# StefLhermitte

Remote Sensing Scientist


Dr. Ir.

stef.lhermitte@kuleuven.be
stef.lhermitte@gmail.com
s.lhermitte@tudelft.nl
(+32) 498 569351

Geo-instituut 03.224
Celestijnenlaan 200E
3001 Leuven
Belgium

Belgian
9 Feb 1979

@StefLhermitte
steflhermitte

www.earthmapps.io

0000-0002-1622-0177
researchgate
gScholar

github
vimeo
instagram


## Profile

Remote sensing scientist with specific interest in the use of multi-source remote sensing, land surface modelling and machine learning to assess cryosphere, atmosphere and ecosystem dynamics.

Since 2022 Stef Lhermitte is full-time Associate Research Professor at the Department of Earth & Environmental Sciences of KU Leuven which he combines with a 20% position of Associate Professor Geoscience & Remote Sensing at TUDelft. Stef obtainied a PhD in Remote Sensing at KULeuven (2008) and worked in several international post-doc positions (CEAZA, KNMI, KULeuven) on broad range of remote sensing technologies in a variety of applications ranging from cryospheric and atmospheric sciences to ecology and hydrology. Now his research focuses on the development of innovative methods (e.g. machine learning) for assessing land-atmosphere interactions in order to assess the effect of climate (change) on the cryosphere, ecosystem dynamics, the hydrological cycle, sea level rise, etc. and their feedbacks on (future) climate.

## Current position

**BOFZAP Associate Research [100%]**
KU Leuven, Department Earth & Environmental Sciences (EES)

**Associate Professor Geoscience & Remote Sensing [20%]**
Delft University of Technology (TUDelft), Department of Geoscience & Remote Sensing (GRS)

## Education

2016 **Post-academic track on Big data**: management, analysis, visualization and legal aspects
Ghent University, Belgium

2004-2008 **PhD in bioscience engineering**
KULeuven, Belgium
Dissertation: *Vegetation regrowth monitoring after wildfires based on satellite time series similarity.*

1999–2002 **MSc in engineering of forest and land management** [with high distinction]
KULeuven, Belgium
Dissertation: *Improving soil salinity management in sugarcane using earth observation*

1997–1999 **BSc (candidate) in bio-engineering** [with distinction]
University of Antwerp, Belgium

# Experience

2022-present **BOZAP Associate Research Professor [100%]**
Dept. of Earth & Environmental Sciences, KU Leuven, Belgium
Associate professor focusing on the combined use of machine learning and multi-source remote sensing/modelling to assess ecosystem, cryosphere and atmosphere dynamics.

2022-present **Associate Professor [20%]**
Dept. of Geoscience & Remote Sensing, TUDelft, Netherlands
Associate professor focusing on the combined use of multi-source remote sensing and land surface modelling to assess cryosphere, atmosphere and ecosystem dynamics.

2016-2022 **Tenured Assistant Professor**
Dept. of Geoscience & Remote Sensing, TUDelft, Netherlands
Assistant professor focusing on the combined use of multi-source remote sensing and land surface modelling to assess cryosphere, atmosphere and ecosystem dynamics.

2013-2016 **FWO post-doctoral research fellow**
Dept. of Earth & Environmental Science, KULeuven, Belgium
Postdoctoral research fellow combining multi-source remote sensing data and land surface models to assess cryosphere, atmosphere and ecosystem dynamics.

2011-2013 **Post-doctoral researcher**
A
Postdoctoral researcher focusing on the improvement of the albedo parametrisation in the regional climate model RACMO using optical satellite remote sensing data (in cooperation with IMAU, Netherlands)

2008-2010 **Remote sensing scientist & head of the Remote sensing and GIS laboratory**
CEAZA, Centro de Estudios Avanzados en Zonas Áridas, Chile
Head of the Remote Sensing and GIS laboratory and remote sensing scientist working on use of multi-source satellite imagery to study hydrological, snow/ice and ecological processes in the arid zones of north-central Chile.

2008 **Post-doctoral researcher**
M3-Biores, KULeuven, Belgium
Postdoc researcher focusing on the development of a hierarchical, multi-scale, spatio-temporal segmentation software tool (in cooperation with CSIRO, Australia).

2002-2008 **Research associate and PhD student**
M3-Biores, KULeuven, Belgium
Research associate focusing on the development of new methodologies to assess ecosystem dynamics after wild fires based on satellite remote sensing time series data.

# Publications

- 84 peer-reviewed publications since 2008 incl. 9 papers in high-impact inter-disciplinary journals (e.g., 2x Nature Climate Change, 4x Nature Communications, 2x Science Advances, PNAS)
- Citations and H-index: gScholar & Scopus

## Articles in peer reviewed journals

84. Zinck, A.-S. P., B. Wouters, E. Lambert, and **S. Lhermitte** (2023). *"Unveiling spatial variability within the Dotson Melt Channel through high-resolution basal melt rates from the Reference Elevation Model of Antarctica".* The Cryosphere, *17 (9), 3785–3801. doi: 10.5194/tc-17-3785-2023.*

83. Francis, D., R. Fonseca, K. S. Mattingly, **S. Lhermitte**, and C. Walker (2023). *"Foehn winds at Pine Island Glacier and their role in ice changes".* The Cryosphere, *17 (7), 3041–3062. doi: 10.5194/tc-17-3041-2023.*

82. van der Meer, M., S. de Roda Husman, and **S. Lhermitte** (2023). *"Deep Learning Regional Climate Model Emulators: A Comparison of Two Downscaling Training Frameworks".* Journal of Advances in Modeling Earth Systems, *15. doi: 10.1029/2022MS003593.*

81. de Roda Husman, S., Z. Hu, B. Wouters, P. Kuipers Munneke, S. Veldhuijsen, and **S. Lhermitte** (2023). *"Remote Sensing of Surface Melt on Antarctica: Opportunities and Challenges".* IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, *16 2462–2480. doi: 10.1109/JSTARS.2022.3216953.*

80. van Wessem, J. M., M. R. van den Broeke, B. Wouters, and **S. Lhermitte** (2023). *"Variable temperature thresholds of melt pond formation on Antarctic ice shelves".* Nature Climate Change. *doi: 10.1038/s41558-022-01577-1.*

79. Izeboud, M. and **S. Lhermitte** (2023). *"Damage detection on antarctic ice shelves using the normalised radon transform".* Remote Sensing of Environment, *284. doi: 10.1016/j.rse.2022.113359.*

78. Simons, W., T. Broerse, L. Shen, O. Kleptsova, N. Nijholt, A. Hooper, J. Pietrzak, Y. Morishita, M. Naeije, **S. Lhermitte**, M. Herman, D. A. Sarsito, J. Efendi, Sofian, R. Govers, C. Vigny, H. Z. Abidin, G. H. Pramono, C. Nugroho, P. Visser, and R. Riva (2022). *"A Tsunami Generated by a Strike-Slip Event: Constraints From GPS and SAR Data on the 2018 Palu Earthquake".* Journal of Geophysical Research: Solid Earth, *127. doi: 10.1029/2022JB024191.*

77. Hu, Z., P. Kuipers Munneke, **S. Lhermitte**, M. Dirscherl, C. Ji, and M. van den Broeke (2022). *"FABIAN: A daily product of Fractional Austral-summer Blue Ice over ANtarctica during 2000–2021 based on MODIS imagery using Google Earth Engine".* Remote Sensing of Environment, *280. doi: 10.1016/j.rse.2022.113202.*

76. Li, W., C. Slobbe, and **S. Lhermitte** (2022). *"A leading-edge-based method for correction of slope-induced errors in ice-sheet heights derived from radar altimetry".* Cryosphere, *16 2225–2243. doi: 10.5194/tc-16-2225-2022.*

