CHIARA MAZZUCCHELLI

Universidad Diego Portales (UDP), Av. Ejército 441, Santiago, Chile
ORCID: 0000-0002-5941-5214 ⋄ chiara.mazzucchelli@mail.udp.cl

GENERAL SKILLS/INTERESTS

- Optical/NIR spectroscopy and photometry
- Large area sky surveys
- Spectral Energy Distribution fitting
- Scientific Interests:
  - Active Galactic Nuclei in the Epoch of Reionization
  - Protoclusters / high redshift galaxies
  - Black hole mass measurements
  - Supermassive black hole binaries

PROFESSIONAL EXPERIENCE

Faculty Member Jul 2022 –
Instituto de Estudios Astrofísicos, Facultad de Ingeniería y Ciencias, Universidad Diego Portales, Santiago de Chile

Research Fellow Oct 2018 – Jun 2022
European Southern Observatory, Santiago de Chile

Postdoctoral Researcher Jul 2018 – Sep 2018
Max Planck Institute for Astronomy; Heidelberg, Germany

EDUCATION

PhD in Astronomy Nov 2014 - Jul 2018
Max Planck Institute for Astronomy; Heidelberg, Germany

· *Thesis*: The Physical Properties and Cosmic Environments of Quasars in the First Gyr of the Universe
Supervisor: Dr. F. Walter

Master in Astrophysics Oct 2012 - Sep 2014
Universitá degli studi di Milano–Bicocca Milano, Italy

· *Thesis*: Environment of massive black hole binary candidates
Supervisors: Dr. M. Dotti, Dr. R. Decarli

Bachelor in Physics Oct 2009 - Oct 2012
Universitá degli studi di Milano–Bicocca Milano, Italy

· *Thesis*: Multifrequency study of the mass-luminosity relation for disk galaxies
Supervisors: Pr. G. Gavazzi, Dr. M. Dotti

TEACHING/LECTURES

Curso de Formación General – Astronomía Moderna: una Perspectiva Cósmica Mar-Jul 2023
Universidad Diego Portales, Santiago, Chile

Curso de Formación General – Astronomía Moderna: una Perspectiva Cósmica Aug-Dec 2022
Universidad Diego Portales, Santiago, Chile

Tutor for ESO PhD La Silla Observing Summer School Feb 2020
ESO, La Silla Observatory, Chile

Remote Lecture at ESO, Chile 2 Jul 2021
Lecture for ESO-Chile PhD Students:
"Quasars in the Epoch of Reionization: Properties and Environment"

Invited Remote Lecture at UNAB, Chile 22 Sept 2020, 9 Oct 2021
Lecture at the advanced course for PhD "Topics of Astrophysics":
"Quasars in the Epoch of Reionization: Properties and Environment"

Supervision of Wavefront Analysis Laboratory for undergraduate students 2015 – 2016
University of Heidelberg, Heidelberg, Germany

Introduction to Astronomy for primary to undergraduate students 2013 – 2014
Fondazione Osservatorio Astronomico Messier 13, Tradate, Italy

SUPERVISING

Supervision of PhD Student Candidate at UDP: Tatevik Mkrtchyan Aug 2022 –
Project: High$-z$ Luminous Quasars with 4MOST

Co-Supervision of ESO Intern Student: Samuel Lai Aug 2021 – Sep 2021
Project: Chemical Abundance in Quasar Broad-Line Region at z =6 *with Fuyan Bian*

Supervision of short term project of PhD Student: Sofia Rojas-Ruiz Mar–Sept 2021
Project: An HST view of the Environment of a Luminous Quasar at z=7.5

Co-Supervision of ESO PhD Student: Ana Jimenez-Gallardo Feb 2021 –Jan 2022
Project: A Chandra-MUSE insight into Radio Galaxies *with Eleonora Sani*

Co-Supervision of ESO/PSO Summer Student: Paula Salvo Marin Jan–Feb 2021
Project: PIWI: A Paranal Interactive WIdget *with Eleonora Sani/Lodovico Coccato*

Supervision of ESO Intern Student: Alonso Luna Oct–Dec 2020
Project: Search of faint galaxies and QSOs around known high redshift QSOs.

OBSERVING EXPERIENCE

Paranal Observatory 210 Nights; Nov 2018 – Apr 2022
Support Astronomer UT1 & UT2 / KMOS Instrument Fellow

Service/Visitor observations with FORS2, KMOS, NACO, X-SHOOTER, UVES, FLAMES, ESPRESSO

2.2m MPG/ESO, La Silla 36 Nights; Dec 2014 – Jan 2020

Photometry follow-up of high redshift quasar candidates with GROND
Queue observations for Max-Planck Institute for Astronomy with GROND, WFI, FEROS

Magellan Baade, Las Campanas Observatory 2 Nights; Jan 2019

Spectroscopic Follow-up of high redshift quasar candidates with FIRE

NTT, La Silla 5 Nights; May 2017

Photometry Follow-up of high redshift quasar candidates with EFOSC2, SOFI

LBT, Mount Graham 5 Nights; Apr 2017

The most distant QSOs: Probes of the early Universe with MODS

Keck, UCLA 2 Nights; Feb 2017

Thermal memory of cosmic reionization with HIRES

1.52m Cassini, Loiano 1 Night; Feb 2013

Long-slit spectroscopy of nearby spiral galaxies with BFOSC

PROPOSALS

PI

Magellan Baade/FIRE 1.5n ; Jun 2023
"The Search for Southern Radio-Loud Quasars in the Early Universe"
· Co-Is: Bañados E., Belladitta S., Congiu E., Assef R., Mkrtchyan T., Temple M., Berton M., Rojas A.,

