

# Sophia Katharina **Stuber**

legal name: *Sophia Katharina Krieger*

PhD student • International Max Planck Research School for Astronomy and Cosmic Physics at the University of Heidelberg

📍 Max Planck Institute for Astronomy, Königstuhl 17, D-69117 Heidelberg, Germany

✉️ [stuber@mpia.de](mailto:stuber@mpia.de) | 🏠 [sophiastuber.de](https://sophiastuber.de)

## Education

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### PhD in Astronomy

UNIVERSITY OF HEIDELBERG

- Advisors: Dr. Eva Schinnerer (MPIA), Prof. Dr. Hans-Walter Rix (MPIA), Prof. Dr. Ralf Klessen (ITA)
- Thesis Title: The ISM and Star-formation in Nearby Galaxies

Heidelberg, Germany

2022 - Summer 2025

### M.Sc. Science - Physics

UNIVERSITY OF HEIDELBERG

- Advisors: Dr. Henrik Beuther (MPIA), Dr. Eva Schinnerer (MPIA)
- Thesis Title: The Molecular Gas Morphology in Nearby Galaxies

Heidelberg, Germany

2019 - 2022

### B.Sc. Science - Physics

UNIVERSITY OF HEIDELBERG

- Advisors: Dr. Christian Fendt (MPIA), Dr. Eva Schinnerer (MPIA), Dr. Toshiki Saito (Shizuoka University)
- Thesis Title: The Abundance of Nuclear Molecular Outflows in Nearby Galaxies

Heidelberg, Germany

2016 - 2019

## Academic Leadership

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since 2023/12 **M51 SWAN data reduction management**, Organisation and coordination of quality assurance

since 2022/12 **Founder and leader of the PHANGS YouTube channel**, (PHANGSteam), coordination and video editing

## Collaborations

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**PHANGS**, Physics at High Angular resolution in Nearby Galaxies

since 2019

**GILDAS-CUBE**, IRAM software beta-tester team

since 2022

## Observing Programs

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Co-I accepted:

IRAM 2024, (S24BE); Dense gas tracers in an area between the two spiral arms of M51	20h/NOEMA + 4h/30m
ALMA, 2024, cycle 11 (2024.1.01053.S); Extention of kpc-scale $N_2H^+$ in M100	70h/7m
ALMA, 2024, cycle 11 (2024.1.00968.S); High-resolution (25 pc) CO(2-1) mapping in the Circinus galaxy	3h/12m + 9h/7m + 15h/tp
ALMA, 2023, cycle 10 (2023.1.01493.S); Kpc-scale $N_2H^+$ in M100	59h/7m
ALMA, 2023, cycle 10 (2023.1.00530.S); Extention of 100 pc-scale mapping of HCN, $HCO^+$ in NGC2903	10h/12m
ALMA, 2022, cycle 9 (2022.1.00149.S); 100 pc-scale mapping of HCN, $HCO^+$ in NGC2903	25h/12m + 50h/7m + 109h/tp
ALMA, 2022, cycle 9 (2022.1.01691.S); High-resolution ( $\sim 20$ pc) CO(2-1) in 20 nearby galaxy centers	34h/12m

## Relevant Skills

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**Programming:** Python (very good), C++ (fair), LaTeX (very good)

**Software:** GILDAS (very good), CASA (good), SAOImageDS9 (good), Carta (good), ZEISS Uniview for planetarium (good)

**Video editing & modeling:** Davinci Resolve (good), Blender (good)

## Teaching Experience

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2023	<b>Supervisor of BSc student Damian Gleis</b> Thesis title "MORIA - MOlecular Rings Investigated with ALMA"	University of Heidelberg
2022	<b>Tutoring of practical lab Course: Photometry of a globular cluster.</b> Experimental Supervisor of Calibration Tasks at the MPIA 70cm telescope incl. observations of a globular cluster, PSF photometry and isochrone fitting.	University of Heidelberg
2022	<b>Teaching assistant for course: Python: programming for scientists</b> lead by Dr. Kathryn Kreckel	University of Heidelberg
2018 &2019	<b>Teaching assistant for course: Basiskus Schlüsselkompetenzen</b> Mentoring program for first-semester students	University of Heidelberg