75. Francis, D., R. Fonseca, K. S. Mattingly, O. J. Marsh, **S. Lhermitte**, and C. Cherif (2022). *"Atmospheric Triggers of the Brunt Ice Shelf Calving in February 2021".* Journal of Geophysical Research: Atmospheres, *127. doi: 10.1029/2021JD036424.*

74. Zekollari, H., M. Huss, D. Farinotti, and **S. Lhermitte** (2022). *"Ice-Dynamical Glacier Evolution Modeling—A Review".* Reviews of Geophysics, *60. doi: 10.1029/2021RG000754.*

73. Kool, J., **S. Lhermitte**, M. Hrachowitz, F. Bregoli, and M. E. McClain (2022). *"Seasonal inundation dynamics and water balance of the Mara Wetland, Tanzania based on multi-temporal Sentinel-2 image classification".* International Journal of Applied Earth Observation and Geoinformation, *109 102766. doi: 10.1016/J.JAG.2022.102766.*

72. Noël, B., G. Aðalgeirsdóttir, F. Pálsson, B. Wouters, **S. Lhermitte**, J. M. Haacker, and M. R. Broeke (2022). *"North Atlantic Cooling is Slowing Down Mass Loss of Icelandic Glaciers".* Geophysical Research Letters, *49. doi: 10.1029/2021GL095697.*

71. Tollenaar, V., H. Zekollari, **S. Lhermitte**, D. M. Tax, V. Debaille, S. Goderis, P. Claeys, and F. Pattyn (2022). *"Unexplored Antarctic meteorite collection sites revealed through machine learning".* Science Advances, *8. doi: 10.1126/sciadv.abj8138.*

70. Hu, Z., P. Kuipers Munneke, **S. Lhermitte**, M. Izeboud, and M. V. D. Broeke (2021). *"Improving surface melt estimation over the Antarctic Ice Sheet using deep learning: A proof of concept over the Larsen Ice Shelf".* Cryosphere, *15 5639–5658. doi: 10.5194/tc-15-5639-2021.*

69. Li, W., **S. Lhermitte**, and P. Lopez-Dekker (2021). *"The potential of synthetic aperture radar interferometry for assessing meltwater lake dynamics on Antarctic ice shelve".* The Cryosphere. *doi: 10.5194/tc-2021-169.*

68. Cordero, R. R., S. Feron, E. Sepúlveda, A. Damiani, J. M. Carrera, J. Jorquera, J. A. Alfonso, R. Fuenzalida, M. Rivas, S. MacDonell, G. Seckmeyer, C. Wang, Z. Ouyang, and **S. Lhermitte** (2021). *"Evaluation of MODIS-derived estimates of the albedo over the Atacama Desert using ground-based spectral measurements".* Scientific Reports, *11 (1), 19822. doi: 10.1038/s41598-021-98622-4.*

67. Voordendag, A., M. Réveillet, S. MacDonell, and **S. Lhermitte** (2021). *"Snow model comparison to simulate snow depth evolution and sublimation at point scale in the semi-arid Andes of Chile".* The Cryosphere, *15 (9), 4241–4259. doi: 10.5194/tc-15-4241-2021.*

66. de Roda Husman, S., J. J. van der Sanden, **S. Lhermitte**, and M. A. Eleveld (2021). *"Integrating intensity and context for improved supervised river ice classification from dual-pol Sentinel-1 SAR data".* International Journal of Applied Earth Observation and Geoinformation, *101 (May), 102359. doi: 10.1016/j.jag.2021.102359.*

65. Francis, D., K. S. Mattingly, **S. Lhermitte**, M. Temimi, and P. Heil (2021). *"Atmospheric extremes caused high oceanward sea surface slope triggering the biggest calving event in more than 50 years at the Amery Ice Shelf".* Cryosphere, *15 (5), 2147–2165. doi: 10.5194/tc-15-2147-2021.*

64. Mattingly, K. S., T. L. Mote, X. Fettweis, D. V. As, K. V. Tricht, **S. Lhermitte**, C. Pettersen, and R. S. Fausto (2020). *"Strong summer atmospheric rivers trigger Greenland ice sheet melt through spatially varying surface energy balance and cloud regimes".* Journal of Climate, *33 6809–6832. doi: 10.1175/JCLI-D-19-0835.1.*

63. Van Dalum, C. T., W. J. Van De Berg, **S. Lhermitte**, and V. D. B. M. R. (2020). *"Evaluation of a new snow albedo scheme for the Greenland ice sheet in the regional atmospheric climate model (RACMO2)".* Cryosphere, *14 3645–3662. doi: 10.5194/tc-14-3645-2020.*

62. **Lhermitte, S.**, S. Sun, C. Shuman, B. Wouters, F. Pattyn, J. Wuite, E. Berthier, and T. Nagler (2020). *"Damage accelerates ice shelf instability and mass loss in Amundsen Sea Embayment".* Proceedings of the National Academy of Sciences, *201912890. doi: 10.1073/pnas.1912890117.*

61. Noël, B., C. L. Jakobs, W. J. J. van Pelt, **S. Lhermitte**, B. Wouters, J. Kohler, J. O. Hagen, B. Luks, C. H. Reijmer, W. J. van de Berg, and M. R. van den Broeke (2020). *"Low elevation of Svalbard glaciers drives high mass loss variability".* Nature Communications, *11 (1), 4597. doi: 10.1038/s41467-020-18356-1.*

60. Kausch, T., **S. Lhermitte**, J. Lenaerts, N. Wever, M. Inoue, F. Pattyn, S. Sun, S. Wauthy, J.-L. Tison, and W. J. van de Berg (2020). *"Impact of coastal East Antarctic ice rises on surface mass balance: insights from observations and modeling".* The Cryosphere, *1–20. doi: 10.5194/tc-2020-66.*

59. Gossart, A., S. P. Palm, N. Souverijns, J. T. M. Lenaerts, I. V. Gorodetskaya, **S. Lhermitte**, and N. P. M. van Lipzig (2020). *"Importance of Blowing Snow During Cloudy Conditions in East Antarctica: Comparison of Ground-Based and Space-Borne Retrievals Over Ice-Shelf and Mountain Regions".* Frontiers in Earth Science, *8. doi: 10.3389/feart.2020.00240.*

58. Dunmire, D., J. T. M. Lenaerts, A. F. Banwell, N. Wever, J. Shragge, **S. Lhermitte**, R. Drews, F. Pattyn, J. S. S. Hansen, I. C. Willis, J. Miller, and E. Keenan (2020). *"Observations of buried lake drainage on the Antarctic Ice Sheet".* Geophysical Research Letters. *doi: 10.1029/2020GL087970.*

57. Izeboud, M., **S. Lhermitte**, K. Van Tricht, J. T. M. Lenaerts, N. P. M. Van Lipzig, and N. Wever (2020). *"The Spatiotemporal Variability of Cloud Radiative Effects on the Greenland Ice Sheet Surface Mass Balance".* Geophysical Research Letters, *47 (12). doi: 10.1029/2020GL087315.*

56. Kampenhout, L. van, J. T. Lenaerts, W. H. Lipscomb, **S. Lhermitte**, B. Noël, M. Vizcaíno, W. J. Sacks, and M. R. van den Broeke (2020). *"Present-Day Greenland Ice Sheet Climate and Surface Mass Balance in CESM2".* Journal of Geophysical Research: Earth Surface, *125 (2). doi: 10.1029/2019JF005318.*

55. Réveillet, M., S. MacDonell, S. Gascoin, C. Kinnard, **S. Lhermitte**, and N. Schaffer (2020). *"Impact of forcing on sublimation simulations for a high mountain catchment in the semiarid Andes".* The Cryosphere, *14 (1), 147–163. doi: 10.5194/tc-14-147-2020.*

54. Noel, B. P. Y., W. J. van de Berg, **S. Lhermitte**, and M. R. van den Broeke (2019). *"Rapid ablation zone expansion amplifies north Greenland mass loss".* Science Advances, *5 (9), eaaw0123. doi: 10.1126/sciadv.aaw0123.*

