Leah K. Morabito

Durham University
UKRI Future Leaders Fellow

Personal Details

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Employment History

Nov 2020 - Present	UKRI Future Leaders Fellow, *Durham University*
Oct 2019 - Present	Assistant Professor, *Durham University*
Oct 2016 - Sep 2019	Hintze Fellow & PDRA in Galaxy Evolution, *University of Oxford*
Apr 2005 - Aug 2011	Air Battle Manager (highest rank: Captain), *United States Air Force*

- Electronic Combat Officer (ECO) *Sep 2008 - Aug 2011*
- Air Weapons Officer (AWO) *Jun 2005 - Aug 2008*

Education

Sep 2012 - Sep 2016	**Leiden University**, Astronomy PhD Researcher Thesis: *'Radio Galaxies at Low Frequencies'*
Sep 2009 - Apr 2012	**University of Oklahoma**, M.Sc. Astronomy (with Honours. 1 equiv.) Thesis: *'AGN: From Supermassive Black Holes to Rare FeLoBALs'*
Sep 2001 - Apr 2005	**University of Michigan**, B.Sc. Physics & B.Sc. Astrophysics (2i equiv.)

Science Highlights

- First spatially resolved maps of high redshift radio galaxies, $1''$ resolution at 55 MHz
- First extragalactic detection of low frequency carbon radio recombination lines, in M82
- Widest, deepest survey image at the time with low band Low Frequency Array (LOFAR) data
- Highest resolution radio images at low frequencies and low declination (in XMM-LSS field)

Research Goals

My main goal is to answer fundamental questions on how super-massive black holes co-evolve with the galaxies in which they reside. I do this by using low frequency radio observations coupled with multi-wavelength data. Over the next five years, I will lead the use of high-resolution, wide-field radio imaging at low frequencies to clearly distinguish two main components in galaxy evolution: star formation, and processes associated with active galactic nuclei. This unique approach will help change our view of how active galactic nuclei help shape galaxy evolution.

Leadership

UK Square Kilometre Array (SKA) Science Committee. Selected as member for 2 year period. — Jan 2020 - Jan 2020

e-MERLIN Time Allocation Group member. Appointed member for 3 year period. — Nov 2020 - Oct 2023

Leadership of Long Baseline Working Group. Chair since Jan 2020; previously co-leadership. Training of 10+ postdocs, PhD, and MSc students working on technical challenges for high-resolution imaging with LOFAR. — 2016 - present

President of Oxford Women in Physics Society. Leadership of committee of 10+ women, focused on providing a supportive network for women in Physics at Oxford, from the undergraduate to the faculty level. — Jan 2018 - Aug 2019

Member of Department Equality & Diversity Committee. Contributing member of committee as President of Oxford Women in Physics Society, heading up mentoring programme reform. — Jan 2018 - 2019

Galaxies Coffee Organizer. Weekly journal club meeting of about 10 - 15 active participants. — Oct 2017 - Aug 2019

Head of AWACS PEX Implementation. Spearheaded transition to new program tracking training and flying hours for 1,800 aircrew (largest implementation in the Air Force). — Apr - June 2011

Chair of Electronic Support Team. Led and trained a team of 15 to prepare for, support and conduct electronic combat in a deployed location. Won team award at highest level for all organisations at deployed location. This work improved intelligence databases across entire Air Force. — Jan - Sep 2009

Package Commander for Command, control, intelligence, surveillance and reconnaisance (C2ISR). Led collection of aircraft providing C2ISR functions for multiple large training exercises (total of 100+ air assets on average). — Feb - Mar 2009

Operations Group Commander. Designed and conducted entire training programme for corps of 150+ US Air Force cadets. — Sep - Dec 2004

Co-Founder/President, Society of Women in Physics (SWiP). Wrote constitution, secured University funding, and started program focused on mentorship of younger women undergraduate students, and promoting women and girls in STEM fields. — Sep 2004 - Apr 2005

Professional Experience

Scientific Organising Committee, EAS SS4: Radio-loud AGN. Helped define scope, invited speakers, and select contributed talks. — Jun 2020

