

# Isabella Lamperti

## PERSONAL DETAILS

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*Languages:* Italian (mother tongue), English (fluent), German (conversational),  
French (basic)

*Citizenship:* Swiss, Italian

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## EDUCATION & RESEARCH EXPERIENCE

**Postdoctoral researcher**, Astrobiology Center (CAB/INTA-CSIC), Spain Dec. 2020-present  
Supervisor: Dr. Miguel Pereira-Santaella  
Project Title: *Investigating molecular gas outflows/inflows in ultra-luminous infrared galaxies (ULIRGs) using high-spatial resolution observations.*

**Ph.D. in Astrophysics**, University College London, UK 2016-2020  
Supervisor: Dr. Amélie Saintonge  
Thesis Title: *Probing galaxy evolution through interstellar dust and gas properties*

**Ph.D. Studentship (1 year)**, European Southern Observatory, Germany Sept. 2019-Sept. 2020  
Supervisors: Dr. Vincenzo Mainieri and Dr. Chris Harrison  
Project Title: *Integrated and spatially resolved dust properties of AGN hosts at  $z \sim 2$*

**Research Project**, Swinburne University of Technology, Australia Aug.-Oct. 2016  
Supervisor: Dr. Deanne Fisher and Prof. Karl Glazebrook  
Project Title: *Ages of massive star forming clumps in turbulent disks from  $H\alpha$  equivalent widths in the DYNAMO survey*

**M.Sc. in Physics**, ETH Zürich, Switzerland 2014-2016  
Supervisors: Dr. Michael Koss and Prof. Kevin Schawinski  
Thesis Title: *Near-infrared spectroscopy of nearby hard X-ray selected AGN*

**B.Sc. in Physics**, ETH Zürich, Switzerland 2010-2014  
Supervisors: Dr. Michael Koss and Prof. Kevin Schawinski  
Project Title: *Measurement of the accretion rate of nearby hard X-ray selected AGN using optical spectroscopy*

## TEACHING

**Marking of Physics exercises**, University College London 2017-2019  
Introduction to Astronomy, Atomic Physics

**Teaching Assistant at the Department of Mathematics**, ETH Zürich 2013-2016  
Mathematics I and II for architects

## SEMINARS AND TALKS

**University College London**, London, UK, *Lunch talk* Jan. 2019

**University of Central Lancashire**, Preston, UK, *Department seminar* Dec. 2018

University of Southampton, Southampton, UK, <i>Lunch talk</i>	May 2017
Durham University, Durham, UK, <i>Lunch talk</i>	March 2017
University of Cambridge, Cambridge, UK, <i>Talk at the X-ray bunclub</i>	Feb. 2017

## CONFERENCES ATTENDED

European Astronomical Society Annual Meeting (EAS 2020), online Poster presentation	June-July 2020
Dusting the Universe, Tucson, AZ, USA Contributed talk: <i>Dust properties of nearby galaxies from the JINGLE survey inferred from hierarchical Bayesian SED fitting</i>	March 2019
The Laws of Star-Formation, Cambridge, UK Poster presentation	July 2018
KIAA Forum of Gas in Galaxies, Peking University, China Poster presentation	June 2018
European Week of Astronomy and Space Science (EWASS), Liverpool, UK Poster presentation	April 2018
Elusive AGN in the Next Era, Fairfax, VA, USA Contributed talk: <i>Near-infrared spectroscopy of nearby hard X-ray selected AGN</i>	June 2017

## INTERNATIONAL SCHOOLS ATTENDED

European Radio Interferometry School (ERIS), Gothenburg, Sweden	Oct. 2019
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## OBSERVING EXPERIENCE

**JCMT:** 10 nights SCUBA-2 and RxA observations for the JINGLE survey (2017-2018)  
**IRAM 30m telescope:** seven nights CO spectroscopic observations for the xCOLD GASS survey (2017), seven nights continuum observations during NIKA-2 observing pool week (2018).