53. Datta, R. T., M. Tedesco, X. Fettweis, C. Agosta, **S. Lhermitte**, J. T. M. Lenaerts, and N. Wever (2019). *"The Effect of Foehn-Induced Surface Melt on Firn Evolution Over the Northeast Antarctic Peninsula".* Geophysical Research Letters, *46 (7), 3822–3831. doi: 10 . 1029 / 2018GL080845.*

52. Souverijns, N., A. Gossart, **S. Lhermitte**, I. V. Gorodetskaya, J. Grazioli, A. Berne, C. Duran-Alarcon, B. Boudevillain, C. Genthon, C. Scarchilli, and N. P. Van Lipzig (2018). *"Evaluation of the CloudSat surface snowfall product over Antarctica using ground-based precipitation radars".* The Cryosphere, *12 3775–3789. doi: 10.5194/tc-12-3775-2018.*

51. Souverijns, N., A. Gossart, I. V. Gorodetskaya, **S. Lhermitte**, A. Mangold, Q. Laffineur, A. Delcloo, and N. P. M. van Lipzig (2018). *"How does the ice sheet surface mass balance relate to snowfall? Insights from a ground-based precipitation radar in East Antarctica".* The Cryosphere, *12 (6), 1987–2003. doi: 10.5194/tc-12-1987-2018.*

50. Noël, B., W. J. van de Berg, **S. Lhermitte**, B. Wouters, N. Schaffer, and M. R. van den Broeke (2018). *"Six decades of glacial mass loss in the Canadian Arctic Archipelago".* Journal of Geophysical Research: Earth Surface, *123 (6), 1430–1449. doi: 10.1029/2017JF004304.*

49. van Wessem, J. M., W. J. van de Berg, B. P. Y. Noël, E. van Meijgaard, C. Amory, G. Birnbaum, C. L. Jakobs, K. Krüger, J. T. M. Lenaerts, **S. Lhermitte**, S. R. M. Ligtenberg, B. Medley, C. H. Reijmer, K. van Tricht, L. D. Trusel, L. H. van Ulft, B. Wouters, J. Wuite, and M. R. van den Broeke (2018). *"Modelling the climate and surface mass balance of polar ice sheets using RACMO2 – Part 2: Antarctica (1979–2016)".* The Cryosphere, *12 (4), 1479–1498. doi: 10.5194/tc-12-1479-2018.*

48. Noël, B., W. J. van de Berg, J. M. van Wessem, E. van Meijgaard, D. van As, J. T. M. Lenaerts, **S. Lhermitte**, P. Kuipers Munneke, C. J. P. P. Smeets, L. H. van Ulft, R. S. W. van de Wal, and M. R. van den Broeke (2018). *"Modelling the climate and surface mass balance of polar ice sheets using RACMO2 – Part 1: Greenland (1958–2016)".* The Cryosphere, *12 (3), 811–831. doi: 10.5194/tc-12-811-2018.*

47. Gossart, A., N. Souverijns, I. V. Gorodetskaya, **S. Lhermitte**, J. T. Lenaerts, J. H. Schween, A. Mangold, Q. Laffineur, and N. P. Van Lipzig (2017). *"Blowing snow detection from ground-based ceilometers: Application to East Antarctica".* Cryosphere, *11 (6), 2755–2772. doi: 10.5194/tc-11-2755-2017.*

46. Thiery, W., L. Gudmundsson, K. Bedka, F. Semazzi, **S. Lhermitte**, P. Willems, N. Van Lipzig, and S. Seneviratne (2017). *"Early warnings of hazardous thunderstorms over Lake Victoria".* Environmental Research Letters, *12 (7), 12 074012. doi: 10.1088/1748-9326/aa7521.*

45. Souverijns, N., A. Gossart, **S. Lhermitte**, I. Gorodetskaya, S. Kneifel, M. Maahn, F. Bliven, and N. P. M. Van Lipzig (2017). *"Estimating radar reflectivity - snowfall rate relationships and their uncertainties over Antarctica by combining disdrometer and radar observations".* Atmospheric research, *196 211–223. doi: 10.1016/j.atmosres.2017.06.001.*

44. Lenaerts, J., K. Van Tricht, **S. Lhermitte**, and T. L'Ecuyer (2017). *"Polar clouds and radiation in satellite observations, reanalyses, and climate models".* Geophysical Research Letters, *44. doi: 10.1002/2016GL072242.*

43. Noël, B., W. J. van de Berg, **S. Lhermitte**, B. Wouters, H. Machguth, I. Howat, M. Citterio, G. Moholdt, J. T. M. Lenaerts, and M. R. van den Broeke (2017). *"A tipping point in refreezing accelerates mass loss of Greenland's glaciers and ice caps".* Nature Communications. *doi: 10.1038/ncomms14730.*

42. Lenaerts*, J. T. M., **S. Lhermitte**, R. Drews, S. R. M. Ligtenberg, S. Berger, V. Helm, C. J. P. P. Smeets, M. R. van den Broeke, W. J. van de Berg, M. Eijkelboom, O. Eisen, and F. Pattyn (2017). *"Meltwater produced by wind-albedo interaction stored in an East Antarctic ice shelf.".* Nature Climate Change, *7 58–62. doi: 10.1038/NCLIMATE3180.* . ** Joint first author*

41. Steger, C. R., C. H. Reijmer, M. R. van den Broeke, N. Wever, R. R. Forster, L. S. Koenig, P. Kuipers-Munneke, M. Lehning, **S. Lhermitte**, S. R. M. Ligtenberg, C. Miège, and B. P. Y. Noël (2017). *"Firn meltwater retention on the Greenland Ice Sheet: a model comparison".* Frontiers in Earth Science, *5 (3). doi: 10.3389/feart.2017.00003.*

40. De Keersmaecker, W., **S. Lhermitte**, M. J. Hill, L. Tits, P. Coppin, and B. Somers (2017). *"Assessment of regional vegetation response to climate anomalies: a case study for Australia using GIMMS NDVI time series between 1982 and 2006".* Remote Sensing, *9 (1), 34. doi: 10.3390/rs9010034.*

39. De Keersmaecker, W., N. van Rooijen, **S. Lhermitte**, L. Tits, J. Schaminée, P. Coppin, O. Honnay, and B. Somers (2016). *"Species-rich semi-natural grasslands have a higher resistance but a lower resilience than intensively managed agricultural grasslands in response to climate anomalies".* Journal of Applied Ecology, *53 (2), 430–439. doi: 10.1111/1365-2664.12595.*

38. Docquier, D., W. Thiery, **S. Lhermitte**, and N. van Lipzig (2016). *"Multi-year wind dynamics around Lake Tanganyika".* Climate Dynamics, *47 (9), 3191–3202. doi: 10.1007/s00382-016-3020-z.*

37. Noël, B., W. J. van de Berg, H. Machguth, **S. Lhermitte**, I. Howat, X. Fettweis, and M. R. Van Den Broeke (2016). *"A daily, 1-km resolution dataset of downscaled Greenland ice sheet surface mass balance (1958-2015)".* Cryosphere, *10 2361–2377. doi: 10.5194/tc-10-2361-2016.*

36. Van Tricht, K., **S. Lhermitte**, I. V. Gorodetskaya, and N. P. M. Van Lipzig (2016). *"Improving satellite-retrieved surface radiative fluxes in polar regions using a smart sampling approach".* Cryosphere, *10 2379–2397. doi: 10.5194/tc-10-2379-2016.*

35. Hawinkel, P., W. Thiery, **S. Lhermitte**, E. Swinnen, B. Verbist, J. Van Orshoven, and B. Muys (2016). *"Vegetation response to precipitation variability in East Africa controlled by biogeographical factors".* Journal of Geophysical Research: Biogeosciences, *121 (9), 2422–2444. doi: 10.1002/2016JG003436.*