Lorentz Centre Workshop: High Resolution Surveying with LOFAR. Main organiser: including writing proposal and securing funding. — Mar 2018

LOFAR Long Baseline Workshops. Helped with and then co-led developing the LOFAR long baseline data reduction pipeline, and training of new users. — 2015 - present

LOFAR Low Band Antenna Busy Week. Led first busy week exclusively devoted to working on challenges for the LOFAR Low Band Antenna. — Mar 2016

LOFAR Commissioning Busy Weeks. Participated in 10 busy weeks to commission software for low-frequency, wide-field imaging. — Jul 2012 - 2017

Chair of Local Organising Committee, LOFAR Busy Week 21. Workshop with specialized talks / training for new users; 40+ global participants. — Jan 2013

Evaluator/Instructor Electronic Combat Officer (ECO), USAF, Capt. Operated Passive Detection System on E-3 Airborne Warning And Control System (AWACS). Culminated career as Chief Evaluator / subject matter expert. — Aug 2008 - Aug 2011

Air Weapons Officer, USAF, 1Lt. Controlled tactical aircraft from AWACS. Deployed in support of combat missions in southwest Asia. — Jun 2005 – Aug 2008

Indicators of esteem

- **Thesis examiner**. PhD thesis, N. Madhanpall, University of the Weste. (December 2019)
- **Viva examiner**. MSc thesis, E. Bempong-Manful, Univ. of Hertfordshire. (February 2018)
- **Member of LOFAR 2.0 Science Advisory Panel**. Expert on using LOFAR international stations for high resolution imaging. (2018 - present)
- **Referee for papers in peer-reviewed journals**. Monthly Notices of the Royal Astronomical Society, Journal of Astrophysics and Astronomy. (2018 - present)
- **Technical review of observing proposals**. The Low Frequency Array, the Giant Metre-wave Radio Telescope, and e-MERLIN. (2017 - present)
- **Resident Shared Risk Observing, JVLA**. Granted telescope time as an expert user and assessed P-band spectroscopic utility on-site with staff at National Radio Astronomy Observatory. (Apr 2015)
- **Early upgrade to ECO instructor**. Hand-picked based on performance and ability to teach to become an instructor after only 8 months (minimum requirement 1 year).

Funding Awards

Mar 2018 — Lorentz Center workshop: High-Resolution Imaging with LOFAR (10,985 Euro)
- RadioNet funding to support early-career researchers (2,000 Euro)
- Funding from ASTRON to support minority researchers (1,000 Euro)
- Lorentz Center support for workshop (7,985 Euro)

Dec 2017 — Grant for 100 TB disk for working on data, Christ Church Research Centre (8,580 GBP)

Oct 2017	Millard & Lee Alexander Post-Doctoral Fellowship, Christ Church, 2 year room & board
Jun 2014	Leids Kerkhoven-Bosscha Fonds grant for travel to international conference (1,000 Euro)
Nov 2013	Award for contribution to successful NWO-TOP1 grant (total grant 4 million Euro)
Sep 2001	Reserve Officer Training Corps Scholarship (approximately 120,000 USD)
May 2001	University of Michigan Regents Merit Scholarship (3,000 USD)

Honours

Jul 2020	Nominated for Student Choice Award: Excellent Project Supervisor in Physics Teaching
Oct 2018	Better Satellite World Award for Development in Africa with Radio Astronomy
Apr 2017	Top 5% of applicants for L'Orèal-UNSECO For Women in Science Awards
2010	Electronic Combat Officer of the year
Mar 2010	'Exceptionally Qualified' Rating (top 1%), Initial Electronic Combat Officer Evaluation
Feb 2010	Distinguished Graduate, Instructor Electronic Combat Officer Training
Dec 2008	Distinguished Graduate, Electronic Combat Officer Training (perfect exam score average)
Sep 2009	Air Medal (Oak leaf cluster), for flying combat hours
Sep 2009	Air Force Achievement Medal, for leadership of Deployed Electronic Support Team
May 2008	Air Medal, for flying combat hours
May 2007	Distinguished Graduate, Initial Air Weapons Officer Qualification Training
Jul 2006	Top Scope Award, Undergraduate Air Battle Management Training
Apr 2005	College of Literature, Science & the Arts 'Angell Scholar'