Magellan Baade/FIRE 2n ; Dec 2022
"The Search for Southern Radio-Loud Quasars in the Early Universe"
· Co-Is: Bañados E., Belladitta S., Congiu E., Assef R., Mkrtchyan T., Temple M., Berton M., Rojas A.,

Magellan Clay/LDSS3 1n ; Dec 2022
"Spectroscopic Confirmation of an Overdensity of LAEs around a $z \sim 5.7$ Radio-Loud Quasar"
· Co-Is: Bañados E., Belladitta S., Congiu E., Assef R., Mkrtchyan T.

VLT/FORS2 17h ; Dec 2022
"The Large-Scale Environment of a Powerful Radio Loud Quasar in the Epoch of Reionization"
· Co-Is: Bañados E., Khusanova Y., Belladitta S., Rojas-Ruiz S., Farina E. P., Decarli R., Connor T., Venemans B.

VLT/FORS2 95h ; Jun 2022
"An All-Time Filler for UT1"
· Co-Is: Bañados E., Berg T., Berton M., Bian F., Carballo Bello J. A., Korhonen H., Kurowski S., Harrington K., Navarrete C., Schmidtobreick L., Vietri A.

HST/ACS-WFC3 25h ; Jun 2020
"The Environment of the most distant Radio-Loud Quasar"
· Co-Is: Barth A., Hennawi J., Overzier R., Rojas S., Schindler J.-T., Onoue M., Decarli R., Venemans B., Bañados E., Walter F., Wang F., Farina E. P.

ALMA 6h ; Aug 2019

"The Host Galaxies of the Radio-Loud Quasars at z >5"

· Co-Is: Drake A., Onoue M., Eilers A.-C., Decarli R., Venemans B., Bañados E., Walter F., Wang R., Farina E. P.

VLT/X-Shooter 4.5h ; Mar 2019

"The central properties of the most distant radio source known at z ∼7"

· Co-Is: Decarli R., Walter F., Farina E.P., Venemans B.P., Bañados E. et other

VLT/FORS2 10.4h ; Dec 2017

"Probing the Large Scale Environment of a Radio-Loud QSO at z =5.719"

· Co-Is: Decarli R., Farina E.P., Bañados, E., Venemans B.P., Walter F., Wang R., Li Q., Eilers A.C.

LBT/MODS 10h ; May 2018

"Probing the Environment of a z6 QSO"

· Co-Is: Farina E.P., Decarli R., Walter F., Venemans B.P., Bañados E., Masafusa Onoue, Xiaohui Fan

LBT/LUCI 5h ; Sep 2016

"Characterizing gas rich companions of z >6 quasars"

· Co-Is: Decarli R., Walter F., Farina E.P., Venemans B.P., Bañados E.

Spitzer/IRAC 26.9h ; Sep 2016

"Characterizing gas rich companion galaxies of z ∼ 6 quasars"

· Co-Is: Bañados E., Bertoldi F., Decarli R., Fan X., Farina E.P., Riechers D., Strauss M., Venemans, B.P., Walter F., Wang R.

Co-I

As co-I, I took part to successful proposals lead by collaborators in European institutes (E. Banados, F. Walter, E. Farina, B. Venemans, I. Andika, S. Rojas at Max Planck Institute for Astronomy; R. Decarli at INAF/OABO; V. D'Odorico, F. Vito at Scuola Normale di Pisa; F. Bian at ESO/Vitacura); in the US (X.. Fan, F. Wang at University of Arizona, T. Connor at Carnegie Observatories, A.C. Eilers at MIT); and in Chile (R. Assef at Universidad Diego Portales). These proposals were submitted to several facilities: ESO/VLT (FORS2, KMOS, MUSE, X-SHOOTER), ESO/NTT (SOFI, EFOSC2), ESO/MPG 2.2m (GROND); Las Campanas Observatories (Magellan Baade, FIRE, IMACS); ALMA, NOEMA, VLA; *Chandra*, *HST* and *Spitzer*. I am also co-I in 5 *JWST* Cycle 1 proposals, with PIs R. Decarli, X. Fan, F. Wang and E. Bañados.

