CURRICULUM VITAE

Alessandro Lupi

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Research Interests:

- *Black Holes*
  - Massive black hole formation mechanisms
  - Black hole growth across cosmic times
  - Massive black hole binary formation and evolution

- *Galaxies*
  - Galaxy formation and evolution
  - Cosmic dawn and reionization

- *Interstellar medium and star formation*
  - Star formation in filaments and proto-stellar cores
  - Chemistry of the interstellar medium, and line emission

Education:

Ph.D. in Astronomy and Astrophysics, University of Insubria 2015
Thesis: *Black holes in galactic nuclei: seed formation from stellar mass black holes and massive black hole pairing in galaxy mergers*
MS (cum laude) in Astrophysics and Space Physics, University of Milano Bicocca 2012
Thesis: *Black hole formation in the Universe at high redshift*
Bachelor (cum Laude) in Physics, University of Milano Bicocca 2010
Thesis: *Techniques for dark matter detection through bubble formation*

Employments:

Post-doctoral Fellow at Institut d'Astrophysique de Paris (Paris, France) 2015- 2018
Post-doctoral Fellow at Scuola Normale Superiore (Pisa, Italy) 2018- 2020
Research Fellow at Università degli Studi di Milano Bicocca (Milan, Italy) 2020- 2023
Assistant Professor at Università degli Studi dell'Insubria (Como, Italy) 2023- 2026
Associate Professor at Università degli Studi dell'Insubria (Como, Italy) 2026- now

Teaching:

At University of Insubria:
-Teaching assistant of the class "Electromagnetism II and Special Relativity" (Undergrad level) 2013-2014
-Teaching assistant of the class "Electromagnetism I" (Undergrad level) 2014-2015
-Lecturer of the class "Physics" (Undegrad level, degree in Biotechnology) 2023
-Lecturer of the class "Physics" (Undegrad level, degree in Environmental Sciences) 2023-2025
-Lecturer of the class "Medical Physics" (Undegrad degree in "Professional Caregiver") 2023-now

-Lecturer of the class “Computational Astrophysics” (Master level) 2020-now
-Lecturer of the PhD class “Numerical methods for astrophysics” 2020-2024
At University of Milano Bicocca (Degree in Physics):
-Teaching assistant of the “Computer Science Lab” class (Undergraduate level) 2020-2022
-Teaching assistant of the “Applied Physics” class (Undergraduate level) 2020-2022
-Lecturer of the PhD class “Astrophysical black holes: formation and evolution” 2021

-Lecture series on computational astrophysics (for Master and Ph.D. students) at Universidad de Concepción (Chile) 05/2018

-4 hours of lectures on computational fluiddynamics for astrophysics at Università di Padova (part of the course “SELECTED TOPICS IN MODERN ASTROPHYSICS” by Prof. S. Bovino) 12/2022

Supervision of undergraduate students:

(Co-supervisor) Maria Cristina Fortuna, University of Milano Bicocca 2013
(Co-supervisor) Matteo Zoccolan, University of Milano Bicocca 2015
(Co-supervisor) Matteo Muriano, University of Milano Bicocca 2022

Supervision of master students:

(Co-supervisor) Hugo Pfister, Institut d’Astrophysique de Paris 2016
(Co-supervisor) Elia Cenci, University of Milano Bicocca 2019-2020
(Co-supervisor) Luca Sala, University of Milano Bicocca 2019-2020
(Co-supervisor) Simón Ferrada-Chamorro, Universidad de Concepción 2019-2020
(Co-supervisor) Luis Gonzalez, Universidad de Concepción 2021
(Co-supervisor) Nicol Gutiérrez, Universidad de Concepción 2020-2022
Tommaso Clementi, University of Milano Bicocca 2021-2022
(Co-supervisor) Simona Pacuraru, University of Milano Bicocca 2021-2022
(Co-supervisor) Fabiola Cocchiararo, University of Milano Bicocca 2021-2022
(Co-supervisor) Gonzalo Latrille, Universidad de Concepción 2022-now
(Co-supervisor) Daniel Gaete, Universidad de Concepción 2022-2023
(Co-supervisor) Sebastian Aguilar Castillo, Universidad de Concepción 2022-2025
Giada Quadri, University of Milano Bicocca 2022-2023
Enrico Carnelli, **University of Insubria** 2024-now
Jacopo Gandini (internal supervisor Prof. M. Colpi), University of Milano Bicocca 2024-now
Samuel Mucedola (internal supervisor Prof. M. Colpi), University of Milano Bicocca 2024-now
Daniele Volonterio, **University of Insubria** 2025-now

