

Contact

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Personal details

Born: 29.11.1980, Kreutz, Romania
Family status: married, two children (6,3)

Areas of interests

Functional environmental genomics
Long-term biodiversity dynamics
Community ecology
Molecular methods for biodiversity research

Achievement summary

Scientific output (Google metrics, 04.09.2020)
Total peer-reviewed publications: 62
Total citations: 3413
h-index: 31
Obtained funds 1.2M EUR
Teaching 21 semesters
(Co-)Supervision 3 PhD and 6 MSc candidates, 2 guest researchers

Academic career

10.2020 - present Professor for Functional Environmental Genomics,
Senckenberg Biodiversity and Climate Research Centre,
Justus-Liebig University Gießen, LOEWE Centre for
Translational Biodiversity Genomics
6.2018 - 9.2020 Research scientist, tenured at Senckenberg Biodiversity and
Climate Research Centre, Frankfurt am Main
4.2018 Habilitation in Ecology: *High-level processes in the
organization of cryptic biodiversity*. Johann Wolfgang
Goethe University, Frankfurt am Main
6.2015 - 5.2018 Research scientist, Senckenberg Biodiversity and Climate
Research Centre, Frankfurt am Main
12.2009 - 5.2015 Postdoctoral Researcher, Senckenberg Biodiversity and
Climate Research Centre, Frankfurt am Main
10.2010 - 12.2010 Visiting Postdoctoral Researcher, University of Minnesota,
College of Biological Sciences, St. Paul, USA.
1.2009 - 12.2009 Research Associate in Phylogeography, Molecular Biology
Center, Babes-Bolyai University, Cluj, Romania.
1.2009 PhD in Biology: *Pleistocene and Holocene history of
Rhyacophila aquitanica (Insecta: Trichoptera) in the*

Carpathian Mountains, potential speciation centers.
Babes-Bolyai University, Cluj, Romania.

Education

- 10.2005 - 1.2009 Dr. rer. nat. in Biology (Magna cum laude), Babes-Bolyai University, Cluj, Romania
- 10.2003 - 7.2004 M.Sc. in Ecology and Conservation of Biodiversity, Babes-Bolyai University, Cluj, Romania, Bioindication with Trichoptera species.
- 10.1999 - 7.2003 B.Sc. in Ecology and Environmental Protection, Babes-Bolyai University, Cluj, Romania, Bioindication with freshwater macroinvertebrates.
- 9.1995 - 7.1999 High school degree at the Tamási Áron High School, Odorheiu Secuiesc, Romania

Further training

- 03.2015 *Advising undergraduate research projects in Biosciences.* Workshop of the Interdisziplinären Kolleg für Hochschuldidaktik, Goethe University, Frankfurt am Main
- 02.2015 *Course leadership for teachers in higher education, Module 1 & 6 in Biosciences.* Workshop of the Interdisziplinären Kolleg für Hochschuldidaktik, Goethe University, Frankfurt am Main

Academic highlights

- 2017 Top 10% of most cited PLoS ONE articles: **Bálint et al.** (2013): Host genotype shapes the foliar fungal microbiome of balsam poplar. *PLoS ONE*, 8: e53987.
- 2014 Top five downloaded paper 2014, Bazzicalupo* A, **Bálint M***. & Schmitt, I. (2013) Comparison of ITS1 and ITS2 rDNA in 454 sequencing of hyperdiverse fungal communities. *Fungal Ecology*, 6: 102-109. *equal contribution
- 2014 Chair of session *Diversity assessment, community ecology and species discovery using high throughput sequencing*, 10th International Mycological Congress, Bangkok, Thailand
- 2012 Highly accessed paper, Pfenninger, M., **Bálint, M.** & Pauls, S. U.: Methodological framework for projecting the potential loss of intraspecific genetic diversity due to global climate change. *BMC Evolutionary Biology*, 12: 224.
- 2011 *Grigore Antipa Award* for contributions to the phylogeography of Carpathian insects. Romanian Academy of Science.
- 2011 "Must read" paper, "current top 10" of the Most Relevant Papers in Ecology (Faculty of 1000), **Bálint et al.** Cryptic biodiversity loss linked to global climate change. *Nature Climate Change*, 1: 313–318.
- 2011 Highly accessed paper, Magyari, E. K., Major, Á., **Bálint, M.**, et al. Population dynamics and genetic changes of *Picea abies* in the South Carpathians revealed by pollen and ancient DNA analyses. *BMC Evolutionary Biology*, 11: 66.

Conference talks and invited talks (2017-2019)

- 6.2019 conference: *Insights into long-term biodiversity dynamics assessed through eDNA barcoding and metabarcoding*, Trondheim, Norway
- 4.2018 invited: *Functional characterisation of soil macroinvertebrate communities with biodiversity genomics*, Senckenberg Görlitz
- 9.2017 conference: *Reactions of biodiversity to land-use change recorded with environmental DNA*. 33. Conference of the German Limnological Society (DGL September 25-29)
- 7.2017 conference: *eDNA describes long-term community change under human pressure*. 10th European Symposium for Freshwater Sciences" (SEFS10, July 2-7)
- 9.2017 invited: *Functional characterisation of soil macroinvertebrate communities with biodiversity genomics*. KeySOM COST Action ES1406, Bucharest
- 5.2017 invited: *Applications of eDNA in community ecology*. Centre for GeoGenetics, Natural History Museum of Denmark
- 4.2017 invited: *eDNA in community ecology*, University of Hamburg

Scientific service

- Recently reviewed Trends in Ecology and Evolution, Molecular Ecology, New Phytologist, Ecology, Molecular Ecology Resources, Methods in Ecology and Evolution, etc.
- Funding Agencies Carl-Zeiss-Stiftung, Hungarian Science Fund, Deutsche Forschungsgemeinschaft, Synthesis Centre of iDiv, Czech Science Foundation
- Administration member of the LOEWE TBG Leitungsgremium, speaker of project area *Functional Environmental Genomics* (since 2018)

Key competencies

- Fieldwork coring lake sediments, sampling invertebrates, plant materials, contamination-prone soil and water samples for environmental DNA
- Molecular laboratory DNA work with contamination-prone samples (fossiles, historic eDNA, etc.), barcoding, metabarcoding, high-throughput sequencing, ultra-low-input genome sequencing, metagenomics, metatranscriptomics
- Bioinformatics pipeline development for processing molecular community data
- Statistics analysis of molecular biodiversity data, data modeling

Spoken Languages (ILR Scale)

- Hungarian Native
- English Full Professional Proficiency
- Romanian Full Professional Proficiency
- German Professional Working Proficiency