Christine F. Waigl

Curriculum Vitae

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Education

2017	Ph. D. in Geophysics / Remote Sensing, University of Alaska Fairbanks
1994	Diplom (M. S. equiv.) in Physics, University of Heidelberg, Germany
1990	Vordiplom exam in Physics, University of Erlangen-Nuremberg, Germany

Appointments

Research

2023 - current **Research Associate, International Arctic Research Center, University of Alaska Fairbanks (UAF)**

- Generating actionable science products supporting Alaska and Arctic climate resilience
- Seasonal and short-term predictability of wildland fire, river ice breakup timing, tundra greenness

2021 - 2022 **Postdoctoral Fellow, International Arctic Research Center, University of Alaska Fairbanks (UAF)**

- Dynamical downscaling of ERA5 climate reanalysis data (WRF modeling) with the Alaska Climate Adaptation Science Center
- Remote sensing and climate change impact modelling related to wildfire, NDVI change and river ice using machine learning

2019 - 2021 **Postdoctoral Fellow, Geophysical Institute, UAF**

- Remote sensing of boreal wildfire fuels, fire behavior research, and post-fire land cover mapping within the Alaska EPSCoR "Fire and Ice" project
- Processing chain implementation and data engineering for HySpex aerial hyperspectral imagery (ATCOR, PARGE, ENVI; Python, Jupyter Notebooks
- Fieldwork: boreal forest wildfire fuels and ground control locations
- Designed and implemented fire detection and fire hazard related data services (GDAL, Google Earth Engine, ArcGIS platform)

2017 - 2019 **Temporary Research Staff, GI, UAF** (part-time)

- Mapped low- and high intensity active fire from near real-time satellite detections for public communication (Alaska EPSCoR)
- WRF-Chem modeling of wildfire smoke and volcanic ash dispersion
- Fieldwork: surveyed boreal forest vegetation

2012 - 2016 **Graduate Research Assistant, GI Atm. Sciences & Remote Sensing, UAF**

- Algorithm development for satellite-based fire detection for the in Alaska boreal forest
- Fire temperature retrieval in Hyperion imaging spectrometer data (machine learning) with atmospheric correction using MODTRAN
- Fieldwork: airborne remote sensing with FLIR thermal infrared and optical cameras for US Fish and Wildlife Service

2011 - 2012 **Research Professional 3, GI, UAF**

- Remote and on-site operations support for DOE Atmospheric Radiation Measurement (ARM) project North Slope of Alaska site (Utqiaġvik)
- Instrument calibration and data quality
- Developed and deployed new corrective maintenance database software which is now in use nationally across the ARM program

Summer 2000 **Research Intern, Musée Curie, France** (history of science)
Created database of women in Marie Curie's laboratory (FileMaker Pro)

1995 - 1998 **Student Research Assistant (scholarship), Laboratoire de Physique Théorique, ENS, France**
Statistical field theory

1994 - 1995 **Research Assistant, Chemnitz University of Technology, Germany**
Monte-Carlo optimization (FORTRAN programming)

1990 - 1991 **Student Assistant, IBM Institute for Supercomputing and Applied Mathematics, Heidelberg, Germany**
Developed stochastic optimization computer code in FORTRAN

Teaching

2018 - 2019 **Adjunct Instructor, College of Natural Science and Mathematics, UAF**
Fall 2019: NRM F338 "Introduction to Geographic Information Systems"
Fall 2018: GEOS F436/636 "Beyond the Mouse: Computer Programming and Automation for Geoscientists"

2016 - 2017 **Graduate Teaching Assistant, CNSM, UAF**
Fall 2016 & Spring 2017: GEOS F120 "Earthquakes, Glaciers, Volcanoes"

2013 - 2020 **Guest lectures and short courses, UAF**
Guest lectures on fire remote sensing and VIS/IR spectroscopy:
GEOS F422 "Geoscience Applications of Remote Sensing"
GEOS F458 "Geoscience Applications of GPS and GIS"
GEOS F654 "Visible and Infrared Remote Sensing"
October 2015: Co-taught R workshop "Resource Selection Function"
October 2014: Co-taught GIS workshop to Alaska Dept. of Fish and Game
March 2014: Course development "Arctic Natural Hazards" for University of the Arctic. Kick-off workshop Arkhangelsk, Russia

