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## **Distant star formation in the faint radio sky**

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## Publications

### First Author

4. **Algera, H.S.B.**, Hodge, J. A., Riechers, D., Leslie, S.K., Smail, I., Aravena, M., Da Cunha, E., Daddi, E., Decarli, R., Dickinson, M., Gim, H.B., Magnelli, B., Murphy, E. J., Pavesi, R., Sargent, M., Sharon, C. E., Wagg, J., Walter, F., Yun, M., “*COLDz: Probing Cosmic Star Formation with Free-free Emission*”, ApJ submitted (2021)
3. **Algera, H.S.B.**, Hodge, J. A., Riechers, D., Murphy, E. J., Pavesi, R., Aravena, M., Daddi, E., Decarli, R., Dickinson, M., Sargent, M., Sharon, C. E., Wagg, J., “*COLDz: Deep 34 GHz Continuum Observations and Free-free Emission in High-redshift Star-forming Galaxies*”, ApJ, 912, 73 (2021)
2. **Algera, H.S.B.**, Van der Vlugt, D., Hodge, J.A., Smail, I., Novak, M., Radcliffe, J.F., Riechers, D.A., Röttgering, H., Smolčić, V., and Walter, F., “*A Multi-wavelength Analysis of the Faint Radio Sky (COSMOS-XS): the Nature of the Ultra-faint Radio Population*”, ApJ, 903, 139 (2020)
1. **Algera, H.S.B.**, Smail, I., Dudzevičiūtė, U., Swinbank, A.M., Stach, S., Hodge, J.A., Thomson, A.P., Almaini, O., Arumugam, V., Blain, A.W., Calistro-Rivera, G., Chapman, S.C., Chen, C.-C., da Cunha, E., Farrah, D., Leslie, S., Scott, D., Van der Vlugt, D., Wardlow, J.L., and Van der Werf, P., “*An ALMA Survey of the SCUBA-2 Cosmology Legacy Survey UKIDSS/UDS Field: The Far-infrared/Radio correlation for High-redshift Dusty Star-forming Galaxies*”, ApJ, 903, 138 (2020)

### Contributing Author

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- werda, B.W., Illingworth, G.D., Maiolino, R., Maseda, M.V., Oesch, P.A., and van der Werf, P.P., “*Significant Dust-Obscured Star Formation in Luminous Lyman-break Galaxies at  $z \sim 7-8$* ”, submitted to ApJ, arXiv:2105.12133 (2021)
9. da Cunha, E., Hodge, J.A., Casey, C.M., **Algera, H.S.B.**, Kaasinen, M., Smail, I., Walter, F., Brandt, W.N., Dannerbauer, H., Decarli, R., Groves, B.A., Knudsen, K.K., Swinbank, A.M., Weiss, A., van der Werf, P., and Zavala, J.A., “*Measurements of the dust properties in  $z$  1-3 SMGs with ALMA*”, ApJ in press, 2021
  8. Mandal, S., Prandoni, I., Hardcastle, M.J., Shimwell, T.W., Intema, H.T., Tasse, C., van Weeren, R.J., **Algera, H.S.B.**, Emig, K.L., Röttgering, H.J.A., Schwarz, D.J., Siewert, T.M., Best, P.N., Bonato, M., Bondi, M., Jarvis, M.J., Kondapally, R., Leslie, S.K., Mahatma, V.H., Sabater, J., Retana-Montenegro, E., and Williams, W.L., “*Extremely deep 150 MHz source counts from the LoTSS Deep Fields*”, A&A, 648, A5 (2021)
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  6. Van der Vlugt, D., **Algera, H.S.B.**, Hodge, J.A., Novak, M., Radcliffe, J.F., Riechers, D.A., Röttgering, H., Smolčić, V., and Walter, F., “*An Ultra-deep Multi-band VLA Survey of the Faint Radio Sky (COSMOS-XS): Source Catalog and Number Counts*”, ApJ, 907, 5 (2021)
  5. Leslie, S.K., Schinnerer, E., Liu, D., Magnelli, B., **Algera, H.S.B.**, Karim, A., Davidzon, I., Gozaliasl, G., Jiménez-Andrade, E.F., Lang, P., Sargent, M.T., Novak, M., Groves, B., Smolčić, V., Zamorani, G., Vaccari, M., Battisti, A., Vardoulaki, E., Peng, Y., and Kartaltepe, J., “*The VLA-COSMOS 3 GHz Large Project: Evolution of Specific Star Formation Rates out to  $z \sim 5$* ”, ApJ, 899, 58 (2020)

## Curriculum Vitae

I was born in the idyllic Dutch town of Sneek on September 8th, 1995, where I would later attend the Gymnasium of the RSG Magister Alvinus high school. At age thirteen, I faced the difficult decision of choosing my future career path. Switching at the very last moment from an academic track focused on economics and ancient Greek to mathematics and physics – it was said this would “leave more options open” – I graduated from the RSG in 2012. Once more without a clear vision on what to do next, I decided to follow a long-time friend in pursuing a Bachelor’s degree in astronomy at the University of Leiden.

It was at Leiden that my passion for the Cosmos – which had certainly already been instilled in me from a young age, yet lay temporarily dormant – took full form. I was introduced to radio astronomy during my Bachelor’s research when, together with fellow student Louis Cheung, I worked on *Atacama Large Millimeter Array* observations of the protoplanetary disk HL Tau in a project led by Dr. Michiel Hogerheijde and Dr. Mason Carney. Subsequently, I obtained my BSc *cum laude* in 2015.

Continuing onward with a Master’s in Astronomy at Leiden University, thereby opting for the cosmology specialization, I first studied the (apparent lack of) X-ray pulsations in accreting millisecond pulsars under the supervision of Dr. Alessandro Patruno. My master’s thesis then finally exposed me to the fascinating field of galaxy evolution, leading me to find and study high-redshift galaxies with extremely strong emission lines under the supervision of Dr. Rychard Bouwens. I obtained my MSc from Leiden University *summa cum laude* in 2017.

In the same year, I enrolled in the PhD programme at Leiden University, pursuing a study of the faint radio sky under the supervision of Dr. Jacqueline Hodge. Having come full circle, back to radio astronomy albeit now armed with valuable experience at other wavelengths, I was fortunate to present my thesis work at various conferences, and work within several different collaborations. In 2019, this led to a four month visit to the University of Durham, England, where I studied the combined infrared and radio properties of dusty star-forming galaxies under the supervision of Prof.

Ian Smail and Prof. Mark Swinbank, culminating in Chapter 3 of this thesis. Starting November 2021, I will move to the University of Hiroshima, Japan, where I will pursue a postdoc with Dr. Hanae Inami, studying some of the very same galaxies I investigated during my MSc, now from a radio perspective.

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Arguably the best part of life as an astronomer is the people you meet along the way, and the time you get to spend with them. Kirsty and Dieuwertje, I have so many fond memories of our post-conference trips, from speedrunning Meteor Crater and swimming near the fake Hoover dam to seeing awesome bands at Primavera festival in Porto. A special thank you goes out to Amber and Taylor, for taking the famous notion of American hospitality to the next level on the rare occasion I was traveling alone. Anna, it's hard to pick between snacking on trail mix at 8am during our Grand Canyon descent and doing it all over again a few days later for our impromptu hike in Zion. Anniek, Pooneh, with you I can also appreciate the lazy side of life, sipping unlimited cocktails (including newly-found favourite: the espresso gin & tonic) at a sunny Cretan beach. Marta, thank

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