## Honors, Awards & Achievements

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<b>A&amp;A Referee</b> , Referee for A&A journals	2023
<b>A&amp;A cover figure</b> , Front page cover of the A&A Volume 676	08/2023
<b>Poster prize</b> , From Stars to Galaxies II, Chalmers University, Gothenburg, Sweden	06/2022
<b>IMPRS Fellow</b> , Fellow of the International Max Planck Research School (IMPRS) of the University of Heidelberg	since 2022

## Conferences, Workshops & Meetings

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### ORAL PRESENTATIONS

<b>Conference talk</b> , Galactic bars: driving and decoding galaxy evolution, Granada, Spain	07/2023
<b>Workshop talk</b> , Theory meets Observations, Heidelberg, Germany	12/2022
<b>Workshop talk</b> , Puzzles of the Galactic Centre, Heidelberg, Germany	09/2022
<b>Conference talk</b> , From Stars to Galaxies, Gothenburg, Sweden	06/2022
<b>Conference talk</b> , IRAM 50th Young European Radio Astronomers Conference, <i>virtual</i>	08/2021
<b>Seminar talk</b> , MPE Galaxy Coffee, Max Planck Institute for Extraterrestrial Physics, Germany	02/2024
<b>Seminar talk</b> , MPIA Galaxy Coffee, Max Planck Institute for Astronomy, Germany	02/2024
<b>Seminar talk</b> , IAC AGN talk series, Instituto de Astrofísica de Canarias, Tenerife, Spain, <i>virtual</i>	01/2024
<b>Seminar talk</b> , OAN seminar, Observatorio Astronómico Nacional, Spain	12/2023
<b>Seminar talk</b> , IPARCOS astro-seminar, University of Madrid, Spain	11/2023
<b>Colloquium talk</b> , Colloquium of the Research Center for Astronomy and Applied Mathematics, Academy of Athens, <i>virtual</i>	11/2023
<b>Seminar talk</b> , Retreat of the Galaxy and Cosmology Department, Ringberg, Germany	02/2022
<b>Seminar talk</b> , MPIA Galaxy Coffee, Max-Planck Institute for Astronomy, Germany	10/2019

### POSTER PRESENTATIONS

<b>Poster</b> , IAU-FM2: A Coherent View of Atomic and Molecular Gas from Infrared to Radio Wavelengths, <i>virtual participation</i>	08/2024
<b>Poster</b> , Star@Lyon: The Physics of Star Formation, Lyon, France	06/2023
<b>Poster</b> , From Stars to Galaxies II, Gothenburg, Sweden	06/2022
<b>Poster</b> , IRAM conference: Multi-line diagnostics of the Interstellar Medium, Nice, France	04/2022
<b>Poster</b> , Heidelberg-Harvard workshop: Physics of Star formation, <i>virtual</i>	12/2020

### OTHER

<b>Participation</b> in IMPRS Summer school 2023 “Unraveling Galaxy Evolution with JWST”	09/2023
<b>Team meeting</b> of the PHANGS collaboration, ESO, Munich, Germany	02/2024
<b>Team meeting</b> of the PHANGS collaboration, Caltec, Pasadena, USA	02/2023
<b>Team meeting</b> of the PHANGS collaboration, OAN, Madrid, Spain	02/2020

## Outreach Experience

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<b>Outreach fellow at the MPIA/HdA</b> , including regular guided tours at the Max Planck Institute for Astronomy (MPIA) and the Haus der Astronomie (HdA), planetarium shows, and visits to telescopes.	since 2023
<b>Founder and leader of the official PHANGS YouTube channel</b> , Includes video coordination and editing	since 2023
<b>Invited talk</b> , “Geheimnisse der Sternentstehung”, Volkssternwarte Darmstadt, Germany	04/2024
<b>Talkshow interview</b> , “Neue Sterne in der Whirlpool Galaxy”, Astro & CO, HdA YouTube channel	01/2024
<b>Invited talk</b> , “Sternenbildung im Fokus”, Planetarium Mannheim	11/2023
<b>Contributed talk</b> , JWST traveling exhibition, high school Bremen, Germany	09/2023
<b>Podcast interview</b> , “Kairophilie” on Spotify	08/2023
<b>Contributed talk</b> , JWST traveling exhibition, high school Neuendettelsau, Germany	07/2023