

## PERSONAL INFORMATION

Name: Fabio Berzaghi

Nationality: Italian

Personal website: <http://www.berzaghi.com> – Google Scholar account: <https://tinyurl.com/berzaghi-scholar>

## MAIN EXPERTISE

Vegetation and animal eco-physiology modelling, biogeochemical cycles, and biogeography

Large herbivores ecology and plant-animal interactions

Data analysis, data mining, and Geographic Information Systems

## EDUCATION

### Degrees

20/04/2018 **PhD in Forest Ecology**, University of Tuscia, Italy. Thesis: “Modelling plant-animal interactions and the role of megafauna in tropical forests”. <http://www.berzaghi.com/BerzaghiPhDthesis.pdf>

25/02/2009 **MSc in Computer Science**, University of Minnesota, USA. Thesis: “Environmental Policy and New Media: Reality-Based Educational Newsgames to Present Complex Environmental Issues”

22/04/2006 **BSc in Digital Communication**, University of Milano, Italy

### Individual courses

03/2016 **Labex CEBA Thematic School**, “Functional Ecology of Tropical Rainforests in the Context of Climate Changes: From Real Observations to Simulations”, French Guiana

## RESEARCH EXPERIENCE

03/2019-08/2019 **Visiting Research Fellow**, Department of Biological Sciences, Macquarie University, Australia

03/2018-12/2018 **Research Fellow**, Laboratoire des Science du Climat et de l’Environnement, IPSL, CEA, France

10/2016- **Task Group Co-leader**, European Union COST Action “Towards Robust Projections of European Forests Under Climate Change” (PROFOUND), TG11: Plasticity, adaptation, intra-specific variation.

03/14-06/14 **Research Assistant**, Department of Biology, University of Washington, USA

Designed and conducted a short research project: Gut bacteria as a proxy for dietary stress in caribou.

01/13-03/14 **Research Resident-Fellow and Staff Scientist**, Department of Bioscience, Aarhus University, Denmark

Participated in various projects to assess human impacts on the Arctic ecosystem and wildlife.

01/12-01/13 **Research Intern**, Division of Birds, The Field Museum of Natural History, USA

Co-designed and conducted a research project. Topic: Species distribution modelling of east African birds for Albertine Rift Conservation Project.

## TEACHING EXPERIENCE

01/14-06/14 **Teaching Assistant**, Department of Biology, University of Washington, USA

Upper division courses: Bio Rhythms and Foundations of Ecology

01/10-12/11 **Lecturer**, City Colleges of Chicago, USA. Department of Computer Science courses: Operating Systems;

Introduction to Microcomputers. Department of Mathematics courses: College Algebra.

## SPECIFIC COMPETENCES

Technical skills: R, Fortran, Cluster computing, Unix/Linux, ArcGIS, Bash, NetCDF.

Languages: English & Italian (fluent), French & Portuguese (advanced), Spanish (intermediate), Danish (beginner)

## SCIENTIFIC CONTRIBUTIONS

### Publications in peer-reviewed scientific journals

**Berzaghi, F.**, Longo, M., Ciais, P., Blake, S., Bretagnolle F., Vieira, S., Scarascia-Mugnozza G., Doughty, C. E. (2018).

Carbon stocks in Central African forests enhanced by elephant disturbance. *In press*. Nature Geoscience.

**Berzaghi, F.**, Engel, J., Plumptre, A., Mugabec M., Kujirakwinjad D., Ayebarec S., Bates, J. (2018). *Comparative niche modeling of two Laniarius bush-shrikes and the conservation of mid-elevation Afromontane forests of the Albertine Rift*. The Condor: Ornithological Applications. doi:10.1650/CONDOR-18-28.1

**Berzaghi, F.**, Verbeeck, H., Nielsen, M.R., Doughty, C.E., Bretagnolle, F., Marchetti, M., Scarascia-Mugnozza, G. (2018). *Assessing the role of megafauna in tropical forest ecosystems and biogeochemical cycles - the potential of vegetation models*. Ecography. doi.org/10.1111/ecog.03309

Vacchiano G., Ascoli D., **Berzaghi F.**, Lucas-Borja M.E., Caignard T., Collalti A., Mairota P., Palaghianu C., Reyer C., Sanders T., Schermer E., Wohlgemuth T., Hackett-Pain A. (2017) Reproducing reproduction: How to simulate mast seeding in forest models. Ecological modeling, 376, 40-53. doi.org/10.1016/j.ecolmodel.2018.03.004.