Professional Society Memberships

Aug 2018 – present	Junior member of International Astronomical Union
Jan 2018 – present	Oxford Society of Women in Physics, President
Feb 2017 – present	Member of Royal Astronomical Society, by election
Oct 2016 – Jan 2018	Oxford Society of Women in Physics, Outreach Officer
Sep 2011 – Dec 2015	Member of American Astronomical Society
Apr 2005 – present	Member of Sigma Pi Sigma, National Physics Honors Society, by election
2004 - 2005	Co-President/founder of Society for Women in Physics, University of Michigan

Large survey membership

- **Member of:** LOFAR Surveys Key Science Project, SKA Extragalactic Continuum Surveys Working Group, WEAVE-LOFAR, HETDEX, MIGHTEE, AGES-XL, RadioNet RINGS

Allocation of Telescope time

- **LOFAR:** 150+ hours PI projects; 250+ hours co-I projects; 1500+ hours for LOFAR Surveys
- **JVLA:** 17 hours PI projects; 230+ hours co-I projects
- **VLBA:** 450 hours co-I project (JWST NEP field)
- **GMRT:** 116 hours co-I projects
- **INT:** 12 nights co-I projects

Observing Experience

- GMRT radio telescope, Pune, India, 5 nights
- INT 2.5 m optical telescope, Roque de los Muchachos, La Palma, 18 nights
- MDM 2.4 m Hiltner optical telescope, Tucson, AZ, USA, 7+ nights

Computing Skills

- **High Performance Computing:** TORQUE and slurm queuing systems, PBS scripting, processing hundreds of TB of data simultaneously
- **Data interfacing:** Implemented Google Earth for intelligence fusion used during combat flights
- **Operating systems:** Linux, Mac, Windows, and standard packages therein
- **Programming Languages:** R, Python, IDL, Bash, FORTRAN
- **Data pipelines:** Written end-to-end pipelines for LOFAR data (high resolution / ultra low frequency)
- **Astronomical Software:** LOFAR software, AIPS, CASA, ParselTongue, HEASOFT, PIMMS, XSELECT, IRAF, CIAO, SHERPA, XSPEC, FTOOLS, STILTS

Teaching Experience

Physics Tutorials. Led tutorial groups for first year Physics course. 2019/2020

LOFAR Data School. Invited lecturer and subject matter expert in high resolution imaging (50 students). Sep 2018

Lecturer, Oxford Prospects Programme. Lecturer on the topic of astrophysics for groups of about 50 students, 2 week programme repeated 3x per year for Chinese students. 2017 - 2019

Unit 2 & 3 DARA training at HartRAO. Delivered lectures, tutorials, and an invited talk as part of Development in Africa with Radio Astronomy (DARA) course at Hartebeesthoek Radio Astronomy Observatory, South Africa. Apr 2018

Teaching Assistant, Radio Astronomy MSc class. Developed tutorials and practical project for 14 students, supervised hands-on sessions, organized and conducted field trip to Dutch radio observatories. Jan - Jul 2015

Instructor, Initial Electronic Combat Officer Training. Primary instructor for 4 month lecture/practical course, repeated every 5 months for 4-8 students. Delivered lectures, led discussions, and helped students with simulated missions to learn critical tasks. Sep 2009 - Aug 2011

ECO Syllabus Review Conference. Led ECO training syllabus review amongst instructors/evaluators, identified 50 updates to the Training Task list. Jul 2010

Squadron ECO continuing education program. Designed and implemented squadron ECO continuing education program, adopted by two other squadrons. Feb 2009

Electronic Support Fundamentals Class. Designed curriculum, coordinated guest speakers, and taught 5-day course to correct training deficiencies. Jun 2011