Supervision/mentoring of Ph.D. students:

(Co-supervisor) Patricio Avila, Universidad de Concepción 2020-2024
(Co-supervisor) Francesco Bollati, **University of Insubria** (now at AIP, Germany) 2020-2023
(Co-supervisor) Giada Quadri, University of Milano Bicocca 2023-now
(Co-supervisor) Fabiola Cocchiarato, University of Milano Bicocca 2022-now
Giacomo Fedrigo, **University of Insubria** 2023-now
Francesco Nobili, **University of Insubria** 2023-now

Post-doc supervision:

Alessandro Trinca, **University of Insubria** (now at Univ. of Edinburgh) 2024-now
Daniele Spinoso, **University of Insubria** 2025-now
Jonas El Gammal, **University of Insubria** 2025-now

Professional activities:

-Reviewer for "Monthly Notices of the Royal Astronomical Society" (MNRAS), "The Astrophysical Journal" (ApJ), "Astronomy & Astrophysics" (A&A), "Publications of the Astronomical Society of Japan" (PASJ), "Nature" (Nat), "The Open Journal of Astrophysics" (OAJ)
-Reviewer for "DIRAC Resource Allocation Committee"
-Panel member of the 2023 NASA Astrophysics Theory Program 10/2023

Memberships (institutes and collaborations):

AGORA collaboration for galaxy simulations 2014-now
Istituto Nazionale di Astrofisica (INAF) 2019-now
Istituto Nazionale di Fisica Nucleare (INFN) 2021-now
LISA Consortium:
- member of the Astrophysics Working Group 2018-now
- chair of the LISA Italy Astrophysics member group and council member 2025-now

VESTIGE collaboration (PI: A. Boselli @ LAM) 2020-now
EREBUS collaboration (JWST/ALMA studies of high-redshift quasar hosts, PI: X. Fan) 2022-now
ALMA-UNIC collaboration (an ALMA large program to probe the deuteration properties of pre- and proto-stellar cores, PI: E. Redaelli @ MPE) 2023-now
"Planets" Cost Action (PI: C. Walsh @ University of Leeds) 2024-now
ACES-CMZ collaboration (an ALMA large program to probe the structure and dynamics of the central molecular zone, PI: S. Longmore @ Livermore University) 2024-now

Computer skills:

N-body/Hydro codes:	GADGET2/3/4, RAMSES, ENZO, GIZMO, LEMONGRAB
Operating Systems:	Linux, Unix, Windows, Mac OS
Programming:	Fortran77, Fortran90, C, C++/#, Objective C, HTML, Visual Basic 6/.NET, ASP, PHP, Python, Julia
Specific software:	TIPSY, SPLASH, PYMSES, YT, MATLAB, PYNBODY

SCHOOLS, MEETINGS & CONFERENCES

Invited talks:

Guillermo Haro workshop 2015: Forming and fueling supermassive black hole seeds
Location: Tonantzintla, Puebla (Mexico), date: 6-24 July 2015
Dense stellar environments as a probe of astrophysics and general relativity: what we can learn from the first GW detection?
Location: Benasque (Spain), date: 5-18 June 2016
YAGN 2017
Location: Teruel (Spain), date: 23-25 October 2017
The early growth of supermassive black holes
Location: Sesto (Italia), date: 2-6 July 2018
YAGN 2018
Location: Budapest (Hungary), date: 29-31 October 2018
YAGN 2020
Location: Copenaghen (Denmark)/Online meeting, date: 28-30 October 2020
SMBH conference - Formation, growth and evolution
Location: Pucon (Chile)/Online meeting, date: 7-11 December 2020
Getting ready to descend the slippery slope of multimessenger cosmological black holes data
Location: Sesto (Italia), date: 23-27 January 2023

