Maximilian H. K. Hesselbarth

POSTDOCTORAL FELLOW

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Personal information

Name: Maximilian Hans Klaus Hesselbarth

Nationality: German

Education

- 2011 - 2014 | B.Sc. *Forestry*, University of Applied Sciences and Arts, Göttingen (Germany)

- 2014 - 2016 | M.Sc. *Ecosystem Analysis and Modelling*, University of Göttingen (Germany)

- 2016 - 2020 | Ph.D. *Department of Ecosystem Modelling*, University of Göttingen (Germany)

- 2020 - ongoing | Postdoc *Coastal Ecology and Conservation Lab*, University of Michigan (USA)

Internships, Research visits

- 31/08/2009 - 11/09/2009 | *State forestry department Heuberg*, Messstetten (Germany)

- 02/08/2010 - 27/08/2010 | *State forestry department Heuberg*, Messstetten (Germany)

- 02/06/2011 - 01/08/2011 | *Wise Batten Inc*, Timber management, Estill, SC (USA)

- 04/11/2013 - 30/03/2014 | *SilvaTerra Ltd*, Forestry consulting and research, Lilongwe (Malawi)

- 01/09/2015 - 01/10/2015 | *Northwest German Forestry Research Institute*, Department of growth modeling, Göttingen (Germany)

- 07/03/2016 - 01/08/2016 | *Land degradation and restoration ecology*, North-West University, Potchefstroom (South Africa)

- 07/03/2016 - 01/08/2016 | *School of Life Sciences*, University of KwaZulu-Natal, Pietermaritzburg (South Africa)

- 18/10/2017 - 21/12/2017 | *Department of Ecology, Evolution, and Organismal Biology*, Iowa State University, Ames (USA)

Workshops

- 07/09/2013 – 22/09/2013 | *Fire protection and management*, Cyprus Forestry College, Podromos (Cyprus)

- 02/04/2017 – 07/04/2017 | *Advances in spatial analysis of multivariate ecological data: Theory and practice*, Port Talbot (UK)

- 18/01/2018 – 19/01/2018 | *Deep learning with Keras and TensorFlow*, Solingen (Germany)

- 26/03/2018 – 30/03/2018 | *Spatial modelling inlabru*, St. Andrews (GB)

Conferences

- 29/04/2017 – 05/05/2017 | *Young Modellers in Ecology*, Freiburg (Germany)
- 10/09/2018 – 14/09/2018 | *48th Annual Meeting of the Ecological Society of Germany, Austria and Switzerland*, Vienna (Austria)
- 01/07/2019 - 05/07/2019 | *10th World Congress International Association of Landscape Ecology*, Milano (Italy)

Publications

Articles

- **Hesselbarth, M.H.K.** (2021). *shar: An R package to analyze species-habitat associations using point pattern analysis.* Journal of Open Source Software, 6(68), 3811. `https://doi.org/10.21105/joss.03811`
- **Hesselbarth, M.H.K.**, Nowosad, J., Signer, J., Graham, L.J. (2021). *Open-source Tools in R for Landscape Ecology*. Current Landscape Ecology Reports. `https://doi.org/10.1007/s40823-021-00067-y`
- Borthwick, R., de Flamingh, A., **Hesselbarth, M.H.K.**, Parandhaman, A., Wagner, H.H., Abdel Moniem, H.E. (2020). *Alternative quantifications of landscape complementarity to model gene flow in banded longhorn beetles [Typocerus v. velutinus (Olivier)]*. Frontiers in Genetics 11, 307. `https://doi.org/10.3389/fgene.2020.00307`
- **Hesselbarth, M.H.K.**, Sciaini, M., With, K.A., Wiegand, K., Nowosad, J. (2019). *landscapemetrics: an open-source R tool to calculate landscape metrics*. Ecography 42:10, 1648-1657. `https://doi.org/10.1111/ecog.04617`
- **Hesselbarth, M.H.K.**, Wiegand, K., Dreber, N., Kellner, K., Esser, D., Tsvuura, Z. (2018). *Density-dependent spatial patterning of woody plants differs between a semi-arid and a mesic savanna in South Africa*. Journal of Arid Environments 157, 103-112. `https://doi.org/10.1016/j.jaridenv.2018.06.002`

Poster / Talks

- Nowosad, J., **Hesselbarth, M.H.K.** (2020). *Introduction to landscape ecology with R*. Annual Meeting International Association of Landscape Ecology North America. Toronto (Canada). Workshop
- **Hesselbarth, M.H.K.**, Sciaini, M., Nowosad, J., Hanss, S. (2019). *landscapemetrics: introducing a new R tool to characterise landscapes*. 10th World Congress International Association of Landscape Ecology. Milano (Italy) Conference poster.
- **Hesselbarth, M.H.K.**, Wiegand K. (2018). *A simulation study comparing methods to analyze species-habitat associations of forest trees*. 48th Annual Meeting of the Ecological Society of Germany, Austria and Switzerland. Vienna (Austria). Conference poster.

Various

- **Hesselbarth, M.H.K.** (2020). *Analysing and modelling spatial patterns to infer the influence of environmental heterogeneity using point pattern analysis, individual-based simulation modelling and landscape metrics*. Dissertation. University of Goettingen. Göttingen, Germany. `http://hdl.handle.net/21.11130/00-1735-0000-0005`

Software

- *landscapemetrics*: Landscape metrics for categorical map patterns. (click for more information)
- *shar*: Species-Habitat Associations. (click for more information)
- *onpoint*: Helper functions related to point pattern analysis. (click for more information)

Peer reviewer for scientific journals:

Journal of Tropical Ecology; Journal of Vegetation Science; Methods in Ecology and Evolution; Perspective in Plant Ecology, Evolution and Systematics; Plant and Soil; Scientific Reports; Synthesis Centre for Biodiversity Sciences; Web Ecology