Student Supervision

Supervision of students. Formally supervised 3 MSc and 3 summer students to successful completion of research projects using low frequency radio data. Informally supervise 2 PhD students working on LOFAR high resolution projects. Sep 2013 – present

Co-supervision of PhD minor project. Collaboration with Prof. Gal in Computer Science department at Oxford to supervise PhD project on topic of using machine learning to cross-match multi-wavelength surveys. Apr – Jun 2018

Instructor, Initial Electronic Combat Officer Flight Training. Trained individuals on-the-job during flights (6 per student). Trained 35 students with an unprecedented 40% rate of Distinguished graduates (top 10% of class). Sep 2009 - Aug 2011

Public Engagement

Invited Public Lectures. Lectures for general public on super-massive black holes and galaxy evolution. Green Templeton College (65 people; 21 Feb 2018). Guildford Astronomical Society (85 people; 7 Nov 2019).

Soapbox Science, Reading. Designed and ran interactive public engagement activity on super-massive black holes for Soapbox Science, which showcases women scientists as role models for the public. 8 Jun 2019.

Outreach Coordinator, Oxford Women in Physics. New position in the organisation, planning two major upcoming events within the next eight months. Contributed to events like Somerville Girls into Science Day 2017. — Oct 2016 – Jan 2018

Public Outreach, Leiden Old Observatory. Helped with open day for public to view the observatory, visitor's center, and participate in outreach activities. — Oct 2012, 2014

Physics Girls' Inreach. Developed content for and organized all logistics for public inreach targeted to 10/11 year old girls with the intent to interest them in science and show them strong female role models. — Apr 2005

Angell Hall Public Viewing Nights. Operated 0.6 meter telescope, Celestron 8 telescopes, and planetarium at Angell Hall Observatory for public viewing nights with the Student Astronomical Society. — Jan 2003 - Apr 2005

Physics Public Outreach. Taught multiple hour-long workshops on various physical principles with the Society of Physics Students. — Aug 2004 - Apr 2005

Scientific Presentations

Invited Colloquia and seminars, typically on *A Low Frequency Radio Perspective on AGN*

- Liverpool John Moores University, UK — 30 Oct 2019
- University of Sheffield, UK — 12 Jun 2019
- Jodrell Bank Centre for Astrophysics, UK — 1 May 2019
- ASTRON, NL — 25 Oct 2018
- University of Southampton, UK — 16 Oct 2018
- University College Dublin, IE — 4 Oct 2018
- Oskar Klein Centre, SE — 12 Jun 2018
- University of Sussex, UK — 26 May 2017
- University of Hertfordshire, UK — 13 Nov 2015
- University of Oxford, UK — 12 Nov 2015
- Carnegie Observatory, USA — 24 Jul 2015
- IPAC/Caltech, USA — 22 Jul 2015
- University of Oklahoma, USA — 16 Dec 2013
- National Radio Astronomy Observatory (Socorro), USA — 25 Jul 2012

Invited talks at Conferences and Workshops

- European Astronomical Society Annual Meeting Special Session 16 (Virtual) — 29 Jun 2020
  High resolution at low frequencies: sub-arcsecond imaging with LOFAR
- SKA-VLBI Workshop (SKA Headquarters) — 15 Oct 2019
  AGN Surveys at low frequencies with the International LOFAR Telescope
- Multi-messenger astronomy with SKA precursors and pathfinders (Aveiro, PT) — 13 May 2019
  The Low Frequency Array and the power of radio surveys
- Oxford Scientist launch event (Oxford, UK) — 2 Jun 2019
  My Journey in Science
- Astronomy and Science from the Moon (Paris Observatory, FR) — 22 Jun 2017
  LOFAR to SKA: an observer's perspective
- Google Tech Talk (Munich, DE) — 11 Oct 2013
  High Redshift Radio Galaxies and the Advent of LOFAR

Publication Record

10 first-author, 3 second-author, and 40 co-author peer-reviewed publications; also 9 conference proceedings. Total of 1435 citations as of 07 Mar 2021.