Alpbach workshop on stars, clusters, and black holes
Location: Alpbach (Austria), date: 10-14 June 2024
European Astronomy Society Meeting (EAS)
Location: Padova (Italia), date: 1-5 July 2024
ALMABO 2024
Location: Bologna (Italia), date: 9-13 September 2024
Getting ready to descend the slippery slope of multimessenger cosmological black holes data 2025
Location: Sesto (Italia), date: 10-14 February 2025
Unveiling massive black hole evolution with gravitational waves and light
Location: Paris (France), date: 19-23 May 2025
European Astronomy Society Meeting (EAS)
Location: Cork (Ireland), date: 23-27 June 2025
Numerical recipes in star formation @ Lorentz Center
Location: Leiden (Netherlands), date: 21-25 July 2025
Advancing massive black hole modelling across galactic scales
Location: Helsinki (Finland), date: 28-30 July 2025
IFPU Focus week on Little Red Dots
Location: Trieste (Italy), date: 27-31 October 2025
The multiscale environment of AGN across cosmic time
Location: Ringberg (Germany), date: 23-28 November 2025

Contributed talks:

PhD school Lucchin: Exoplanets and The dark side of the Universe
Location: Asiago (Italy), date: 24-28 June 2013
The Unquiet Universe
Location: Cefalù (Italy), date: 2-7 June 2014
AGN11 - Where Black Holes and Galaxies Meet
Location: Trieste (Italy), date: 23-26 September 2014
Santa Cruz Galaxy workshop 2015
Location: Santa Cruz, California (USA), date: 17-21 August 2015
European Week of Astronomy and Space Science (EWASS2017)
Location: Prague (Czech Republic), date: 26-30 June 2017
Current and future perspectives of chemical modelling in astrophysics
Location: Hamburg (Germany), date: 17-19 July 2017
The role of gas in galaxy dynamics
Location: La Valette (Malte), date: 2-6 October 2017
Massive black holes in evolving galaxies: from quasars to quiescence
Location: Paris (France), date: 25-29 June 2018
LISA Astrophysics working group meeting
Location: Paris (France), date: 12-14 December 2018
Zoom-In and Out: From the Interstellar Medium to the Large Scale Structure of the Universe
Location: Stockholm (Sweden), date: 3-28 June 2019
Views on the interstellar medium in galaxies in the ALMA era
Location: Bologna (Italy), date: 2-6 September 2019
Sexten workshop: The interstellar medium of high-redshift galaxies
Location: Sexten (Italy), date: 13-17 January 2020
YAGN 2021
Location: Copenaghen (Denmark), date: 1-3 September 2021
Origin, growth and feedback of black holes in dwarf galaxies
Location: San Sebastian (Spain), date 12-16 September 2022

KITP Program *"Bridging the gap: Accretion and Orbital Evolution in Stellar and Black Hole Binaries"* and associated conference "*Building Bridges: Towards a Unified Picture of Stellar and Black Hole Binary Accretion and Evolution"*
Location: Santa Barbara (USA), date: 28 February - 17 March 2022
Cosmic Rays 2: the salt of the star formation recipe
Location: Florence (Italy), date: 10-12 November 2022
Black holes on Broadway
Location: New York (USA), date: 4-7 December 2023
Massive Black Holes in the First Billion Years
Location: Kinsale, Cork (Ireland), date: 29 Aprile - 3 May 2024
Cosmic Rays 3: the salt of the star formation recipe
Location: Florence (Italy), date: 22-24 October 2024
LISA Astrophysics Working Group meeting
Location: MPA (Germany), date: 5-7 November 2024
European Astronomy Society Meeting (EAS)
Location: Cork (Ireland), date: 23-27 June 2025

Posters:

Cosmic dawn of galaxy formation: linking theory and observations with new-generation spectral models
Location: Paris (France), date: 20-24 June 2016
European Week of Astronomy and Space Science (EWASS2017)
Location: Prague (Czech Republic), date: 26-30 June 2017
European Astronomy Society Meeting (EAS)
Location: Padova (Italia), date: 1-5 July 2024