2002 - 2004 **Secondary school teacher, Ile-de-France school system, France** (English)

1992 - 1994 **Teaching Assistant, U Heidelberg, Germany** (calculus, linear algebra, physics)

Industry

2010 - 2011 **Client Solutions Engineer, Bazaarvoice Inc., London**
Implemented client-side product changes (HTML, JavaScript)

2006 - 2010 **Technology Operations Manager/Tech Support Lead, Epsilon, London, UK**

- Led the investigation and resolution of client issues for marketing software platform (T-SQL, Python, HTML, HTTP)
- Line-managed team of 3-8 Technical Support Engineers
- Managed client-facing and internal technology projects including migrations, data extractions and and platform changes (PRINCE II Foundation project management certification)

Student advising

2025 - now	Justice Evans (M. S. student, UAA Artificial Intelligence, Data Science, and Engineering (commitee member))
2024 - now	Joshua Hostler (Ph. D. student, UAF Earth System Science (commitee member))
2024 - now	Emily Graham (Ph. D. student, UAF Earth System Science (commitee member))
2024 - Spring 2025	Kathleen DeMichele (M. S. student, UAA Geospatial Science / Interdisciplinary (commitee member))
2020 - now	Brooke Kubby (M. S. student, UAF Geoscience (commitee member))
2020 - Spring 2023	Anushree Badola (Ph. D. student, UAF Geoscience (commitee member))
Summer 2021	Edward Hazelton (intern, Alaska Native Science & Engineering Program)
Summer 2013	Kirsten Stilson (intern, USDA-funded GIS teaching project)
Summer 2013	Akida Ferguson (intern, USDA-funded GIS teaching project)

Publications

Peer-reviewed articles

Bieniek, P. A., C. F. Waigl, U. S. Bhatt, T. J. Ballinger, R. T. Lader, C. Borries-Strigle, J. Hostler, E. Fischer, M. Burgard, E. Stevens, and H. Strader (2025). The Impact of Snowoff Timing and Associated Atmospheric Drivers on the Alaska Wildfire Season. DOI: 10.1175/EI-D-24-0001.1.

DeMichele, K., M. H. Kapourchali, C. F. Waigl, C. A. Richards, M. Hahn, L. Zhao, P. Dehghanian, and M. H. Kapourchali (2025). Evaluating Lightning-Caused Wildfire Risk to Alaska's Power Grid Infrastructure. In: *Proceedings of the 2025 IEEE/IAS 61st Industrial and Commercial Power Systems Technical Conference (I&CPS)*, pp. 1–6. DOI: 10.1109/ICPS64254.2025.11030377.

Frost, G. V. et al. (2025). The Changing Face of the Arctic: Four Decades of Greening and Implications for Tundra Ecosystems. *Frontiers in Environmental Science*, vol. 13. DOI: 10.3389/fenvs.2025.1525574.

Hendricks, A., U. Bhatt, P. Bieniek, C. F. Waigl, R. Lader, D. Walker, G. Frost, M. Raynolds, J. Walsh, and K. Redilla (2025). Increasing Importance of Local Hydroclimatology During the Tundra Growing Season in the Yukon–Kuskokwim Delta. *Water*, vol. 17, no. 1, p. 90. DOI: 10.3390/w17010090.

Ballinger, T. J., R. T. Lader, P. A. Bieniek, H. Strader, R. Ziel, U. S. Bhatt, C. Borries-Strigle, J. Hostler, E. Stevens, C. F. Waigl, and A. York (2024). Evaluating the Alaska Blocking Index as an Indicator of Wildfire Potential in Alaska's Central Eastern Interior. *International Journal of Climatology*. DOI: 10.1002/joc.8450.

