

# MARC RUßWURM

Junior Research Group Leader at University of Bonn

## Curriculum Vitae

### Contact

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<i>web</i>	<a href="http://marcrusswurm.com">marcrusswurm.com</a>   <a href="http://research.wur.nl/en/persons/marc-russwurm">research.wur.nl/en/persons/marc-russwurm</a>
<i>research group</i>	<a href="https://meo-lab.github.io">meo-lab.github.io</a>
<i>last updated</i>	January 4, 2026

### Positions - Overview

<i>Feb 2026 onwards</i>	Junior Research Group Leader at University of Bonn, Germany
<i>2023 – 2026</i>	Assistant Professor (Tenure Track) at Wageningen University, Netherlands
<i>2021 – 2023</i>	Postdoc at École Polytechnique Fédérale de Lausanne (EPFL), Switzerland
<i>2018 – 2022</i>	PhD Studies at Technical University of Munich (TUM), Germany
<i>2011 – 2018</i>	Geodesy and Geoinformation Studies at TUM (B.Sc; M.Sc.)

### Academic Profiles & Links

<i>Twitter/X</i>	<a href="https://twitter.com/MarcCoru">twitter.com/MarcCoru</a>
<i>Bluesky</i>	<a href="https://bsky.app/profile/marccoru.bsky.social">@marccoru.bsky.social</a>
<i>Google Scholar</i>	<a href="https://scholar.google.com/citations?user=MfGMG9wAAAAJ">scholar.google.com/citations?user=MfGMG9wAAAAJ</a>
<i>Semantic Scholar</i>	<a href="https://semanticscholar.org/author/Marc-Rußwurm/35469144">semanticscholar.org/author/Marc-Rußwurm/35469144</a>
<i>Scival</i>	<a href="https://scival.com/overview/summary?uri=Customer/325017/Researcher/16873697">scival.com/overview/summary?uri=Customer/325017/Researcher/16873697</a>
<i>Research@WUR</i>	<a href="https://research.wur.nl/en/persons/marc-rußwurm">https://research.wur.nl/en/persons/marc-rußwurm</a>

### Recent Key Activities and Achievements

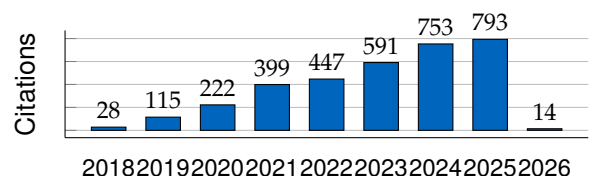
<i>new perspective paper</i>	I co-wrote a perspective paper <a href="#">Earth Embeddings: Towards AI-centric Representations of our Planet</a> with <a href="#">K.Klemmer</a> (MSFT Research/LGND) and <a href="#">Esther Rolf</a> (CU Boulder) that structures the emerging topic of Earth embedding representations and provides a roadmap for future research. Preprint in <i>EarthArXiv</i> in November 2025.
<i>highly cited paper</i>	The paper <a href="#">SatCLIP: Global, General-Purpose Location Embeddings with Satellite Imagery</a> in collaboration with <a href="#">K.Klemmer</a> (MSFT Research/LGND) published this year 2025 at Proceedings of the AAAI Conference on Artificial Intelligence has gained more than 150 citations thanks to its availability on <a href="#">Huggingface</a> and <a href="#">GitHub</a> .
<i>outstanding publication</i>	The paper <a href="#">Geographic Location Encoding with Spherical Harmonics and Sinusoidal Representation Networks</a> was acknowledged as <b>spotlight (top 5%)</b> at the International Conference of Learning Representations 2024 (ICLR)
<i>workshop organization</i>	I was the lead-organizer of the second <a href="#">Machine Learning for Remote Sensing (ML4RS)</a> workshop at ICLR 2024 that attracted 72 paper submissions and raised 10k EUR in industry sponsoring that enabled travel support, paper and poster awards at the conference.