First Author

(1) **Morabito**, L. K. and Silk, J. *Reaching small scales with low-frequency imaging: applications to the Dark Ages.* Philosophical Transactions of the Royal Society of London Series A, 379,. **2021**, cit. 2

(2) **Morabito**, L. K., Matthews, J. H., Best, P. N., and 14 colleagues *The origin of radio emission in broad absorption line quasars: Results from the LOFAR Two-metre Sky Survey.* A&A, 622,. **2019**, cit. 8

(3) **Morabito**, Leah K. and Harwood, Jeremy J. *Investigating the cause of the α-z relation.* MNRAS, 480, 2726-2732. **2018**, cit. 6

(4) **Morabito**, Leah K., Williams, W. L., Duncan, Kenneth J., and 17 colleagues *Investigating the unification of LOFAR-detected powerful AGN in the Boötes field.* MNRAS, 469, 1883-1896. **2017**, cit. 9

(5) **Morabito**, Leah K., Deller, Adam T., Röttgering, Huub, and 8 colleagues *LOFAR VLBI studies at 55 MHz of 4C 43.15, a z = 2.4 radio galaxy.* MNRAS, 461, 2676-2687. **2016**, cit. 12

(6) **Morabito**, Leah K., Oonk, J. B. R., Salgado, Francisco, and 30 colleagues *Discovery of Carbon Radio Recombination Lines in M82.* ApJ, 795,. **2014**, cit. 19

(7) **Morabito**, Leah K., Dai, Xinyu, Leighly, Karen M., Sivakoff, Gregory R., and Shankar, Francesco *Unveiling the Intrinsic X-Ray Properties of Broad Absorption Line Quasars with a Relatively Unbiased Sample.* ApJ, 786,. **2014**, cit. 13

(8) **Morabito**, Leah K., van Harten, Gerard, Salgado, Francisco, and 3 colleagues *Exact bound-bound Gaunt factor values for quantum levels up to n = 2000.* MNRAS, 441, 2855-2860. **2014**, cit. 3

(9) **Morabito**, Leah K. and Dai, Xinyu *A Bayesian Monte Carlo Analysis of the M-σ Relation.* ApJ, 757,. **2012**, cit. 10

(10) **Morabito**, Leah K., Dai, Xinyu, Leighly, Karen M., Sivakoff, Gregory R., and Shankar, Francesco *Suzaku Observations of Three FeLoBAL Quasi-stellar Objects: SDSS J0943+5417, J1352+4239, and J1723+5553.* ApJ, 737,. **2011**, cit. 15

Second Author

(1) Salgado, **F.**, Morabito, L. K., Oonk, J. B. R., and 4 colleagues *Low-frequency Carbon Radio Recombination Lines. I. Calculations of Departure Coefficients.* ApJ, 837,. **2017**, cit. 18

(2) Salgado, **F.**, Morabito, L. K., Oonk, J. B. R., and 4 colleagues *Low-frequency Carbon Radio Recombination Lines. II. The Diffuse Interstellar Medium.* ApJ, 837,. **2017**, cit. 12

(3) Oonk, **R.**, Morabito, L., Salgado, F., and 4 colleagues *The Physics of the Cold Neutral Medium: Low-frequency Radio Recombination Lines with the Square Kilometre Array.* Advancing Astrophysics with the Square Kilometre Array (AASKA14),. **2015**, cit. 6

Co-Author

(1) Delhaize, J., Heywood, I., Prescott, M., and 31 colleagues *MIGHTEE: are giant radio galaxies more common than we thought?.* MNRAS, 501, 3833-3845. **2021**, cit. 2

(2) Rankine, Amy L., Matthews, James H., Hewett, Paul C., and 3 colleagues *Placing LOFAR-detected quasars in CIV emission space: implications for winds, jets and star formation.* MNRAS,. **2021**, cit. 0

(3) Rankine, Amy L., Matthews, James H., Hewett, Paul C., and 3 colleagues *Placing LOFAR-detected quasars in C IV emission space: implications for winds, jets and star formation.* MNRAS, 502, 4154-4169. **2021**, cit. 0