JOURNAL REFEREE

Monthly Notices of the Royal Astronomical Society

Astrophysical Journal

ORGANIZING ROLE

Co-Organizer of monthly Seminar "AGN Club" 2018 – 2022
Santiago, Chile

Co-Organizer of ESO/Vitacura Colloquia 2019 – 2021
ESO Headquarters, Santiago, Chile

Co-Organizer of weekly Seminar "Galaxy Coffee" 2015 – 2018
Max Planck Institute for Astronomy, Heidelberg, Germany

Member of the SOC Jun 2023
6th China-Chile conference – Puerto Varas, Chile

Member of the SOC Jan 2022
Quasars and Galaxies through Cosmic Time – UDP/MPIA Online Conference

Member of the Online Organizing Committee Aug-Sept 2021
ESO Paranal-La Silla Proposal Preparation Workshop – ESO/ALMA Online Workshop

Member of the LOC Apr 2021
Galspec21: Extragalactic Spectroscopic Surveys: Past, Present and Future of Galaxy Evolution – ESO Online Conference

Member of the Online Organizing Committee Oct 2020
JWST Cycle1 Preparation Workshop – ESO/ALMA Online Workshop

Co-Organizer of "VLT/VLTI Proposal Preparation" workshop Sep 2019
ESO Headquarters, Santiago, Chile

Member of the LOC Jul 2016
Illuminating the Dark Ages – Max Planck Institute for Astronomy, Heidelberg, Germany

ESO-Chile Fellows Representative Apr 2020 - Aug 2021

COMMITTEES

Member of the CNTAC Committee 2022-Present

Member of the ESO-Chile Fellowship Selection Committee 2020-2021

Member of the ESO-Chile Internship Selection Committee 2019

CONFERENCES, WORKSHOPS, SCHOOLS

XVIII SOCHIAS Meeting 13–16 Mar 2023
Universidad De La Frontera (UFRO); Temuco, Chile

· Contributed Talk: "An ALMA view of the host galaxies of radio-loud quasars at $z > 5$"

Joint Observatories Kavli Science Forum in Chile 25–29 Apr 2021
Hybrid Conference ; ESO, Santiago de Chile

· – Poster Contribution: " An ALMA view of the host galaxies of radio-loud quasars at $z >5$"
· – Talk with E. Sani & A. Jimenez-Gallardo: "Jetted AGN: relevance and idiosyncrasies of a small branch of AGN"

Supermassive Black Holes 7–11 Dec 2020
Online Workshop

· Invited Talk: " Feeding the earliest supermassive black-holes: High-redshift quasars and their environments."

Protoclusters: Galaxies Evolution in Confinement 31 Aug–4 Sep 2020
Online Workshop

· Invited Talk: " A multi-wavelength view of the environment of high$-z$ quasars"

Black Holes and Galaxies at the Edge of the Universe 1–6 Mar 2020
Ringberg Castle ; Munich, Germany

· Invited Review: "Quasars and their Environment: An Observational Review"

Supermassive Black Holes: Environment and Evolution 19–22 Jun 2019
Ionian University ; Corfu, Greece

· Contributed Talk: "The Environment of $z \sim 6$ QSOs: A Multiwavelenght Perspective"

Extremely Big Eyes on the Early Universe 28 Jan-1 Feb 2019
UCLA ; Los Angeles, USA

· Contributed Talk: "A Multi-wavelength View of the Environment of z 6 QSOs"

Are AGN Special? The Environment Dependency and Global Activity of AGN 30 Jul-3 Aug 2018
Durham University ; Durham, UK

· Poster Contribution: "A multiwavelength view on massive star forming companion galaxies to high-redshift quasars"

Young Astronomers on Galactic Nuclei – YAGN17 23-25 Oct 2017
Centro de Estudios de Física del Cosmos de Aragón ; Teruel, Spain

· Contributed Talk: "Properties of quasars in the Epoch of Reionization"

Quasars at all Cosmic Epochs 2-7 Apr 2017
INAF ; Padova, Italy

· Contributed Talk: "Supermassive black holes at the end of the cosmic dark ages: Insights from a sample of 15 quasars at $z > 6.5$"

High-z quasars in the JWST era 15-17 Feb 2017
The Carnegie Observatories ; Pasadena, USA

· Contributed Talk: "The physical properties of the most distant quasars"

Illuminating the Dark Ages 27 Jun-1 Jul 2016
MPIA ; Heidelberg, Germany

· Contributed Talk: "The Pan-STARRS1 search for the highest-redshift quasars"

IMPRS Summer School 2015: Dynamics of the ISM and Star Formation 21-25 Sep 2015
Heidelberg, Germany

Let's group: the life cycle of galaxies in their favorite environment 16–19 Jun 2015
Excellence Cluster Universe; Garching, Germany

· Contributed Talk: "The Environment of a $z \sim$5.7 quasar"

TALKS, SEMINARS

Seminar at *Pontificia Universidad Catolica de Chile*, Santiago, Chile 6 Jun 2023
"An X-Shooter and ALMA view of the Radio-Loud and Radio-Quiet Quasars in the Epoch of Reionization"

Seminar at *Center for Astrophysics, Harvard & Smithsonian*, Cambridge, US 24 May 2022
"High$-z$ Quasars in their Environments"

Seminar at *Universita degli Studi di Milano-Bicocca*, Milan, Italy 16 June 2021
"Quasars in the Epoch of Reionization: Properties and Environments"

Seminar at *Institute of Astrophysics – FORTH*, Crete, Greece 5 May 2021
"High-redshift quasars: Properties and Environments"

Seminar at *University of Tucson*, Arizona, USA 30 Apr 2021
"High-redshift quasars in their Environments"

Seminar at *University of Southampton*, UK 19 Jan 2021
"Quasars in the Epoch of Reionization: Properties and Environment"

Visit at *Universidad Diego Portales*, Chile 6 Dec 2019
Colloquium: "The Properties and Environment of Luminous Quasars in the Epoch of Reionization"