Frost, G. V., M. J. Macander, U. S. Bhatt, L. T. Berner, J. W. Bjerke, H. E. Epstein, B. C. Forbes, G. Jia, M. J. Lara, P. M. Montesano, R. Í. Magnússon, C. S. Neigh, G. K. Phoenix, H. Tømmervik, C. F. Waigl, D. A. Walker, and D. Yang (2024). Tundra Greenness: In State of the Climate in 2023: The Arctic. *Bulletin of the American Meteorological Society*, vol. 105, no. 8, S318–S320. DOI: 10.1175/BAMS-D-24-0101.1.

Schmidt, J. I., M. Berman, and C. F. Waigl (2024). Avoid Getting Burned: Lessons from the McKinley Wildfire in Rural Alaska, USA. *International Journal of Wildland Fire*, vol. 33, no. 11. DOI: 10.1071/WF24014.

Badola, A., S. K. Panda, D. R. Thompson, D. A. Roberts, Christine F. Waigl, and U. S. Bhatt (2023). Estimation and Validation of Sub-Pixel Needleleaf Cover Fraction in the Boreal Forest of Alaska to Aid Fire Management. *Remote Sensing*, vol. 15, no. 10, p. 2484. DOI: 10.3390/rs15102484.

Ballinger, T. J., U. S. Bhatt, P. A. Bieniek, B. Brettschneider, R. T. Lader, J. S. Littell, R. L. Thoman, C. F. Waigl, J. E. Walsh, and M. A. Webster (2023). Alaska Terrestrial and Marine Climate Trends, 1957–2021. *Journal of Climate*, vol. 36, no. 13. Publisher: American Meteorological Society Section: Journal of Climate, pp. 4375–4391. DOI: 10.1175/JCLI-D-22-0434.1.

Frost, G. V., U. S. Bhatt, M. J. Macander, H. E. Epstein, M. K. Raynolds, C. F. Waigl, and D. A. Walker (2023). Eyes of the world on a warmer, less frozen, and greener Arctic. *Global Change Biology*, vol. 29, no. 16. _eprint: https://onlinelibrary.wiley.com/doi/pdf/10.1111/gcb.16767, pp. 4453–4455. DOI: 10.1111/gcb.16767.

Lindemann, M., K. DeMichele, M. H. Kapourchali, M. H. Kapourchali, C. F. Waigl, E. Trochim, and L. Zhao (2023). Igniting Precision: Amplifying Wildfire Prediction in Diverse Regions via Teacher-Student Model Fusion. In: *Proceedings of the 2023 International Conference on Machine Learning and Applications (ICMLA)*, pp. 528–535. DOI: 10.1109/ICMLA58977.2023.00079.

Badola, A., S. K. Panda, D. A. Roberts, C. F. Waigl, R. R. Jandt, and U. S. Bhatt (2022). A novel method to simulate AVIRIS-NG hyperspectral image from Sentinel-2 image for improved vegetation/wildfire fuel mapping, boreal Alaska. *International Journal of Applied Earth Observation and Geoinformation*, vol. 112, p. 102891. DOI: 10.1016/j.jag.2022.102891.

Badola, A., S. K. Panda, D. A. Roberts, C. F. Waigl, U. S. Bhatt, C. W. Smith, and R. R. Jandt (2021b). Hyperspectral Data Simulation (Sentinel-2 to AVIRIS-NG) for Improved Wildfire Fuel Mapping, Boreal Alaska. *Remote Sensing*, vol. 13, no. 9, p. 1693. DOI: 10.3390/rs13091693.

Bhatt, U. S., R. T. Lader, J. E. Walsh, P. A. Bieniek, R. Thoman, M. Berman, C. Borries-Strigle, K. Bullock, J. Chriest, M. Hahn, A. S. Hendricks, R. Jandt, J. Little, D. McEvoy, C. Moore, T. S. Rupp, J. Schmidt, E. Stevens, H. Strader, J. White, C. F. Waigl, A. York, and R. Ziel (2021). Emerging Anthropogenic influences on the Southcentral Alaska Temperature and Precipitation Extremes and Related Fires in 2019. *Land*, vol. 10, no. 1, p. 82. DOI: 10.3390/land10010082.