34. Thiery, W., E. L. Davin, S. I. Seneviratne, K. Bedka, **S. Lhermitte**, and N. P. M. Van Lipzig (2016). *"Hazardous thunderstorm intensification over Lake Victoria".* Nature Communications, *7 12786. doi: 10.1038/ncomms12786.*

33. Hublart, P., D. Ruelland, I. García de Cortázar-Atauri, S. Gascoin, **S. Lhermitte**, and A. Ibacache (2016). *"Reliability of lumped hydrological modeling in a semi-arid mountainous catchment facing water-use changes".* Hydrology and Earth System Sciences, *20 (9), 3691–3717. doi: 10.5194/hess-20-3691-2016.*

32. Van Tricht, K., **S. Lhermitte**, J. Lenaerts, I. Gorodetskaya, T. L'Ecuyer, B. Noël, M. Van Den Broeke, D. Turner, and N. Van Lipzig (2016). *"Clouds enhance Greenland ice sheet meltwater runoff".* Nature Communications, *7 10266. doi: 10.1038/ncomms10266.*

31. Thiery, W., E. L. Davin, H.-J. Panitz, M. Demuzere, **S. Lhermitte**, and N. Van Lipzig (2015). *"The Impact of the African Great Lakes on the Regional Climate".* Journal of Climate, *28 (10), 4061–4085. doi: 10.1175/JCLI-D-14-00565.1.*

30. Hawinkel, P., E. Swinnen, **S. Lhermitte**, B. Verbist, J. Van Orshoven, and B. Muys (2015). *"A time series processing tool to extract climate-driven interannual vegetation dynamics using Ensemble Empirical Mode Decomposition (EEMD)".* Remote Sensing of Environment, *169 375–389. doi: 10.1016/j.rse.2015.08.024.*

29. Vanonckelen, S., **S. Lhermitte**, and A. Van Rompaey (2015). *"The effect of atmospheric and topographic correction on pixel-based image composites: Improved forest cover detection in mountain environments".* International Journal of Applied Earth Observation and Geoinformation, *35 (PB), 320–328. doi: 10.1016/j.jag.2014.10.006.*

28. De Keersmaecker, W., **S. Lhermitte**, L. Tits, O. Honnay, B. Somers, and P. Coppin (2015). *"A model quantifying global vegetation resistance and resilience to short-term climate anomalies and their relationship with vegetation cover".* Global Ecology and Biogeography, *24 (5), 539–548. doi: 10.1111/geb.12279.*

27. De Keersmaecker, W., **S. Lhermitte**, L. Tits, O. Honnay, B. Somers, and P. Coppin (2015). *"Resilience and the reliability of spectral entropy to assess ecosystem stability".* Global Change Biology. *doi: 10.1111/gcb.12799.*

26. Bertin, A., E. Alvarez, N. Gouin, E. Gianoli, S. Montecinos, S. Lek, S. Gascoin, and **S. Lhermitte** (2015). *"Effects of wind-driven spatial structure and environmental heterogeneity on high-altitude wetland macroinvertebrate assemblages with contrasting dispersal modes".* Freshwater Biology, *60 (2), 297–310. doi: 10.1111/fwb.12488.*

25. Maahn, M., C. Burgard, S. Crewell, I. Gorodetskaya, S. Kneifel, **S. Lhermitte**, K. Van Tricht, and N. Van Lipzig (2014). *"How does the spaceborne radar blind zone affect derived surface snowfall statistics in polar regions?".* Journal of Geophysical Research Atmospheres, *119 (24), 13604–13620. doi: 10.1002/2014JD022079.*

24. **Lhermitte, S.**, J. Abermann, and C. Kinnard (2014). *"Albedo over rough snow and ice surfaces".* Cryosphere, *8 (3), 1069–1086. doi: 10.5194/tc-8-1069-2014.*

23. Van Tricht, K., I. Gorodetskaya, **S. Lhermitte**, D. Turner, J. Schween, and N. Van Lipzig (2014). *"An improved algorithm for polar cloud-base detection by ceilometer over the ice sheets".* Atmospheric Measurement Techniques, *7 (5), 1153–1167. doi: 10.5194/amt-7-1153-2014.*

22. Vanonckelen, S., **S. Lhermitte**, V. Balthazar, and A. Van Rompaey (2014). *"Performance of atmospheric and topographic correction methods on Landsat imagery in mountain areas".* International Journal of Remote Sensing, *35 (13), 4952–4972. doi: 10.1080/01431161.2014.933280.*

21. De Keersmaecker, W., **S. Lhermitte**, O. Honnay, J. Farifteh, B. Somers, and P. Coppin (2014). *"How to measure ecosystem stability? An evaluation of the reliability of stability metrics based on remote sensing time series across the major global ecosystems".* Global Change Biology, *20 (7), 2149–2161. doi: 10.1111/gcb.12495.*

20. Vanonckelen, S., **S. Lhermitte**, and A. Van Rompaey (2013). *"The effect of atmospheric and topographic correction methods on land cover classification accuracy".* International Journal of Applied Earth Observation and Geoinformation, *24 (1), 9–21. doi: 10.1016/j.jag.2013.02.003.*

19. Gascoin, S., **S. Lhermitte**, C. Kinnard, K. Bortels, and G. Liston (2013). *"Wind effects on snow cover in Pascua-Lama, Dry Andes of Chile".* Advances in Water Resources, *55 25–39. doi: 10.1016/j.advwatres.2012.11.013.*

18. Van Angelen, J., J. Lenaerts, **S. Lhermitte**, X. Fettweis, P. Kuipers Munneke, M. Van Den Broeke, E. Van Meijgaard, and C. P. Smeets (2012). *"Sensitivity of Greenland Ice Sheet surface mass balance to surface albedo parameterization: A study with a regional climate model".* Cryosphere, *6 (5), 1175–1186. doi: 10.5194/tc-6-1175-2012.*

17. Veraverbeke, S., W. Verstraeten, **S. Lhermitte**, R. Van De Kerchove, and R. Goossens (2012). *"Assessment of post-fire changes in land surface temperature and surface albedo, and their relation with fireburn severity using multitemporal MODIS imagery".* International Journal of Wildland Fire, *21 (3), 243–256. doi: 10.1071/WF10075.*

16. Van De Kerchove, R., **S. Lhermitte**, S. Veraverbeke, and R. Goossens (2012). *"Spatio-temporal variability in remotely sensed land surface temperature, and its relationship with physiographic variables in the Russian Altay Mountains".* International Journal of Applied Earth Observation and Geoinformation, *20 (1), 4–19. doi: 10.1016/j.jag.2011.09.007.*

15. **Lhermitte, S.**, J. Verbesselt, W. Verstraeten, and P. Coppin (2011). *"A comparison of time series similarity measures for classification and change detection of ecosystem dynamics".* Remote Sensing of Environment, *115 (12), 3129–3152. doi: 10.1016/j.rse.2011.06.020.*

14. Gascoin, S., C. Kinnard, R. Ponce, **S. Lhermitte**, S. MacDonell, and A. Rabatel (2011). *"Glacier contribution to streamflow in two headwaters of the Huasco River, Dry Andes of Chile".* Cryosphere, *5 (4), 1099–1113. doi: 10.5194/tc-5-1099-2011.*

13. Veraverbeke, S., **S. Lhermitte**, W. Verstraeten, and R. Goossens (2011). *"Evaluation of pre/post-fire differenced spectral indices for assessing burn severity in a mediterranean environment with landsat thematic mapper".* International Journal of Remote Sensing, *32 (12), 3521–3537. doi: 10.1080/01431161003752430.*

12. Veraverbeke, S., **S. Lhermitte**, W. Verstraeten, and R. Goossens (2011). *"A time-integrated MODIS burn severity assessment using the multi-temporal differenced normalized burn ratio (dNBRMT)".* International Journal of Applied Earth Observation and Geoinformation, *13 (1), 52–58. doi: 10.1016/j.jag.2010.06.006.*