### Research Metrics

updated January 14th 2026

#### Google Scholar

	All	> 2020
Citations	3360	2974
h-index	21	21
i10-index	26	26



## Academic Career

### Academic Positions and Education

<i>Junior Research Group Leader</i>	Feb '26 –	University of Bonn	Start the <i>MEO Lab</i> focused on Machine Learning in Earth Observation at the University of Bonn as Junior Research Group Leader within the Institute of Food and Resource Economics.
<i>Assistant Professor (UD2)</i>	Sept '23 – '26	Wageningen University	<i>Tenure Track Assistant Professor in Machine Learning and Remote Sensing</i> : Research Interests: Time Series, Domain Shift, Transfer Learning, Crop Type Mapping, Marine Debris Detection
<i>Postdoctoral Researcher</i>	Sept '21 – '23	École polytechnique fédérale de Lausanne	<i>Environmental Computational Science and Earth Observation Laboratory</i> : Research: Machine Learning and Earth Observation; Domain Shift and Transfer Learning. Self-supervised representation learning on globally distributed data.
<i>Dr.-Ing. (PhD)</i>	2018 – Feb 2022	Technical University of Munich	<i>Chair of Remote Sensing Technology</i> : Thesis: <i>Data-driven Feature Learning with Discriminative Models for Satellite Time Series</i> PhD defense (23rd of February 2022)
<i>Master of Science</i>	2015–June 2018	Technical University of Munich	<i>Geodesy and Geoinformation (M.Sc)</i> : Machine Learning, Computer Vision, Deep Learning, Earth Observation, Remote Sensing, Photogrammetry. Thesis: <i>Multi-temporal Land Cover Classification with Recurrent-Convolutional Neural Networks</i> Cooperation: <i>Bavarian Ministry of Food, Agriculture and Forestry (StMELF)</i> .
<i>Bachelor of Science</i>	2011–2015	Technical University of Munich	<i>Geodesy and Geoinformation (B.Sc)</i> : Photogrammetry, Remote Sensing, Surveying, Cartography, Geo-informatics, Gravity Science, GNSS Science, and Land Management. Thesis: <i>Tri-ocular Image Rectification and Photogrammetric Reconstruction</i>

### Research Stays and Academic Visits

<i>Linköping, Sweden</i>	Oct 2024	Visiting Scholar Focus Period 2024	<i>3-week research stay at ELLIT Focus Period 2024 on <a href="#">Machine Learning for Climate Science</a></i> . Seminar Talk titled Global Geographic Location Encoding with Implicit Neural (Geo)Representations
<i>Stanford University (Visit)</i>	Jan–Mar '20	Visiting Researcher Palo Alto, USA	<i>Lobell Lab and Sustainability and AI Lab</i> Few-Shot Meta Learning for the Remote Sensing context. Research received <i>Best Paper Award</i> at Earthvision 2020 workshop at CVPR
<i>Oxford Applied Machine Learning Group (Visit)</i>	May '19	Short Visit OATML Oxford, UK	<i>Visit (one-week). Participation in ESA project: Multi-image super-resolution on Satellite Data</i> . Presentation about Machine Learning and Earth Observation.
<i>IRISA Institute (Visit)</i>	Oct '18–Feb '19	Visiting Researcher Vannes, France	<i>Environment Observation with Complex Imagery</i> :

Research stay. Early classification of time series. Multi-objective optimization (optimize accuracy and earliness).

*University of Oxford &  
European Space Agency*

*July–Aug 2018*      Participant—Frontier Developments Lab  
*Kellogg College in Oxford, UK & ESRIN  $\Phi$ -lab, Frascati near Rome, Italy.*  
Deep multi-resolution satellite data-fusion for disaster relief. The Frontier Developments Lab is an research and commercial accelerator composed of teams with machine learning and Earth observation background.

