
Education

- 12/2022 – present **SMA Postdoctoral Fellowship**
Harvard | Smithsonian Astronomical Observatory
- 09/2019 – 11/2022 **PhD studies in Astrophysics at Argelander Institute of Astronomy (Bonn, D)**
Thesis Title: *Molecular Gas Physics and Chemistry Across Nearby Galaxies*
Thesis Advisor: Prof. F. Bigiel
summa cum laude
- 09/2017 – 05/2019 **Master in Physics at the ETH (Zürich, CH)**
Final Grade: 5.8/6 (with distinction)
Master Thesis: *High-Ionization Near-infrared Emission in Active Galactic Nuclei*
- 09/2014 – 09/2017 **Bachelor in Physics at the ETH (Zürich, CH)**
- 07/2014 **Highschool diploma, Gymnasium am Münsterplatz (Basel, CH)**

Research Experience

- 09/2018 – 10/2018 **Collaboration visit to Caltech in Professor Harrison's group**
- Since 2018 **Ground-based observation runs:**
- Submillimeter Array (SMA):
Extensive observing experience as SMA fellow
 - IRAM 30-m telescope:
70h total observing time, PI: Jakob den Brok
 - Hale telescope at Palomar Observatory:
3 nights, PI: Mike Koss and Daniel Stern
 - Keck telescope
1 night, PI: Daniel Stern
- Since 2018 **Associated Research collaborations**
- SFB956: Conditions and Impact of Star Formation¹
- PHANGS: Physics at High Angular Resolution in Nearby Galaxies²
- BASS: The BAT AGN Spectroscopic Survey project³

¹ <https://www.sfb956.de/>

² <https://sites.google.com/view/phangs/home>

³ <https://www.bass-survey.com/>

Teaching Experience

Since 2019 **Teaching Assistance at Harvard:**

- Advanced Astronomy Lab (in charge: J. Kovac)

Teaching Assistance at Uni Bonn:

- Physics of the interstellar medium (Lecturer: F. Bigiel)
- Introduction to Astronomy (Lecturer: F. Bigiel)
- Physics Seminar for Students (Lecturer: Prof. Schmieden)
- Telescope Lab (in charge: Prof. T. Reiprich)

Co-Supervised Master students:

Lukas Neumann, Stella Vjesnica, Inja Kovacic

Summer 2016, 2017, 2018 Teaching assistant, ETH Zurich (exam preparation in physics)

Work Experience

2017– 2019 **Logos-Lehrteam GmbH tutor (Mathematics)**

math tutoring, developing and designing math exercise book for high school

2014 – 2016 **Pewatron AG**

part-time employee (maintenance of the website, management of the products)

Extracurricular Activities

10/2020 – 10/2021 **AlfA Master student and PhD representative**

Represent student's interests as a member of the institute board

Since 2018 **Sternwarte Rümlang, CH**

Active member and demonstrator, giving regular guided tours at night with the telescopes to an interested general public

2014 – 2018 **Model United Nations (MUN)**

delegate for ETH MUN

Languages

German Mother tongue
Dutch Mother tongue
English Fluent
French Advanced knowledge

Computer Skills

Computer Programming Python, C++, Java, IDL, UNIX, HTML/CSS

Astronomy Analysis Software SAODS9, MOLECFIT, IRAF, XSPEC, TOPCAT, SExtractor, Astropy, GALFIT, CubEx, CASA, GILDAS, CARTA

Productivity Applications LaTeX, Microsoft Office

Science and Research Talks

- April 2023 **Haystack Observatory – ALMA workshop (invited talk)**
The Molecular ISM and Its Relation to Star Formation in Nearby Galaxies
- March 2023 **CfA seminar talk (invited talk)**
Unraveling Molecular Gas Conditions with CO and its Isotopologues
- February 2023 **CCAPP seminar talk (invited talk)**
CO and its Isotopologues across Nearby Galaxies
- February 2023 **SMA seminar talk (invited talk)**
Unraveling Molecular Gas Conditions with CO and its Isotopologues
- November 2022 **Bonn Promotionskolloquium**
Unraveling Molecular Gas Conditions across Nearby Galaxies with CO Isotopologues
- (virtual) November 2021 **Tuesday UVa / NRAO Astronomy (TUNA) Lunch Talks (invited talk)**
Multi-CO Lines and Molecular Gas Physics Across Nearby Galaxies
- (virtual) November 2021 **Ringberg Virtual Seminar Series (invited talk)**
Benchmarking the CO(2-1)/(1-0) Line Ratio Across Nearby Spiral Galaxies
- (virtual) October 2021 **SMA seminar talk (invited talk)**
Multi-CO Lines and Molecular Gas Physics Across Nearby Galaxies

Conferences & Schools

- Puerto Varas, September 2022 **Poster presentation:**
The 7th Chile-Cologne-Bonn-Symposium
Low-J CO Isotopologue Emission and Molecular Gas Conditions across Nearby Spiral Galaxies
- (virtual) Januar 2022 **Winter School:**
Submillimeter Array Interferometry School
- (postponed April 2022) Nice, 2020 **Contributed talk:**
IRAM Multi-line Diagnostics of the Interstellar Medium
Insights from CO Isotopologues Across Spiral Galaxy M51
- (virtual) July 2021 **Summer School:**
International Summer School on the Interstellar Medium of Galaxies, from the Epoch of Reionization to the Milky Way
- (virtual) May 2021 **Poster presentation:**
ISM 2021: Structure, characteristic scales, and star formation
The $^{12}\text{CO}(2-1)/(1-0)$ Line Ratio Across Nearby Spiral Galaxies

Public Outreach Talks

- October 2022 **Astronomy on Tap (Cologne)**
Navigating into the Age of Discovery with Arabic Science & Charts
- May 2022 **Astronomy on Tap (Bonn)**
Navigating into the Age of Discovery with Arabic Science & Maps
- June 2020 **Sternwarte Rümmlang - Generalversammlung**
Das spektakuläre Ende der Sterne – Was ist los mit Beteigeuze?

Observing Proposals

Successful as PI

- 2022 **SMA** (2.5h)
Project code: #E02-21
- ALMA** (2.5h)
Project code: #E02-21
- IRAM 30m – DDT** (2.5h)
Project code: #E02-21
- 2021 **IRAM 30m – DDT** (3.5h)
Project code: #E02-20
- 2020 **IRAM 30m** (56h)
Project code: #160-20

Successful as co-PI

- 2021 **ALMA 12m+7m+TP** (~125h)
Project code: #2021.1.00740
- 2020 **IRAM NOEMA** (10h)
Project code: #S21BC
- HST WFC3** (2 orbits)
Project code: GO 16063
- 2019 **IRAM NOEMA** (200h), Large Programme
Project code: #M19AA

Honours & Fundings

- 09/2018 **Caltech Research Stay** (1 month):
Travel stipend
- 02/2022 **SMA Postdoctoral Research Fellow**
start 12/2022