Thirty Minute Talk at *ESO/Vitacura*, Chile, 8 Aug 2019
"Feeding the Giants: a Multiwavelength Perspective of the Environment of $z \sim 6$ QSOs"

Galaxy Coffee at *Max Planck Institute for Astronomy*, Heidelberg, Germany 4 Jul 2019
"The Environment of $z \sim 6$ Quasars: A Multiwavelength Perspective"

Thirty Minute Talk at *ESO/Vitacura*, Chile, 5 Dec 2018
"The Physical Properties of Luminous Quasars in the Epoch of Reionization"

Talk at *AGN-Santiago Meeting*, Chile 24 Oct 2018
"The Physical Properties of Quasars in the Epoch of Reionization"

Visit at *Universidad de Valparaiso*, Chile 8 Jun 2017
Colloquium: "Quasars in the Epoch of Reionization"

Galaxy Coffee at *Max Planck Institute for Astronomy*, Heidelberg, Germany 9 Feb 2017
"The Physical Properties of 15 Quasars at $z > 6.5$"

Galaxy Coffee at *Max Planck Institute for Astronomy*, Heidelberg, Germany 24 Mar 2016
"The Search for the Highest Redshift Quasars with Pan-STARRS1"

Visit at *ESO/Vitacura*, Santiago de Chile 1 Mar 2016
Talk: "The Pan-STARRS1 High Redshift Quasar Survey"

Galaxy Coffee at *Max Planck Institute for Astronomy*, Heidelberg, Germany 16 Apr 2015
"The Environment of Supermassive Black Hole Binary Candidates"

TECHNICAL SKILLS

Computer Languages	Supermongo, Python
Software & Tools	IRAF, SExtractor, Swarp, ESOreflex, GALFIT, TinyTim, LaTex
Operating System	Linux, Windows

OUTREACH TALKS

ESO/ALMA Astronomia al Parque Mar 2022
Parque Bicentenario, Santiago, Chile

Le Mie Notti a Paranal (Italian) Mar 2021
Gruppo Astronomico Tradatese, Tradate, Italy
Online Youtube: https://www.youtube.com/watch?v=PoXszwNbb-M

Partecipation to ESO/ALMA open day Mar 2019
ESO Headquarters, Santiago, Chile

How you found where you were before Google Maps Sep 2018
Astronomy on Tap, Heidelberg, Germany

The World of Galaxies Apr 2013
Fondazione Osservatorio Astronomico Messier 13, Tradate, Italy

Observing the sky with binoculars Nov 2011
Fondazione Osservatorio Astronomico Messier 13, Tradate, Italy

PRESS RELEASES

Most distant quasar with powerful radio jets discovered Mar 2021
Second author of publication ApJ, 909, 80
· *ESO Press Release:* https://www.eso.org/public/news/eso2103/

The most distant supermassive black hole known to date Dec 2017
Third author of publication Nature, 553, 473
· https://www.nasa.gov/feature/jpl/found-most-distant-black-hole

Fast-growing galaxies in the early universe Jul 2017
Co-author of publication Nature, 545, 457
· https://www.mpia.de/news/science/2017-07-young-starforming

Discovery nearly doubles known quasars from the ancient universe Sep 2016
Co-author of publication ApJS, 227, 11,
· https://carnegiescience.edu/node/2089

LANGUAGES

Italian	Native
English	Fluent
Spanish	Fair
French	Elementary
German	Elementary

PUBLICATIONS

Author of 75 referred publications (4 first authors, 1 lead author). Total of 4149 citations. H-index=31. NASA/ADS link: https://ui.adsabs.harvard.edu/user/libraries/GiPn2F9sSd24dJWJv69msQ

XQR−30: Black Hole Masses and Accretion Rates of 42 $z > 6$ Quasars
Mazzucchelli C., Bischetti M., D'Odorico V., Feruglio C., Schindler J.-T., Onoue M., Bañados E., Becker G. D., Bian F., Carniani S., Decarli R., Eilers A.-C., Farina E. P., Gallerani S., Lai S., Meyer R. A., Rojas-Ruiz S., Satyavolu S., Venemans B. P., Wang F., Yang J. and Zhu Y.
arXiv230616474M ; Jul 2023

Spectral Energy Distribution of Companion Galaxies to $z \sim 6$ Quasars
Mazzucchelli C., Decarli R., Farina E. P., Bañados E., Venemans B. P., Strauss M. A., Walter F., Bertoldi F., Fan X., Riechers D., Rix H.-W. and Wang, R.
ApJ, 881, 163 ; Aug 2019

Physical Properties of 15 Quasars at $z > 6.5$
Mazzucchelli C., Bañados E., Venemans B.P., Decarli R., Farina E.P., Walter F., Eilers A.–C., Rix H.–W., Simcoe R., Stern D., Fan X., Schlafly E., De Rosa G., Hennawi J. F., Chambers K., Greiner J., Burgett W., Draper P., Kaiser N., Kudritzki R.-P., Magnier E., Metcalfe N., Waters C., Waincoast R.,
ApJ, 849, 91 ; Oct 2017

No overdensity of Lyman-Alpha Emitting Galaxies around a Quasar at $z \sim 5.7$
Mazzucchelli C., Bañados E., Decarli R., Farina E.P., Venemans B.P., Walter F., Overzier R.,
ApJ, 834, 83, Jan 2017