*European Space Agency*

*June 2018*      Visiting Researcher  
*European Space Research Institute (ESRIN) at  $\Phi$ lab*  
Presentation of multi-temporal EO research ([link](#)). Setup of deep learning infrastructure and framework outlines for the Frontier Developments Lab.

## Invited Talks

### Invited Talks - in-person

*2026/July (planned)*

Semantic Earth Embeddings: Building Adaptive AI with Location-Aware Representations. São Paulo Advanced School on Machine Learning for Remote Sensing. planned May 2026

*2026/May (invited)*

Schloss Dagstuhl - Empowering Climate Science with Spatial AI - May 17 to May 20, 2026

*2025*

Location Embeddings in Geospatial Machine Learning. Invited Speaker. Symposium on AI for Earth Observation and Hazard Modelling. Environment Summit Zurich ([Youtube Recording](#))

Earth Embeddings: Learning Mental Maps in Neural Nets. Keynote ELLIS Summer School in Jena, September 3rd, Germany

Research between Impact, Abstraction and Translation. Bayreuth University, Bayreuth, Germany. 2025-04-10

*2024*

Global Geographic Location Encoding with Implicit Neural (Geo)Representations. ELLIT Focus Period 2024, Linköping, Sweden. 2024-10-15

Global Geographic Location Encoding with Implicit Neural (Geo)Representations, Invited Speaker Research Visit at La Universidad Pública de Navarra, Spain. 2024-05-16.

Machine Learning Models across Geographies. Invited Speaker Geodätisches Kolloquium, Bonn, Germany. 2024-01-11

*2023*

Early Classification and Transfer Learning Challenges in Large-scale Crop Type Mapping. Time Series & Transfer Learning Workshop, Huawei Paris. Huawei Paris, France. 2023-10-19

Marine debris detection with Sentinel-2 and Deep Segmentation Models. Visit Geoforschungszentrum GFZ Potsdam. 2023-05-17

Learning from Earth Observation Tasks, Wageningen University. 2023-01-13. Interview Talk Assistant Professor

*2022*

Learning from Earth Observation Tasks. Invited talk LIU Linköping, Sweden. 2022-06-30

### Invited Talks - online

*2025*

Learning Mental Maps in Neural Networks. Invited Speaker - Earth2Vec Community Call. 2025-10-03 ([Youtube Recording](#))

- Towards Accurate and Adaptable and Earth Intelligence Models. Invited Speaker - [ISPRS TCII online talks series](#). 2025-04-03
- 2024* Deep Location Encoders: Encoding Geospatial Data in Neural Networks. Self-supervised Learning for Earth Observation Summer School. Invited Speaker - ([Youtube Recording](#)). 2024-07-02
- 2023* Meta-Learning across different geographies. Invited speaker ImageCLEF - GeolifeCLEF. 2023-09-19
- 2022* Meta-learning data-efficient Machine Learning Models for Diverse Earth Observation Problems. ESA ECMWF Workshop 2022.
- 2021* Data-Driven Vegetation Modeling and Understanding Representation Shift at Lastig Seminar Deep Learning for Earth Sciences organized by Loic Landrieu, IGN France
- Early Classification for Agricultural Monitoring at ANR Seminar organized by Romain Tavenard, Univ Rennes 2

### Podcast Interviews

- 2024* "Meta-learning with Meteor" in Satellite Image Deep Learning Podcast by Robin Cole. [YouTube](#)
- 2025* "Future-proofing with AI – the academics view – part 1". Plastics Unwrapped Podcast. Available on [Spotify](#)

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## Scientific Leadership Positions

