

Karin Dissauer

NorthWest Research Associates
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CURRICULUM VITÆ

Education and Training

- 10/2018 **PhD in Physics (Focus: Astrophysics)** at the University of Graz, Austria, with Honors
- 03/2013 **MSc. in Physics (Focus: Theoretical Physics)** at the University of Graz, Austria, with Honors
- 04/2011 **BSc. in Physics** at the University of Graz, Austria, with Honors
- 02/2010 – 06/2010 **ERASMUS student**, Syddansk Universitet, CP³-Origins, Odense, Denmark

Professional Experience

- Current position** since 04/2021 **Research Scientist** at NorthWest Research Associates (NWRA), Boulder, CO, USA
- 11/2019 – 04/2021 **Postdoctoral Associate** at NorthWest Research Associates, Boulder, CO, USA
- 10/2018 – 09/2019 **Post Doc** at the Institute of Physics of the University of Graz, Austria
- 09/2013 – 10/2018 **Research Associate** at the Institute of Physics of the University of Graz, Austria

Research Interests

- **Solar coronal mass ejections (CMEs)**: – initiation and early propagation phase, relationship with associated phenomena such as coronal dimmings and large-scale waves
 - investigation of their space weather impact
 - characterization of pre-event coronal dimmings and testing their uniqueness as CME precursors
 - observations of the early acceleration phase in the middle corona with the Sun Corona Eruption Tracker (SunCET) CubeSat NASA mission, tentative launch: February 2025
- **Solar flares**: – dynamics and heating during the pre-flare phase in the solar corona and chromosphere
 - uniqueness and characterization of flare precursors to test their potential for solar flare forecasting
- **Stellar CMEs**: – establishing post-flare coronal dimmings as indirect observational signatures

Publications and Presentations

- **36 peer-reviewed scientific papers** in international journals (**7 as a first and/or corresponding author***) with a total number of 803 citations (681 without self-citation, according to [NASA-ADS](#)) and **h-index of 18**.
- more than 50 abstracts at international conferences and workshops, including **2 invited talks** (2018 SDO Science Workshop, Hvar Astrophysical Colloquium 2021), **8 oral presentations** and **15 posters as presenting author**.

Ten Selected Key Publications:

- KD Leka, **K. Dissauer***, G. Barnes, E. L. Wagner, 'Properties of Flare-Imminent versus Flare-Quiet Active Regions from the Chromosphere through the Corona II: NonParametric Discriminant Analysis Results from

- the NWRA Classification Infrastructure (NCI)', *ApJ*, 942, 84 (2023)
- **K. Dissauer***, KD Leka, E. L. Wagner, 'Properties of Flare-Imminent versus Flare-Quiet Active Regions from the Chromosphere through the Corona I: Introduction of the AIA Active Region Patches (AARPs)', *ApJ* 942, 83 (2023)
 - A. M. Veronig, P. Odert, M. Leitzinger, **K. Dissauer**, N. C. Fleck, H. S. Hudson, 'Indications of stellar coronal mass ejections through coronal dimmings', *Nature Astronomy*, 5, 697-706 (2021)
 - A. Prasad, **K. Dissauer***, Q. Hu, R. Bhattacharyya, A.M. Veronig, S. Kumar, B. Joshi, 'Magnetohydrodynamic Simulation of Magnetic Null-point Reconnections and Coronal Dimmings during the X2.1 flare in NOAA AR 11283', *ApJ*, 903, 129 (2020)
 - G. Chikunova, **K. Dissauer**, T. Podladchikova, A. M. Veronig, 'Coronal Dimmings Associated with Coronal Mass Ejections on the Solar Limb', *ApJ*, 896, 17 (2020)
 - **K. Dissauer***, A. M. Veronig, M. Temmer, T. Podladchikova, 'Statistics of coronal dimmings associated with coronal mass ejections. II. Relationship between coronal dimmings and their associated CMEs', *ApJ*, 874, 123 (2019)
 - A. M. Veronig, T. Podladchikova, **K. Dissauer**, M. Temmer, D. B. Seaton, D. Long, J. Guo, B. Vršnak, L. Harra, B. Kliem, 'Genesis and impulsive evolution of the 2017 September 10 coronal mass ejection', *ApJ*, 868, 107, (2018)
 - **K. Dissauer***, A. M. Veronig, M. Temmer, T. Podladchikova, K. Vanninathan, 'Statistics of coronal dimmings associated with coronal mass ejections. I. Characteristic dimming properties and flare association', *ApJ*, 863, 169, (2018)
 - **K. Dissauer***, A. M. Veronig, M. Temmer, T. Podladchikova, K. Vanninathan, 'On the detection of coronal dimmings and the extraction of their characteristic properties', *ApJ*, 855, 137, (2018)
 - **K. Dissauer***, M. Temmer, A. M. Veronig, K. Vanninathan, J. Magdalenić, 'Projection effects in coronal dimming and associated EUV wave event', *ApJ*, 830, 92, (2016)