## ACCEPTED PROPOSALS

**IRAM 30m/NIKA-2:** as P.I., Title: *Characterizing the millimeter emission in nearby galaxies with NIKA-2*, 20.9 hours, 2018  
**Magellan/FIRE:** P.I.: E. Treister, Title: *The BASS is on FIRE: Near-IR Spectroscopy of hard-X selected AGN in the local Universe*, 1 night, 2018  
**VLT:** P.I.: K. Oh, Title: *Completing A Census of Black Hole Accretion Rates in the Local Universe through Optical Spectroscopy*, VLT, 31 hours of FORS2 and 37 hours of XSHOOTER, filler program, 2016

## PROGRAMMING SKILLS

Python, L<sup>A</sup>T<sub>E</sub>X, C++ (basic), Softwares: pPXF, CASA, emcee, PyStan

## AWARDS AND GRANTS

Royal Astronomical Society Travel Grant, £660	2018
Swiss Society for Astrophysics and Astronomy (SSAA) Travel Grant for young scientist, £680	2017
Scholarship in Astronomy at Centre for Astrophysics and Supercomputing, Swinburne University of Technology, £2500	2016

## OTHERS

Co-organizer of the Lunch Talks of the Astronomy group at UCL	Spring semester 2019
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## PUBLICATIONS

Summary as of 21/01/2020 according to ADS:

Number of refereed publications: 25

Number of refereed publications as first author: 3

Refereed citations: 356

h-index: 13

### List of publications

#### *First-author papers:*

3. *The CO(3-2)/CO(1-0) luminosity line ratio in nearby star-forming galaxies and AGN from xCOLD GASS, BASS and SLUGS*

**Lamperti, I.**, Saintonge, A., Koss, M., Viti, S., Wilson, D. C., He, H., Shimizu, T., Greve, T., Kramer, C., Mushotzky, R., Sanders, D., Schawinski, K., Tacconi, L. J., and Treister, E.

The Astrophysical Journal, 889, 103 (2020)

2. *JINGLE V: Dust properties of nearby galaxies derived from hierarchical Bayesian SED fitting*

**Lamperti, I.**, Saintonge, A., De Looze, I., Accurso, A., Smith, M. W. L., Clark, C. J. R., Wilson, C. D., Xiao, T., Hwang, H. S., Lin, L., Sargent, M., Bureau, M., Brinks, E., Clements, D. L., Eales, S., Williams, T. G., Brown, T., Yang, C., Michalowski, M. J., Lee, J. C., and Glass, D. H. W.

Monthly Notices of the Royal Astronomical Society, 489, 4389-4417 (2019)

1. *BAT AGN Spectroscopic Survey - IV: Near-infrared coronal Lines, hidden broad lines, and correlation with hard X-ray emission.*

**Lamperti, I.**, Koss, M., Trakhtenbrot, B., Schawinski, K., Ricci, C., Oh, K., Landt, H., Riffel, R., Rodríguez-Ardila, A., Gehrels, N., Harrison, F., Masetti, N., Mushotzky, R., Treister, E., Ueda, Y., and Veilleux, S.

Monthly Notices of the Royal Astronomical Society, 467, 540-572 (2017)

#### *Other publications:*

25. *BAT AGN Spectroscopic Survey. XX. Molecular Gas in Nearby Hard-X-Ray-selected AGN Galaxies*

Koss, M. J.; Strittmatter, B.; **Lamperti, I.**; Shimizu, T.; Trakhtenbrot, B.; Saintonge, A.; Treister, E. Cicone, C.; Mushotzky, R.; Oh, K.; Ricci, C.; Stern, D.; Ananna, T. T.; Bauer, F. E.; Privon, G. C.; Bär, R. F. E.; De Breuck, .; Harrison, F.; Ichikawa, K.; Powell, M. C.; Rosario, D.; Sanders, D. B.; Schawinski, K.; Shao, L.; Urry, M. C.; Veilleux, S.

