

Wolfgang E. Kerzendorf

Education

- 2002 – 2006 **Vordiplom**, *Ruprecht Karls Universität Heidelberg*, Heidelberg, DE.
2007 – 2011 **PhD**, *ANU Research School of Astronomy and Astrophysics*, Weston Creek, AU.

Experience

- 2011 – 2014 **Postdoctoral Fellow**, *University of Toronto*, Toronto, CA.
2014 – 2018 **ESO Fellow**, *European Southern Observatory*, Garching, DE.
2019 – 2019 **Senior Research Associate**, *New York University*, New York, US.
2019 – present **Assistant Professor**, *Michigan State University*, East Lansing, US.

Scholarships & Awards

- 2007 & 2011 **ANU Vice Chancellor's Special Award**, *Awarded to the Outreach group*, Mt Stromlo Observatory.
2014 – 2018 **ESO Fellowship**, *European Southern Observatory*, Garching, Germany.
2019 **Scialog Fellow**, *Time Domain Astronomy*, Research Corporation for Science Advancement, US.
2020 **TARDIS becomes NumFOCUS sponsored project**, NumFOCUS, US.

Major Collaborations

- 2011 – now **TARDIS collaboration**, *PI Kerzendorf*, Leading the group and liaising between the disciplines.
2011 – now **Astropy collaboration**, Contributions to spectral analysis package and NDDATA.
2014 – now **UCLA Galactic Center Group**, *PI Ghez*, Expert on Stellar Abundance measurements.
2013 – now **West African International Summerschool**, *PI Strubbe*, Instructor & Mentor.
2017 – now **ePessto collaboration**, *PI Smartt*, Faint & fast transient group.

Observing, Computing, and Funding

- 8 observing campaigns as PI**, 2 *HST*, 3 *ESO VLT*, 1 *Keck*, 2 *Gemini*.
4 computing grants as PI, > 2 *mio CPU h*.
8 Summer of Code Participations as PI, *total* \approx 100k USD.

Talks [selected]

- 2021 **Type Ia explosions and progenitors: insights from spectral time series [INVITED TALK]**, *Sixteenth Marcel Grossmann meeting*, Rome [virtual], Italy.
2021/2020 **Emulators - Approximating Reality**, *School on Machine Learning, Big Data, and Deep Learning in Astronomy*, Granada [virtual], Spain.

- 2020 **Training Students before, during, and after Google Summer of Code**, *Google Summer of Code Mentor Summit*, Mountain View [virtual], US.
- 2019 **Spectral Emulators [INVITED TALK]**, *Machine Learning Tools for Research in Astronomy*, Berkeley, US.
- 2019 **Machine learning for theoretical astrophysics: Friend or Foe [INVITED TALK]**, *UC Berkeley Theoretical Astrophysics Colloquium*, Berkeley, US.
- 2017 **TARDIS - a radiative transfer code, an open source community, and an interdisciplinary collaboration [INVITED TALK]**, *EWASS 2017*, Prague, Czech Republic.
- 2017 **Does Cas A host a surviving companion star? [INVITED PANEL LEAD]**, *CSI: Princeton – A Definitive Investigation of the Core-Collapse Supernova Cassiopeia A*, Princeton, USA.
- 2016 **New methods and algorithms for supernovae [INVITED REVIEW]**, *The Physics of Supernovae*, Garching, Germany.

Supervisory Roles [selected]

- 2013 – now **10 Students from Summer of Code projects**, *Working remotely on TARDIS for 3 months*, PhD & undergraduate.
Europe, US, and Asia
- 2021 – now **Sona Chitchyan**, *Identifying surviving companions of supernovae*, Fulbright Student, Michigan State University.
US
- 2020 – now **Andrew Fullard**, *Modelling the nebular phase of Type Ia supernovae*, Postdoc, Michigan State University.
US
- 2020 – now **Jack O'Brien**, *Reconstructing thermonuclear supernovae through Emulation*, PhD, Michigan State University.
US
- 2020 – now **Josh Shields**, *Identifying surviving companions of supernovae*, PhD, Michigan State University.
US
- 2019 – now **Marc Williamson**, *Reconstructing stripped core-collapse supernovae*, PhD, New York University.
US
- 2016 – 2020 **Christian Vogl**, *Type IIP supernovae as cosmological distance indicators*, PhD, Max-Planck-Institute of Astrophysics.
Germany