(4) Tasse, C., Shimwell, T., Hardcastle, M. J., and 29 colleagues *The LOFAR Two Meter Sky Survey: Deep Fields, I – Direction-dependent calibration and imaging.* arXiv e-prints,. **2020**, cit. 8

(5) Fawcett, V. A., Alexander, D. M., Rosario, D. J., and 5 colleagues *Fundamental differences in the radio properties of red and blue quasars: enhanced compact AGN emission in red quasars.* MNRAS, 494, 4802-4818. **2020**, cit. 5

(6) Rosario, D. J., Fawcett, V. A., Klindt, L., and 5 colleagues *Fundamental differences in the radio properties of red and blue quasars: insight from the LOFAR Two-metre Sky Survey (LoTSS).* MNRAS, 494, 3061-3079. **2020**, cit. 5

(7) Muxlow, T. W. B., Thomson, A. P., Radcliffe, J. F., and 37 colleagues *The e-MERGE Survey (e-MERLIN Galaxy Evolution Survey): overview and survey description.* MNRAS, 495, 1188-1208. **2020**, cit. 4

(8) Duncan, K. J., Kondapally, R., Brown, M. J. I., and 20 colleagues *The LOFAR Two-metre Sky Survey Deep Fields – Data Release 1: IV. Photometric redshifts and stellar masses.* arXiv e-prints,. **2020**, cit. 0

(9) Shimwell, T. W., Tasse, C., Hardcastle, M. J., and 104 colleagues *The LOFAR Two-metre Sky Survey. II. First data release.* A&A, 622,. **2019**, cit. 162

(10) de Gasperin, F., Dijkema, T. J., Drabent, A., and 17 colleagues *Systematic effects in LOFAR data: A unified calibration strategy.* A&A, 622,. **2019**, cit. 49

(11) Hardcastle, M. J., Williams, W. L., Best, P. N., and 20 colleagues *Radio-loud AGN in the first LoTSS data release. The lifetimes and environmental impact of jet-driven sources.* A&A, 622,. **2019**, cit. 48

(12) Williams, W. L., Hardcastle, M. J., Best, P. N., and 38 colleagues *The LOFAR Two-metre Sky Survey. III. First data release: Optical/infrared identifications and value-added catalogue.* A&A, 622,. **2019**, cit. 47

(13) Mingo, B., Croston, J. H., Hardcastle, M. J., and 15 colleagues *Revisiting the Fanaroff-Riley dichotomy and radio-galaxy morphology with the LOFAR Two-Metre Sky Survey (LoTSS).* MNRAS, 488, 2701-2721. **2019**, cit. 40

(14) Sabater, J., Best, P. N., Hardcastle, M. J., and 18 colleagues *The LoTSS view of radio AGN in the local Universe. The most massive galaxies are always switched on.* A&A, 622,. **2019**, cit. 40

(15) Duncan, K. J., Sabater, J., Röttgering, H. J. A., and 24 colleagues *The LOFAR Two-metre Sky Survey. IV. First Data Release: Photometric redshifts and rest-frame magnitudes.* A&A, 622,. **2019**, cit. 29

(16) O'Sullivan, S. P., Machalski, J., Van Eck, C. L., and 27 colleagues *The intergalactic magnetic field probed by a giant radio galaxy.* A&A, 622,. **2019**, cit. 25

(17) Mahatma, V. H., Hardcastle, M. J., Williams, W. L., and 19 colleagues *LoTSS DR1: Double-double radio galaxies in the HETDEX field.* A&A, 622,. **2019**, cit. 23

(18) Croston, J. H., Hardcastle, M. J., Mingo, B., and 13 colleagues *The environments of radio-loud AGN from the LOFAR Two-Metre Sky Survey (LoTSS).* A&A, 622,. **2019**, cit. 17

(19) Gürkan, Gülay, Hardcastle, M. J., Best, P. N., and 17 colleagues *LoTSS/HETDEX: Optical quasars. I. Low-frequency radio properties of optically selected quasars.* A&A, 622,. **2019**, cit. 15