Döpper, V., S. Panda, C. F. Waigl, and M. Braun (2021b). Using floristic gradient mapping to assess seasonal thaw depth in interior Alaska. *Applied Vegetation Science*. In print. DOI: 10.1111/avsc.12561.

Waigl, C. F., A. Prakash, M. Stuefer, D. Verbyla, and P. Dennison (2019). Fire detection and temperature retrieval using EO-1 Hyperion data over selected Alaskan boreal forest fires. *International Journal of Applied Earth Observation and Geoinformation*, vol. 81, pp. 72–84. DOI: 10.1016/j.jag.2019.03.004.

Waigl, C. F., M. Stuefer, A. Prakash, and C. Ichoku (2017). Detecting high and low-intensity fires in Alaska using VIIRS I-band data: An improved operational approach for high latitudes. *Remote Sensing of Environment*, vol. 199, pp. 389–400. DOI: 10.1016/j.rse.2017.07.003.

Book chapters

Prakash, A., C. Kuenzer, S. K. Panda, A. Badola, and C. F. Waigl (2024). Chapter 10 - Remote Sensing-Based Mapping and Monitoring of Coal Fires. In: *Remote Sensing Handbook, Volume VI: Droughts, Disasters, Pollution, and Urban Mapping*. Ed. by P. S. Thenkabail. Vol. VI. CRC Press, p. 309.

Starkenburg, D. P., C. F. Waigl, and R. Gens (2018). Chapter 3: Nurturing a Geospatially Empowered Next Generation. In: *Emerging Trends in Open Source Geographic Information Systems*. Ed. by N. N. Srivastava. IGI Global, p. 270. DOI: 10.4018/978-1-5225-5039-6.ch003.

Waigl, C. F., A. Prakash, A. Ferguson, and M. Stuefer (2015). Chapter 24 - Coal-Fire Hazard Mapping in High-Latitude Coal Basins: A Case Study from Interior Alaska. In: *Coal and Peat Fires: a Global Perspective*. Ed. by E. V. Sokol, G. B. Stracher, and A. Prakash. Vol. 3. Boston: Elsevier, pp. 633–649. DOI: 10.1016/B978-0-444-59509-6.00024-7.

Extended abstracts

Stuefer, M., C. F. Waigl, and C. K. Kim (2014). Alaska wildfire observations and near real-time emission modeling with WRF-Chem. In: *Proceedings of the International Smoke Symposium*. International Smoke Symposium. October 21-24, 2013, Hyattsville, Maryland.

In preparation

Waigl, C. F., P. A. Bieniek, R. T. Lader, K. Redilla, J. Littell, U. S. Bhatt, and T. J. Ballinger (2025). A new 4km dynamically downscaled reanalysis dataset from ERA5 for Alaska. Manuscript intended for *Journal of Applied Meteorology and Climatology*, in preparation.

Waigl, C. F., H. Greaves, J. Schmitt, M. Stuefer, and M. Berman (2022b). The 2019 McKinley Fire in South-Central Alaska: a case study for burn severity and fire impact mapping. Manuscript intended for *Earth and Space Science*, in preparation.

PhD thesis

Waigl, C. F. (2017b). *Satellite remote sensing of active wildfires in Alaska's boreal forest*. PhD thesis. Fairbanks, AK, USA: University of Alaska Fairbanks.

Presentations and conferences

Selected oral presentations

Waigl, C. F., K. DeMichele, P. Dehghanian, M. H. KKapourchali, M. Lindemann, C. A. Richards, M. Wilber, and T. Vertigan (2024c). Transdisciplinary data science as a conversation starter: How the FIREWALL project enhances Alaska electric utilities' resilience against wildfire. In: *AGU Fall Meeting Abstracts*. NH21B-07. Talk presented at the 2024 AGU Fall Meeting, Chicago, IL, USA.

