Stef Lhermitte

Remote Sensing Scientist

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Profile

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

Stef Lhermitte is assistant professor Geoscience & Remote Sensing at TUDelft, after obtaining a PhD in bioscience engineering at KULeuven, Belgium, and several international post-docs positions (CEAZA, KNMI, KULeuven), where he worked on broad range of remote sensing technologies in a variety of applications ranging from cryospheric and atmospheric sciences to ecology and hydrology. Now he focuses on the development of innovative remote sensing methods 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.

Stef Lhermitte (co-)authored 56 publications in international and peer-reviewed scientific journals included in Web of Science and has an H-index of 24/27*. He is first/second author on 20 publications.

* Scopus/Google April 30, 2019

Current position

Assistant professor Geoscience & Remote Sensing
Delft University of Technology (TUDelft)
Department of Geoscience & Remote Sensing (GRS)

Education

2016 **Big data:** management, analysis, visualization and legal aspects
Ghent University, Belgium

2012 **Ice sheets and glaciers in the climate system**: Karthaus summer school
Institute for Marine and Atmospheric Research (IMAU), Netherlands

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

2016-now **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**
Royal Netherlands Meteorological Institute (KNMI), Netherlands
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

Articles in peer reviewed journals

55. Datta, R. T., Tedesco, M., Fettweis, X., Agosta, C., **Lhermitte, S.**, Lenaerts, J. T. M., Wever, N., (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.*

54. Gossart, A., Palm, S. P., Souverijns, N., Lenaerts, J. T. M., Gorodetskaya, I. V., **Lhermitte, S.**, Lipzig, N. P. M., (2019). *"Blowing snow in East Antarctica: comparison of ground-based and space-borne retrievals".* The Cryosphere Discussions. *doi: 10.5194/tc-2019-25.*

53. Réveillet, M., MacDonell, S., Gascoin, S., Kinnard, C., **Lhermitte, S.**, Schaffer, N., (2019). *"Uncertainties in the spatial distribution of snow sublimation in the semi-arid Andes of Chile".* The Cryosphere Discussions. *doi: 10.5194/tc-2019-31.*

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

51. Souverijns, N., Gossart, A., Gorodetskaya, I. V., **Lhermitte, S.**, Mangold, A., Laffineur, Q., Delcloo, A., van Lipzig, N. P. M., (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., van de Berg, W. J., **Lhermitte, S.**, Wouters, B., Schaffer, N., van den Broeke, M. R., (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., van de Berg, W. J., Noël, B. P. Y., van Meijgaard, E., Amory, C., Birnbaum, G., Jakobs, C. L., Krüger, K., Lenaerts, J. T. M., **Lhermitte, S.**, Ligtenberg, S. R. M., Medley, B., Reijmer, C. H., van Tricht, K., Trusel, L. D., van Ulft, L. H., Wouters, B., Wuite, J., van den Broeke, M. R., (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., van de Berg, W. J., van Wessem, J. M., van Meijgaard, E., van As, D., Lenaerts, J. T. M., **Lhermitte, S.**, Kuipers Munneke, P., Smeets, C. J. P. P., van Ulft, L. H., van de Wal, R. S. W., van den Broeke, M. R., (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., Souverijns, N., Gorodetskaya, I. V., **Lhermitte, S.**, Lenaerts, J. T., Schween, J. H., Mangold, A., Laffineur, Q., Van Lipzig, N. P., (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., Gudmundsson, L., Bedka, K., Semazzi, F., **Lhermitte, S.**, Willems, P., Van Lipzig, N., Seneviratne, S., (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., Gossart, A., **Lhermitte, S.**, Gorodetskaya, I., Kneifel, S., Maahn, M., Bliven, F., Van Lipzig, N. P. M., (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., Van Tricht, K., **Lhermitte, S.**, L'Ecuyer, T., (2017). *"Polar clouds and radiation in satellite observations, reanalyses, and climate models".* Geophysical Research Letters, *44. doi: 10.1002/2016GL072242.*