INVITED SEMINARS

Durham University, Durham (UK), March 2016
University of Maryland (USA), October 2016
University of Milano Bicocca (Italy), July 2017
Institute of Computational Science, University of Zurich (Switzerland), November 2017
MPE Garching (Germany), December 2017
University of Concepción (Chile), May 2018
University of Chile (Chile), May 2018
EPFL (Switzerland), October 2018
Osservatorio Astronomico di Brera (Italy), January 2019
KICC Cambridge (UK), April 2019
Albert Einstein Institute (Germany), May 2019
University of Concepción (Chile), July 2020
Osaka University (Japan), October 13th, 2021 (online)
University of Kentucky (USA), October 20th, 2021 (online)
ESO (Germany), November 2nd, 2021 (online)
OAS Bologna (Italy), November 12th, 2021 (online)
NRC Herzberg Center (Canada), March 29th, 2022 (online)
NYU Abu Dhabi (UAE), December 7th, 2022
University of Padova, December 21st, 2022
Università La Sapienza Roma (Italy), February 24th, 2023
Institute of Computational Science, University of Zurich (Switzerland), March 16th, 2023
OAS Bologna (Italy), October 5th, 2023
Department of Astrophysics, University of Zurich (Switzerland), November 13th, 2024

GRANTS/AWARDS

- PhD Fellowship by University of Insubria for 3 years 11/2012-10/2015

- CO-I of the **PRIN-INAF** "Star formation and evolution in galactic nuclei" (PI M. Mapelli, INAF-OAPd), awarded **32k EUR for 2 years (2015-2016)** 2014

- Visiting fellowship funded by the Balzan foundation in the program "Centre for Cosmological Studies", to visit Johns Hopkins University, awarded **~3000 GPB for October 2016** 2016

- CO-I of the **Conicyt Anillo** project "Formation and growth of supermassive black holes" (PI: D. Schleicher, Universidad de Concepción), awarded **~475k EUR for 3 years** (2018-2020). 2017

- Seal of Excellence from the MSCA action (Horizon2020 program) for "GALAGNFESC" 2017

- CO-I of the **PRIN INAF** "Sub-parsec resolution simulations of globular clusters in a cosmological model" (PI F. Calura, INAF-OAS), awarded **~66k EUR for 2 years (2021-2022)** 2020

- Abilitazione Scientifica Nazionale to Associate Professorship (02/C1) 2022

- **PI** of the **PRIN MUR** "Black hole formation mechanisms and their impact on high-redshift quasar host properties: combining theory and observations", awarded **~190k EUR for 2 years (2024-2025)** 2023

- Abilitazione Scientifica Nazionale to Full Professorship (02/C1) 2024

- **PI** of the "Bando a cascata" of the National High Performance Computing Center "Fab-HPCc" to optimise Bayesian inference tools for PTA sources analysis, awarded **~168k EUR** 2024

ACCEPTED COMPUTATIONAL PROPOSALS

- **PI** of the proposal "Massive Black Hole Binary Formation in gas rich nuclei" at CINECA,
  50k CPU hours awarded for SPH/AMR simulations on the EURORA cluster 2013

- **PI** of the proposal "Massive Black Hole growth and feedback in galaxy mergers" at CINECA,
  150k CPU hours awarded for AMR simulations on the PLX2 cluster 2014

- **PI** of the proposal "Fast growth of stellar mass black holes via phases of super-critical accretion" at CINECA, **200k CPU hours** awarded for AMR simulations on the GALILEO cluster 2015

- CO-I of the PRACE proposal "Instabilities of galaxy disks in highly scalable cosmological simulations" (PI M. Dotti, University of Milano Bicocca), **100k CPU hours** awarded to test the scalability up to thousands of cpus of the code Changa, as a preparatory step to very large box cosmological simulations 2016

- CO-I of the proposals "The cosmic evolution of massive black holes" at GENCI,
  11.7M CPU hours awarded on the OCCIGEN machine 2017
  19.64M CPU hours awarded on the OCCIGEN and IRENE machines 2018
  11.3M CPU hours awarded on the OCCIGEN, IRENE, and Jean Zay machines 2019
  (about 2M CPU hours every year for specific projects I was in charge of)

- **PI** of the proposal "The impact of AGN feedback onto the ISM of high-redshift galaxies" at CINECA, **2M CPU hours** awarded for numerical simulations on the GALILEO2 machine 2019

- CO-I of the proposals “The cosmic evolution of massive black holes” at GENCI,
  7M CPU hours awarded on the OCCIGEN and IRENE machines 2020
  6.8M CPU hours awarded on the IRENE machines 2021
  (about 2M CPU hours every year for specific projects I was in charge of)