Waigl, C. F. and R. Lader (2024). Actionable modeling, hazards, extreme weather. In: Talk presented at the 2024 DOD Arctic Weather Workshop, Fairbanks, AK, USA, January 17, 2024.

Waigl, C. F., H. Greaves, J. Schmitt, M. Stuefer, A. Britz, P. S. K., M. Berman, and B. U. S. (2023b). Statistical Forecasting of the Wildfire Season in Alaska and across Northern North America using Machine Learning. In: *AMS*. Talk presented at the 2023 AMS 14th Fire and Forest Meteorology Symposium, Minneapolis, IL, USA, May 2, 2023.

Waigl, C. F. (2022). Quantitative and Qualitative Insights into Boreal Forest Fire Fuel Type and Condition from Tree-Scale Airborne Imaging Spectroscopy. Talk at the 16th International Circumpolar Remote Sensing Symposium, Fairbanks, AK, May 16, 2022.

Waigl, C. F., H. Greaves, J. Schmitt, M. Stuefer, A. Britz, P. S. K., M. Berman, and B. U. S. (2022c). The 2019 McKinley Fire in South-Central Alaska: burn severity and fire effects from high-resolution aerial imaging spectroscopy. In: *AGU Fall Meeting Abstracts*. B55C-05. Talk presented remotely at the 2022 AGU Fall Meeting, Chicago, IL, USA.

Waigl, C. F., H. Greaves, J. Schmitt, M. Stuefer, A. Britz, P. S. K., M. Berman, and B. U. S. (2022d). The 2019 McKinley Fire in South-Central Alaska: burn severity and fire effects from high-resolution aerial imaging spectroscopy. In: *AGU Fall Meeting Abstracts*. B55C-05. Talk at the 2022 AGU Fall Meeting, Chicago, IL, USA, Dec 15, 2022.

Waigl, C. F. (2021). Remote sensing of the wildfire environment in Alaska. Talk at the Foundations for Improving Resilience in the Energy Sector Against Wildfires on Alaskan Lands (FIREWALL) Workshop, Sep 15, 2021 (held remotely).

Bhatt, U., J. Chriest, C. Borries-Strigle, P. Bieniek, C. F. Waigl, and C. Smith (2020). EPSCoR seasonal forecast and lightning & remote sensing project updates. Talk the AFSC Spring Fire Science Workshop, Apr 9, 2020.

Waigl, C. F. (2020). Enhancing wildfire resilience in Alaska through landcover mapping with hyper- and multi-spectral remote sensing. Talk at the Tactical Fire Remote Sensing Advisory Committee (TFRSAC) #33 2020 Fall Meeting, Nov 19, 2020 (held remotely).

Waigl, C. F., J. Jenkins, H. Strader, and R. Ziel (2020). Science-to-operations for Alaska wildfire management in times of COVID-19: Usability lessons from rapid data tool development. In: *AGU Fall Meeting Abstracts*. NH036-07. Talk at the 2020 AGU Fall Meeting (held remotely).

Waigl, C. F. (2017a). Improved operational approaches to high- and low-intensity fire detection in Alaska using the VIIRS I-band Fire Detection Algorithm for High Latitudes (VIFDAHL). Talk at the workshop *Opportunities to Apply Remote Sensing in Boreal/Arctic Wildfire Management and Science*, Fairbanks, Alaska, April 5, 2017.

Waigl, C. F., A. Prakash, M. Stuefer, and C. Ichoku (2016). Using NPP-Suomi VIIRS I-band data to delineate high- and low-intensity burn areas for forest fires in interior Alaska. In: *AGU Fall Meeting Abstracts*. GC42C-02. Talk at the 2016 AGU Fall Meeting, San Francisco, CA.

Waigl, C. F. (2015). Data usability in the context of remote sensing data. Talk at the 2015 Summer Meeting of the Federation of Earth Science Information Partners (ESIP), Asilomar, CA, July 15, 2015.

Waigl, C. F., M. Stuefer, G. Grell, and A. Prakash (2013). Refining source input for wildfire emissions forecasts with remote sensing and modeling. Talk at the 2013 ARSC Weather Symposium, Fairbanks, AK.