(20) Hale, C. L., Williams, W., Jarvis, M. J., and 12 colleagues *LOFAR observations of the XMM-LSS field.* A&A, 622,. **2019**, cit. 10

(21) Mooney, S., Quinn, J., Callingham, J. R., and 13 colleagues *Blazars in the LOFAR Two-Metre Sky Survey first data release.* A&A, 622,. **2019**, cit. 5

(22) Stacey, H. R., McKean, J. P., Jackson, N. J., and 15 colleagues *LoTSS/HETDEX: Disentangling star formation and AGN activity in gravitationally lensed radio-quiet quasars.* A&A, 622,. **2019**, cit. 2

(23) Williams, W. L., Calistro Rivera, G., Best, P. N., and 13 colleagues *LOFAR-Boötes: properties of high- and low-excitation radio galaxies at $0.5 < z < 2.0$.* MNRAS, 475, 3429-3452. **2018**, cit. 22

(24) Nyland, K., Harwood, J. J., Mukherjee, D., and 19 colleagues *Revolutionizing Our Understanding of AGN Feedback and its Importance to Galaxy Evolution in the Era of the Next Generation Very Large Array.* ApJ, 859,. **2018**, cit. 18

(25) Read, S. C., Smith, D. J. B., Gürkan, G., and 14 colleagues *The Far-Infrared Radio Correlation at low radio frequency with LOFAR/H-ATLAS.* MNRAS, 480, 5625-5644. **2018**, cit. 12

(26) Shimwell, T. W., Röttgering, H. J. A., Best, P. N., and 69 colleagues *The LOFAR Two-metre Sky Survey. I. Survey description and preliminary data release.* A&A, 598,. **2017**, cit. 198

(27) Sobral, David, Matthee, Jorryt, Best, Philip, and 6 colleagues *The CALYMHA survey: Lyα luminosity function and global escape fraction of Lyα photons at $z = 2.23$.* MNRAS, 466, 1242-1258. **2017**, cit. 67

(28) Calistro Rivera, G., Williams, W. L., Hardcastle, M. J., and 20 colleagues *The LOFAR window on star-forming galaxies and AGNs - curved radio SEDs and IR-radio correlation at $0<z<2.5$.* MNRAS, 469, 3468-3488. **2017**, cit. 52

(29) Oonk, J. B. R., van Weeren, R. J., Salas, P., and 5 colleagues *Carbon and hydrogen radio recombination lines from the cold clouds towards Cassiopeia A.* MNRAS, 465, 1066-1088. **2017**, cit. 18

(30) Salas, P., Oonk, J. B. R., van Weeren, R. J., and 6 colleagues *LOFAR observations of decameter carbon radio recombination lines towards Cassiopeia A.* MNRAS, 467, 2274-2287. **2017**, cit. 13

(31) Clarke, A. O., Heald, G., Jarrett, T., and 40 colleagues *LOFAR MSSS: Discovery of a 2.56 Mpc giant radio galaxy associated with a disturbed galaxy group.* A&A, 601,. **2017**, cit. 12

(32) Williams, W. L., van Weeren, R. J., Röttgering, H. J. A., and 32 colleagues *LOFAR 150-MHz observations of the Boötes field: catalogue and source counts.* MNRAS, 460, 2385-2412. **2016**, cit. 106

(33) Shimwell, T. W., Luckin, J., Brüggen, M., and 28 colleagues *A plethora of diffuse steep spectrum radio sources in Abell 2034 revealed by LOFAR.* MNRAS, 459, 277-290. **2016**, cit. 37

(34) Smith, D. J. B., Best, P. N., Duncan, K. J., and 27 colleagues *The WEAVE-LOFAR Survey.* SF2A-2016: Proceedings of the Annual meeting of the French Society of Astronomy and Astrophysics, 271-280. **2016**, cit. 35

