Maximilian H.K. Hesselbarth

POSTDOCTORAL FELLOW

Coastal Ecology and Conservation Lab, University of Michigan

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Education

University of Applied Sciences and Arts	*Göttingen, Germany*
BACHELOR OF SCIENCES: FORESTRY	*2011 - 2014*
University of Göttingen	*Göttingen, Germany*
MASTER OF SCIENCES: ECOSYSTEM ANALYSIS AND MODELLING	*2014 - 2016*
University of Göttingen	*Göttingen, Germany*
DR. RER. NAT: DEPARTMENT OF ECOSYSTEM MODELLING	*2016 - 2020*
University of Michigan	*Ann Arbor, USA*
POSTDOCTORAL FELLOW: COASTAL ECOLOGY AND CONSERVATION LAB	*2020 - ongoing*

Internships, Research visits

State Forestry Department Heuberg	*Messstetten, Germany*
INTERNSHIP: FOREST MANAGMENT	*2009/08/31 - 2009/09/11*
State Forestry Department Heuberg	*Messstetten, Germany*
INTERNSHIP: FOREST MANAGEMENT	*2010/08/02 - 2010/08/27*
Wise Batten Inc.	*Estill, USA*
INTERNSHIP: TIMBER MANAGEMENT	*2011/06/02 - 2011/08/01*
SilvaTerra Ltd.	*Lilongwe, Malawi*
INTERNSHIP: FORESTRY CONSULTING AND RESEARCH	*2013/11/04 - 2014/03/30*
Northwest German Forestry Research Institute	*Göttingen, Germany*
INTERNSHIP: DEPARTMENT OF GROWTH MODELING	*2015/09/01 - 2015/10/01*
North-West University	*Potchefstroom, South Africa*
RESEARCH VISIT: LAND DEGRADATION AND RESTORATION ECOLOGY	*2016/03/07 - 2016/08/01*
University of KwaZulu-Nata	*Pietermaritzburg, South Africa*
RESEARCH VISIT: SCHOOL OF LIFE SCIENCES	*2016/03/07 - 2016/08/01*
Iowa State University	*Ames, USA*
RESEARCH VISIT: DEPARTMENT OF ECOLOGY, EVOLUTION, AND ORGANISMAL BIOLOGY	*2017/10/18 - 2017/12/21*

Conferences & Workshops

Fire protection and management	*Podromos, Cyprus*
CYPRUS FORESTRY COLLEGE	*2013/09/07 - 2013/09/22*
Advances in spatial analysis of multivariate ecological data	*Port Talbot, UK*
PR STATISTICS LTD.	*2017/04/02 - 2017/04/07*
Young Modellers in Ecology	*Freiburg, Germany*
CONFERENCE	*2017/04/29 - 2017/05/05*
Deep learning with Keras and TensorFlow	*Solingen, Germany*
CODECENTRIC AG	*2018/01/18 - 2018/01/19*
Spatial modelling inlabru	*St. Andrews, UK*
UNIVERSITY OF ST. ANDREWS	*2018/03/26 - 2018/03/30*
Annual Meeting of the Ecological Society of Germany, Austria and Switzerland	*Vienna, Austria*
CONFERENCE	*2018/09/10 - 2018/09/14*

Publications

ARTICLES

Esquivel, K.E.^, **Hesselbarth, M.H.K.**^, Allgeier, J.E., 2022. *Mechanistic support for increased primary production around artificial reefs.* Ecological Applications e2617. `https://doi.org/10.1002/eap.2617`

Hesselbarth, M.H.K., 2021. *shar: An R package to analyze species-habitat associations using point pattern analysis.* Journal of Open Source Software 6, 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 6, 97–111. `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.M., 2020. *Alternative Quantifications of Landscape Complementation 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, 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`

^ Authors contributed equally

POSTER / TALKS

Hesselbarth, M.H.K., 2021. *Spatial patterns in ecology and what we (hopefully) can learn from them.* Ecology and Evolutionary Biology Department Seminar, University of Michigan. Ann Arbor (USA). Talk.

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 characterize 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, Goettingen, Germany.

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:

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