### Research Community Engagement

- Peer Review* Transactions on Geoscience and Remote Sensing (TGRS); Elsevier Remote Sensing of Environment (RSE); Geoscience and Remote Sensing Letters (GRSL); International Conference on Computer Vision (ICCV); Neural Information Processing Systems (NeurIPS);
- Conference Program Committees/Reviewing* EarthVision Workshop at CVPR (since 2021); MACHine Learning for EArth ObservatiON (MACLEAN) workshop at ECML/PKDD (since 2019); Machine Learning for Remote Sensing Workshops at ICLR (2023-2025); ISPRS Geospatial Week (2025); ESA-NASA International Workshop on AI Foundation Model for Earth Observation (2025)
- Scientific Working Groups/Committees* Member of the European Laboratory for Learning and Intelligent Systems (ELLIS); International Society of Photogrammetry and Remote Sensing (ISPRS) Working Group II/5 Temporal Geospatial Data Understanding ([link](#)); International Association for Pattern Recognition (IAPR) Thematic Committee 7 Remote Sensing & Mapping ([link](#))
- Scientific Workshop Organization* [Machine Learning for Remote Sensing \(ML4RS\)](#) series at the International Conference for Learning Representations ICLR. 2024 organization lead & 2025 co-organizer; [13th IAPR Workshop on Pattern Recognition in Remote Sensing](#) at the 27th International Conference on Pattern Recognition (ICPR)
- Grant/Stipend Reviewing Committees* Deutscher Akademischer Austausch Dienst (DAAD). IFI Program - Internationale Forschungsaufenthalte für Informatikerinnen & Informatiker (2025-2029); Deutsche Forschungsgemeinschaft (DFG)
- PhD Proposal Committees* PhD Proposal Review Enzo Campomanes - ITC Twente (2024); PhD Upgrade Viva Weibin Chen - University College London (2025)
- PhD Pre-Examination Reviewer* Ph.D. Thesis Ámbar Pérez-García - University of Las Palmas de Gran Canaria (2024); PhD Thesis Maria Yli-Heikkilä - University of Helsinki (2025)
- PhD Reviewer and Examiner* Asym Toker (Dr. rer. nat.) - Technical University of Munich (2025-12-05); Spyros Kondylatos - University of Valencia (2026)

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## Research Awards

### Personal Research Awards

- June 2020* Best paper - Earthvision Workshop at Computer Vision and Pattern Recognition Workshop (2020) ([link](#))
- Oct. 2017* Best presentation - NVIDIA Deep Learning Workshop at Leibnitz Supercomputing Center (LRZ)
- July 2017* Best paper - Earthvision Workshop at Computer Vision and Pattern Recognition Workshop (2017) ([link](#))
- Sept. 2016* Best presentation - Polish-National Remote Sensing Conference ([link](#))

### Research Award Nomination - Finalist

- Oct. 2020* Two Nominations at IGARSS 2020 Best Student Paper Award (final 10 out of 250 submissions) with two papers: ([Wang et al., 2020](#)) and ([Rußwurm et al., 2020](#))
- Nov. 2019* Nomination finalist for the AI-Newcomer award of German Informatics Society (GI) and the Federal Ministry of Education and Research (BMBF) in the category of natural sciences

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## Teaching

### Course Coordination

- 2025 - ongoing* Deep Learning (GRS-34806). Co-coordination with Prof. Ioannis Athanasiadis. Professors Kootstra, Dick Ridder, Riccardo da Silva Torres involved in lecturing the course.

### Lectures (recurring yearly)

- 2024 - ongoing* WU - Deep Learning (GRS-34806) - Lectures on Regularization in Deep Learning and Computer Vision Segmentation Models
- WU - Machine Learning (FTE-35306) - Lecture on Random Forests and Decision Trees. ([Youtube Video Recording](#))
- 2024 - ongoing (WU)* WU Advanced Earth Observation (GRS-32306) Lecture on Remote Sensing for Marine Applications. ([Youtube Video Recording](#))
- WU - Remote Sensing (GRS-20306) - Lecture on Principal Component Analysis
- 2022-2023* EPFL - Spatial Modeling for Earth Observation (EPFL ENV-408) - Lecture on Linear Regression for Environmental Science

