

Publications Dr S Lang

Journal articles

1. Baraldi, A., Sapia, L. D., Tiede, D., Sudmanns, M., Augustin, H. and **Lang, S.** (2022) Innovative Analysis Ready Data (ARD) product and process requirements, software system design, algorithms and implementation at the midstream as necessary-but-not-sufficient precondition of the downstream in a new notion of Space Economy 4.0 - Part 1 and Part 2. *Big Earth Data*, pp. 1-239.
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3. Gella, G. W., Wendt, L., **Lang, S.**, Tiede, D., Hofer, B., Gao, Y. and Braun, A. (2022) Mapping of dwellings in IDP/refugee settlements from very high-resolution satellite imagery using a mask region-based convolutional neural network. *Remote Sensing*, 14(3), pp. 689.
4. Tiede, D., Wendt, L., Schwendemann, G., Aloabidi, A. and **Lang, S.** (2021) Mask R-CNN-based building extraction from VHR satellite data in operational humanitarian action. *Transactions in GIS*.
5. Ofori-Ampofo, S., Pelletier, C. and **Lang, S.** (2021) Crop type mapping from optical and Radar time series using attention-based deep learning. *Remote Sensing*, 13(22), pp. 4668.
6. Petuschig, A., Resch, B., Lang, S. and Havas, C. (2021) Evaluating the Representativeness of Socio-Demographic Variables over Time for Geo-Social Media Data. *ISPRS International Journal of Geo-Information*, 10(5), pp. 323.
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10. Hofer, B., Castelyn, S., Aguilar-Morena, E., Missoni-Steinbacher, E.-M., Albrecht, F., Lemmens, R., **Lang, S.**, Albrecht, J., Stelmaszczuk-Górska, M., Vancauwenberghe, G. and Monfort-Muriach, A. (2020) Complementing the European earth observation and geographic information body of knowledge with a business-oriented perspective. *Transactions in GIS*, 24, pp. 587-601.
11. Graf, L., Papp, L. and **Lang, S.** (2020) OBIA4RTM – towards an operational open-source solution for coupling object-based image analysis with radiative transfer modelling. *European Journal of Remote Sensing*, pp. 1-12.
12. Ghorbanzadeh, O., Tiede, D., Wendt, L., Sudmanns, M. and **Lang, S.** (2020) Transferable instance segmentation of dwellings in a refugee camp - integrating CNN and OBIA. *European Journal of Remote Sensing*, pp. 1-14.
13. **Lang, S.**, Hay, G., Baraldi, A., Tiede, D. and Blaschke, T. (2019) GEOBIA achievements and spatial opportunities in the era of big Earth observation data. *ISPRS International Journal of Geo-Information*, 8, pp. 474-483.
14. **Lang, S.**, Füreder, P., Riedler, B., Wendt, L., Braun, A., Tiede, D., Schoepfer, E., Zeil, P., Spröhnle, K., Kulessa, K., Rogenhofer, E., Bäuerl, M., Öze, A., Schwendemann, G. and Hochschild, V. (2019) Earth observation tools and services to increase the effectiveness of humanitarian assistance. *European Journal of Remote Sensing*, pp. 1-19.

15. Sudmanns, M. Tiede, D. **Lang**, S. Bergstedt, H., Trost, G., Augustin, H., Baraldi, A. and T. Blaschke (2019) Big earth data: Disruptive changes in earth observation data management and analysis? *International Journal of Digital Earth*.
16. **Lang**, S. (2018) Urban green valuation integrating biophysical and qualitative aspects. *European Journal of Remote Sensing*, 51/1, pp. 116-131
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26. Corbane, C., S. **Lang**, K. Pipkins, S. Alleaume, M. Deshayes, V. Garcia, T. Strasser, J. vanden Borre, T. Spanhove & M. Förster (2015) Remote sensing for mapping natural habitats and their conservation status - new opportunities and challenges. *International Journal of Applied Earth Observation and Geoinformation*, 37, pp. 7 - 16.
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34. Strasser, T., Lang, S., Riedler, B., Pernkopf, L. & Paccagnel, K. (2014) Multi-scale object features for habitat quality monitoring in riparian forests. *Geosciences and Remote Sensing Letters*, 11(3), 559 - 563
35. Tiede, D., Füréder, P., Lang, S., Hölbling, D. & Zeil, P. (2013) Automated Analysis of Satellite Imagery to provide Information Products for Humanitarian Relief Operations in Refugee Camps – from Scientific Development towards Operational Services. *PFG Photogrammetrie - Fernerkundung - Geoinformation*, 185 - 195.
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41. Tiede, D., S. Lang, P. Füréder, D. Hölbling, C. Hoffmann & P. Zeil (2011) Automated damage indication for rapid geospatial reporting. An operational object-based approach to damage density mapping following the 2010 Haiti earthquake. *Photogrammetric Engineering & Remote Sensing*, 77 (9), 933-942.
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59. **Lang**, S. & T. Blaschke (2010) Analiza krajolika pomoću GIS-a. ITD Gaudeamus, Zagreb. (*translated into Croatian*)
60. **Lang**, S. & T. Blaschke (2009) Análise da Paisagem com SIG. Oficina de Textos, 424p. (*translated into Portuguese*)
61. **Lang**, S. & T. Blaschke (2007) Landschaftsanalyse mit GIS. UTB-Reihe. Stuttgart: Eugen-Ulmer-Verlag, 420 S.

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63. **Lang, S.** and B. Riedler (2017) Earth Observation for Humanitarian Assistance [section title]. In A. Car, T. Jekel, J. Strobl and G. Griesebner, (eds.) GI_Forum 2017 – Geospatial Minds for Society Wien: Verlag der Österreichischen Akademie der Wissenschaften, 95 pages.
64. **Lang, S.** and P. Füreder (2015) Earth observation for humanitarian operations [section title]. In A. Car, T. Jekel, J. Strobl and G. Griesebner, (eds.) GI_Forum 2015 – Geospatial Minds for Society Wien: Verlag der Österreichischen Akademie der Wissenschaften, 75 pages [section length].
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Book chapters

1. Hofer, B., **Lang, S.** and Ferber, N. (2019) Future occupational profiles in Earth observation and Geoinformation - scenarios resulting from changing workflows. In: Kyriakidis, P., Hadjimitsis, D., Skarlatos, D. and Mansourian, A., (eds.) Geospatial technologies for local and regional development: Springer pp. 349-366.
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1. Gao, Y., **Lang**, S., Gella, G., Tiede, D. and Wendt, L. (2022) Comparing the robustness of U-Net, LinkNet, and FPN towards label noise for refugee dwelling extraction from satellite imagery. IEEE Global Humanitarian Technology Conference (GHTC).
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