Reviewer activities

I have reviewed papers for *Astrophysical Journal*, *Monthly Notices of the Royal Astronomical Society*, and *Astronomy&Astrophysics*

Member of professional societies

I am currently a member of the “European Astronomical Society” and was a past member of the “Canadian Astronomical Society” as well as the “Astronomical Society of Australia”.

Bibliometrics

- h-Index 24
- i10-Index 40
- Total Citations 10845

Top 5 Publications by citations

- [1] Tuan Do, Aurelien Hees, Andrea Ghez, Gregory D. Martinez, Devin S. Chu, Siyao Jia, Shoko Sakai, Jessica R. Lu, Abhimat K. Gautam, Kelly Kosmo O’Neil, Eric E. Becklin, Mark R. Morris, Keith Matthews, Shogo Nishiyama, Randy Campbell, Samantha Chap-pell, Zhuo Chen, Anna Ciurlo, Arezu Dehghanfar, Eulalia Gallego-Cano, **Wolfgang E. Kerzendorf**, James E. Lyke, Smadar Naoz, Hiromi Saida, Rainer Schödel, Masaaki Taka-hashi, Yohsuke Takamori, Gunther Witzel, and Peter Wizinowich. “Relativistic redshift of the star S0-2 orbiting the Galactic Center supermassive black hole”. In: *Science* 365.6454 (Aug. 2019), pp. 664–668. DOI: [10.1126/science.aav8137](https://doi.org/10.1126/science.aav8137). arXiv: [1907.10731](https://arxiv.org/abs/1907.10731) [[astro-ph.GA](#)]. CITATIONS: 24.
- [2] Astropy Collaboration et al. “The Astropy Project: Building an Open-science Project and Status of the v2.0 Core Package”. In: *AJ* 156.3, 123 (Sept. 2018), p. 123. DOI: [10.3847/1538-3881/aabc4f](https://doi.org/10.3847/1538-3881/aabc4f). arXiv: [1801.02634](https://arxiv.org/abs/1801.02634) [[astro-ph.IM](#)]. CITATIONS: 930.
- [3] S. J. Smartt et al. “A kilonova as the electromagnetic counterpart to a gravitational-wave source”. In: *Nature* 551.7678 (Nov. 2017), pp. 75–79. DOI: [10.1038/nature24303](https://doi.org/10.1038/nature24303). arXiv: [1710.05841](https://arxiv.org/abs/1710.05841) [[astro-ph.HE](#)]. CITATIONS: 286.
- [4] Astropy Collaboration, Thomas P. Robitaille, Erik J. Tollerud, Perry Greenfield, Michael Droettboom, Erik Bray, Tom Aldcroft, Matt Davis, Adam Ginsburg, Adrian M. Price-Whelan, **Wolfgang E. Kerzendorf**, Alexander Conley, Neil Crighton, Kyle Barbary, Demitri Muna, Henry Ferguson, Frédéric Grollier, Madhura M. Parikh, Prasanth H. Nair, Hans M. Unther, Christoph Deil, Julien Woillez, Simon Conseil, Roban Kramer, James E. H. Turner, Leo Singer, Ryan Fox, Benjamin A. Weaver, Victor Zabalza, Zachary I. Edwards, K. Aza-lee Bostroem, D. J. Burke, Andrew R. Casey, Steven M. Crawford, Nadia Dencheva, Justin Ely, Tim Jenness, Kathleen Labrie, Pey Lian Lim, Francesco Pierfederici, Andrew Pontzen, Andy Ptak, Brian Refsdal, Mathieu Servillat, and Ole Streicher. “Astropy: A community Python package for astronomy”. In: *A&A* 558, A33 (Oct. 2013), A33. DOI: [10.1051/0004-6361/201322068](https://doi.org/10.1051/0004-6361/201322068). arXiv: [1307.6212](https://arxiv.org/abs/1307.6212) [[astro-ph.IM](#)]. CITATIONS: 2868.
- [5] **Wolfgang E. Kerzendorf**, Brian P. Schmidt, M. Asplund, Ken’ichi Nomoto, Ph. Pod-siadlowski, Anna Frebel, Robert A. Fesen, and David Yong. “Subaru High-Resolution Spectroscopy of Star G in the Tycho Supernova Remnant”. In: *ApJ* 701.2 (Aug. 2009), pp. 1665–1672. DOI: [10.1088/0004-637X/701/2/1665](https://doi.org/10.1088/0004-637X/701/2/1665). arXiv: [0906.0982](https://arxiv.org/abs/0906.0982) [[astro-ph.SR](#)]. CITATIONS: 101.