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

41. Steger, C. R., Reijmer, C. H., van den Broeke, M. R., Wever, N., Forster, R. R., Koenig, L. S., Kuipers-Munneke, P., Lehning, M., **Lhermitte, S.**, Ligtenberg, S. R. M., Miège, C., Noël, B. P. Y., (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., **Lhermitte, S.**, Hill, M. J., Tits, L., Coppin, P., Somers, B., (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., Rooijen, N., **Lhermitte, S.**, Tits, L., Schaminée, J., Coppin, P., Honnay, O., Somers, B., (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., Thiery, W., **Lhermitte, S.**, Lipzig, N., (2016). *"Multi-year wind dynamics around Lake Tanganyika".* Climate Dynamics, *47 (9), 3191–3202. doi: 10.1007/s00382-016-3020-z.*

37. Noël, B., Berg, W. J., Machguth, H., **Lhermitte, S.**, Howat, I., Fettweis, X., Van Den Broeke, M. R., (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., **Lhermitte, S.**, Gorodetskaya, I. V., Van Lipzig, N. P. M., (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., Thiery, W., **Lhermitte, S.**, Swinnen, E., Verbist, B., Van Orshoven, J., Muys, B., (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., Davin, E. L., Seneviratne, S. I., Bedka, K., **Lhermitte, S.**, Van Lipzig, N. P. M., (2016). *"Hazardous thunderstorm intensification over Lake Victoria".* Nature Communications, *7 12786. doi: 10.1038/ncomms12786.*

33. Hublart, P., Ruelland, D., García de Cortázar-Atauri, I., Gascoin, S., **Lhermitte, S.**, Ibacache, A., (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., **Lhermitte, S.**, Lenaerts, J., Gorodetskaya, I., L'Ecuyer, T., Noël, B., Van Den Broeke, M., Turner, D., Van Lipzig, N., (2016). *"Clouds enhance Greenland ice sheet meltwater runoff".* Nature Communications, *7 10266. doi: 10.1038/ncomms10266.*

31. Thiery, W., Davin, E. L., Panitz, H.-J., Demuzere, M., **Lhermitte, S.**, Van Lipzig, N., (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., Swinnen, E., **Lhermitte, S.**, Verbist, B., Van Orshoven, J., Muys, B., (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., **Lhermitte, S.**, Van Rompaey, A., (2015). *"The effect of atmospheric and topographic correction on pixel-based image composites: Improved forest cover detection in mountainenvironments".* International Journal of Applied Earth Observation and Geoinformation, *35 (PB), 320–328. doi: 10.1016/j.jag.2014.10.006.*

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

26. Bertin, A., Alvarez, E., Gouin, N., Gianoli, E., Montecinos, S., Lek, S., Gascoin, S., **Lhermitte, S.**, (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., Burgard, C., Crewell, S., Gorodetskaya, I., Kneifel, S., **Lhermitte, S.**, Van Tricht, K., Van Lipzig, N., (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.**, Abermann, J., Kinnard, C., (2014). *"Albedo over rough snow and ice surfaces".* Cryosphere, *8 (3), 1069–1086. doi: 10.5194/tc-8-1069-2014.*

23. Van Tricht, K., Gorodetskaya, I., **Lhermitte, S.**, Turner, D., Schween, J., Van Lipzig, N., (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., **Lhermitte, S.**, Balthazar, V., Van Rompaey, A., (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., **Lhermitte, S.**, Honnay, O., Farifteh, J., Somers, B., Coppin, P., (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., **Lhermitte, S.**, Van Rompaey, A., (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., **Lhermitte, S.**, Kinnard, C., Bortels, K., Liston, G., (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., Lenaerts, J., **Lhermitte, S.**, Fettweis, X., Kuipers Munneke, P., Van Den Broeke, M., Van Meijgaard, E., P. Smeets, C., (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., Verstraeten, W., **Lhermitte, S.**, Van De Kerchove, R., Goossens, R., (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., **Lhermitte, S.**, Veraverbeke, S., Goossens, R., (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.**, Verbesselt, J., Verstraeten, W., Coppin, P., (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., Kinnard, C., Ponce, R., **Lhermitte, S.**, MacDonell, S., Rabatel, A., (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., **Lhermitte, S.**, Verstraeten, W., Goossens, R., (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., **Lhermitte, S.**, Verstraeten, W., Goossens, R., (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.**, Verbesselt, J., Verstraeten, W., Veraverbeke, S., Coppin, P., (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., **Lhermitte, S.**, Verstraeten, W., Goossens, R., (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., Verstraeten, W., **Lhermitte, S.**, Goossens, R., (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.**, Verbesselt, J., Verstraeten, W., Coppin, P., (2010). *"A pixel based regeneration index using time series similarity and spatial context".* Photogrammetric Engineering and Remote Sensing, *76 (6), 673–682.*