Selected poster presentations

Waigl, C. F., U. S. Bhatt, G. V. Frost, A. Hendricks, and M. J. Macander (2024a). Predictions of time-integrated and maximum vegetation greenness from spring sea ice, temperature, and teleconnection indices in western Alaska tundra regions. In: *AGU Fall Meeting Abstracts*. B23G-1634. Poster presented at the 2024 AGU Fall Meeting, Chicago, IL, USA.

Waigl, C. F., P. Bieniek, U. S. Bhatt, R. Lader, and J. Walsh (2024b). A High-Resolution, Dynamically Downscaled ERA5 Reanalysis Dataset for Alaska. In: *104th AMS Annual Meeting*. AMS.

Bhatt, U. S., Waigl, C. F., G. V. Frost, and M. J. Macander (2023). Developing models using teleconnections, sea ice, snow-off, and air temperatures to predict NDVI in Western Alaska. In: *AGU Fall Meeting Abstracts*. Vol. 2023. 2215, B23K–2215.

Waigl, C. F., E. Fischer, T. Ballinger, P. Bieniek, C. Borries Strigle, M. Burgard, J. Hostler, R. Lader, E. Stevens, H. Strader, et al. (2023a). What elements drive wildfire in boreal and Arctic Alaska? Assessing the role of teleconnections and pre-season environmental factors using a machine-learning approach. In: *AGU Fall Meeting Abstracts*. Vol. 2023. 2251, B31M–2251.

Badola, A., S. K. Panda, D. A. Roberts, U. Bhatt, C. F. Waigl, and J. R. (2021a). Building a Spectral Library to aid Hyperspectral Data Simulation for Boreal Alaska. In: *AGU Fall Meeting Abstracts*. GC15B-0702. Poster at the 2021 AUG Fall Meeting, New Orleans, Dec 13, 2021 (presented remotely).

Waigl, C. F., M. Stuefer, A. Badola, C. Smith, S. K. Panda, and U. S. Bhatt (2021). Quantitative and Qualitative Insights into Boreal Forest Fire Fuel Type and Condition from Tree-Scale Airborne Imaging Spectroscopy. In: *AGU Fall Meeting Abstracts*. GC15B-0666. Poster at the 2021 AUG Fall Meeting, New Orleans, Dec 13, 2021.

Prakash, A., R. Gens, J. Cristobal, C. F. Waigl, M. S. Balazs, P. R. Graham, C. E. Butcher, and E. B. Sparrow (2015b). Using Place-Based Independent Class Projects as a Means to Hone Research Skills and Prepare a Future Geospatial Workforce. In: *AGU Fall Meeting Abstracts*. ED22B-07. Poster at the 2015 AUG Fall Meeting, San Francisco, CA.

Waigl, C. F., A. Prakash, M. Stuefer, and P. E. Dennison (2014). Fire Characterization and Fire-Related Land Cover Classification Using Hyperion Data over Selected Alaskan Boreal Forest Fires. In: *AGU Fall Meeting Abstracts*. GC33D-0551. Poster at the 2014 AUG Fall Meeting, San Francisco, CA.

Gens, R., A. Prakash, G. Ozbay, S. Sriharan, M. S. Balazs, A. Chittambakkam, D. P. Starkenburg, C. F. Waigl, S. Cook, A. Ferguson, et al. (2013). A Prototype Two-tier Mentoring Program for Undergraduate Summer Interns from Minority-Serving Institutions at the University of Alaska Fairbanks. In: *AGU Fall Meeting Abstracts*. Vol. 1. ED43B-0768.

Waigl, C., M. Stuefer, and A. Prakash (2013). Remote sensing of Alaskan boreal forest fires at the pixel and sub-pixel level: multi-sensor approaches and sensitivity analysis. In: *AGU Fall Meeting Abstracts*. B51H-0399. Poster at the 2013 AUG Fall Meeting, San Francisco, CA.

