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Education

PhD in Astronomy	Columbia University	2006-2011
MS, MPh in Astronomy	Columbia University	2006-2008
AB in Mathematics and Astronomy	UC Berkeley	2001-2005

Employment

Adjunct Staff Scientist	MPIA	2023-present
Independent Group Leader	Heidelberg University	2019-present
Postdoctoral Researcher	MPIA	2011-2019
6 month parental leave, 6 month part-time		2015
6 month parental leave, 6 month part-time		2017

Research Interests

ISM physics in nearby galaxies, ISM abundances, Stellar Feedback, Galaxy evolution, Star formation, Low density environments, Void galaxies

Selected Recent Talks/Colloquia

"Feedback in galaxies since cosmic noon"

Invited Talk, 18th Potsdam Thinkshop, Germany (2025)

Invited Talk, European Astronomical Society, Ireland (2025)

"Connecting small-scale physics to galaxy evolution"

Invited Talk, "Galactic Ecosystems Under the Microscope", ESO, Germany (2025)

"The Local Volume Mapper (LVM): Physics at the energy injection scale"

Invited Talk, European Astronomical Society, Ireland (2025)

Invited Talk, "10 year of MUSE", ESO Colloquium, Germany (2024)

"Resolving the Baryon Cycle within Nearby Galaxies"

Invited Plenary Talk, Germany Astronomical Society, Berlin, Germany (2023)

Colloquia at University of Ghent, University of Vienna, ECAP, MPIA (2023)

"First Results from the PHANGS-JWST Treasury Survey"

Invited Talk, "JWST Turns One", Sesto, Italy (2023)

"Relating metallicity variations to feedback processes in nearby galaxies"

Contributed Talk, Charting the metallicity evolution history of the Universe, Italy (2022)

Contributed Talk, A holistic view of stellar feedback & galaxy evolution, Switzerland (2022)

"Mapping the ionized ISM in nearby galaxies"

Colloquia at NYU, INAF, University of Maryland, Stockholm University, Observatorio Astronómico Nacional, University of Bonn (2019-2021)

University Service/Committees

Research Council, Representative for Junior Researchers, Heidelberg University, Germany (2021-present)
 IMPRS applicant evaluation (WS22, WS25)
 Equal Opportunity Officer at MPIA (2014-2016)

Teaching

Lecturer, ‘Advanced School on Galaxy Evolution’, IAA-CSIC Granada (Summer 2025)
 Tutor, ‘Experimental Mechanics (PEP1)’, Heidelberg University (Winter 2024)
 ‘Physics and Chemistry of the ISM’, lecturer, Heidelberg University (Winter 2022)
 ‘Python: programming for scientists’, Heidelberg University (Winter 2021; Summer 2022; Winter 2023, Summer 2024)
 Various Bachelors & Masters Seminars, Heidelberg University (Summer 2020; Winter 2020; Summer 2021; Summer 2023)
 Observational Astronomy, Teaching Assistant, Columbia University (Spring 2009)
 Astronomy Lab Instructor, Columbia University (2006-2008)

PhD student supervision, Heidelberg University:

Natascha Sattler (2023-present)
 Jing Li (2021-present, graduation expected WS2025)
 Fabian Scheuermann (2019-present, medical leave, graduation expected WS2025)
 Neven Tomicic (2015-2019, now Professor at University of Zagreb)

Bachelors and Masters student supervision, Heidelberg University:

Hannah Greve (MA, expected 2025)
 Silvia Popa (MA, 2024)
 Mar Canal i Saguer (MA, 2024)
 Ema Zavodnik (BA, 2022)

Postdoc Supervision, Heidelberg University:

Fuheng Liang (2024-present)
 Evgenia Egorova (2023-present)
 Jose Eduardo Mendez-Delgado (2022-2024, now Professor at UNAM)
 Oleg Egorov (2020-2024, now research scientist at Heidelberg University)
 Elizabeth Watkins (2020-2023, now postdoc at U. Manchester)

Scientific Service

Survey Scientist, SDSS-V Local Volume Mapper (LVM) (2017-present)
 Science Working Group Lead, PHANGS (2015-2023)
 Heidelberg Joint Astronomy Colloquium, committee member (2021-present) and organizer (2024-present)
 Public talk, “A Multi-Wavelength View of Nearby Galaxies”, Astronomy Club, University of Stuttgart (2024)
 Public outreach, MPIA Open Day (Summer 2012)
 Panel member/Proposal reviewer: CFHT, HST, ESO, JWST
 Referee for peer-review journals: MNRAS, A&A, ApJ, Nature, Nature Astronomy, Open Journal of Astrophysics
 Grant reviewer: German Science Foundation (DFG), Polish National Science Center, Chilean Science Foundation (SPI-FONDECYT)
 Australian National University thesis examiner (2019)