7. Verstraeten, W., Vermeulen, B., Stuckens, J., **Lhermitte, S.**, Zande, D., Ranst, M., Coppin, P., (2010). *"Webcams for bird detection and monitoring: A demonstration study".* Sensors, *10 (4), 3480–3503. doi: 10.3390/s100403480.*

6. Veraverbeke, S., Verstraeten, W., **Lhermitte, S.**, Goossens, R., (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., Auwerkerken, A., Verstraeten, W., Somers, B., Valcke, R., **Lhermitte, S.**, Keulemans, J., Coppin, P., (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., Delalieux, S., Verstraeten, W., Verbesselt, J., **Lhermitte, S.**, Coppin, P., (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.**, Verbesselt, J., Jonckheere, I., Nackaerts, K., Aardt, J., Verstraeten, W., Coppin, P., (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., Somers, B., **Lhermitte, S.**, Jonckheere, I., Aardt, J., Coppin, P., (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., Jönsson, P., **Lhermitte, S.**, Van Aardt, J., Coppin, P., (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.*

Book chapters

2. Veraverbeke, S., **Lhermitte, S.**, Verstraeten, W., Goossens, R., (2010). *"Assessing burn severity using satellite time series".* *In "Modelling, Monitoring and Management of Forest Fires II", pp 107–118, by Perona, G. and C.A. Brebbia, eds., WIT Transactions on Ecology and the Environment. doi: 10.2495/FIVA100101.*

1. Verbesselt, J., Jönsson, P., **Lhermitte, S.**, Jonckheere, I., Aardt, J., Coppin, P., (2006). *"Relating time-series of meteorological and remote sensing indices to monitor vegetation moisture dynamics".* *In "Signal and image processing for remote sensing", pp 153–173, by Chen, C., ed., CRC Press, University of Massachusetts, North Darthmouth, USA*

Conference proceedings

15. De Keersmaecker, W., **Lhermitte, S.**, Tits, L., Honnay, O., Coppin, P., Somers, B., (2015). *"Towards the large-scale assessment of vegetation biomass production stability".* MultiTemp 2015 - 8th International Workshop on the Analysis of Multitemporal Remote Sensing Images. *doi: 10.1109/Multi-Temp.2015.7245764.*

14. De Keersmaecker, W., **Lhermitte, S.**, Tits, L., Honnay, O., Somers, B., Coppin, P., (2014). *"Linking NDVI and climate-based ecosystem stability with land cover in Europe".* IGARSS 2014, International Geoscience and Remote Sensing Symposium, *3938–3940. doi: 10.1109/IGARSS.2014.6947346.*

13. De Keersmaecker, W., **Lhermitte, S.**, Somers, B., Van Rooijen, N., Honnay, O., Schaminée, J., Farifteh, J., Coppin, P., (2013). *"The sensitivity of ecosystem stability measures derived from remote sensing time series".* ASPRS 2013, American Society for Photogrammetry and Remote Sensing Annual Conference, *166–175*

12. Vanonckelen, S., **Lhermitte, S.**, Van Rompaey, A., Griffiths, P., (2013). *"Integration of topographic correction in a pixel-based compositing algorithm in the Romanian Carpathians".* MultiTemp 2013 - 7th International Workshop on the Analysis of Multi-Temporal Remote Sensing Images: "Our Dynamic Environment". *doi: 10.1109/Multi-Temp.2013.6866012.*

11. Veraverbeke, S., Goossens, R., Verstraeten, W., **Lhermitte, S.**, (2009). *"Correction of topographic effects influencing the differenced Normalized Burn Ratio's optimality for estimating fire severity.".* Proceedings of the VII International EARSeL Workshop: Advances in remote Sensing and GIS Applications in Forest Fire Managment. Towards an operational use of remote sensing in forest fire management, *271–276*

10. **Lhermitte, S.**, Verstraeten, W., Coppin, P., Verbesselt, J., (2008). *"Spatio-temporal segmentation based on subsequences of satellite image time series".* IGARSS 2008, International Geoscience and Remote Sensing Symposium, *vol. 2 (1). doi: 10.1109/IGARSS.2008.4779153.*