### Guest Lectures

- 2023* Mila/McGill Montréal, Canada. "Mapping crop type at large scale in Europe". Guest Lecture COMP767 CS/Mila/McGill by invitation from Prof. Rolnick (2023-02-15)
- 2022* University of Bonn, Germany. "Interpretable Machine Learning Examples in Marine Debris Detection and Crop Type Mapping". Invitation by Prof. Roscher (2022-10-19)

### Exercises & Practicals

- 2023 - ongoing (WU)* Machine Learning (FTE-35306) - Exercise on Random Forests and Decision Trees
- 2022-2023 (EPFL)* Image processing for Earth observation (EPFL ENV-540) - Exercises on Deep Learning for Remote Sensing (2023)

*2018 (TUM)*      Excercise: Image understanding. Introduction to Deep Learning. TU Munich. Master level Geodesy and Geoinformation.

### Project-based Learning

*2024 - ongoing (WU)*      Deep Learning (GRS-34806) - I supervise two paper-reading days on ResNet and Vision Transformers, respectively. Students independently read the papers, submit questions with solutions on the paper to [wooclap](#) and we answer and discuss the questions together.

*2025 - ongoing (WU)*      WU Advanced Earth Observation (GRS-32306) 2-week research project on Sargassum mapping. I pose an open question to students to investigate sargassum algae blooms, identify a research question (e.g., increase of quantity with climate factors?) and guide them to writing a 4-page research paper on their results.

### Workshops, Tutorials & Seminar Talks

*ISPRS 2026 (upcoming)*      Full-day tutorial on geospatial implicit neural representations and Earth embeddings at the ISPRS Congress 2026 in Toronto, Canada. I lead the organization with contributions from E. Rolf, K.Klemmer, and E.Shelhamer.

*EduHun Teacher Training 2025*      Deep Learning in a Geospatial Context. 5 day workshop of which I lead 1.25 days filled with 2 lecture blocks and 2 practicals targeted at Hungarian University Teachers PhD, PostDoc & Professor Sopron

*PE & RC Master Class 2025*      I organized a 1-day PE & RC Master Class on Plastic Detection with Remote Sensing at Wageningen and contributed a machine learning and artificial intelligence lecture with additional lectures from Prof. Tim van Emmerik (WU, Riverine Plastics) and M.Bochow (GFZ Potsdam, Hyperspectral Imaging).

*SSL4EO Summer School 2024*      Lecture on Deep Location Encoders and self-supervised learning on geographic data([workshop](#)) ([video](#))

*IGARSS 2024*      Time Series Tutorial: Understanding Dynamics with Advanced Time-Series Processing Techniques with Charlotte Pelletier, Dainius Masiliūnas, and Jan Verbesselt ([link](#))

*IGARSS 2023*      Time Series lecture in the Tutorial for Machine Learning for Remote Sensing Tutorial with Ribana Roscher, Ronny Hänsch, Claudio Persello

*ISPRS Congress 2022*      Deep Learning for Satellite Time Series (Tutorial Session with Prof. Charlotte Pelletier)

### Universal Teaching Qualification (UTQ) Courses

<i>Dec 2025</i>	UTQ Final Certification - Wageningen University
<i>Oct 2025</i>	UTQ Assess Course - Wageningen University
<i>May 2025</i>	UTQ Design Course - Wageningen University
<i>Jan 2025</i>	UTQ Teaching Course - Wageningen University
<i>Sept 2024</i>	UTQ Supervise Course - Wageningen University

*University Teaching Qualification (UTQ) courses in the Netherlands are designed to prepare academic staff for effective teaching at higher education institutions and are part of the tenure track requirements. Each course requires 2-3 days in presence together with 1 day (8h) preparation.*