Astronomy & Astrophysics, 646, A96 (2021)

24. *SUPER. IV. CO(J = 3-2) properties of active galactic nucleus hosts at cosmic noon revealed by ALMA*

Circosta, C.; Mainieri, V.; **Lamperti, I.**; Padovani, P.; Bischetti, M.; Harrison, C. M.; Kakkad, D.; Zanella, A.; Vietri, G.; Lanzuisi, G.; Salvato, M.; Brusa, M.; Carniani, S.; Cicone, C.; Cresci, G.; Feruglio, C.; Husemann, B.; Mannucci, F.; Marconi, A.; Perna, M.; Piconcelli, E.; Puglisi, A.; Saintonge, A.; Schramm, M.; Vignali, C.; Zappacosta, L.

Astronomy & Astrophysics, 646, A96 (2021)

23. *JINGLE - IV. Dust, H I gas, and metal scaling laws in the local Universe*

De Looze, I., **Lamperti, I.**, Saintonge, A., Relaño, M., Smith, M. W. L., Clark, C. J. R., Wilson, C. D., Decleir, M., Jones, A. P.; Kennicutt, R. C., Accurso, G., Brinks, E., Bureau, M., Cigan, P., Clements, D. L., De Vis, P., Fanciullo, L., Gao, Y., Gear, W. K.; Ho, L. C., Hwang, H. S., Michałowski, M. J., Lee, J. C., Li, C., Lin, L., Liu, T., Lomaeva, M., Pan, H. -A., Sargent, M., Williams, T., Xiao, T., and Zhu, M.

Monthly Notices of the Royal Astronomical Society, 496, 3668–3687 (2020)

22. *The HASHTAG project I. A survey of CO(3-2) emission from the star forming disc of M31*

Li, Z., Li, Z., Smith, M. W. L., Wilson, C. D., Gao, Y., Eales, S. A., Ao, Y., Bureau, M., Aaree

