

# CV - TITOUAN LAZEYRAS

## PERSONAL INFORMATION

*Born in* Nyon, Switzerland, 18 December 1990  
*email* [titouan.lazeyras@unimib.it](mailto:titouan.lazeyras@unimib.it)  
*OrcID* 0000-0002-7080-9839

## EMPLOYMENT HISTORY

*2021–Present* University Milano Bicocca, Milano  
*Postdoctoral position* Postdoc in the Cosmib group funded by the ERC consolidator grant CosmicWeb.  
**Advisor** : Sebastiano Cantalupo

*2018 – 2021* International School for Advanced Studies, Trieste  
*Postdoctoral position* Postdoc in the astroparticle physics group on large-scale structure and structure formation using N-Body simulations and perturbation theories.  
**Advisor** : Matteo Viel

## EDUCATION

*2014 – 2018* Max Planck Institute for Astrophysics, Garching b. München  
*PhD in Astrophysics* **Thesis title** : Investigations into Dark Matter Halo Bias.  
**Supervisors** : Fabian Schmidt, Eiichiro Komatsu  
**Final classification** : 1.3 (Magna cum laude)

*2012 – 2014* Geneva University, Geneva  
*Master Degree in Astrophysics* **Thesis title** : The Effect of a Primordial Trispectrum on Halo Bias.  
**Supervisor** : Vincent Desjacques  
**Final classification** : 100% (6/6)

*2009 – 2012* Geneva University, Geneva  
*Undergraduate Degree in Physics* **Final classification** : 93% (5.6/6)

## AWARDS AND GRANTS

*2025/2026* Seal of excellence of the MSCA postdoc fellowship global.

*2018* Universe PhD Award  
Annual prize awarded by the Excellence Cluster Universe for the best dissertation, section Theory.

*2016* Kippenhahn Prize at MPA  
Annual prize awarded for the best scientific paper written by a student.

*2012 – 2013* Excellence Master Fellowship of Geneva University  
Program developed by the Faculty of Science of the Geneva University to support outstanding and highly motivated candidates who intend to pursue a Master of Science in any of the disciplines covered by the Faculty.  
Amount: 15'000 CHF

*2013* Ch. E. Guye Prize  
Annual prize awarded for Best Overall Undergraduate at the University of Geneva.

## AWARDED PROPOSALS

### As PI:

*2023* 10.2M CPU hours on VEGA (IZUM, Slovenia) **as PI**: "Probing the Nature of Dark Matter through the Distribution of Lyman-alpha Emitting Gas around Ultra Luminous Quasars" (ID EHPC-REG-2023R03-139).

- 2023 3.5M CPU hours on LEONARDO (Cineca, Italy) **as PI**: "High-resolution simulations of Lyman-alpha emitting filaments to constrain dark matter properties" (ID HP10BLXSO1).
- 2023 500K CPU hours on PLEIADI (Italy) **as PI**: "High-resolution simulations of emitting gas in various dark matter models around a massive node of the cosmic web".
- 2023 650K CPU hours on VEGA (IZUM, Slovenia) **as PI**: "Scalability tests of the GIZMO code for hydrodynamical zoom-in simulations of a massive node of the cosmic web" (ID EHPC-BEN-2023B06-017).

#### As Co-I:

- 2025 2M CPU hours on LEONARDO (Cineca, Italy) (PI: N. Ledos) "Radiative hydrodynamic simulations of the high-redshift circum-galactic-medium gas illuminated by quasar radiations" (ID HP10BQMXLI).
- 2025 112K CPU hours on LEONARDO (Cineca, Italy) (PI: N. Ledos) "Scalability tests for Regular Access the physics of gas surrounding galaxies and illuminated by quasar light" (ID EHPC-BEN-2025B05-037).
- 2025 100K CPU hours on LEONARDO (Cineca, Italy) (PI: N. Ledos) "Radiative magnetohydrodynamic simulations of the high-redshift circumgalactic medium gas illuminated by quasar radiations" (ID HP10CBC63A ).
- 2025 100K CPU hours on LEONARDO (Cineca, Italy) (PI: G. Quadri) "Numerical tests of the formation and evolution of giant disk galaxies in the young Universe" (ID HP10C5NK7D).
- 2023 ESO cycle P112, 84 hours with MUSE (VLT) (PI: S. Cantalupo): "Connecting the dots with MUSE: the Cosmic Web in emission around a massive structure at  $z=3$ ".
- 2022 ESO cycle P110, 16+7 hours with FORS2+HAWK-I (VLT) (PI: S. Cantalupo): "Unraveling a Massive Node of the Cosmic Web at  $z=3$ ".
- 2022 HST Cycle-30, 22 orbits with HST ACS imaging (PI: S. Cantalupo): "Resolving a Massive Node of the Cosmic Web at  $z=3$ ".