9. Somers, B., Delalieux, S., Verstraeten, W., Cools, K., Verbesselt, J., **Lhermitte, S.**, Coppin, P., (2008). *"Integration of magnitude and shape related features in hyperspectral mixture analysis to monitor weeds in citrus orchards".* IGARSS 2008, International Geoscience and Remote Sensing Symposium, *vol. 1 (1). doi: 10.1109/IGARSS.2008.4778857.*

8. **Lhermitte, S.**, Verbesselt, J., Verstraeten, W., Coppin, P., (2007). *"Assessing vegetation regrowth after fire based on time series of SPOT-vegetation data".* MultiTemp 2007 - 4th International Workshop on the Analysis of Multi-Temporal Remote Sensing Images. *doi: 10.1109/MULTITEMP.2007.4293050.*

7. **Lhermitte, S.**, Van Aardt, J., Coppin, P., (2005). *"Development of indicators of burning efficiency based on time series of SPOT VEGETATION data".* MultiTemp 2005 - 3rd International Workshop on the Analysis of Multi-Temporal Remote Sensing Images, *vol. 2005 125. doi: 10.1109/AMTRSI.2005.1469854.*

6. **Lhermitte, S.**, Tips, M., Verbesselt, J., Jonckheere, I., Van Aardt, J., Coppin, P., (2005). *"Development of indicators of vegetation recovery based on time series analysis of SPOT VEGETATION data".* Proceedings of SPIE - The International Society for Optical Engineering, *vol. 5976. doi: 10.1117/12.627625.*

5. Verbesselt, J., Somers, B., **Lhermitte, S.**, Van Aardt, J., Jonckheere, I., Coppin, P., (2005). *"Estimating vegetation dryness to optimize fire risk assessment with SPOT VEGETATION satellite data in savanna ecosystems".* Proceedings of SPIE - The International Society for Optical Engineering, *vol. 5976. doi: 10.1117/12.627682.*

4. **Lhermitte, S.**, Verbesselt, J., Jonckheere, I., Van Aardt, J., Coppin, P., (2005). *"Eco-climatic image segmentation based on time series".* Communications in agricultural and applied biological sciences, *vol. 70 (2), 165–168*

3. Verbesselt, J., Somers, B., **Lhermitte, S.**, Aardt, J., Jonckheere, I., Coppin, P., (2005). *"Fire risk assessment in savanna ecosystems with multi-temporal satellite data".* Communications in agricultural and applied biological sciences, *vol. 70 (2), 23–26*

2. **Lhermitte, S.**, Verbesselt, J., Nackaerts, K., Coppin, P., (2004). *"Eco-climatic image segmentation based on time series".* ASPRS 2013, American Society for Photogrammetry and Remote Sensing Annual Conference, *(0128)*

1. Verbesselt, J., **Lhermitte, S.**, Coppin, P., Eklundh, L., Jönsoon, P., (2004). *"Biophysical drought metrics extraction by time series analysis of SPOT Vegetation data".* IGARSS 2004, International Geoscience and Remote Sensing Symposium, *vol. 3 2062–2065*

Student support & teaching

PhD supervision & support

2018-now **Weiran Li**
TUDelft, Netherlands
Remote sensing of firn properties

2018-now **Thore Kausch**
TUDelft, Netherlands
Modelling & Remote Sensing of Antarctic SMB variability

2015-now **Niels Souverijns**
KULeuven, Belgium
The role of cloud-aerosol interactions in East Antarctica's surface mass balance

2015-now **Alexandra Gossart**
KULeuven, Belgium
The role of snowdrift on local mass redistribution in East Antarctica

2012-2016 **Kristof Van Tricht**
KULeuven, Belgium
Understanding the role of clouds in the climate of Greenland

2011-2015 **Wanda De Keersmaecker**
KULeuven, Belgium
Quantification of vegetation response to climate anomalies through remote sensing

2010-2014 **Steven Vanonckelen**
KULeuven, Belgium
Detection and analysis of forest cover dynamics with Landsat satellite imagery, application in the Romanian Carpathian Ecoregion

2008-2010 **Sander Veraverbeke**
Ghent University, Belgium
Assessing fire burn severity using spaceborne spectral indices

PhD committee member

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)
In progress: Vincent Smets (KULeuven, 2015-now), Björn Rombouts (KULeuven, 2016-now), Raymond Sellevold (TUDelft, 2017-now), Laura Muntjewerf (TUDelft, 2017-now), Paulo Negri Bernardino (KULeuven/Wageningen University, 2017-now)