Andersen, J. H., **Berzaghi, F.**, Christensen, T., Geertz-Hansen, O., Mosbech, A., Stock, A., Zinglensen, B. Wisz, M. S. (2017). *Potential for cumulative effects of human stressors on fish, sea birds and marine mammals in Arctic waters*. Estuarine, Coastal and Shelf Science, 184, 202-206. doi:dx.doi.org/10.1016/j.ecss.2016.10.047. Citations: 11

#### Non-peer reviewed publications

Wisz, M., Andersen, J.H., **Berzaghi, F.** (eds.), Christensen, T., Clausen, D.S., Johansen, K.L., Geertz-Hansen, O., Hedeholm, R., Nymand J., Zinglensen, K.B. (2014). *A catalogue of available data describing ecosystem components and human stressors in the sea west of Greenland*. Working Document for Nordic Council of Ministers, 38 pp. <http://dx.doi.org/10.13140/RG.2.1.3499.3126>

#### Manuscripts submitted or in preparation

**Berzaghi, F.**, Kramer, K., Hartig F., Bohn F., Sabate S., Muratorio S., Sanders T., Reyer C. Plasticity, trade-offs and traits variability in vegetation models - noise or a crucial aspect? Invited submission in *Trends in Ecology and Evolution*. *In preparation*

**Berzaghi, F.**, Marechaux, I., Forget, P.M., Chave, J. The importance of secondary seed dispersal and seed predation to assess the future of tropical forest biodiversity and carbon stocks. *In preparation*

#### Oral presentations at international conferences

**Berzaghi, F.**, Veerbeek, H., Trotta, C., Bretagnolle, F., Marchetti, M., Scarascia-Mugnozza, G., *Simulating plant-animal interactions in a vegetation model: a sensitivity analysis*. European Conference of Tropical Ecology; Brussels, Belgium, February 2017.

**Berzaghi, F.**, Veerbeek, H., Doughty, C., Bretagnolle, F., Marchetti, M., Scarascia-Mugnozza, G., *A modelling approach to study the role of megafauna in tropical forest dynamics*. Annual Meeting of the Association for Tropical Biology and Conservation; Montpellier, France, June 2016.

**Berzaghi, F.**, Engel, J., Plumptre, A., Bates, J., *Comparative niche modelling of bush-shrikes along an elevational gradient highlights the plight of mid-elevation forests*. Annual Meeting of the Association for Tropical Biology and Conservation; Montpellier, France, June 2016.

**Berzaghi, F.**, Veerbeek, H., Doughty, C., *Indirect link to climate change: long-term effects of Megafauna on tropical forest structure and carbon cycling*. Rome 2015, Science Symposium on Climate; Food and Agriculture Organization of the United Nations, Rome, Italy, November 2015.

**Berzaghi, F.**, Oyugi, J., Leslie, K., *Finding Winter Roaming Range and Designing Migration Corridors for the Yellowstone Bison*. Association of American Geographers Annual Meeting, New York, USA, February 2012.

#### Invited reviewer for international Science Citation Index journals

Regional Environmental Change and Global Change Biology.

#### Dissemination of scientific knowledge and public engagement

2014 Participated in the open days “Meet the Mammals” at the Burke Museum of Natural History to educate the general public on natural history, research, and museum collections.

2012 Visited elementary schools for Chicago Public Schools scientific outreach program; organized and led visits at the Field Museum of Natural History for elementary school students. Chicago, USA

2011 Participated in Chicago Wilderness ([www.chicagowilderness.org](http://www.chicagowilderness.org)) prairie restoration program to engage high school students in restoration of native prairie in the Chicago area. Chicago, USA.

#### **FELLOWSHIPS and GRANTS**

2019-2011 Marie Skłodowska-Curie Individual Fellowship

2018 CEA-Enhanced Eurotalents Incoming Fellowship, Marie Skłodowska-Curie Actions Programme

2017 International Research Cooperation grant, University of Tuscia

2016 COST Action PROFOUND, Short-Term Scientific Mission, European Union. CNRS Fellowship for attending Thematic School in French Guiana.

2014-2017 Italian governmental PhD Fellowship, Italy

2014 Hall Fellowship, Department of Biology, University of Washington, USA

2013 Residence Fellowship, Aarhus University, Denmark

#### **MAJOR COLLABORATIONS**

2016-present Plant trait variability: F. Hartig (University of Rensburg, Germany), K. Kramer (University of Wageningen, Netherlands), and Ian Wright (Macquarie University, Australia).

2015-present Megafauna, nutrient cycling, vegetation dynamics: C. Doughty (Northern Arizona University).