The discovery of a highly accreting, radio-loud quasar at z=6.82
Bañados E., **Mazzucchelli C.**, Momjian E., Eilers A.-C., Wang F., Schindler J.-T., Connor T., Andika I. T., Baarth A. J., Carilli C., Davies F., Decarli R., Fan X., Farina E. P., Hennawi J. F., Pensabene A., Stern D., Venemans B. P., Wenzl L, Yang J.
ApJ, 909, 80, Mar 2021

An 800 million solar mass black hole in a significantly neutral universe at redshift 7.5
Bañados E., Venemans B.P., **Mazzucchelli C.**, Farina E.P., Walter F., Wang F., Decarli R., Stern D., Fan X., Davies F., Hennawi J. F., Simcoe R., Turner M. L., Rix H.-W., Yang J., Kelson D. D., Rudie G., Winters J. M.,
Nature, 553, 473, Jan 2018

An Overdensity of Lyman Break Galaxies Around the Hot Dust-Obscured Galaxy WISE J224607.56−052634.9
Zewdie D., Assef R., **Mazzucchelli C.**, Aravena M., Blain A. W., Diaz-Santos T., Eisenhardt P., Jun H. D., Tsai C.-W., Hu J. W.
arXiv230617163Z, Jul 2023

The [CII] and FIR properties of $z > 6$ radio-loud quasars
Khusanova Y., Bañados E., **Mazzucchelli C.**, Rojas-Ruiz S., Momjian E., Walter F., Decarli R., Venemans B., Farina E. P., Meyer R., Wang F. and Yang J.
A&A, 664A, 29, Aug 2022

No Redshift Evolution in the Broad Line Region Metallicity up to z=7.54: Deep NIR Spectroscopy of ULAS J1342+0928
Onoue M., Bañados E., **Mazzucchelli C.**, Venemans B.P., Schindler J.-T., Walter F., Hennawi J. F., Andika I. T., Davies F. B., Decarli R., Farina E. P., Jahnke K., Nagao T., Tominaga N. and Wang F.
ApJ, 898, 105O Jun 2020

X-ray Observations of a [C II]-bright, $z = 6.59$ Quasar/Companion System
Connor T., Bañados E., **Mazzucchelli C.**, Stern D., Decarli R., Fan X., Farina E. P., Lusso E.,

Neeleman M. and Walter F.
ApJ, 900, 189 Jul 2020

New insights on the recoiling/binary black hole candidate J0927+2943 via molecular gas observations
Decarli R., Dotti M., **Mazzucchelli C.**, Montuori C., Volonteri M.
MNRAS, 445, 1558, Dec 2014

The cavity of 3CR 196.1: Hα emission spatially associated with an X-ray cavity
Jimenez-Gallardo A., Sani E., Ricci F., **Mazzucchelli C.**, Balmaverde B., Massaro F., Capetti A., Forman W. R., Kraft R. P., Venturi G., Gendron-Marsolais M., Prieto M. A., Marconi A., Peña-Herazo H. A., Baum S. A., O'Dea C. P., Lovisari L., Gilli R., Torresi E., Paggi A., MIssaglia V., Tremblay G. R. and Wilkes B. J.
ApJ, 941, 114, Dec 2022

The Pan-STARRS1 Distant $z > 5.6$ Quasar Survey: More than 100 Quasars within the First Gyr of the Universe
Bañados E., Venemans B.P., Decarli R., Farina E.P., **Mazzucchelli C.**, Walter F., Fan X., Stern D., Schlafly E., Chambers K. C., Rix H.-X., Jiang L., McGreer I., Simcoe R., Wang F., Yang J., Morganson E., De Rosa G., Greiner J., Baloković M., Burgett W. S., Cooper T., Draper P. W., Flewelling H., Hodapp K. W., Jun H. D., Kaiser N., Kudritzki R.-P., Magnier E. A., Metcalfe N., Miller D., Schindler J.-T., Tonry J. L., Wainscoat R. J., Waters C. and Yang Q.
ApJS, 227, 11, Nov 2016

++++++++++++++++++++++++++++

XQR−30: the ultimate XSHOOTER quasar sample at the reionization epoch
D'Odorico V., Bañados E., Becker G. D., and 46 coauthors with **Mazzucchelli C.**
MNRAS, 523, 1399, May 2023

New quasar proximity zone size measurements at z 6 using the enlarged XQR-30 sample
Satyavolu S., Eilers A.-C., Kulkarni G., and 15 coauthors with **Mazzucchelli C.**
MNRAS, 522, 4918, May 2023

A SPectroscopic survey of biased halos In the Reionization Era (ASPIRE): JWST Reveals a Filamentary Structure around a $z = 6.61$ Quasar
Wang F., Yang J., Hennawi J., and 56 coauthors with **Mazzucchelli C.**
ApJ, 951L, 4, Apr 2023

A SPectroscopic survey of biased halos In the Reionization Era (ASPIRE): A First Look at the Rest-frame Optical Spectra of $z > 6.5$ Quasars Using JWST
Yang J., Wang F., Fan X., and 53 coauthors with **Mazzucchelli C.**
ApJ, 951L, 5, Apr 2023