11. **Lhermitte, S.**, J. Verbesselt, W. Verstraeten, S. Veraverbeke, and P. Coppin (2011). *"Assessing intra-annual vegetation regrowth after fire using the pixel based regeneration index".* ISPRS Journal of Photogrammetry and Remote Sensing, *66 (1), 17–27. doi: 10.1016/j.isprsjprs.2010.08.004.*

10. Veraverbeke, S., **S. Lhermitte**, W. Verstraeten, and R. Goossens (2010). *"The temporal dimension of differenced Normalized Burn Ratio (dNBR) fire/burn severity studies: The case of the large 2007 Peloponnese wildfires in Greece".* Remote Sensing of Environment, *114 (11), 2548–2563. doi: 10.1016/j.rse.2010.05.029.*

9. Veraverbeke, S., W. Verstraeten, **S. Lhermitte**, and R. Goossens (2010). *"Evaluating Landsat Thematic Mapper spectral indices for estimating burn severity of the 2007 Peloponnese wildfires in Greece".* International Journal of Wildland Fire, *19 (5), 558–569. doi: 10.1071/WF09069.*

8. **Lhermitte, S.**, J. Verbesselt, W. Verstraeten, and P. Coppin (2010). *"A pixel based regeneration index using time series similarity and spatial context".* Photogrammetric Engineering and Remote Sensing, *76 (6), 673–682. doi: https://doi.org/10.14358/PERS.76.6.673.*
7. Verstraeten, W., B. Vermeulen, J. Stuckens, **S. Lhermitte**, D. van der Zande, M. van Ranst, and P. Coppin (2010). *"Webcams for bird detection and monitoring: A demonstration study".* Sensors, *10 (4), 3480–3503. doi: 10.3390/s100403480.*
6. Veraverbeke, S., W. Verstraeten, **S. Lhermitte**, and R. Goossens (2010). *"Illumination effects on the differenced Normalized Burn Ratio's optimality for assessing fire severity".* International Journal of Applied Earth Observation and Geoinformation, *12 (1), 60–70. doi: 10.1016/j.jag.2009.10.004.*
5. Delalieux, S., A. Auwerkerken, W. Verstraeten, B. Somers, R. Valcke, **S. Lhermitte**, J. Keulemans, and P. Coppin (2009). *"Hyperspectral reflectance and fluorescence imaging to detect scab induced stress in apple leaves".* Remote Sensing, *1 (4), 858–874. doi: 10.3390/rs1040858.*
4. Somers, B., S. Delalieux, W. Verstraeten, J. Verbesselt, **S. Lhermitte**, and P. Coppin (2009). *"Magnitude- and shape-related feature integration in hyperspectral mixture analysis to monitor weeds in citrus orchards".* IEEE Transactions on Geoscience and Remote Sensing, *47 (11), 3630–3642. doi: 10.1109/TGRS.2009.2024207.*
3. **Lhermitte, S.**, J. Verbesselt, I. Jonckheere, K. Nackaerts, J. van Aardt, W. Verstraeten, and P. Coppin (2008). *"Hierarchical image segmentation based on similarity of NDVI time series".* Remote Sensing of Environment, *112 (2), 506–521. doi: 10.1016/j.rse.2007.05.018.*
2. Verbesselt, J., B. Somers, **S. Lhermitte**, I. Jonckheere, J. van Aardt, and P. Coppin (2007). *"Monitoring herbaceous fuel moisture content with SPOT VEGETATION time-series for fire risk prediction in savanna ecosystems".* Remote Sensing of Environment, *108 (4), 357–368. doi: 10.1016/j.rse.2006.11.019.*
1. Verbesselt, J., P. Jönsson, **S. Lhermitte**, J. Van Aardt, and P. Coppin (2006). *"Evaluating satellite and climate data-derived indices as fire risk indicators in savanna ecosystems".* IEEE Transactions on Geoscience and Remote Sensing, *44 (6), 1622–1632. doi: 10.1109/TGRS.2005.862262.*

# Student support & teaching

## PhD supervision & support

2021-now **Shashwat Shukla,** Remote sensing of firn processes
Co-promotor, TUDelft, Netherlands
Since Jan 2021; Funded by NWO Groot

2021-now **Sophie de Roda Husman,** Remote sensing of ice shelf melt
Co-promotor, TUDelft, Netherlands
Since Jan 2021; Funded by NWO Groot

2019-now **Maaike Izeboud,** Remote sensing of damage feedbacks and ice shelf instability
Co-promotor, TUDelft, Netherlands
Since May 2019; Funded by NWO User Support 2018

2018-now **Weiran Li,** Remote sensing of firn properties
Co-promotor, TUDelft, Netherlands
Since Jul 2018; Funded by NWO User Support 2017

2018-now **Thore Kausch,** Modelling & Remote Sensing of Antarctic SMB variability
Co-promotor, TUDelft, Netherlands
Since Apr 2018; Funded by NWO Polar Program

2015-2019 **Niels Souverijns,** The role of cloud-aerosol interactions in East Antarctica's surface mass balance
Co-promotor, KULeuven, Belgium
Funded by FWO. Currently senior researcher @ VITO.

2015-2019 **Alexandra Gossart,** The role of snowdrift on local mass redistribution in East Antarctica
Co-promotor, KULeuven, Belgium. Defence date 2019-12-12
Funded by Belgian Science Policy (Belspo) BRAIN. Starts post-doc @ Antarctica New Zealand.

2012-2016 **Kristof Van Tricht,** Understanding the role of clouds in the climate of Greenland
Co-promotor, KULeuven, Belgium
Funded by FWO PhD fellowships. Currently senior researcher @ VITO.

2011-2015 **Wanda De Keersmaecker,** Quantification of vegetation response to climate anomalies through remote sensing
Daily supervisor, KULeuven, Belgium
Funded by Belgian Science Policy (Belspo) Earth Observation call: Stereo II. Currently post-doc researcher @ WUR.

2010-2014 **Steven Vanonckelen,** Detection and analysis of forest cover dynamics with Landsat satellite imagery, application in the Romanian Carpathian Ecoregion
Daily supervisor, KULeuven, Belgium
Funded by Belgian Science Policy (Belspo) Earth Observation call: Stereo II. Currently senior researcher at INBO.

2008-2010 **Sander Veraverbeke,** Assessing fire burn severity using spaceborne spectral indices
Co-promotor, Ghent University, Belgium
Funded by Ghent University Special Research Funds. Currently assistant professor @ VU.

## PhD committee member

Assessment committee member or 12 PhD students:

- **Defended:** Robin Lombaert (KULeuven, 2013), Roberto Chavez (WUR, 2014), Junchao Shi (TUDelft, 2017), Eliakim Hamunyela (Wageningen University, 2017), Seyed Hosseini Aria (TUDelft, 2018), Jonathan Van Beek (KULeuven, 2012-2018), Vincent Smets (KULeuven, 2015-2020), Paulo Negri Bernardino (KULeuven/Wageningen University, 2017-2021), Erik Keenan (University of Colorado, 2018-2022), Maria Alejandra Culman Forero (KULeuven, 2020-2023)
- **In progress:** Sarah Wauthy (Université Libre de Bruxelles, 2018-now)