- CO-I of the PRACE proposal “Towards a holistic view of the origin of multiple stellar populations in globular clusters” (PI: E. Lacchin, INAF-OAS), **14M CPU hours** awarded for numerical simulations of formation and evolution of stellar populations in globular clusters 2022

- CO-I of the proposal “High-resolution simulations of Lyman-alpha emitting filaments to constrain dark matter properties” (PI: T. Lazeyras, UNIMIB), **3.5M CPU hours** awarded on the LEONARDO machine at CINECA for numerical simulations of protocluster regions at z=3 in different dark matter scenarios (cold vs warm) 2023

- CO-I of the EUROHPC proposal “Probing the nature of dark matter through the distribution of lyman-alpha emitting gas around ultra luminous quasars” (PI: T. Lazeyras, UNIMIB), **10M CPU hours** awarded on the VEGA machine for numerical simulations of protocluster regions at z=3 in different dark matter scenarios (cold vs warm) 2024

- CO-I of the proposal “Understanding superEddington accretion on black holes at high redshift” (PI: M. Volonteri, IAP), **2M CPU hours** awarded on the Irene-ROME machine for simulations of super-Eddington accretion in quasar hosts 2025

ORGANISATION OF CONFERENCES

- Member of the Steering Committee of the workshop “Young Astronomers on Galactic Nuclei” (YAGN) for young astronomers working on MBHs, held at the Institut d’Astrophysique de Paris. November 17-18, 2016

- Member of the local organising committee for the conference “Massive black holes in evolving galaxies: from quasars to quiescence” held at the Institut d’Astrophysique de Paris June 25-29, 2018

- Member of the local and scientific organising committees for the conference “The interstellar medium of high-redshift galaxies” held at the Sexten Center for Astrophysics January 13-17, 2020

- Member of the steering committee for the EAS 2023 special session “Gravitational wave sources in gas-rich environments” held in Krakow (Poland) July 10-14, 2023

- Member of the Steering Committee of the“Young Astronomers on Galactic Nuclei” (YAGN) workshop, held at University of Insubria. September 2-4, 2024

- Member of the scientific organising committee of the “Breaking the limits 3” conference, to be held in Sardinia in June 2026 (originally planned for September 2025)

- Chair of the scientific organising committee of the “Climbing Cosmic peaks” workshop to be held in Sexten (Italy) in March 2026 March 2-6, 2026

PUBLICATIONS

As of January 2026, I have 93 refereed publications with a total of 4282 citations and H-index 34 (source: NASA/ADS).

PUBLICATION LIST

Accepted publications:

1. *Constraining the high redshift formation of black hole seeds in nuclear star clusters with gas inflows,* **A. Lupi**, M. Colpi, B. Devecchi, G. Galanti and M. Volonteri, 2014, MNRAS, 442, 3616

2. *Massive black hole and gas dynamics in galaxy nuclei mergers. I. Numerical implementation*, **A. Lupi**, F. Haardt and M. Dotti, 2015, MNRAS, 446, 1765-1774

3. *Massive black hole and gas dynamics in galaxy nuclei mergers. II. Black hole pairing and binary formation*, **A. Lupi**, F. Haardt, M. Dotti and M. Colpi, 2015, MNRAS, 453, 3437-3446

4. *Growing massive black holes through supercritical accretion of stellar-mass seeds,* **A. Lupi**, F. Haardt, M. Dotti, D. Fiacconi, L. Mayer and P. Madau, 2016, MNRAS, 456, 2993-3003

5. *Hydrodynamical simulations of the tidal stripping of binary stars by massive black holes,* D. Mainetti, **A. Lupi**, S. Campana and M. Colpi, 2016, MNRAS, 457, 2516-2529

6. *Clumpy Disks as a Testbed for Feedback-regulated Galaxy Formation*, L. Mayer, V. Tamburello, **A. Lupi**, B. Keller, J. Wadsley and P. Madau, 2016, ApJL, 830, L13

7. *The AGORA High-Resolution Galaxy Simulations Comparison Project. II: Isolated Disk Test*, J. Kim, O. Agertz, R. Teyssier, M. J. Butler, D. Ceverino, J.H. Choi, R. Feldmann, B. W. Keller, **A. Lupi**, and the other AGORA collaboration members, 2016, ApJ, 833, 2