(SHERRY) JCMT-SCUBA2 High Redshift Bright Quasar Survey – II: the environment of $z \sim 6$ quasars in sub-millimeter band
Li Q., Wang R., Fan X., and 13 coauthors with **Mazzucchelli C.**
arXiv230404719L, in press ApJ, Apr 2023

Powerful Radio Sources in the Southern Sky. I. Optical Identifications
Massaro F., White S. V., Garcia-Perez A., and 18 coauthors with **Mazzucchelli C.**
ApJS, 265, 32, Apr 2023

The Pan-STARRS1 $z > 5.6$ quasar survey II: Discovery of 55 Quasars at $5.6 < z < 6.5$
Bañados E., Schindler J.-T., Venemans B., Connor T., Decarli R., Farina E.P., **Mazzucchelli C.** and 16 co-authors
ApJS, 265, 29, Dec 2022

The Pan-STARRS1 $z > 5.6$ Quasar Survey: III. The $z \approx 6$ Quasar Luminosity Function
Schindler J.-T., Bañados E., Connor T., and 9 coauthors with **Mazzucchelli C.**
ApJ, 943, 67, Dec 2022

When Spectral Modeling Meets Convolutional Networks: A Method for Discovering Reionization-era Lensed Quasars in Multi-band Imaging Data
Taufik Andika I., Jahnke K., van der Well A., and 8 coauthors with **Mazzucchelli C.**
ApJ, 943, 150, Nov 2022

The X-shooter/ALMA Sample of Quasars in the Epoch of Reionization. II. Black Hole Masses, Eddington Ratios, and the Formation of the First Quasars
Farina E. P., Schindler J.-T., Walter F., and 20 coauthors with **Mazzucchelli C.**
ApJ, 941, 106, Jul 2022

Chemical abundance of $z \sim 6$ quasar broad-line regions in the XQR-30 sample
Lai, S., Bian, F., Onken, C. A., Wolf, C., **Mazzucchelli C.**, and 15 coauthors
MNRAS, 513, 1801, Jun 2022

Molecular gas in z 6 quasar host galaxies
Decarli R., Pensabene A., Venemans B., and 19 coauthors with **Mazzucchelli C.**
A&A, 662A, 60, Jun 2022

Suppression of black-hole growth by strong outflows at redshifts 5.8-6.6
Bischetti M., Feruglio C., D'Odorico V., and 23 coauthors with **Mazzucchelli C.**
Nature, 605, 244, May 2022

Measuring the Density Fields around Bright Quasars at $z \sim 6$ with XQR-30 Spectra
Chen H., Eilers A.-C., Bosman S., and 10 coauthors with **Mazzucchelli C.**
ApJ, 931, 29, May 2022

The Decoupled Kinematics of High$-z$ QSO Host Galaxies and Their Lyα Halos
Drake A.B., Neeleman M., Venemans B. P., and 7 coauthors with **Mazzucchelli C.**
ApJ, 929, 86, Apr 2022

Constraining galaxy overdensities around three $z \sim 6.5$ quasars with ALMA and MUSE
Meyer R. A., Decarli R., Walter F., and 6 coauthors with **Mazzucchelli C.**
ApJ, 927, 141, Mar 2022

X-Ray Evidence Against the Hypothesis that the Hyper-Luminous $z = 6.3$ Quasar J0100+2802 is Lensed
Connor T., Stern D., Bañados E. and **Mazzucchelli C.**
ApJ, 922L, 24, Dec 2021

The Impact of Powerful Jets on the Far-infrared Emission of an Extreme Radio Quasar at $z \sim 6$
Rojas-Ruiz S., Bañados E., Neeleman M., and 9 coauthors with **Mazzucchelli C.**
ApJ, 920, 150, Oct 2021

An ALMA multi-line survey of the ISM in two quasar host–companion galaxy pairs at $z > 6$
Pensabene A., Decarli R., Bañados E., and 15 coauthors with **Mazzucchelli C.**
A&A, 652A, 66, Aug 2021

Random Forests as a viable method to select and discover high redshift quasars
Wenzl L., Schindler J.-T., Fan X., and 8 coauthors with **Mazzucchelli C.**
AJ, 162, 72, Aug 2021

Raining in MKW 3s: a Chandra-MUSE analysis of X-ray cold filaments around 3CR 318.1
Jimenez-Gallardo A., Massaro F., Balmaverde B. and 23 coauthors with **Mazzucchelli C.**
ApJ, 912L, 25, Apr 2021

Enhanced X-ray Emission from the Most Radio-Powerful Quasar in the Universe's First Billion Years
Connor T., Bañados E., Stern D., and 8 coauthors with **Mazzucchelli C.**
ApJ, 911, 120, Apr 2021

Chandra and Magellan/FIRE follow-up observations of PSO167-13: an X-ray weak QSO at z=6.515
Vito F., Brandt W. N., Ricci F., and 19 coauthors with **Mazzucchelli C.**
A&A, 649A, 133V , Mar 2021

Resolving the Radio Emission from the Quasar P172+18 at z = 6.82
Momjian E., Bañados E., Carilli C. L., Walter F. and **Mazzucchelli C.**
AJ, 161, 207, Mar 2021