Awards

- 2020 *Josef-Krainer-Förderungspreis*; Early Career Scientist Award for PhD Thesis of the state of Styria, Austria
- 2019 *Early Career Women Scientists Award*; Faculty of Natural Sciences, University of Graz, Austria
- 2019 *Travel Grant for FReSWeD*; Instituto de Astronomía y Física del Espacio, Argentina & European Space Agency (ESA)
- 2018 *Thomas Metcalf Travel Award*; Solar Physics Division of the American Astronomical Society
- 2008, 2009, 2018 *Merit scholarship*, University of Graz, Austria

Projects and Funding

- 09/2023 – 08/2027 "Chicken vs. Egg, Again: Early Chromospheric Dynamics of Solar Energetic Events"; Air Force Office of Scientific Research (AFOSR); **Co-I**; \$1,079,483
- 08/2022 – 07/2025 "Up, Up & Away! Relating Early CME Acceleration to Coronal Magnetic Topological Features"; National Aeronautics and Space Administration (NASA) HSR 80NSSC23K0098; **Co-I**; \$751,664
- 04/2022 – 03/2025 "To Be or Not to Be? Investigating the True Relationship between 'Precursor' Phenomena, Magnetic Topology, and Solar Energetic Events"; National Science Foundation (NSF) AGS/Solar-Terrestrial 2154653; **PI: K. Dissauer**; \$747,423
- 03/2022 – 09/2025 "NWRA Contribution: Sun Corona Eruption Tracker (SunCET)"; NASA HFORT20 80NSSC22M0090; subcontract to Johns Hopkins University Applied Physics Laboratory; **Co-I**; \$70,676

06/2021 – 05/2024 “Is it the Little Things? Investigating the True Relationship between ‘Precursor’ Phenomena, Magnetic Topology, and Solar Flares”; NASA H-GI 80NSSC21K0738; **PI: K. Dissauer**; \$527,567

2020 – 2023 Co-leader of International Space Sciences Institute (ISSI) Team “Coronal Dimmings and their Relevance to the Physics of Solar and Stellar Coronal Mass Ejections”, together with Astrid Veronig (University of Graz), [ISSI Website](#)

Completed - NASA H-GI 80NSSC19K0285; PI: KD Leka
- Austrian Research Promotion Agency (FFG) ASAP-14 865972 (SSCME), PI: Astrid Veronig (co-authored)
- FFG ASAP-11 4900217 (CORDIM), PI: Astrid Veronig (co-authored)
- Austrian Science Fund (FWF) P24092-N16, PI: Astrid Veronig

Scientific Community Service and Memberships

- Reviewer for NSF and NASA
- Referee for the *Astrophysical Journal*
- Co-Convener and Co-Chair of the session “The solar sources of space weather” at the European Space Weather Symposium 2020 and the European Space Weather Week 2021
- Part of the SCOSTEP/VarSITI MiniMax24 campaign providing daily updates on solar and geospace events (2014 – 2021)
- Member of the *Local Organizing Committee* of the Chinese European Solar Physics Meeting (CESPM), Hvar, Croatia, 2019 and of the 15th RHESSI Workshop, Graz, Austria, 2016

Professional Societies Member of International Astronomical Union; American Geophysical Union; American Astronomical Society/Solar Physics Division

Supervision and Teaching

with the University of Graz, Skoltech and NorthWest Research Associates

2017 – present • Co-supervision of 6 Master students (6 finished) and 2 PhD students (ongoing)

2023 • Supervision of an undergraduate student from under-represented backgrounds through the University of Colorado/[Boulder Solar Alliance/REU program](#)

2022 • Lecturer at the [SOLARNET Summer School](#) in Tatranská Lomnica

Fall Semester 2010/11 & 2011/12 • Teaching Assistant (*Tutorial Theoretical Mechanics*) at the Institute of Physics, University of Graz, Austria

Public Outreach

2022 – present Initiator of Interactive Science Education Tools (ISET) - fact-based tutorials to bust myths in the natural sciences

2021 – present Responsible for NWRA’s dissemination of scientific results via Twitter and Mastodon

2014 – 2019 Demonstrator at various public outreach events (e.g. *Lange Nacht der Forschung*, *Weltraumtag*, partial solar eclipse, mercury transit, etc.) in Graz, Austria