### Selected Five Publications

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<i>2025</i>	Klemmer, K., Rolf, E., Robinson, C., Mackey, L., <b>Rußwurm, M.</b> <a href="#">SatCLIP: Global, General-Purpose Location Embeddings with Satellite Imagery</a> . To appear In Proceedings of the AAAI Conference on Artificial Intelligence
<i>2024</i>	<b>Rußwurm, M.</b> , Klemmer, K., Rolf, E., Zbinden, R., Tuia, D. <a href="#">Geographic Location Encoding with Spherical Harmonics and Sinusoidal Representation</a>

- [Networks \(2024\)](#). International Conference on Learning Representations. ICLR Spotlight paper (top 5%)
- 2024* **Rußwurm, M.**, Wang, S., Kellenberger, B., Roscher, R., Tuia, D. (2024). [Meta-learning to address diverse Earth Observation Problems across Resolutions](#). Nature Communications Earth & Environment
- 2023* **Rußwurm, M.**, Courty, N., Emonet, R., Lefèvre, S., Tuia, D., & Tavenard, R. (2023). [End-to-end learned Early Classification of Time Series for in-season Crop Type Mapping](#). ISPRS Journal of Photogrammetry and Remote Sensing, 196, 445-456.
- 2019* Bischke, B., Fil, J., Pelich, R., Rudner, T. G. J., **Rußwurm, M.**, Kopačková, V., Biliński, P. [Multi<sup>3</sup>net: Segmenting flooded Buildings via Fusion of Multiresolution, Multisensor, and Multitemporal Satellite Imagery](#). In Proceedings of the AAAI Conference on Artificial Intelligence (Vol. 33, No. 01, pp. 702-709).

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## List of All Publications

### Dissertation

- 2022* **Rußwurm, M.** (2022). [Data-Driven Feature Learning with Discriminative Models for Satellite Time Series](#) (Doctoral dissertation, Technische Universität München). Doctoral Defense, February 23rd 2022.

### Book Chapters

- 2025 (in prep)* Philippe Dias, Lexie Yang, **Marc Rußwurm**, Jacob Arndt, Abhishek Potnisa. Semantic Segmentation of Earth Observation data, Deep Learning for the Earth Sciences. Book GeoAI for Earth Observation Imagery. Editors Dalton Lunga & Ronny Hänsch.
- 2021* **Rußwurm, M.**, & Körner, M. (2021). [Recurrent Neural Networks and the Temporal Component, Deep Learning for the Earth Sciences](#). Editors Gustau Camp-Valls, Xiaoxiang Zhu, Devis Tuia.

### Journal Articles

- 2025 (in review)* Takayuki I., Bonanella, C., **Rußwurm, M.**. [Deep Pre-trained Time Series Features for Tree Species Classification in the Netherlands](#). ArXiv preprint.
- 2025* Nedungadi, V., Munir, M. A., **Rußwurm, M.**, Sarafian, R., Athanasiadis, I. N., Rudich, Y., & Khan, S.. [AirCast: Improving Air Pollution Forecasting Through Multi-Variable Data Alignment](#).. First presented at ICML Terrabytes workshop 2025 with publication track to Journal of Machine Learning Research (JMLR) proceedings. **best workshop paper award**. [Youtube Video](#).
- 2025* Kraft, B., Nelson, J. A., Walther, S., Gans, F., Weber, U., Duveiller, G., Reichstein, M., Zhang, W., **Rußwurm, M.**, Tuia, D., Körner, M., Jung, M. [On the Added Value of Sequential Deep Learning for Upscaling of Evapotranspiration](#). Biogeosciences 22, no. 15 (2025): 3965-3987.
- van Dalen, J., Asano, Y., **Rußwurm, M.**. [SAMSelect: An Automated Spectral Index Search for Marine Debris using Segment-Anything](#). IEEE Geoscience and Remote Sensing Letters
- 2024* Roscher, R., **Rußwurm, M.**, Gevaert, C., Kampffmeyer, M., Dos Santos, J. A., Vakalopoulou, M., Hänsch, R., et al. [Better, Not Just More: Data-centric Machine Learning for Earth Observation](#). IEEE Geoscience and Remote Sensing Magazine (2024).
- Gabeff, V., **Rußwurm, M.**, Tuia, D., Mathis, A. [WildCLIP: Scene and Animal Attribute Retrieval from Camera Trap Data with Domain-adapted Vision-Language Models](#). International Journal of Computer Vision
- Tollenaar, V., Zekollari, H., Pattyn, F., **Rußwurm, M.**, Kellenberger, B., Lhermitte, S., Izeboud, M., Tuia, D., 2024. [Where the White Continent is Blue:](#)