- Chung, A., Davis, T. A., de Grijs, R., Eden, D.J., He, J., Hughes, T.M., Jiang, X., Kemper, F., **Lamperti, I.**, Lee, B., Lee, C.-H., Michalowski, M. J., Parsons, H., Ragan, S., Scicluna, P., Shi, Y., Tang, X., Tomičić, N., Viaene, S., Williams, T. G., and Zhu, M.  
Monthly Notices of the Royal Astronomical Society, 492, 195-209 (2020)
21. *BAT AGN Spectroscopic Survey - XIX: Type 1 versus Type 2 AGN dichotomy from the point of view of ionized outflows*  
Rojas, A.F., Sani, E., Gavignaud, I., Ricci, C., **Lamperti, I.**, Koss, M., Trakhtenbrot, B., Schawinski, K., Oh, K., Bauer, F. E., Bischetti, M., Boissay-Malaquin, R., Bongiorno, A., Harrison, F., Kakkad, D., Masetti, N., Ricci, F., Shimizu, T., Stalevski, M., Stern, D., and Vietri, G.  
Monthly Notices of the Royal Astronomical Society, 491, 5867-5880 (2020)
22. *Estimating the molecular gas mass of low-redshift galaxies from a combination of mid-infrared luminosity and optical properties*  
Gao, Y., Xiao, T., Li, C., Jiang, X. J., Tan, Q.H., Gao, Y., Wilson, C.D., Bureau, M., Saintonge, A., Sanchez-Gallego, J. R., Brown, T., Clark, C. J. R., Hwang, H. S., **Lamperti, I.**, Lin, L., Liu, L., Lu, D., Pan, H.A., Sun, J., and Williams, T. G.  
The Astrophysical Journal, 887, 172 (2019)
19. *BAT AGN Spectroscopic Survey - XIII. The nature of the most luminous obscured AGN in the low-redshift universe*  
Bär, R. E., Trakhtenbrot, B., Oh, K., Koss, M. J., Wong, O. I., Ricci, C., Schawinski, K., Weigel, A. K., Sartori, L.F., Ichikawa, K., Secrest, N. J., Stern, D., Pacucci, F., Mushotzky, R., Powell, M. C.; Ricci, F., Sani, E., Smith, K. L., Harrison, F. A., **Lamperti, I.**, and Urry, M. C.  
Monthly Notices of the Royal Astronomical Society, 489, 3073-3092 (2019)
18. *BAT AGN Spectroscopic Survey. XVI. General Physical Characteristics of BAT Blazars*  
Paliya, Vaidehi S., Koss, M., Trakhtenbrot, B., Ricci, C., Oh, K., Ajello, M., Stern, D., Powell, M. C., Urry, C. M., Harrison, F., **Lamperti, I.**, Mushotzky, R., Marcotulli, L., Mejía-Restrepo, J., and Hartmann, D.  
The Astrophysical Journal, 881, 154 (2019)
17. *JINGLE, a JCMT legacy survey of dust and gas for galaxy evolution studies - II. SCUBA-2 850 $\mu$ m data reduction and dust flux density catalogues*  
Smith, M. W. L., Clark, C. J. R., De Looze, I., **Lamperti, I.**, Saintonge, A., Wilson, C. D., Accurso, G., Brinks, E., Bureau, M., Chung, E. J., Cigan, P. J., Clements, D. L., Dharmawardena, T., Fanciullo, L., Gao, Y., Gao, Y., Gear, W. K., Gomez, H. L., Greenslade, J., Hwang, H. S., Kemper, F., Lee, J. C., Li, C., Lin, L., Liu, L., Molnár, D. C., Mok, A., Pan, H., Sargent, M., Scicluna, P., Smith, C. M. A., Urquhart, S., Williams, T. G., Xiao, T., Yang, C., and Zhu, M.  
Monthly Notices of the Royal Astronomical Society, 486(3), 4166-4185 (2019)
16. *NuSTAR and Keck Observations of Heavily Obscured Quasars Selected by WISE*  
Yan, W., Hickox, R. C., Hainline, K. N., Stern, D., Lansbury, G., Alexander, D. M., Hviding, R. E., Roberto J. Assef, R. J., Ballantyne, D. R., Dipompeo, M. A., Lanz, L., Carroll, C. M., Koss, M., **Lamperti, I.**, Civano, F., Del Moro, A., Gandhi, P., and Myers, A. D.  
The Astrophysical Journal, 870, 33 (2019)
15. *JINGLE, a JCMT legacy survey of dust and gas for galaxy evolution studies - I. Survey overview and first results.*  
Saintonge, A., Wilson, C. D., Xiao, T., Lin, L., Hwang, H. S., Tosaki, T., Bureau, M., Cigan, P. J., Clark, C. J. R., Clements, D. L., De Looze, I., Dharmawardena, T., Gao, Y., Gear, W. K., Greenslade, J., **Lamperti, I.**, Lee, J. C., Li, C., Michalowski, M. J., Mok, A., Pan, H.-A., Sansom, A. E., Sargent, M., Smith, M. W. L., Williams, T., Yang, C., Zhu, M., Accurso, G., Barmby, P., Brinks, E., Bourne, N., Brown, T., Chung, A., Chung, E. J., Cibinel, A., Coppin, K., Davies, J., Davis, T. A., Eales, S., Fanciullo, L., Fang, T., Gao, Y., Glass, D. H. W., Gomez, H. L., Greve, T., He, J., Ho, L. C., Huang, F., Jeong, H., Jiang, X., Jiao, Q., Kemper, F., Kim, J. H., Kim, M., Kim, T., Ko, J., Kong, X., Lacaille, K., Lacey, C. G., Lee, B., Lee, J. H., Lee, W.-K., Masters, K., Oh, S.-H., Papadopoulos, P., Park, C., Park, S.-J., Parsons, H., Rowlands,