#### TEACHING

- 2022  
*Teaching assistant* University Milano Bicocca, Milano  
**Description** : Teaching assistant (cultore della materia) for the lecture of Prof. S. Cantalupo for his master course "Cosmic structure formation".
- 2019  
*Teaching assistant* Galileo Galilei Institute, Florence  
**Description** : Teaching assistant for the lecture of Prof. Vincent Desjacques at the winter school "Cosmological perturbation theory and structure formation".
- 2011 –2013  
*Teaching Assistant* Geneva University, Geneva  
**Description** : Teaching Assistant during 3 years for the 1<sup>st</sup> year undergraduate general physics course of the faculty of medicine.

#### SUPERVISION

- 2022 - Present  
University Milano Bicocca, Milano  
**Description**: Co-supervision of *two Bachelor students and three Master students* on their theses in numerical astrophysics.
- 2019 – 2021  
International School for Advanced Studies, Trieste  
**Description**: Co-supervision of a PhD student on her PhD thesis "New avenues for investigating the Large-Scale Structure of our Universe".

#### ORGANIZATION OF CONFERENCES

- June 2024 SOC and LOC for What Matter(s) Around Galaxies 2024 workshop at Villa Monastero, Varenna, Italy.
- July 2015 LOC for Theoretical and Observational Progress on Large-scale Structure of the Universe at ESO, Garching, Germany.

#### OUTREACH

- 2024/2025 University of Milano Bicocca, Milano  
**Description:** MUSA outreach events for schools: presentation of the work done in the department.
- 2013 University of Geneva, Geneva  
**Description:** Presentation of the Physics department of University of Geneva, and physics experiments for children during the "Salon International des Inventions de Genève 2013".

#### COMPUTER SKILLS

- Programming* Python, C/C++, Fortran, Bash.
- Code experience* CAMB (Bolzmann), Gadget, Arepo, Gizmo (N-body/Hydrodynamical simulations), 2LPTIC, MUSIC (Initial conditions for simulations), AHF, Rockstar, FOF, SUBFIND (Halo finders), Disperse (filament finder), Pylians, P2C, MockOb, CubEx (simulation post-processing).
- 2022 – Present System administrator of the cluster of the Cosmib group.

#### REVIEWING

- 2016 – Present Scientific reviewer for *Scientific Reports - Nature*, the *Journal of Cosmology and Astroparticle Physics*, and *Monthly Notices of the Royal Astronomical Society*.

#### MEMBERSHIPS

- 2019 – Present Euclid collaboration, member of the higher-order statistics science working group (PI E. Seffusatti and C. Porciani).
- 2018 – 2021 Member of *INFN* in the section of Trieste

#### TALKS AND SEMINARS

4 invited talks in conferences, 8 contributed talks, 24 seminars and 3 posters.

#### PUBLICATIONS

23 publications (10 as main author), 2 proceedings, and 1344 citations for an h-index of 13 according to [ads](#)

#### OTHER INFORMATION

- 2012 La Silla Observatory, Chile  
*10 days Internship* **Description:** 10 days internship on the Swiss 1.2-metre Euler Telescope at La Silla Observatory supervised by Prof. Didier Queloz (Geneva Observatory/Cambridge University).
- Languages* French (mothertongue), English, Italian (fluent), German (conversationally fluent, B2 level), Spanish (basic phrases and understanding).

February 13, 2026