

# ALEKSANDRA HAMANOWICZ

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## RESEARCH INTERESTS

**Galaxy formation and evolution:** Molecular content of galaxies, the evolution of  $\Omega(\text{H}_2)$  and  $\Omega(\text{HI})$  with redshift, star formation history of the Universe, circum-galactic-medium, quasar absorbers

**Observational astrophysics:** multiwavelength approach, submillimetre, radio-, optical observations, archival science (ALMA, ESO, etc.)

**Transient Universe:** nuclear transients and their hosts galaxies (Tidal Disruption Events, Changing-Look AGN)

## PUBLICATION RECORD

First author of 1 reviewed work (2016), 1 submitted (Sep. 2019), 1 in preparation.

Co-author of 10 works, including 2 Nature/Nature Astronomy publications. Total number of citations: 1391 (Including 1257 – Kilonova discovery papers). [ADS Library](#)

## EDUCATION

2017 - present **PhD in Astronomy, The International Max Planck Research School in Astrophysics (IMPRS), European Southern Observatory, Germany**

PhD Topic: *A 3D view on the cosmic baryon cycle*

Supervisors: Dr Martin Zwaan, Dr Céline Péroux

2015 - 2017 **MSc in Astronomy, University of Warsaw, Poland**

MSc thesis: *Nuclear Transients in OGLE and Gaia Surveys*

Supervisor: Dr hab. Łukasz Wyrzykowski

2012 - 2015 **BSc in Astronomy, University of Warsaw, Poland**

BSc thesis: *Studies of the Sagittarius Dwarf Galaxy,*

Supervisors: Prof. Andrzej Udalski, Dr hab. Paweł Pietrukowicz

## RESEARCH EXPERIENCE

2019 **ASTRO 3D visitor:** 3 weeks research visit in ICRAR Perth, Australia

*SAMS Shark predictions for ALMACAL blind CO survey,*

collaboration with Dr Claudia Lagos

2018 **10<sup>th</sup> IRAM millimetre interferometry school, Grenoble, France**

2015 **Summer Internship in Leibnitz Institute for Astrophysics Potsdam, Germany**

Project: *Weak emission lines in CALIFA galaxies*

Supervisor: Dr Jakob Walcher

2014 **Summer Internship, Australian Astronomical Observatory, Sydney, Australia**

Project: *Understanding obscuration in star-forming galaxies (GAMA)*

Supervisors: Prof. Andrew Hopkins, Dr Sarah Brough, Dr Matthew Owers

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## PROFESSIONAL SKILLS SUMMARY

- ⇒ Advanced **MUSE data reduction** techniques (ESO pipeline, sky calibrations - ZAP, analysis tools – MPDAF, qFitsView)
- ⇒ **ALMA data reduction** and analysis (CASA), source finding (SoFiA, Duchamp) and extensive **archival data mining** (ALMACAL)
- ⇒ **Long-slit spectroscopy** and photometry data reductions and analysis (Instruments: EFOSC2/NTT, SofI/NTT, FORS2/VLT, RSS/SALT; Software: IRAF, TopCat, SExtractor)
- ⇒ Languages: **English (excellent)**, German and Spanish (basic), Polish (native)
- ⇒ Programming: **Python (advanced)**, C and Fortran (basic), bash scripting (advanced)

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## CONFERENCE CONTRIBUTIONS

- Oct. 2019 Cagliari, *ALMA2019: Science Results and Cross-Facility Synergies*  
POSTER PIZE WINNER
- June 2019 Garching, *Nine Billion Years of Neutral Gas Evolution* TALK
- Feb. 2019 Sydney, *Linking galaxies from the Epoch of initial star-formation to today* TALK
- Aug. 2018 Vienna, *IAU GA: Warm and hot Baryonic Matter in the Cosmos* POSTER
- June 2018 Marseille, *Intergalactic Interconnections* POSTER/FLASH TALK
- Since 2014 Regular participation in international meetings with poster presentations

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## AWARDED TELESCOPE TIME

### Co-Investigator:

- ⇒ *The stellar populations of gas-rich absorbing galaxies detected with VLT/MUSE and ALMA: the essential link to the baryon cycle*, HST, 40 orbits, Cycle 27, PI: C. Péroux
- ⇒ *“Any Weather” Statistical Study of the Circum-Galactic Medium*, VLT/MUSE, 99h, P102, PI: C. Péroux
- ⇒ *Studying supermassive black holes and their environments with tidal disruption events*, FORS2/VLT, 5h -ToO, P100, PI: M. Gromadzki
- ⇒ *A needle in a haystack: studying tidal disruption events in supermassive black holes*, FORS2/VLT, 5h-ToO, P98, PI: Ł. Wyrzykowski

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## OBSERVING EXPERIENCE

- ⇒ NTT/La Silla 3 nights, PESSTO Public Survey observing run (spectroscopic follow up and classification of transients)
- ⇒ Loiano/Italy, 2m telescope, 3 observing runs each 4-5 nights (photometric and spectroscopic follow-up of transients discovered by Gaia)

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## PROFESSIONAL ACTIVITIES

- ⇒ Scientific Assistant at ESO Observing Programmes Committee (participation in proposals review)
- ⇒ Member of ESO Studentship Selection Committee (applications review and interviews)
- ⇒ Organizer of internal ESO Student Session
- ⇒ Experience of working in multi-institute collaborations – PESSTO, NUTS
- ⇒ Outreach speaker on multiple outreach events in Poland and ESO (ESO Science Ambassador, European Researcher’s Night, popularization of science among high-school pupils)