle jets in GRS 1915+105*"

VLBA: 22B-302 "*Resolving the afterglow of GRB 221009A*"; 25A-501 "*Establishing the Galactic or extragalactic nature of a new, curious transient*"

Schools

Jan 2022 — SMA Interferometry School — Online

July 2020 — 17th Synthesis Imaging Workshop — Online

Oct 2019 — European Radio Interferometry School — Gothenburg, Sweden

Outreach

Feb 2025 — TSI & Physics Outreach Public Talk — McGill University, Montreal, Canada
Speaker

Jan 2025 — Canadian Students for the Exploration and Development of Space Conference — Montreal, Canada
Keynote Speaker

Oct 2024 — Astronomy of Tap — Montreal, Canada
Speaker

Nov 2023 & Mar 2024	Stargazing evening Outreach volunteer	Bicester, Oxfordshire, UK
Feb 2024	Minerva's Virtual Academy Speaker	Oxford, UK
Nov 2023	Outthinkers talks evening Speaker	Pride in STEM, UK
Sept 2023	Oxford Open Doors festival Oxford Astrophysics volunteer	University of Oxford, UK
July 2023	Bluedot Festival Zooniverse stand volunteer	Jodrell Bank, Manchester, UK
May 2023	'I'm a Scientist' outreach event Online Q&A session with school students.	Online/ University of Oxford, UK
April 2023	Invited talk: The most powerful explosions in the universe. Outreach seminar to the *Friends of the RAS*.	Royal Astronomical Society, UK
March 2023 & 2024	'Marie Curious' outreach event Annual departmental event for school girls ages 12-14.	University of Oxford, UK
February 2023	Invited outreach talk	First Light Fusion, Oxford, UK
Jan 2023	Into the Cosmos Department-wide outreach day. General volunteer.	University of Oxford, UK
June 2019	Stargazing Live Department-wide outreach day. Organised and ran planetarium talks.	University of Oxford, UK

Collaborations and Professional Memberships

CASCA (Canadian Astronomical Society)

VAST (Variables and Slow Transients)

A key project for ASKAP (Australian Square Kilometre Array Pathfinder) telescope observing the sky at low radio frequencies.

Max Planck Galactic Plane S-band Survey

Lead of the image-plane transient working group.

ThunderKAT & X-KAT

Using the MeerKAT radio telescope to study both galactic and extragalactic transients associated with compact objects

ATLAS

Pan-sky survey made of four optical telescopes whose goal is to search for near-Earth objects. The same data can be used to search for static transients, primarily supernovae .

JAGWAR

Using Jansky VLA and MeerKAT to search for radio emission associated with Gravitational Wave bursts.

Pan-radio GRBs

Using ATCA to perform both prompt and long-term follow-up of gamma-ray bursts over the next years.

Transient working groups for Legacy Survey of Space and Time, ALMA2024 & Square Kilometre Array (SKA)

Media coverage

July 2024 — The Astrophiz Podcast

June 2021 – Present — Oxford Physics
First detection of heavy element from star merger
Warm winds witnessed in neutron star first
Study of 'Brightest of All Time' provides unprecedented understanding
Oxford astronomers in front-row view of exceptional cosmic explosion.

August 2023 — Astrobites
The Fast and the Radio Luminous: FRB 20121102A by Sonja Panjkov

August 2023 — National Geographic
The brightest blast ever seen in space continues to surprise scientists by Liz Kruesi

April 2022 — Phys.org
Astronomers inspect outburst of X-ray binary Swift J1858.6–0814 by Tomasz Nowakowsk

Funding Awards

March 2024 — The Astor Fund — Oxford, UK
Funding visits to collaborators in the USA. (£1500)

October 2023 — The Lockey Fund — Oxford, UK
Designed to fund attendance to 'open' conferences/workshops or meetings. (£1000)

August 2023 — AHEAD2020 — Bologna, Italy
Set within the European Horizon 2020 program, the AHEAD2020 program is designed to advance international collaboration within the field of high-energy astrophysics. (€2300)

February 2023 — OPTICON-RadioNet Pilot travel grant — Oxford, UK
Funding visits to reduce NOEMA data. (£200)

References

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