Top 5 First Author Publications by citations

- [1] **Wolfgang E. Kerzendorf**, Michael Childress, Julia Scharwächter, Tuan Do, and Brian P. Schmidt. “A Reconnaissance of the Possible Donor Stars to the Kepler Supernova”. In: *ApJ* 782.1, 27 (Feb. 2014), p. 27. DOI: [10.1088/0004-637X/782/1/27](https://doi.org/10.1088/0004-637X/782/1/27). arXiv: [1309.5964](https://arxiv.org/abs/1309.5964) [[astro-ph.SR](#)]. CITATIONS: 51.
- [2] **Wolfgang E. Kerzendorf** and Stuart A. Sim. “A spectral synthesis code for rapid modelling of supernovae”. In: *MNRAS* 440.1 (May 2014), pp. 387–404. DOI: [10.1093/mnras/stu055](https://doi.org/10.1093/mnras/stu055). arXiv: [1401.5469](https://arxiv.org/abs/1401.5469) [[astro-ph.SR](#)]. CITATIONS: 53.
- [3] **Wolfgang E. Kerzendorf**, David Yong, Brian P. Schmidt, Joshua D. Simon, C. Simon Jeffery, Jay Anderson, Philipp Podsiadlowski, Avishay Gal-Yam, Jeffrey M. Silverman, Alexei V. Filippenko, Ken’ichi Nomoto, Simon J. Murphy, Michael S. Bessell, Kim A. Venn, and Ryan J. Foley. “A High-resolution Spectroscopic Search for the Remaining Donor for Tycho’s Supernova”. In: *ApJ* 774.2, 99 (Sept. 2013), p. 99. DOI: [10.1088/0004-637X/774/2/99](https://doi.org/10.1088/0004-637X/774/2/99). arXiv: [1210.2713](https://arxiv.org/abs/1210.2713) [[astro-ph.SR](#)]. CITATIONS: 53.
- [4] **Wolfgang E. Kerzendorf**, Brian P. Schmidt, John B. Laird, Philipp Podsiadlowski, and Michael S. Bessell. “Hunting for the Progenitor of SN 1006: High-resolution Spectroscopic Search with the FLAMES Instrument”. In: *ApJ* 759.1, 7 (Nov. 2012), p. 7. DOI: [10.1088/0004-637X/759/1/7](https://doi.org/10.1088/0004-637X/759/1/7). arXiv: [1207.4481](https://arxiv.org/abs/1207.4481) [[astro-ph.SR](#)]. CITATIONS: 46.
- [5] **Wolfgang E. Kerzendorf**, Brian P. Schmidt, M. Asplund, Ken’ichi Nomoto, Ph. Podsiadlowski, Anna Frebel, Robert A. Fesen, and David Yong. “Subaru High-Resolution Spectroscopy of Star G in the Tycho Supernova Remnant”. In: *ApJ* 701.2 (Aug. 2009), pp. 1665–1672. DOI: [10.1088/0004-637X/701/2/1665](https://doi.org/10.1088/0004-637X/701/2/1665). arXiv: [0906.0982](https://arxiv.org/abs/0906.0982) [[astro-ph.SR](#)]. CITATIONS: 101.