## MSc/BSc supervision

MSc/BSc students as supervisor, co-promotor, promotor: Ruben Rommens (MSc KULeuven, 2003-2004), Miet Boonen, Matthias Tipps (MSc KULeuven, 2004-2005), Sofie Vanzegbroek (MSc KULeuven, 2005-2006), Kim Calders (MSc KULeuven, 2007-2008), Mattias Vanderoost, Gil Gram (MSc KULeuven/CEAZA, 2008-2009), Kirsten Bortels (MSc KULeuven/CEAZA, 2010-2011), Joost Neujens (BSc, KULeuven 2013-2014), Niels Tooth, Camille Christiansen, Joni Ceuppens, Katrien Wouters (MSc, KULeuven 2014-2015), Lander Van Tricht (BSc, KULeuven 2015-2016), Tobias Nauwelaers, Thomas Antheunis (MSc, KULeuven 2015-2016), Merve Günes (BSc & MSc, TU Delft 2016-2017/2019), Egli Michailidou (MSc, TU Delft 2017), Eva van der Kooij, Najoua Essaf, Tristan Keulemans (BSc, TUDelft, 2017), Maaike Izeboud (MSc, TUDelft, 2018), Annelies Voordendag (MSc, TUDelft, 2018), Ruben Egbers (MSc, TUDelft, 2018), Job Rosier (MSc, TUDelft, 2018), Weiran Li (MSc, TUDelft, 2018), Daniël Kersbergen (MSc, TUDelft, 2018), Daan Ris (BSc, TUDelft, 2018), Max Felius (BSc, TUDelft, 2018), Brendan Scherpenisse (MSc, TUDelft, 2018), Coco Antonissen (MSc, TUDelft, 2018), Dirk Van der Valk (MSc, TUDelft, 2018-2018), Kevin Groot (MSc, TUDelft, 2018-2019), Renske Free (BSc, TUDelft, 2018), Manish Kharagjitsing (MSc, TUDelft, 2019), Geerten van der Zalm (MSc, TUDelft, 2019), Thijs van Esch (MSc, TUDelft, 2019), Huub Ackermans (BSc, TUDelft, 2019), Nicael Jooste (MSc, TUDelft, 2019), Mirja Dooren (MSc, TUDelft, 2019), Fokke Dijkstra (MSc, TUDelft, 2019), Estella Fernandes (BSc, TUDelft, 2018), Veronika Tollenaar (MSc, TUDelft, 2019), Merve Gunes (MSc, TUDelft, 2020), Sophie de Roda Husman (MSc, TUDelft, 2020), Sofie Schijvenaars (BSc, TUDelft, 2020), Thirza Feenstra (BSc, TUDelft, 2020), Jelle Zitman (MSc, TUDelft, 2021), Michaja Van Capel (BSc, TUDelft, 2020), Daan van der Heide (MSc, TUDelft, 2021), Dylan Kreynen (MSc, TUDelft, 2021), Fleur Verschoor (MSc, TUDelft, 2022), Marije van Hell (MSc, TUDelft, 2022), Andre Vallendar (MSc, TUDelft, 2021), Bas Walraven (MSc, TUDelft, 2021), Juliette Kool (MSc, TUDelft, 2022), Romy Hulskamp (MSc, TUDelft, 2022), Daan Hulskemper (MSc, TUDelft, 2022), Simon Pereira (MSc, TUDelft, 2022), Noah Hadler (MSc, TUDelft, 2021), Lotte de Boer (MSc, TUDelft, 2022), Wyte Petrie (MSc, TUDelft, 2022), Ylana Van Hout (MSc, TUDelft, 2022), Shilian Jang (MSc, TUDelft, 2022), Marijn van der Meer (MSc, TUDelft, 2022), Goof Blokker (MSc, TUDelft, 2022), Vincent Hooglander (MSc, TUDelft, 2022)

## Teaching

2022-2024 **Geospatial Information Technologies** [B-KUL-I0I32A]
MSc Bio-engineering, KU Leuven
Responsible lecturer Geospatial Data infrastructures

2022-2024 **Remote Sensing of Vegetation, Soil and Water System** [B-KUL-I0D62A]
MSc Bio-engineering, KU Leuven
Lecturer

2020-2022 **Applied Machine Learning** [CS4305TU]
MSc TUDelft wide, Netherlands
Lecturer of convolutional neural networks

2020-2022 **Remote Sensing & Big Data** [CIE5603]
MSc Geoscience & Remote Sensing, TUDelft, Netherlands
Coordinator + responsible lecturer

2019-2022 **Bouwplaats - Remote Sensing** [CIE5603]
BSc Civil Engineering, TUDelft, Netherlands
Lecturer

2019-2022 **Climate impacts & Engineering** [CIE5603]
BSc Civil Engineering, TUDelft, Netherlands
Lecturer

2019-2022 **Climate change: Science & ethics** [CIE4510]
MSc Civil engineering and geosciences, TUDelft, Netherlands
Lecturer

2018-2022 **Cryosphere: remote sensing & modelling** [CIE5603]
MSc Geoscience & Remote Sensing, TUDelft, Netherlands
Lecturer

2018-2020 **Big geo-data & machine learning** [CIE5603 Advanced project on GRS]
MSc Geoscience & Remote Sensing, TUDelft, Netherlands
Coordinator + responsible lecturer

2017-2022 **Simulation & visualisation** [CIE4604]
MSc Geoscience & Remote Sensing, TUDelft, Netherlands
Lecturer on Remote sensing data processing on big geo-data platforms

2017-2022 **Geodesy & Remote Sensing** [CIE4606]
MSc Geoscience & Remote Sensing, TUDelft, Netherlands
Lecturer on radiative transfer modelling

2016-2018 **Ice, snow & climate change** [CIE4602]
MSc Geoscience & Remote Sensing, TUDelft, Netherlands
Lecturer of remote sensing topics

2016-2018 **Introduction to geophysics & remote sensing** [AESB1440]
BSc Applied Earth Sciences, TUDelft, Netherlands
Lecturer of hyperspectral remote sensing topic

2016-2018 **Spaceflight assignment** [AE3536]
BSc minor spaceflight, TUDelft, Netherlands
Responsible for 3 assignments for 9 students

2016-2018 **Earth observation** [CT3532]
BSc minor spaceflight, TUDelft, Netherlands
Coordinator + responsible lecturer

2014-2016 **Remote sensing of the atmosphere**
MSc in geography / MSc in earth observation, KULeuven, Belgium
Coordinator + responsible lecturer

2014-2016 **Remote sensing: climatological applications**
MSc in bioscience engineering, KULeuven, Belgium
Guest lecture in *Land Cover & Land Use monitoring* (coordinator Prof. Somers B.)

2014-2015 **Remote sensing of the cryopshere**
MSc, Utrecht University, Netherlands
Guest lecture in *Physics of Remote Sensing* (coordinator Prof. Houweling S.)

2011-2014 **Temporal image analysis techniques**
MSc in earth observation, KULeuven, Belgium
Guest lecture in *Remote sensing of vegetative systems* (coordinator Prof. Coppin P.)

2005-2007 **Trend analysis**
Advanced MSc in earth observation, KULeuven, Belgium
Guest lecture in *Vegetative canopy monitoring* (coordinator Prof. Coppin P.)