- K., Scicluna, P., Scudder, J. M., Sethuram, R., Serjeant, S., Shao, Y., Sheen, Y.-K., Shi, Y., Shim, H., Smith, C. M. A., Spekkens, K., Tsai, A.-L., Verma, A., Urquhart, S., Violino, G., Viti, S., Wake, D., Wang, J., Wouterloot, J., Yang, Y., Yim, K., Yuan, F., and Zheng, Z. .  
Monthly Notices of the Royal Astronomical Society, 481(3), 3497-3519 (2018)
14. *BAT AGN Spectroscopic Survey - XII. The relation between coronal properties of active galactic nuclei and the Eddington ratio.*  
Ricci, C., Ho, L. C., Fabian, A. C., Trakhtenbrot, B., Koss, M. J., Ueda, Y., Lohfink, A., Shimizu, T., Bauer, F. E., Mushotzky, R., Schawinski, K., Paltani, S., **Lamperti, I.**, Treister, E., and Oh, K.  
Monthly Notices of the Royal Astronomical Society, 480, 1819-1830 (2018)
  13. *BAT AGN Spectroscopic Survey. VIII. Type 1 AGN with Massive Absorbing Columns.*  
Shimizu, T. T., Davies, R. I., Koss, M., Ricci, C., **Lamperti, I.**, Oh, K., Schawinski, K., Trakhtenbrot, B., Burtscher, L., Genzel, R., Lin, M.-y., Lutz, D., Rosario, D., Sturm, E., and Tacconi, L. .  
The Astrophysical Journal, 856, 154 (2018)
  12. *xCOLD GASS: The Complete IRAM 30 m Legacy Survey of Molecular Gas for Galaxy Evolution Studies.*  
Saintonge, A., Catinella, B., Tacconi, L. J., Kauffmann, G., Genzel, R., Cortese, L., Davée, R., Fletcher, T. J., Graciá-Carpio, J., Kramer, C., Heckman, T. M., Janowiecki, S., Lutz, K., Rosario, D., Schiminovich, D., Schuster, K., Wang, J., Wuyts, S., Borthakur, S., **Lamperti, I.**, and Roberts-Borsani, G. W.  
The Astrophysical Journal Supplement Series, 233, 22 (2017)
  11. *BAT AGN Spectroscopic Survey - V. X-Ray Properties of the Swift/BAT 70-month AGN Catalog.*  
Ricci, C., Trakhtenbrot, B., Koss, M. J., Ueda, Y., Del Vecchio, I., Treister, E., Schawinski, K., Paltani, S., Oh, K., **Lamperti, I.**, Berney, S., Gandhi, P., Ichikawa, K., Bauer, F. E., Ho, L. C., Asmus, D., Beckmann, V., Soldi, S., Balokovic, M., Gehrels, N., and Markwardt, C. B.  
The Astrophysical Journal Supplement Series, 233, 17 (2017a)
  10. *BAT AGN Spectroscopic Survey - I. Spectral Measurements, Derived Quantities, and AGN Demographics.*  
Koss, M., Trakhtenbrot, B., Ricci, C., **Lamperti, I.**, Oh, K., Berney, S., Schawinski, K., Balokovic, M., Baronchelli, L., Crenshaw, D. M., Fischer, T., Gehrels, N., Harrison, F., Hashimoto, Y., Hogg, D., Ichikawa, K., Masetti, N., Mushotzky, R., Sartori, L., Stern, D., Treister, E., Ueda, Y., Veilleux, S., and Winter, L.  
The Astrophysical Journal, 850(1), 74 (2017)
  9. *The close environments of accreting massive black holes are shaped by radiative feedback.*  
Ricci, C., Trakhtenbrot, B., Koss, M. J., Ueda, Y., Schawinski, K., Oh, K., **Lamperti, I.**, Mushotzky, R., Treister, E., Ho, L. C., Weigel, A., Bauer, F. E., Paltani, S., Fabian, A. C., Xie, Y., and Gehrels, N.  
Nature, 549(7), 488-491 (2017b)
  8. *BAT AGN Spectroscopic Survey (BASS) - VI. The  $\Gamma_X - L/L_{\text{Edd}}$  relation.*  
Trakhtenbrot, B., Ricci, C., Koss, M. J., Schawinski, K., Mushotzky, R., Ueda, Y., Veilleux, S., **Lamperti, I.**, Oh, K., Treister, E., Stern, D., Harrison, F., Balokovic, M., and Gehrels, N.  
Monthly Notices of the Royal Astronomical Society, 470(1), 800-814 (2017)
  7. *The NuSTAR Serendipitous Survey: Hunting for the Most Extreme Obscured AGN at  $> 10$  keV.*  
Lansbury, G. B., Alexander, D. M., Aird, J., Gandhi, P., Stern, D., Koss, M., **Lamperti, I.**, Ajello, M., Annuar, A., Assef, R. J., Ballantyne, D. R., Balokovic, M., Bauer, F. E., Brandt, W. N., Brightman, M., Chen, C. T. J., Civano, F., Comastri, A., Del Moro, A., Fuentes, C., Harrison, F. A., Marchesi, S., Masini, A., Mullaney, J. R., Ricci, C., Saez, C., Tomsick, J. A., Treister, E., Walton, D. J., and Zappacosta, L. .  
The Astrophysical Journal, 846(1), 20 (2017)