Waigl, C. F., A. Prakash, and M. Stuefer (2012). Sub-pixel characterization of Alaskan boreal forest fires using medium-resolution satellite-borne infrared remote sensing. In: *AGU Fall Meeting Abstracts*. NH53A-1813. Poster at the 2012 AUG Fall Meeting, San Francisco, CA.

Waigl, C. F., M. Stuefer, B. Perkins, M. Ivey, J. Zirzow, W. Brower, J. Ivanoff, and C. Stuart (2012). NSA Corrective Maintenance Reporting: A Status Report. In: Poster at the ARM Science Team Meeting, Crystal City, VA, March 15, 2012.

Funding awards

2025	Arctic Monitorin and Assessment Programme: Initiating a North American Wildfire Expert Panel under SAON/ROADS $ 21,000
2025	AK EPSCoR travel award — $ 3,500
2022	NSF NNA Research: Collaborative Research: Foundations for Improving Resilience in the Energy Sector against Wildfires on Alaskan Lands (FIREWALL) (UAF PI, overall PI: Mohammad Heidari, UAA) $ 620,346
2021	AK EPSCoR travel award — $ 2,463
2017	CIFAR Follow-Up Funding (PI/Advisor: Martin Stuefer) — $ 14,046
2013 - 2016	NASA Earth and Space Science Fellowship (PI/Advisor: Martin Stuefer) — $ 90,000
2015	Earth Science Information Partners (ESIP) Federation Robert G. Raskin Scholarship — $ 2,000
2014	UAF Center for Global Change/CIFAR Student Award Competition — $ 9,647.48

Synergistic activities

Science-to-operations: Created data services ready-to-use by the Alaska Fire Service, including for daily snow cover, fire danger and fire detection data, thereby bridging the gap between research and operational use of scientific products.

Communicating science to the wider public Multiple presentations to K-8 students with the UAF portable planetarium (2015-2017). Wildfire presentation to middle and high school students of the village of Rampart (Nov 8, 2019). Science for Alaska lecture March 9, 2021 ("Firewatch: Fire Landscapes from Air and Space"). Authored article in Fairbanks Daily News-Miner June 30, 2015 ("Fairbanks geophysics student goes behind the scenes of satellite wildfire mapping"). Work featured in UAF News June 3, 2020 ("Satellites fill void for wildfire managers amid COVID-19 restrictions"), the Summer 2020 AFSC Fire Science Highlight ("EPSCoR Boreal Fires Team: Remote Sensing for Alaska Fire Season") and a December 2021 Geophysical Institute Research Spotlight ("Hyperspectral imaging of forests can aid wildfire prevention")

Strengthening links between academia and open-source software: I have served for multiple years on US Python Convention program committees and spoken at software conferences (Feb 23, 2019: PyCascades, Seattle, WA; May 18, 2017: PyCon US, Portland, OR; April 26, 2016: OpenVis Conference, Boston, MA; April 18, 2015: PyCon US, Montreal, QC, Canada)

Service

Professional	Recent peer reviewing for the following journals: • Earth and Space Science (AGU) • Natural Hazards and Earth System Sciences (EGU) • Remote Sensing • Fire • Forests • Global Change Biology **2024**: Served on proposal review panel for NASA **2017**: Served on the organizing committee of the NASA-funded workshop "Opportunities to Apply Remote Sensing in Boreal/Arctic Wildfire Management and Science" organized by the Alaska Fire Science Consortium, Fairbanks, AK, April 3-4, 2017
University	**2020 - 2021**: Diversity, Equity and Inclusion Committee (UAF GI and IARC)
Community	**2021 - 2025**: Faculty Advisor for UAF Community Garden

Honors

2018	UAF Geophysical Institute Best Student Paper Award for Waigl et al., 2017
1988 - 1994	German National Merit Foundation (Studienstiftung des deutschen Volkes)
1988 - 1994	Scholarship for highly talented students of the state of Bavaria, Germany

Languages

- German (native speaker)
- English (fluent spoken and written)
- French (fluent spoken and written)