

# Alex Pedrini

PhD student in Astronomy at Stockholm University  
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## EXPERIENCE

### Stockholm University, Stockholm — *PhD student*

AUGUST 2022 - PRESENT

PhD candidate in astronomy focused on star formation and stellar feedback from emerging young star clusters. Active member of the FEAST program – a JWST survey investigating stellar feedback processes in six nearby galaxies.

Thesis supervisors: Angela Adamo (Stockholm University), Arjan Bik (Stockholm University), Daniela Calzetti (UMass Amherst).

## EDUCATION

### Stockholm University, Stockholm — *Licentiate*

AUGUST 2022 - SEPTEMBER 2024

Licentiate's degree in Astronomy, September 26th, 2024; mark: *Pass*

Title: *The emergence phase of star formation as a key probe for feedback timescales*

Supervisors: Angela Adamo (Stockholm University), Arjan Bik (Stockholm University), Daniela Calzetti (UMass Amherst).

### Università degli studi di Milano Bicocca, Milano, Italy — *Master's degree*

OCTOBER 2019 - OCTOBER 2021

Master's degree in Astrophysics and Space Physics, October 26th, 2021; mark: 110/110.

Title: *Towards a complete view of ram pressure stripping in the galaxy cluster A1367*

Supervisors: Michele Fumagalli (UniMiB), Matteo Fossati (UniMiB)

## SKILLS

**Programming & Scripting:**  
Python, C/C++, Bash

**Software & Tools:**  
Astrodendro, SAOImageDS9, CIGALE, SLUG, Jupyter Notebook, TOPCAT, APT and ETC (JWST), PaKo

**Web development:** Jekyll, GitHub Pages, HTML, Markdown

**Operating systems:** macOS, Linux, Windows

## AWARDS

Stiftelsen Hierta Retzius fond för vetenskaplig forskning, Kungl. Vetenskapsakademien, travel grant, 65000 SEK

2025 Spring Symposium, STScI, travel grant, 1500 USD

Dahlmark 2025, Department of Astronomy, Stockholm University, travel grant, 10000 SEK

Dahlmark 2024 II, Department of Astronomy, Stockholm University, travel grant, 7000 SEK

Dahlmark 2024 I, Department of Astronomy, Stockholm University, travel grant, 5000 SEK

## Università degli studi di Milano Bicocca, Milano, Italy — Bachelor's degree

OCTOBER 2016 - SEPTEMBER 2019

Bachelor's degree in Physics, September 19th, 2019; mark: 101/110.

Title: *Misure della conducibilità termica di un campione di assorbitore per microonde a temperature criogeniche (Thermal conductivity measurements of a sample of microwave absorber at cryogenic temperatures)*

Supervisors: Mario Zannoni (UniMiB)

Dahlmark 2023, Department of Astronomy, Stockholm University, travel grant, 10500 SEK

Best Poster Award, Astronomdagarna 2024, Lund  
Feedback in Emerging extragalactic Star clusters: first results

## PUBLICATIONS

### Corresponding author

1. **Pedrini A.**, Adamo A., Bik A., et al., (submitted to ApJ)  
*The near infrared SED of emerging young star clusters in the FEAST galaxies: Missing ingredients at 1 – 5  $\mu$ m*
2. **Pedrini A.**, Adamo A., Calzetti D., et al., 2024, ApJ, 973, 67P  
Erratum: "Feedback in Emerging extragalactic Star clusters: JWST spots polycyclic aromatic hydrocarbon destruction in NGC 628 during the emerging phase of star formation" (2024, ApJ, 971, 32)
3. **Pedrini A.**, Adamo A., Calzetti D., et al., 2024, ApJ, 971, 32P  
*Feedback in Emerging extragalactic Star clusters: JWST spots polycyclic aromatic hydrocarbon destruction in NGC 628 during the emerging phase of star formation*
4. **Pedrini A.**, Fossati M., Gavazzi G., et al., 2022, MNRAS, 511, 5180P  
*MUSE sneaks a peek at extreme ram-pressure stripping events - V. Towards a complete view of the galaxy cluster A1367*

### Others:

1. Correnti M., Bortolini G., ..., **Pedrini A.**, et al., (in press.)  
*FEAST: probing the stellar population of the starburst dwarf galaxy NGC4449 with JWST/NIRCam*
2. Knutas A., Adamo A., **Pedrini A.**, et al., (submitted)  
*FEAST: JWST uncovers the emerging timescales of young star clusters in M83*
3. Draine B. T., ..., **Pedrini A.**, et al., ApJ, 984, 42D  
*Detection of deuterated hydrocarbon nanoparticles in the Whirlpool galaxy, M51*
4. Elmegreen B., ..., **Pedrini A.**, et al., OJAp, 8E, 21E  
*Power spectra of JWST images in Local Galaxies: searching for disk*

## LANGUAGES

Italian (mother language),  
English (fluent), Swedish (good)

thickness

5. Calzetti D., ..., **Pedrini A.**, et al., ApJ, 971, 118C

*JWST-FEAST: Feedback in Emerging extrAgalactic Star clusTers:  
Calibration of star formation rates in the mid-infrared with NGC 628*

6. Gregg B., ..., **Pedrini A.**, et al., ApJ, 971, 115G

*Feedback in Emerging extrAgalactic Star clusTers, FEAST: The relation  
between 3.3  $\mu\text{m}$  Polycyclic Aromatic Hydrocarbon Emission and star  
formation rate traced by ionized gas in NGC 628*

## TALKS & POSTERS

### Talks

**The morphological evolution of dusty star-forming regions in NGC 628** -  
EAS Annual Meeting, Cork, Ireland - Jun 27, 2025

**A census of emerging young star clusters in nearby galaxies** - EAS Annual  
Meeting, Cork, Ireland - Jun 24, 2025

**Dissecting the SED of emerging young star clusters** - STScI Spring  
Symposium: Inter+Stellar, Baltimore, MD, USA - May 15, 2025

**The emergence phase of star formation as a key probe for feedback  
timescales** - SU-UU meeting, Uppsala, Sweden - Nov 1, 2024

**(Outreach talk) Stars in the making: a journey through galaxies with the  
JWST**- Astronomins dag och natt 2024, Stockholm, Sweden - Oct 19, 2024

**PAH destruction in NGC628 during the emergence phase of star formation**  
- The physics and impact of astrophysical dust, Aspen, CO, USA - Mar 4,  
2024

### Posters

**Feedback in Emerging extrAgalactic Star clusTers: first results** -  
Astronomdagarna 2024, Lund, Sweden - Oct 3, 2024

**JWST spots PAH destruction from emerging star clusters in NGC 628** -  
EAS Annual Meeting, Padova, Italy - Jul 1, 2024

**The morphology of dusty star-forming regions as revealed by JWST in  
NGC 628** - Olympian Symposium, Paralia Katerini, Greece - May 29, 2023