MSc/BSc supervision

32 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, TU Delft 2016-2017), 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), Joseph Heywood (MSc, TUDelft, 2018-2019), Manish Kharagjitsing (MSc, TUDelft, 2019), Geerten van der Zalm (MSc, TUDelft, 2019), Oana Garbasevschi (MSc, TUDelft, 2019), Thijs van Esch (MSc, TUDelft, 2019), Huub Ackermans (BSc, TUDelft, 2019)

Teaching

2018-2019 **Cryosphere: remote sensing & modelling**
MSc Geoscience & Remote Sensing, TUDelft, Netherlands
Lecturer

2018-2019 **Cryosphere: remote sensing & modelling**
BSc Applied , TUDelft, Netherlands
Lecturer

2018-2019 **Big geo-data & machine learning** [CIE5603 Advanced project on GRS]
MSc Geoscience & Remote Sensing, TUDelft, Netherlands
Coordinator + responsible lecturer

2017-2018 **Simulation & visualisation** [CIE4604]
MSc Geoscience & Remote Sensing, TUDelft, Netherlands
Lecturer on Remote sensing data processing on big geo-data platforms

2017-2018 **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

NWO GO Firn — **Assessing firn processes from multi-source satellite data**
Funded by NWO User Support for Space Research
PI

Mass2Ant — **East Antarctic surface mass balance in the Anthropocene : observations and multi-scale modelling**
Funded by Belspo Brain / NWO
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**
Funded by ESA
Co-PI and responsible for snow monitoring work package

U-Turn — **Understanding turning points in dryland ecosystem functioning**
Funded by Belspo Stereo III
International partner

Black & bloom — **Microbial processes darken and accelerate the melting of the Greenland Ice Sheet**
Funded by NERC
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** Funded by Inbev-Latour Collaborator on project of PI Lenaerts J. (Utrecht University)
Aerocloud	**How do aerosols and clouds affect the East Antarctic climate?** Funded by Belspo Brain 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** Funded by FWO 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** Funded by FWO Principal investigator
Fondecyt Regular 2011	**Modelling the current and future hydrological contribution of glaciers and seasonal snow in semi arid mountain catchments** Funded by Fondecyt (Chile) 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** Funded by Fondecyt (Chile) Principal investigator
Planet Action	**Spatio-temporal changes in glacier surface facies and ablation morphology in the Norte Chico region, Chile** Funded by SPOT Image Principal investigator
Ecoseg-SR/01/108	**Development of a spatio-temporal segmentation algorithm for satellite time series to monitor forest condition** Funded by Belspo Stereo II Investigator on project of PI Prof. Coppin P. (KULeuven)
Glovex-SR/16/81	**Assessment of vegetation regrowth by satellite remote sensing** Funded by Belspo Stereo II Investigator on project of PI Prof. Coppin P. (KULeuven)

Scientific committees & reviews

Co-convernorship

EGU 2018	**Remote sensing of the cryosphere [CR2.1]** EGU general assembly 2018, Vienna, Austria Co-convenor
EGU 2017	**Remote sensing of the cryosphere [CR2.1]** EGU general assembly 2017, Vienna, Austria Convenor
EGU 2016	**Remote sensing of the cryosphere [CR2.1]** EGU general assembly 2016, Vienna, Austria Convenor
EGU 2015	**Remote sensing of polar snow and ice [CR2.1]** EGU general assembly 2015, Vienna, Austria, 12 April – 17 April Co-convenor
EGU 2014	**Remote sensing of the cryosphere [CR2.1]** EGU general assembly 2014, Vienna, Austria, 28 April – 2 May Co-convenor

Multitemp 2007 **Fourth International Workshop on the Analysis of Multitemporal Remote Sensing Images**
Multitemp 2007, Leuven, Belgium, 18-20 July
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

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

Press & outreach

Press

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

Lectures & Outreach

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**
Cimema 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

Software

Office applications: Office (Word, Excel, Powerpoint, Access), LaTeX, Adobe Creative Suite (Photoshop, Illustrator, Flash)
Open-source Office: Libreoffice suite, Inkscape, imagemagick
Program languages: python, R, C++, fortran, bash, IDL, matlab, javascript, php, html+css, sql
Remote sensing: QGis, Google Earth Engine, gdal/ogr, ArcGIS, Envi, Idrisi, PCI
Operating systems: Linux, Mac, Windows

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).