

MAGDALENA SIWEK

Center for Astrophysics | Harvard & Smithsonian

A-110, 60 Garden Street, Cambridge, MA 02138

magdalena.siwek@cfa.harvard.edu

EDUCATION

Harvard University	PhD Candidate in Astronomy Thesis: Simulating Multimessenger Signatures of Supermassive Black Hole Binaries Advisor: Lars Hernquist	2018-present
University of Glasgow	MSc Physics and Astronomy. Thesis title: Numerical Simulations of AGN Outflows Advisors: Ramesh NARAYAN · rnarayan@cfa.harvard.edu Graham WOAN · Graham.Woan@glasgow.ac.uk	2017
University of Glasgow	BSc Physics and Astronomy, Thesis title: Measuring GR effects around PSR B0329+54. Advisor: Graham WOAN · Graham.Woan@glasgow.ac.uk	2016

RESEARCH POSITIONS

CCA, New York	Summer School Student Improving convergence in Hydrodynamics simulations to 5th order using the WENO method: https://github.com/mssiwek/WENO Advisor: Jonathan ZRAKE · jonathan.zrake@gmail.com	Jun - July 2019
New York University	Research Assistant Host galaxies of type Ic/Ic-BL supernovae from the Palomar Transient Factory: Implications for Jet production. Advisor: Maryam MODJAZ · mmodjaz@nyu.edu	Jan - July 2018
Harvard University	Research Assistant Numerical Simulations of ULX outflows with KORAL. Advisors: Ramesh NARAYAN · rnarayan@cfa.harvard.edu and Aleksander SADOWSKI · asadowski@mit.edu	Jun - Sep 2016
University of Glasgow	Research Assistant Statistical analysis of H Ly- α in Solar flares. Development of Solar flare detection algorithms in GOES 15 data. Advisor: Nicolas LABROSSE · Nicolas.Labrosse@glasgow.ac.uk	Aug - Sep 2015
Swinburne University	Research Assistant Detection of strong gravitational lenses in 2dFLenS data. Advisor: Chris BLAKE · cblake@swin.edu.au	May - Aug 2015
European Space Operations Centre, Germany	ESA Trainee with Gaia Flight Control Discovery of a glitch in Gaia’s star detection algorithm which was later solved by a spacecraft upgrade. Advisor: Edmund SERPELL · Edmund.Serpell@esa.int	Jun - Sep 2014

SELECTED PUBLICATIONS

Siwek et al. (2020): The effect of differential accretion on the Gravitational Wave Background and the present day MBH Binary population <https://academic.oup.com/mnras/article-abstract/498/1/537/5892575?redirectedFrom=fulltext>

Siwek et al. (2017): Optical and X-ray luminosities of expanding nebulae around ultraluminous X-ray sources. <https://academic.oup.com/mnras/article-abstract/470/1/361/3829897/Optical-and-X-ray-luminosities-of-expanding?redirectedFrom=fulltext>

Full publication record: [ADS](#).

AWARDS

- 2021 **Harvard University** Derek Bok Center Certificate of Distinction in Teaching
- 2018 **Harvard Scholarship Foundation Germany** Merit-based stipend supporting graduate students from Germany
- 2017 **University of Glasgow Archibald McAulay Memorial Prize:** Best Combined Physics MSci candidate
- 2016 **University of Glasgow Mackay Smith Prize:** Best Physics and Astronomy MSci candidate
- 2016 **University of Glasgow:** Travel Grant for CUWIP 2016 (Oxford University)
- 2015 **University of Glasgow Tannahill Bequest:** Best Astronomy honours student
- 2015 **Royal Society of Edinburgh:** Cormack Vacation Research Scholarship

TEACHING AND OUTREACH

- 2019 - present **Volunteer, Skype A Scientist:** Hosting live Q&A sessions with classrooms around the world.
- 2020 **Teaching Fellow,** Harvard University, ASTRON17: Galactic and Extragalactic Astronomy. Instructor: Daniel Eisenstein.

SERVICE

- 2021 **Harvard University Scholarship Restart Taskforce:** Coordinating the availability of quiet working spaces for GSAS Students during the COVID-19 pandemic.
 - 2020-2021 **Harvard University Astronomy Graduate Program Committee:** Advocating for graduate students' interests in academic policy, student wellness, and any other topics of general concern.
 - 2020-2021 **Harvard University Astronomy Peer Mentoring Program Coordinator:** Matching incoming graduate students with mentors and organizing mentoring events throughout the academic year.
 - 2020 **Harvard University Astronomy Admitted Students Visit Coordinator:** Planning and organizing the annual visit of newly admitted graduate students.
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TALKS

- 2020 **NANOGrav Collaboration Meeting:** The effect of differential accretion on the Gravitational Wave Background and the present-day MBHB population
- 2019 **CCA Summer School Talk Series:** Improving Convergence Rates in Hydrodynamical Simulations
- 2019 **CCA:** Binary accretion and the Gravitational Wave Background
- 2019 **MPA Munich Cosmology Seminar:** Binary accretion and the Gravitational Wave Background

INFORMAL TALKS

- 2020 **NANOGrav Astrophysics Working Group Meeting:** Multidimensional parameter studies of circumbinary disks in 3D
- 2018 **Heidelberg Institute for Theoretical Studies:** A connection between broad-lined SNe Ic, SLSNe and SN-GRBs?
- 2016 **Harvard Center for Astrophysics:** Institute for Theory and Computing group meeting talk "ULX Bubbles: Theory, Observation, and Simulation with KORAL"
- 2015 **Royal Society of Edinburgh:** SUPA 2015 conference poster presentation "Statistical analysis of H Ly- α in Solar flares"
- 2014 **European Space Agency:** Gaia optical design investigation and data analysis during the commissioning phase.



May 25, 2021