Conference Organization

SOC, “Decoding Galactic Evolution through the Interplay of the Multi-Phase Interstellar Medium”, Japan (2025)
 SOC, “Inter+Stellar”, USA (2025)
 SOC, “IV Workshop of Chemical Abundances in Gaseous Nebulae”, Brazil (2024)
 SOC, “Second Workshop on German Science Opportunities for the ngVLA”, Leipzig, Germany (2023)
 Organizer, EAS 2023 Krakow, Poland, special session “Star formation scaling relations across physical scales and cosmic time” (2023)
 Organizer, EAS 2022 Valencia, Spain, special session “Connecting stellar sources and the ionised ISM” (2022)
 SOC, Green Bank Workshop “Warm Ionized Medium (WIM) in Galaxies” (2019)
 Organizer, EWASS symposium “Resolving the ionized ISM” (2019)
 SOC, EWASS session “Comparing simulations and observations of the varying scales of star formation” (2017)
 Co-organizer, MPIA summer conference, “A 3D View on Galaxy Evolution” (2015)

Grants

PI of DFG project “Quantifying the Physics of Star Formation Driven Bubbles in Nearby Galaxies” at Heidelberg University, 3 year postdoc funding totaling 286,000 Euro (2025-present)
PI of ERC Starting Grant “ISM-METALS: Tracking galaxy evolution with precise and accurate metal abundances in the interstellar medium” at Heidelberg University, 5 year funding totaling 1.5 million Euro (2023-present)
PI of DFG project within the Collaborative Research Center (Sonderforschungsbereich; SFB) 881 “The Milky Way System” at Heidelberg University, 3 year postdoc funding totaling 272,000 Euro (2020-2022)
PI of DFG Emmy Noether Research Group “Resolving the Baryon Cycle in Nearby Galaxies”, 6 year funding totaling 1.7 million Euro (2019-present)
PI of DFG project “The Reach of Stars”, full time salary for 3yrs for myself and a PhD student totaling 370,000 Euro (2015-2018)
DFG visitor and conference funds totaling 14,000 Euro (2013-2015)

Press Releases

[“Astronomers capture most detailed thousand-colour image of a galaxy”](#)

ESO Press Release, coverage including Der Spiegel, Reuters (2025)

[“Local Volume Mapper \(LVM\) has begun its fully robotic survey operations”](#)

SDSS News Release (2024)

[“Capturing All That Glitters in Galaxies with NASA’s Webb”](#)

NASA Press Release (2022)

[“Galactic Fireworks new ESO images reveal stunning features of nearby galaxies”](#)

ESO Press Release (2021)

Observing Time Awarded as PI

JWST	A JWST Census of the Local Galaxy Population: Anchoring the Physics of the Matter Cycle, 150 hours (Cycle 2, 2023-2024)
VLT (MUSE)	Constraining ISM mixing and weighing molecular gas by mapping dwarf galaxy abundances, 17 hours (P108, Fall 2021)
LBT (MODS)	Tracing Feedback from Stellar Winds in Nearby Galaxies, 10 hours (2018-2019)
APO (MaNGA)	The MaNGA view of Star Formation at 30pc scales: IC 342, 90 hours contingent on the success of a 3 hour pilot study (Fall 2016-2021)
VLT (MUSE)	The evolution of molecular gas and star formation between NGC 628's spiral arms, 2 hours (P94, Fall 2014)
Calar Alto 3.5m (PMAS IFU)	Mapping the metallicity variations within M101 and their effect on the ISM, 14 nights (Spring 2014, Spring 2015)
Calar Alto 3.5m (PMAS IFU)	Far-Infrared Selected by Herschel and PPAK Accessible KINGFISH (FISHPAK), 12 nights (Winter 2013, Winter 2014)
Calar Alto 3.5m (PMAS IFU)	Evolution of the Loneliest Galaxies in Voids , 3 nights (Spring 2013)
WSRT	The Gas Content of Void Galaxies III, 26 hours (Spring 2010)
MDM 2.4m	H-alpha Imaging of Void Galaxies, 7 nights (Spring 2010)
MDM 2.4m	Void Galaxies as a Test for Modified Gravity, 2 nights (Spring 2010)
GALEX	Star Formation History of Void Galaxies, 61.5 ksec (Spring 2010)
VLA	Our Friendly neighborhood void galaxy, 21 hours (Spring 2009, Summer 2010)
MDM 2.4m	Deep optical imaging of void galaxies, 7 nights (Spring 2009)
VLA	Polar Ring Galaxy in Void, 18 hours (Fall 2008)