8. *The fine line between total and partial tidal disruption events*, D. Mainetti, **A. Lupi**, S. Campana and M. Colpi, 2017, A&A, 600, A124

9. *Young and turbulent: the wild early life of today's most massive galaxies*, D. Fiacconi, L. Mayer, P. Madau, **A. Lupi**, M. Dotti and F. Haardt, 2017, MNRAS, 467, 4080-4100

10. *Simplified galaxy formation with mesh-less hydrodynamics*, **A. Lupi**, M. Volonteri and J. Silk, 2017, MNRAS, 470, 1673-1686

11. *The birth of a supermassive black hole binary*, H. Pfister, **A. Lupi**, P. R. Capelo, M. Volonteri, J. Bellovary and M. Dotti, 2017, MNRAS, 471, 3646

12. *Massive Black Holes from Dissipative Dark Matter*, G. D'Amico, P. Panci, **A. Lupi**, S. Bovino and J. Silk, 2018, MNRAS, 473, 1

13. *The natural emergence of the correlation between H2 and star formation rate surface densities in galaxy simulations*, **A. Lupi**, S. Bovino, P. R. Capelo, M. Volonteri and J. Silk, 2018, MNRAS, 474, 2884

14. *The effect of non-equilibrium metal cooling on the interstellar medium*, P. R. Capelo, S. Bovino, **A. Lupi**, D. R. G. Schleicher and T. Grassi, 2018, MNRAS, 475, 3283

15. *The momentum budget of clustered supernova feedback in a 3D, magnetised medium*, E. S. Gentry, M. R. Krumholz, P. Madau, and **A. Lupi**, 2019, MNRAS, 483, 3647

16. *H2 chemistry in galaxy simulations: an improved supernova feedback mode*l, **A. Lupi**, 2019, MNRAS, 484, 1687

17. *Black hole formation in the context of dissipative dark matter*, M. A. Latif, **A. Lupi**, D. R. G. Schleicher, G. D'Amico, P. Panci, and S. Bovino, 2019, MNRAS, 485, 3352

18. *Super-Eddington Accretion and Feedback from the First Massive Seed Black Holes*, J. A. Regan, T. P. Downes, M. Volonteri, R. Beckmann, **A. Lupi**, M. Trebitsch, and Y. Dubois, 2019, MNRAS, 486, 3892

19. *Barred galaxies in cosmological zoom-in simulations: the importance of feedback*, T. Zana, P. R. Capelo, M. Dotti, L. Mayer, **A. Lupi**, F. Haardt, S. Bonoli, and S. Shen, 2019, MNRAS, 488, 1864

20. *High-redshift quasars and their host galaxies I: kinematical and dynamical properties and their tracers*, **A. Lupi**, M. Volonteri, R. Decarli, S. Bovino, J. Silk, and J. Bergeron, 2019, MNRAS, 488, 4004

21. *The 3D Structure of CO Depletion in High-mass Prestellar Regions*, S. Bovino, S. Ferrada-Chamorro, **A. Lupi**, G. Sabatini, A. Giannetti, and D. R. G. Schleicher, 2019, ApJ, 887, 224

22. *Difficulties in mid-infrared selection of AGNs in dwarf galaxies*, **A. Lupi**, T. Sbarrato, and S. Carniani, 2020, MNRAS, 492, 2528

23. *The [CII]-SFR correlation in dwarf galaxies across cosmic time*, **A. Lupi** and S. Bovino, 2020, MNRAS, 492, 2818

24. *Globular Cluster Formation from Colliding Substructure*, P. Madau, **A. Lupi**, J. Diemand, A. Burkert, and D. N. C. Lin, 2020, ApJ, 890, 18

25. *Dynamical friction-driven orbital circularization in rotating discs: a semi-analytical description*, M. Bonetti, E. Bortolas, **A. Lupi**, M. Dotti, and S. I. Raimundo, 2020, MNRAS, 494, 3053

26. *A new proxy to estimate the cosmic ray ionization rate in dense cores*, S. Bovino, S. Ferrada-Chamorro, **A. Lupi**, D. R. G. Schleicher, and P. Caselli, 2020, MNRAS, 495, L7

27. *Predicting FIR lines from simulated galaxies*, **A. Lupi**, A. Pallottini, A. Ferrara, S. Bovino, S. Carniani, and L. Vallini, 2020, MNRAS, 496, 5160