- [Deep Learning Locates Bare Ice in Antarctica](#). Geophysical Research Letters, 51(3)
- Nguyen, T. A., **Rußwurm, M.**, Lenczner, G., Tuia, D. [Multi-temporal Forest Monitoring in the Swiss Alps with Knowledge-guided Deep Learning](#). Remote Sensing of Environment
- Pisl, J., **Rußwurm, M.**, Hughes, L., Lenczner, G., See, L., Wegner, J. D., Tuia, D. [Mapping Drivers of Tropical Forest Loss with Satellite Image Time Series and Machine Learning](#). Environmental Research Letters
- Rußwurm, M.**, Wang, S., Kellenberger, B., Roscher, R., Tuia, D. (2024). [Meta-learning to address diverse Earth Observation Problems across Resolutions](#). Nature Communications Earth & Environment
- 2023** **Rußwurm, M.**, Venkatesa, S. J., Tuia, D. (2023). [Large-scale Detection of Marine Debris in Coastal Areas with Sentinel-2](#). Cell Science 26(12).
- Rußwurm, M.**, Courty, N., Emonet, R., Lefèvre, S., Tuia, D., & Tavenard, R. (2023). [End-to-end learned Early Classification of Time Series for in-season Crop Type Mapping](#). ISPRS Journal of Photogrammetry and Remote Sensing, 196, 445-456.
- Frank, C., **Rußwurm, M.**, Fluixa-Sanmartin, J., & Tuia, D. (2023). [Short-term Runoff Forecasting in an Alpine Catchment with a Long Short-term Memory Neural Network](#). Frontiers in Water, 5, 1126310.
- 2020** **Rußwurm, M.**, Körner, M.,(2020). [Self-attention for raw Optical Satellite Time Series Classification](#). ISPRS Journal of Photogrammetry and Remote Sensing, 169:421 – 435.
- Tavenard, R., Faouzi, J., Vandewiele, G., Divo, F., Androz, G., Holtz, C., Payne, M., Yurchak, R., **Rußwurm, M.**, Kolar, K., Woods, E., 2020. [Tslearn, a Machine Learning Toolkit for Time Series Data](#). Journal of Machine Learning Research, 21(118), pp.1-6.
- 2018** **Rußwurm, M.**, Körner, M.. [Multi-Temporal Land Cover Classification with Sequential Recurrent Encoders](#), ISPRS International Journal of Geo-Information, 2018.
- 2015** **Rußwurm, M.**, Moore, A.. ["Visualising the project landscape": A Spatialisation describing Workload Attributes as Terrain](#), In Environmental Earth Sciences 2015, volume 74, pp. 7159-7172.