(35) Varenius, E., Conway, J. E., Martí-Vidal, I., and 16 colleagues *Subarcsecond international LOFAR radio images of Arp 220 at 150 MHz. A kpc-scale star forming disk surrounding nuclei with shocked outflows.* A&A, 593,. **2016**, cit. 28

(36) Jackson, N., Tagore, A., Deller, A., and 76 colleagues *LBCS: The LOFAR Long-Baseline Calibrator Survey.* A&A, 595,. **2016**, cit. 13

(37) Heald, G. H., Pizzo, R. F., Orrú, E., and 147 colleagues *The LOFAR Multifrequency Snapshot Sky Survey (MSSS). I. Survey description and first results.* A&A, 582,. **2015**, cit. 77

(38) Varenius, E., Conway, J. E., Martí-Vidal, I., and 25 colleagues *Subarcsecond international LOFAR radio images of the M82 nucleus at 118 MHz and 154 MHz.* A&A, 574,. **2015**, cit. 25

(39) Moldón, J., Deller, A. T., Wucknitz, O., and 82 colleagues *The LOFAR long baseline snapshot calibrator survey.* A&A, 574,. **2015**, cit. 16

(40) Oonk, J. B. R., van Weeren, R. J., Salgado, F., and 100 colleagues *Discovery of carbon radio recombination lines in absorption towards Cygnus A.* MNRAS, 437, 3506-3515. **2014**, cit. 16

Conference proceedings

(1) Jimenez-Gallardo, A., Massaro, F., Paggi, A., and 20 colleagues *Extended X-Ray Emission around FR II Radio Galaxies: Hot Spots, Lobes, and Galaxy Clusters.* The Astrophysical Journal Supplement Series, 252,. **2021**, cit. 0

(2) Nyland, Kristina, Harwood, Jeremy, Jagannathan, Preshanth, and 9 colleagues *Revolutionizing Our Understanding of AGN Feedback and its Importance to Galaxy Evolution in the Era of the Next Generation Very Large Array.* American Astronomical Society Meeting Abstracts #231, 231,. **2018**, cit. 0

(3) **Morabito**, L., Deller, A., Moldón, J., and 3 colleagues *A LOFAR survey of spatially resolved Ultra Steep Spectrum sources.* Proceedings of "The many facets of extragalactic radio surveys: towards new scientific challenges" (EXTRA-RADSUR2015). 20-23 October 2015. Bologna,. **2015**, cit. 0

(4) **Morabito**, Leah K., Deller, Adam, Oonk, J. B. R., Röttgering, Huub, and Miley, George *Spatially resolved studies of extragalactic jets in high redshift radio galaxies.* Extragalactic Jets from Every Angle, 313, 231-235. **2015**, cit. 0

(5) Toribio, **M. C.**, Morabito, L. K., Oonk, J. B. R., and 3 colleagues *Radio Recombination Line studies on M82 from LOFAR HBA observations.* Galaxies in 3D across the Universe, 309, 350-350. **2015**, cit. 0

(6) **Morabito**, Leah K., Oonk, J. B. R., Salgado, Francisco, and 3 colleagues *Discovery of Carbon Radio Recombination Lines in M82.* Galaxies in 3D across the Universe, 309, 141-144. **2015**, cit. 0

(7) Moldon, J., Deller, A., Wucknitz, O., and 9 colleagues *The LOFAR long baseline snapshot calibrator survey.* Proceedings of the 12th European VLBI Network Symposium and Users Meeting (EVN 2014). 7-10 October 2014. Cagliari,. **2014**, cit. 0

(8) Dai, **X.**, Morabito, L. K., Shankar, F., Sivakoff, G. R., and Leighly, K. M. *Large BALQSO Fractions Inferred from NIR and Radio Surveys: Implication to AGN and Feedback Models.* AGN Winds in Charleston, 460, 120. **2012**, cit. 0

(9) **Morabito**, Leah K., Dai, X., Leighly, K. M., Sivakoff, G. R., and Shankar, F. *X-ray Observations of Broad Absorption Line Quasars.* American Astronomical Society Meeting Abstracts #219, 219,. **2012**, cit. 0