28. *Shaping the structure of a GMC with radiation and winds,* D. Decataldo, **A. Lupi**, A. Ferrara, A. Pallottini, and M. Fumagalli, 2020, MNRAS, 497, 4718

29. *Missing [C II] emission from early galaxies*, S. Carniani, A. Ferrara, R. Maiolino, M. Castellano, S. Gallerani, A. Fontana, M. Kohandel, **A. Lupi**, A. Pallottini, L. Pentericci, L. Vallini, E. Vanzella, 2020, MNRAS, 499, 5136

30. *Constraints on the [C II] luminosity of a proto-globular cluster at z ~ 6 obtained with ALMA*, F. Calura, E. Vanzella, S. Carniani, R. Gilli, P. Rosati, M. Meneghetti, R. Paladino, R. Decarli, M. Brusa, **A. Lupi**, Q. D'Amato, P. Bergamini, G. B. Caminha, 2021, MNRAS, 500, 3083

31. *Black hole spin evolution in warped accretion discs*, E. Cenci, L. Sala, **A. Lupi**, P. R. Capelo, M. Dotti, 2021, MNRAS, 500, 3719

32. *Non-isotropic feedback from accreting spinning black holes*, L. Sala, E. Cenci, P. R. Capelo, **A. Lupi**, M. Dotti, 2021, MNRAS, 500, 4788

33. *A Virgo Environmental Survey Tracing Ionised Gas Emission (VESTIGE).IX. The effects of ram pressure stripping down to the scale of individual HII regions in the dwarf galaxy IC 3476*, A. Boselli, **A. Lupi** et al., 2021, A&A, 646, A139

34. *Dynamical evolution of massive perturbers in realistic multi-component galaxy models I: implementation and validation*, M. Bonetti, E. Bortolas, **A. Lupi**, and M. Dotti, 2021, MNRAS, 502, 3554

35. *Forming massive seed black holes in high-redshift quasar host progenitors*, **A. Lupi**, Z. Haiman, and M. Volonteri, 2021, MNRAS, 503, 5046

36. *Chemical post-processing of magneto-hydrodynamical simulations of star-forming regions: robustness and pitfalls*, S. Ferrada-Chamorro, **A. Lupi**, and S. Bovino, 2021, MNRAS, 505, 3442

37. *The AGORA High-resolution Galaxy Simulations Comparison Project. III: Cosmological Zoom-in Simulation of a Milky Way-mass Halo*, S. Roca-Fàbrega, J.-H. Kim et al. (including **A. Lupi**) on behalf of the AGORA Collaboration, 2021, ApJ, 917, 64

38. *Chemical analysis of prestellar cores in Ophiuchus yields short timescales and rapid collapse*, S. Bovino, **A. Lupi**, A. Giannetti, G. Sabatini, D. R. G. Schleicher, F. Wyrowski, and K. M. Menten, 2021, A&A, 654, A34

39. *On the low ortho-to-para H2 ratio in star-forming filaments*, **A. Lupi**, S. Bovino, and T. Grassi, 2021, A&A Letters, 654, L6

40. *Unveiling the gravitational universe at μ-Hz frequencies*, A. Sesana, et al. (including **A. Lupi**), 2021, Experimental Astronomy, 51, 1333

41. *High-redshift quasars and their host galaxies II: multiphase gas and stellar kinematics*, **A. Lupi**, M. Volonteri, R. Decarli, S. Bovino, and J. Silk, 2022, MNRAS, 510, 5760

42. *Resolving Massive Black Hole Binary Evolution via Adaptive Particle Splitting*, A. Franchini, **A. Lupi**, and A. Sesana, 2022, ApJL, 929, L13

43. *The role of bars on the dynamical-friction-driven inspiral of massive objects*, E. Bortolas, M. Bonetti, M. Dotti, **A. Lupi**, P. R. Capelo, L. Mayer, and A. Sesana, 2022, MNRAS, 512, 3365

44. *The evolution of the barred galaxy population in the TNG50 simulation*, Y. Rosas-Guevara, S. Bonoli, M. Dotti, D. Izquierdo-Villalba, **A. Lupi**, T. Zana, M. Bonetti, D. Nelson, V. Springel, L. Hernquist, and M. Vogelsberger, 2022, MNRAS, 512, 5339

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