### Machine Learning Conferences

- 2025** Rao, A., **Rußwurm, M.**, Klemmer K., Rolf E. [Measuring the Intrinsic Dimension of Earth Representations](#). In review. ArXiv preprint.
- Klemmer, K., Rolf, E., Robinson, C., Mackey, L., **Rußwurm, M.** [SatCLIP: Global, General-Purpose Location Embeddings with Satellite Imagery](#). In Proceedings of the AAAI Conference on Artificial Intelligence
- 2024** **Rußwurm, M.**, Klemmer, K., Rolf, E., Zbinden, R., Tuia, D. [Geographic Location Encoding with Spherical Harmonics and Sinusoidal Representation Networks \(2024\)](#). International Conference on Learning Representations. ICLR Spotlight paper (top 5%). ([dblp.org reference](#))
- 2022** Drees, L., Weber, I., **Rußwurm, M.**, & Roscher, R. (2022, September). [Time Dependent Image Generation of Plants from incomplete Sequences with CNN-Transformer](#). In DAGM German Conference on Pattern Recognition (pp. 495-510). Cham: Springer International Publishing.
- 2021** Kondmann, L., Toker, A., **Rußwurm, M.**, et al., (2021). [DENETHOR: The DynamicEarthNET dataset for Harmonized, inter-Operable, analysis-Ready, daily crop monitoring from space](#). In Thirty-fifth Conference on Neural Information Processing Systems Datasets and Benchmarks Track (Round 2).
- 2019** Rudner, T. G. J., **Rußwurm, M.**, Fil, J., Pelich, R., Bischke, B., Kopačková, V., Biliński, P. [Multi<sup>3</sup>net: Segmenting flooded Buildings via Fusion of Multiresolution, Multisensor, and Multitemporal Satellite Imagery](#). In Proceedings of the AAAI Conference on Artificial Intelligence (Vol. 33, No. 01, pp. 702-709).

### Computer Vision Workshops - peer-reviewed, with proceedings

- 2023 Gabeff, V. A. G., **Rußwurm, M.**, Tuia, D., & Mathis, A. (2023, June). [Scene and Animal Attributes Retrieval from Camera Trap Data with Domain-adapted Language-Vision Models](#). In Computer Vision and Pattern Recognition (CVPR) Workshops.
- 2020 **Rußwurm, M.**, Wang, S., Körner, M., and Lobell, D. (2020). [Meta-learning for Few-shot Land Cover Classification](#). In 2020 IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW), pages 788–796. EarthVision 2020 Best Paper Award.
- 2017 **Rußwurm, M.** & Körner, M. [Temporal Vegetation Modelling using Long Short-Term Memory Networks for Crop Identification from Medium-Resolution Multi-Spectral Satellite Images](#), In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Workshops 2017*. (best paper award)

### Machine Learning Workshops - peer-reviewed, non-archival

- 2025 Nedungadi, V., Xiong, X., Potze, A., Van Bree, R., Lin, T., **Rußwurm, M.**, & Athanasiadis, I. N. [From General to Specialized: The Need for Foundational Models in Agriculture](#). SEA: 1st workshop on Sustainability with Earth observation and AI at ICCV 2025. (non-archival)
- 2024 Claire, R., Weynants, M., Benson, V., Carvalhais, N., **Rußwurm M.**, and Reichstein, M. [Spatially far, Ecologically close: Evaluating Extrapolation on Vegetation Forecasting Models](#). In 2nd Machine Learning for Remote Sensing Workshop at ICLR 2024.
- 2023 **Rußwurm, M.**, Gül, D., & Tuia, D. (2023, April). [Improved Marine Debris Detection in Satellite Imagery with automatic Refinement of Coarse Hand Annotations](#). In 1st Machine Learning for Remote Sensing Workshop at ICLR 2023.
- 2022 **Rußwurm, M.**, & Tuia, D. (2022, November). [Instance Norm improves Meta-learning in Class-imbalanced Land Cover Classification](#). In 36th Conference on Neural Information Processing Systems.
- 2019 **Rußwurm, M.**, Lefèvre, S., & Körner, M. (2019, June). [Breizhcrops: A Satellite Time Series Dataset for Crop Type Identification](#). In Proceedings of the International Conference on Machine Learning Time Series Workshop.
- 2019 **Rußwurm, M.**, & Körner, M. (2018). [Convolutional LSTMs for cloud-robust Segmentation of Remote Sensing Imagery](#). NeurIPS 2018 Spatiotemporal Workshop.
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