A Luminous Quasar at Redshift 7.642
Wang F., Yang J., Fan X., and 20 coauthors with **Mazzucchelli C.**,
ApJ, 907L, 1, Jan 2021

The X-SHOOTER/ALMA Sample of Quasars in the Epoch of Reionization. I. NIR Spectral Modeling, Iron Enrichment, and Broad Emission Line Properties
Schindler J.-T., Farina E. P., Bañados E., and 15 coauthors with **Mazzucchelli C.**,
ApJ, 905, 51, Dec 2020

No Evidence for [C II] Halos or High-velocity Outflows in $z > 6$ Quasar Host Galaxies
Novak M., Venemans B. P., Walter F., and 13 coauthors with **Mazzucchelli C.**,
ApJ, 904, 131, Dec 2020

Kiloparsec-scale ALMA Imaging of [C II] and Dust Continuum Emission of 27 Quasar Host Galaxies at $z \sim 6$
Venemans B. P., Walter F., Neeleman M., and 11 coauthors with **Mazzucchelli C.**,
ApJ, 904, 130, Dec 2020

Revealing the Accretion Physics of Supermassive Black Holes at Redshift $z \sim 7$ with Chandra and Infrared Observations
Wang F., Fan X., Yang Y., **Mazzucchelli C.**, Wu X.-B., and 12 coauthors,
ApJ, 908, 53, Nov 2020

Probing the Nature of High-redshift Weak Emission Line Quasars: A Young Quasar with a Starburst Host Galaxy
Andika I. A., Jahnke, K., Onoue M., Bañados E., **Mazzucchelli C.**, Novak M., and 12 coauthors,
ApJ, 903, 34, Nov 2020

SCUBA2 High Redshift Bright Quasar Survey: Far-infrared Properties and Weak-line Features
Li Q., Wang R., Fan X., and 16 co-authors with **Mazzucchelli C.**
ApJ, 897L, 14, Sep 2020

Pōniuā'ena: A Luminous z=7.5 Quasar Hosting a 1.5 Billion Solar Mass Black Hole
Yang J., Wang F., Fan X., and 16 co-authors with **Mazzucchelli C.**
ApJ, 897L, 14, Jul 2020

The Ionised- and Cool-Gas Content of The BR1202-0725 System as seen by MUSE and ALMA
Drake A. B., Walter F., Farina E. P, Neeleman M., Riechers D., Carilli C., Decarli R., **Mazzucchelli C.**, Onoue M.
ApJ, 902, 37, Jul 2020

Multi-Wavelength Approach for Detecting and Characterizing Young Quasars I: Systemic Redshifts and Proximity Zones Measurements
Eilers A.-C., Hennawi J., Decarli R., and 12 coauthors with **Mazzucchelli C.**,
ApJ, 900, 37, Jan 2020

The REQUIEM Survey. I. A Search for Extended Lyα Nebular Emission Around 31 z > 5.7 Quasars
Farina E., Arrigoni-Battaia F., Costa T., and 17 coauthors with **Mazzucchelli C.**,
ApJ, 887, 196, Dec 2019

X-Ray Observations of a z ∼ 6.2 Quasar/Galaxy Merger
Connor T., Bañados E., Stern D., Decarli R., Schindler J.-T., Fan X., Farina E., **Mazzucchelli C.**, Mulchaey J., and Walter F.
ApJ, 887, 171, Dec 2019

A metal poor damped Ly-alpha system at redshift 6.4
Banados E., Rauch M., Decarli R., Farina E., **Mazzucchelli C.**, and 7 coauthors,
ApJ, 885, 59 , Nov 2019

Resolved [C II] Emission from z > 6 Quasar Host - Companion Galaxy Pairs
Neeleman M., Bañados E., Walter F., and 10 coauthors with **Mazzucchelli C.**,
ApJ, 882, 10, Sep 2019

The z =7.54 Quasar ULAS J1342+0928 Is Hosted by a Galaxy Merger
Bañados E., Novak M., Neeleman M., and 12 coauthors with **Mazzucchelli C.**,
ApJ, 881L, 23, Aug 2019

An ALMA multi-line survey of the interstellar medium of the redshift 7.5 quasar host galaxy J1342+0928
Novak M., Bañados E., Decarli R., and 10 coauthors with **Mazzucchelli C.**,
ApJ, 881, 63 , Aug 2019

Discovery of the first heavily obscured QSO candidate at z >6 in a close galaxy pair
Vito F., Brandt W.N., Bauer F.E., and 14 coauthors with **Mazzucchelli C.**
A&A, 628L, 6, Aug 2019

Lyα Halos Around z ∼6 Quasars
Drake A., Farina E. P., Decarli R., Neeleman M., Walter F., Venemans B., Bañados E., **Mazzucchelli C.** and Decarli R.
ApJ, 881, 131, Aug 2019

ALMA and HST kiloparsec-scale imaging of a quasar-galaxy merger at z ∼6.2
Decarli R., Dotti M., Bañados E., and 12 coauthors with **Mazzucchelli C.**
ApJ, 880, 157, Aug 2019

No Evidence of Enhanced [O III] 88 mmu Emission in z ∼6 compared to its Companion Starbursting Galaxy
Walter F., Riechers D., Novak, M., 14 coauthors with **Mazzucchelli C.**,
ApJ, 869L, 22, Dec 2018