2002-2005 **Geographical information systems [Practical sessions]**
MSc in engineering of forest & land management, KULeuven, Belgium
Practical sessions of *Geographical Information Systems* (coordinator Prof. Coppin P.(2002-2004), Prof. Van Orshoven J. (2005))

# Grants & fellowships

| | |
|---|---|
| BOFZAP | **Deep learning ecosystem response to climate extremes**<br>Funded by KU Leuven BOFZAP<br>PI |
| DeepV | **Deepfaking ecosystem response to climate extremes**<br>Funded by Belspo Stereo IV<br>PI |
| Protect | **PROjecTing sEa-level rise : from iCe sheets to local implicaTions**<br>Funded by H2020<br>Project member on WP3 |
| Ice shelves on Google Earth Engine | **State and fate of Antarctica's gatekeepers**<br>Funded by Google<br>PI |
| NWO Groot | **State and fate of Antarctica's gatekeepers: a HIgh-Resolution approach for ice Shelf instability (HiRISE)**<br>Funded by NWO Groot<br>co-PI |
| NWO GO Damage | **Remote sensing of damage feedbacks and ice shelf instability in Antarctica**<br>Funded by NWO User Support for Space Research<br>PI |
| NWO GO Firn | **Assessing firn processes from multi-source satellite data**<br>Funded by NWO User Support for Space Research<br>PI |
| Mass2Ant | **East Antarctic surface mass balance in the Anthropocene : observations and multi-scale modelling**<br>Funded by Belspo Brain / NWO<br>Co-PI and principal NWO-funded collaborator (4 years of PhD funding) on project of PI Goosse H. (UCL) |
| PV-MEP TPS | **Snow monitoring using the Proba-V Mission Exploitation Platform (PV-MEP) Third Party Services**<br>Funded by ESA<br>Co-PI and responsible for snow monitoring work package |
| U-Turn | **Understanding turning points in dryland ecosystem functioning**<br>Funded by Belspo Stereo III<br>International partner |
| Black & bloom | **Microbial processes darken and accelerate the melting of the Greenland Ice Sheet**<br>Funded by NERC<br>International collaborator on project of PI's Tranter M. and Bamber J. (University Bristol) |
| Benemelt | **Melting of Dronning Maud Land ice shelves: a combined modelling and observational approach**<br>Funded by Inbev-Latour<br>Collaborator on project of PI Lenaerts J. (Utrecht University) |
| Aerocloud | **How do aerosols and clouds affect the East Antarctic climate?**<br>Funded by Belspo Brain<br>Collaborator on project of PI Van Lipzig N. (KULeuven) |
| Aerocloud | **Antarctic precipitation, clouds and their interplay with aerosols: Combining ground-based remote sensing and regional climate modeling**<br>Funded by FWO<br>Collaborator on project of PI Van Lipzig N. (KULeuven) |
| FWO post-doc fellowship | **Changes in surface properties of the Greenland ice sheet and their impact on climate modeling**<br>Funded by FWO<br>Principal investigator |

| | |
|---|---|
| Fondecyt Regular 2011 | **Modelling the current and future hydrological contribution of glaciers and seasonal snow in semi arid mountain catchments**<br>Funded by Fondecyt (Chile)<br>International collaborator on project of PI Kinnard C. (CEAZA) |
| Fondecyt Iniciacion 2009 | **The introduction of fusion techniques to improve the determination of snow cover properties based on remote sensing imagery**<br>Funded by Fondecyt (Chile)<br>Principal investigator |
| Planet Action | **Spatio-temporal changes in glacier surface facies and ablation morphology in the Norte Chico region, Chile**<br>Funded by SPOT Image<br>Principal investigator |
| Ecoseg-SR/01/108 | **Development of a spatio-temporal segmentation algorithm for satellite time series to monitor forest condition**<br>Funded by Belspo Stereo II<br>Investigator on project of PI Prof. Coppin P. (KULeuven) |
| Glovex-SR/16/81 | **Assessment of vegetation regrowth by satellite remote sensing**<br>Funded by Belspo Stereo II<br>Investigator on project of PI Prof. Coppin P. (KULeuven) |

# Scientific committees & reviews

## Co-convernorship

| | |
|---|---|
| EGU 2018 | **Remote sensing of the cryosphere [CR2.1]**<br>EGU general assembly 2018, Vienna, Austria<br>Co-convenor |
| EGU 2017 | **Remote sensing of the cryosphere [CR2.1]**<br>EGU general assembly 2017, Vienna, Austria<br>Convenor |
| EGU 2016 | **Remote sensing of the cryosphere [CR2.1]**<br>EGU general assembly 2016, Vienna, Austria<br>Convenor |
| EGU 2015 | **Remote sensing of polar snow and ice [CR2.1]**<br>EGU general assembly 2015, Vienna, Austria, 12 April – 17 April<br>Co-convenor |
| EGU 2014 | **Remote sensing of the cryosphere [CR2.1]**<br>EGU general assembly 2014, Vienna, Austria, 28 April – 2 May<br>Co-convenor |
| Multitemp 2007 | **Fourth International Workshop on the Analysis of Multitemporal Remote Sensing Images**<br>Multitemp 2007, Leuven, Belgium, 18-20 July<br>Member of the organisation committee |

## Reviews for

Nature Geoscience, The Cryosphere, Remote Sensing of Environment, Journal of Glaciology, Scientific Reports, IEEE Transactions on Geoscience and Remote Sensing, ISPRS Journal of Photogrammetry and Remote Sensing, Global Ecology and Biogeography, Photogrammetric Engineering & Remote Sensing, Journal of Selected Topics in Applied Earth Observations and Remote Sensing, Remote Sensing, International Journal of Remote Sensing, Biogeosciences, Atmospheric Science Letters, Journal of Arid Environments, Nonlinear Processes in Geophysics, Geocarto International, International Journal of Geographical Information Science, Biosystems Engineering, EARSeL eProceedings, Sensors, Scientia Agricola, Ecological Modeling, Annals of Forest Science, NSF, Fondecyt, NWO, EUFAR

## Editorial work

2018-now **The Cryosphere**
Editor
Editorial Board

2022-2023 **Remote Sensing of Environment**
**Special Issue**
**"Remote sensing of the global cryosphere"**
Guest editor
Special issue website

2018-2019 **Remote Sensing**
**Special Issue**
**"Remote Sensing of Glaciers at Global and Regional Scales"**
Guest editor
Special issue website

# Press & outreach

## Press

2023 **Sea ice growth**
Online press
VRT NWS

2022 **Sea ice minimum**
Online press
VRT NWS

2022 **Antarctica op de lange termijn**
Written press
De Morgen

2022 **Polar heat wave**
Online press
VRT NWS

2022 **Conger ice shelf**
Online press
iNews, IFL, Rinnovabili, Common Dreams, Wio news, ZME, The Byte, Turquesa News

2022 **Antarctica op de lange termijn**
Written press
De Morgen

2022 **Larsen B sea ice**
Online Press
State of the Planet, The Byte, Phys.org,

2022 **Meteorites on Antarctica**
Online press
Science Alert, Universe Today, Wion, Nauka Nwws, Express, Multi news, Nature World News, India Educationary

2022 **Tonga Earthquake/flooding**
Online press
BBC, Daily Kos, Voly News, Echo24, Diario del Norte, UA news, Tsu.ua

2021 **Thwaites ice shelf weakening**
Online press
Volkskrant, VRT Nieuws, RTL Nieuws, Welingelichte Kringen

2021 **PIG weakening**
Online press
Mashable

2021 **Icebergs**
Online press
Delta

2021 **Antarctica smelt**
Written press
Eos

2020 **Iceberg A68**
Online press
HLN, Mashable, 7sur7, Nieuwsblad, VRT Nws, BBC, BBC Earther, Science times, Gizmodo, Yahoo

2020 **Sea Ice Arctic**
Online press
VRT Nws

2020 **Damage Amundsen Sea**
Online press
Washington Post, CNN, Guardian, Der Spiegel, SciTechDaily, VRT Nws, IFL Science, Sputnik News, NY Post, Business Insider, Corriere, Nu.nl, Fox News, USA today, CTV, RTBF, Wired, Metro

2020 **Pine Island Glacier**
Online press
ABC news, Scientias

2019 **Amery iceberg D28**
Online press
BBC, NBC News, TIME, BBC, Euronews, Observador, https://videnskab.dk, expressen.se, hs.fi, IFLS, Daily Mail, LMalta, LZ.de

2019 **Earth From Space**
TV show
BBC

2019 **Brunt ice shelf**
Online press
BBC, Fortune, Earther, Business Insider, Het Laatste Nieuws, Het Nieuwsblad, De Limburger, In.gr, Stuttgarter