6. *The weak Fe fluorescence line and long-term X-ray evolution of the Compton-thick active galactic nucleus in NGC 7674.*  
 Gandhi, P., Annular, A., Lansbury, G. B., Stern, D., Alexander, D. M., Bauer, F. E., Bianchi, S., Boggs, S. E., Boorman, P. G., Brandt, W. N., Brightman, M., Christensen, F. E., Comastri, A., Craig, W. W., Del Moro, A., Elvis, M., Guainazzi, M., Hailey, C. J., Harrison, F. A., Koss, M., **Lamperti, I.**, Malaguti, G., Masini, A., Matt, G., Puccetti, S., Ricci, C., Rivers, E., Walton, D. J., and Zhang, W. W.  
 Monthly Notices of the Royal Astronomical Society, 467, 4606-4621 (2017)
5. *BAT AGN Spectroscopic Survey - III. An observed link between AGN Eddington ratio and narrow-emission-line ratios.*  
 Oh, K., Schawinski, K., Koss, M., Trakhtenbrot, B., **Lamperti, I.**, Ricci, C., Mushotzky, R., Veilleux, S., Berney, S., Crenshaw, D. M., Gehrels, N., Harrison, F., Masetti, N., Soto, K. T., Stern, D., Treister, E., and Ueda, Y.  
 Monthly Notices of the Royal Astronomical Society, 464, 1466-1473 (2017)
4. *Determining the radio active galactic nuclei contribution to the radio-far-infrared correlation using the black hole Fundamental Plane relation.*  
 Wong, O. I., Koss, M. J., Schawinski, K., Kapińska, A. D., **Lamperti, I.**, Oh, K., Ricci, C., Berney, S., and Trakhtenbrot, B.  
 Monthly Notices of the Royal Astronomical Society, 460, 1588-1597 (2016)
3. *A New Population of Compton-thick AGNs Identified Using the Spectral Curvature above 10 keV.*  
 Koss, M. J., Assef, R., Balokovic, M., Stern, D., Gandhi, P., **Lamperti, I.**, Alexander, D. M., Ballantyne, D. R., Bauer, F. E., Berney, S., Brandt, W. N., Comastri, A., Gehrels, N., Harrison, F. A., Lansbury, G., Markwardt, C., Ricci, C., Rivers, E., Schawinski, K., Trakhtenbrot, B., Treister, E., and Urry, C. M.  
 The Astrophysical Journal, 825(2), 85 (2016b)
2. *NuSTAR Resolves the First Dual AGN above 10 keV in SWIFT J2028.5+2543.*  
 Koss, M. J., Glidden, A., Balokovic, M., Stern, D., **Lamperti, I.**, Assef, R., Bauer, F., Ballantyne, D., Boggs, S. E., Craig, W. W., Farrah, D., Fürst, F., Gandhi, P., Gehrels, N., Hailey, C. J., Harrison, F. A., Markwardt, C., Masini, A., Ricci, C., Treister, E., Walton, D. J., and Zhang, W. W.  
 The Astrophysical Journal Letters, 824, L4 (2016a)
1. *BAT AGN spectroscopic survey-II. X-ray emission and high-ionization optical emission lines.*  
 Berney, S., Koss, M., Trakhtenbrot, B., Ricci, C., **Lamperti, I.**, Schawinski, K., Balokovic, M., Crenshaw, D. M., Fischer, T., Gehrels, N., Harrison, F., Hashimoto, Y., Ichikawa, K., Mushotzky, R., Oh, K., Stern, D., Treister, E., Ueda, Y., Veilleux, S., and Winter, L.  
 Monthly Notices of the Royal Astronomical Society, 454, 3622-3634 (2015)