The Discovery of a Luminous Broad Absorption Line Quasar at a Redshift of 7.02
Wang F., Yang J., Fan X., 18 coauthors with **Mazzucchelli C.**,
ApJ, 869L, 9, Dec 2018

No Evidence for Millimeter Continuum Source Overdensities in the Environments of zgtrsim6 Quasars
Champagne J. B., Decarli R., Casey C. M., and 11 coauthors with **Mazzucchelli C.**,
ApJ, 867, 153, Nov 2018

Dust emission in an accretion-rate-limited sample of z >6 quasars
Venemans B.P., Decarli R., Walter F., Bañados E., Bertoldi F., Fan X., Farina, E.P., **Mazzucchelli C.**, Riechers D., Rix H.-W., Wang F., Yang J.,
ApJ, 866, 159, Oct 2018

A Powerful Radio-loud Quasar at the End of Cosmic Reionization
Bañados E., Carilli C., Walter F., Momjian E., Decarli R., Farina E.P., **Mazzucchelli C.**, Venemans

B.P
ApJ, 861L, 14, 2018

Chandra X-Rays from the Redshift 7.54 Quasar ULAS J1342+0928
Bañados E., Connor T., Stern D., Mulchaey J., Fan X., Decarli R., Farina E.P., **Mazzucchelli C.**, Venemans B.P, Walter F., Wang F., Yang J.,
ApJ, 856L, 25, 2018

An ALMA [CII] survey of 27 quasars at $z > 5.94$
Decarli R., Walter F., Venemans B.P., and 11 coauthors with **Mazzucchelli C.**,
ApJ, 854, 97, Jan 2018

Copious Amounts of Dust and Gas in a $z = 7.5$ Quasar Host Galaxy
Venemans B.P., Walter F., Decarli R., Bañados E., and 10 coauthors with **Mazzucchelli C.**,
ApJ, 851L, 8, Dec 2017

Mapping the Lyman-Alpha Emission Around a $z \sim 6.6$ QSO with MUSE: Extended Emission and a Companion at Close Separation
Farina E. P., Venemans B. P., Decarli R., Hennawi J. F., Walter F., Bañados E., **Mazzucchelli C.**, Cantalupo S., Arrigoni-Battaia F., McGreer I. D.,
ApJ, 848, 78, Sep 2017

Rapidly star-forming galaxies adjacent to quasars at redshifts exceeding 6
Decarli R., Walter F., Venemans B. P., and 11 coauthors with **Mazzucchelli C.**
Nature, 545, 457, May 2017

Implications of $z \sim 6$ Quasar Proximity Zones for the Epoch of Reionization and Quasar Lifetimes
Eilers, C.-A., Davies F. B., Hennawi J. F., Prochaska J. X., Lukić Z., **Mazzucchelli C.**
ApJ, 840, 24, May 2017

The identification of Z-dropouts in Pan-STARRS1: Three Quasars at $6.5 < z < 6.7$
Venemans B. P., Bañados E., Decarli R., and 30 co-authors with **Mazzucchelli C.**
ApJ, 801L, 11, Mar 2015

Other non-refereed publications:

Chilean AGN/Galaxy Extragalactic Survey (ChANGES)
Bauer F., Lira P., and 28 coauthors with **Mazzucchelli C.**
Msngr, 190, 34B, Mar 2023

An ALMA View of the Host Galaxies of Radio-Loud Quasars at $z > 5$
Mazzucchelli C., Decarli R., Bañados E., Khusanova Y., Rojas-Ruiz S., Farina E. P.
2022joks, confE, 7M, Apr 2022

VizieR Online Data Catalog: X-SHOOTER/ALMA QSOs at $5.78 < z < 7.54$*. I. NIR sp. (Schindler+, 2020)*
Schindler J.-T., Farina E. P., Bañados E., and 15 coauthors with **Mazzucchelli C.**
yCat, 19050051, Mar 2022

VizieR Online Data Catalog: Random forests method to discover high-redshift QSOs (Wenzl+, 2021)
Wenzl L., Schindler J.-T., Fan X., and 9 coauthors with **Mazzucchelli C.**
yCat, 51620072, Nov 2021

VizieR Online Data Catalog: REQUIEM survey. I. Lyα halos around QSOs (Farina+, 2019)
Farina E. P., Arrigoni-Battaia F., Costa T., and 19 coauthors with **Mazzucchelli C.**
yCat, 18870196, May 2021

Report on the ESO Summer School "La Silla Observing Summer School 2020"
Pompei E., Hartke J., Korhonen H., **Mazzucchelli C.**, Navarrete C., Pala A. F., Sbordone L., Schmidtobreick L.
Msngr.180, 46, Jun 2020

Fellows at ESO
Herenz E. C., **Mazzucchelli C.**
Msngr.180, 53, Jun 2020

A high-resolution, high S/N, optical HARPS public spectrum of Betelgeuse during minimum
Sbordone L. and 29 co-authors, with **Mazzucchelli C.**
2020ATel13525, 1S, Feb 2020

VizieR Online Data Catalog: PS1 $z > 5.6$ quasars follow-up (Banados+, 2016)
Bañados E., Venemans B. P., Decarli R., and 33 coauthors with **Mazzucchelli C.**
yCat, 18870196, Jan 2017