2019 **Climate change**
Written press
Volkskrant

2019 **Pine Island Glacier**
Online press
Atlas Obscura

2018 **Larsen C: square iceberg**
Online press
Mashable, VRT NWS, iNews

2018 **Pine Island Glacier: calving**
Online press
The Weather Channel, Mashable, Quartz, Scientific American, Live Science, Science Alert, Daily Beast, The Daily Mail, etc

2018 **Vavilov Ice Cap surge**
Online press
Earther

2018 **Helheim calving**
Online press
Earther

2018 **Wat weten we van de Zuidpool?**
Podcast
NOS Podcast #DeDag

2018 **Fifteen Years of Change in the Arctic**
Online press
Nasa Earth Observatory, Earth Sky, Washington Post

2018 **Antarctic grounding lines**
Online press
VRT NWS

2018 **Penguin colonies on Antarctica**
Radio
De wereld vandaag @ VRT Radio 1, VRT Radio 2

2018 **Mass2Ant fieldwork**
Radio
NPO Radio 1

2017 **Pine Island Glacier calving**
Radio, written & online press
Washington Post, Nasa hyperwall, NY Times, The Verge, Live Science, Quartz, USA Today, Gizmodo, Daily Mail, Inverse, Euronews, Science Alert, The Weather Channel, Scientias, CBS News, AOL, International Business Times

2017 **Greenland wildfire**
Radio, written & online press
BBC, New Scientist, The Guardian, The Independent Eos, NBC News, Nasa Earth, Nasa Earth Blog, Climate Central Wildfire Today, Newsweek, HLN, Clean Technica, Euronews, Forbes, Grist, Mother Jones, NPR, DW, Huffington Post, VRT Nieuws, IFLS, Gizmodo, Popsci, SD, Scientias

2017 **Asian glaciers**
Written press
De Volkskrant, De Morgen

2017 **Larsen-C iceberg A68**
Tv, radio, written & online press
AD, De Morgen, Climate Central, VTM Nieuws, BNR, Mashable, International Business Times, Independent, HLN, RT

2017 **Peterman rift**
Tv, radio, written & online press
NOS op 3, Van Gils & Gasten, Washington Post, Washington Post follow-up CNN, Volkskrant, Tech Times Live Science, IFL Science ABS News, Daily Mail, Mashable, Inhabitat, Business Insider, The Weather Network, NASA Earth Observatory, International Business Times, Phys.org, Paris Match, Science Times, Eath.com, PBS Newshour, Scientias

2016 **Antarctic melt-albedo feedback**
Tv, radio, written & online press
For complete coverage check Altmetric with higlights in
VRT nieuws, VTM journaal, Karrewiet @ Ketnet, RTL journaal, De wereld vandaag @ VRT Radio, VRT Radio nieuws, National Geographic, New Scientist , De Volkskrant , Washington Post , Le Soir, Eos, El Mundo, The International Business Times, Kennis van Nu NTR, , Telegraaf , De Morgen , Japan Times , Der Spiegel , Focus.de , Algemeen Dagblad , NOS , Phys.org , IFL science , Business insider , Science alert , Life science , CBS News , Climate Central , Fox news , Huffington Post

2016 **Lake Victoria Thunderstorms**
Online press
For complete coverage check Altmetric with higlights in
Delta, Nasa Earth Observatory

2016 **Benemelt Antarctic field campaign in the news**
Radio & written press
ROB TV, De Ochtend @ VRT Radio 1, Nieuwe Feiten @ VRT Radio 1, De Wereld vandaag @ VRT Radio 1, Het Nieuwsblad, De Standaard, Rondom Leuven

2012 **Interview for Science magazine on exceptional Greenland melt**
Written & online press
Science

## Interactive websites

- Meltwater on an East Antarctic ice shelf: www.tudelft.pageflow.io/benemelt
- A tipping point for Greenland glaciers & ice caps: www.tudelft.pageflow.io/gics
- North Greenland mass loss: www.tudelft.pageflow.io/north-gris
- Damaged ice shelves in Antarctica: https://tudelft.pageflow.io/pig-damage

## Lectures & Outreach

24 Oct 2023 **Antartica: een onzeker zwaargewicht voor de zeespiegel**
Actueel Denken en Leven Brasschaat
Invited presentation

10 Feb 2022 **State and fate of Antarctica's gatekeepers: ice shelf instability from a remote sensing and modelling perspective**
Hebrew University Climate, Atmosphere, and Ocean seminar series
Zoom

13 Sep 2021 **Antartica: een onzeker zwaargewicht voor de zeespiegel**
Diligentia
Invited presentation

27 Apr 2021 **State and fate of Antarctica's gatekeepers: ice shelf instability from a remote sensing and modelling perspective**
Nasa GISS Sea Level Rise Seminar
Youtube

23 Feb 2021 **State and fate of Antarctica's gatekeepers: ice shelf instability from a remote sensing and modelling perspective**
BAS seminars
Zoom

18 Nov 2020 **Mechelen aan zee: wat als de ijskappen smelten?**
Mechelen
Natuurpunt Warme winteravonden

10 Mar 2020 **Antarctica voor de zeespiegel: een onzeker zwaargewicht**
Waasmunster
Invited presentation

10 Oct 2019 **Remote sensing of damage feedbacks and ice shelf instability in Antarctica**
NSO Earth Observation, Science & Society Symposium
Invited presentation

8 Oct 2019 **Antarctica voor de zeespiegel: een onzeker zwaargewicht**
Mercatorkring
Keynote for port of Antwerp representatives

22 Apr 2019 **Hoe verander je het klimaat?**
Ursulinen Mechelen
Presentation for 10 year old students

19 Feb 2019 **What happens in Antarctica does not stay in Antarctica**
Causerie @ Oxaco
Presentation for wider audience

7 Nov 2018 **Assessing ice sheet changes from Copernicus satellites**
Copernicus & Polar regions industry workshop
Polar applications of Copernicus

16 Oct 2018 **De fysica van Antarctica**
Natuurkunde symposium: physics of Nature
Keynote lecture [https://symposium.vvtp.tudelft.nl/]

12 Oct 2018 **What happens in Antarctica does not stay in Antarctica**
VIB Brain & Disease: PhD symposium
Keynote lecture

4 Oct 2018 **Remote Sensing of anomalies and feedbacks using time series models**
SatEx workshop on Data guided appraisal of biosphere-climate interactions

4 Jul 2018 **Antarctica Report: science, no-fiction**
Cinema Lumen: Sizzling summer of space
Introduction of Antarctic science by the movie 'Europa Report'

13 May 2018 **Hoe koud is het echt op Antarctica**
TUDelft Jeugd Universiteit
Presentation for 8-12 year old students

21 Mar 2018 **La Belgique et l'Antarctique, Impressions de Chercheurs**
Evening conference on Antarctic research
Presentation for ice shelf research & experiences

Feb 2018 **Antarctica voor beginners**
Basis- & kleuterschool Ursulinen
Introductie voor kleuter- & lagere school

21 Feb 2017 **Ijsplaten van Antarctica in een veranderend klimaat**
Causerie @ Oxaco
Presentation for wider audience

31 Jan 2017 **Ijsplaten van Antarctica in een veranderend klimaat**
SLO Natuurwetenschappen (Geography) KULeuven
Presentation for geografie leerkrachten

18 Dec 2016 **Ice shelves on Antarctica**
Ondernemershuis Mechelen
Presentation on 'Ice shelves on Antarctica'

Dec 2015 **Antarctica voor beginners**
Kleuterschool Ursulinen
Introductie voor kleuterschool

# Skills

## Languages

**Dutch:** Mother tongue
**English:** Proficient understanding, speaking, and writing. [ C2 level]
**French:** Very good understanding, good speaking, and intermediate writing
**Spanish:** Very good understanding and speaking, good writing

## Field work management

Organisation of field campaigns in the Chilean Andes (2010, 2014) and coordinator and assistance in a scientific field campaign on the Roi Baudoin ice shelf (East-Antarctica, Jan 2016 & Dec 2017).