

University Academic Curriculum Vitae

Personal information

Name: Alessandro Bricca

Education since leaving school

- 2012 **Bachelor degree** in Biological Sciences (University of RomaTre, Italy). Title of the thesis: "Functional analysis of plant species of sandy coast: changes along environmental gradients". Supervisor Prof. Alicia Teresa Rosario Acosta
- 2014 **Master degree cum laude** in Biodiversity and Management (University of RomaTre, Italy). Title of thesis: "Study of a forest ecosystem through functional traits in two different silvicultural managements". Supervisor Prof. Maurizio Cutini
- 2019 **PhD** in Cellular, Molecular and Environmental biology (University of RomaTre, Italy). Title of thesis: "Spatio-temporal functional variation of the sub-Mediterranean mountain grasslands". Supervisor Prof. Maurizio Cutini, co-supervisor Prof. Andrea Catorci

Present appointment

- Title of appointment: Assistant research (AR)
- start of appointment: 15 March 2023
- Employer: Professor Stephan Zerbe (University of Bozen-Bolzano)

Chronological list of all previous employments

Professional experience

From / to	Job title	Name of academic Institution	Academic level	responsibilities
1/09/2019-10/12/2021	Ecology and management of wetland and mediterranean grasslands	University of Camerino	Postdoc fellow	Team coordinator
				Data analysing
				Lectures
				Supervision of master students
15/12/2021-14/12/2022	Biodiversity in National Parks: coupling scientific data with human perception (BIOMen)	University of Bozen-Bolzano	Postdoc fellow	Filed protocol
				Writing scientific paper
				Data analysing
				Lectures
				Supervision of master students

Experience in academic teaching

- 2019 Teaching assistant for
- Geobotany and Ecology (University of Camerino, Italy, 25 h)
 - Applied Landscape Ecology and Ecosystem Management (University of Camerino, 15 h)
 - Forest and Grassland Management (University of Camerino, Italy, 3 h)

- 2022 Teaching assistant for
- Plant biodiversity and environmental impact assessment (University of Bozen-Bolzano, Italy, 24 h)
- 2023 Teaching assistant for
- Plant biodiversity and environmental impact assessment (University of Bozen-Bolzano, Italy, 24 h)
- Summary of significant personal achievements in teaching: Ability in oral exposition and in making presentation
 - Postgraduate supervision (PhD level):
- 2018 Co-supervisor of master thesis “Effect of iterated mowing on functional traits of *Brachypodium rupestre* and their interplay with the fine-scale plant community functional structure” candidate Fabio Tolu by University of Camerino. Supervisor Prof. Andrea Catorci
- 2019 Co-supervisor of two master thesis
- “The role of intra- and interspecific trait variability on functional diversity and redundancy along environmental gradients in abandoned grasslands” candidate Arianna Ferrara by University of Camerino. Supervisor Prof. Andrea Catorci.
 - “How context-dependent fine-scale variations affect coenological structure of un-managed sub-mediterranean grasslands” candidate Xia Xinfang by University of Camerino. Supervisor Prof. Andrea Catorci.
- 2021 Co-supervisor of the master thesis “How grassland respond in terms of functional strategies to simulated climate change in sub-Mediterranean region” candidate Muhammad Umair by University of Camerino. Supervisor Prof. Andrea Catorci.
- 2022 Co-supervisor of two master thesis
- Environmental Management of Mountain Areas of Thomas Deola: Effects of nature conservation on shrubland communities in two biogeographically contrasting protected areas. Supervisor: Gianmaria Bonari; Co-supervisor Alessandro Bricca. A.Y. 2022-2023 – Free University of Bozen-Bolzano.
 - Environmental Management of Mountain Areas of Hannelore Fellin: Ecological characterization of mountain *Pinus nigra* forests of the Eastern Alps. Supervisor: Gianmaria Bonari; Co-supervisor Alessandro Bricca. A.Y. 2022-2023 – Free University of Bozen-Bolzano.

Other academic responsibilities

- 2019 Member of the organizing commission for the 38° international scientific conferences for the “Eastern Alpine and Dinaric Society for Vegetation Ecology (EADSVE)” at Colfiorito (PG)
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Memberships

- Italian society of Vegetation’s Science
- International Association for Vegetation Science

Research and scholarships

- Summary of current research and scholarship
2022. One year of postdoc fellow in Biodiversity in National Parks: coupling scientific data with human perception (BIOMen) by Free University of Bozen-Bolzano. Supervisor: Dr. Gianmaria Bonari.
Protected areas investigated: Asinara and Stelvio National Parks. Project aimed to evaluate the effectiveness of legal conservation on biodiversity on scrub vegetation (including evergreen communities).

- Summary of research and scholarship during the previous five years 2019-2021. Two year of postdoc fellow in Ecology and management of wetland and mediterranean grasslands by School of Bioscience and Medicine Veterinary of the University of Camerino. Supervisor Prof. Andrea Catorci. **Protected Area** investigated: Torricchio Natural Reserve and Sibillini National Park. Project aimed to evaluate the effect of human management on mowing on plant biodiversity.

Publications
(* corresponding author)

***Bricca, A.**, *Bonari, G., Padullés Cubino, J., & Cutini, M. (2023). Effect of forest structure and management on the functional diversity and composition of understory plant communities. *Applied Vegetation Science*, e12710. <https://doi.org/10.1111/avsc.12710>

Personal Contribution: Conceptualization, Formal analysis, Investigation, Methodology, Visualization, Roles/Writing – original draft

Di Musciano, M., *Ricci, L., Di Cecco, V., **Bricca, A.**, Di Martino, L., & Frattaroli, A. R. (2022). Elevational patterns of plant dispersal ability in southern Europe. *Plant Biosystems-An International Journal Dealing with all Aspects of Plant Biology*, 1-16. <https://doi.org/10.1080/11263504.2022.2089761>

***Bricca, A.**, Di Musciano, M., Ferrara, A., Theurillat, J. P., & Cutini, M. (2022). Community assembly along climatic gradient: contrasting pattern between-and within-species. *Perspectives in Plant Ecology, Evolution and Systematics*, 125675. <https://doi.org/10.1016/j.ppees.2022.125675>

Personal Contribution: Conceptualization, Formal analysis, Investigation, Methodology, Visualization, Roles/Writing – original draft

Tardella, F. M., ***Bricca, A.**, Cutini, M., Ciaschetti, G., Frattaroli, A., Paura, B., et al. (2022). How large-scale geographic factors affect the different dimensions of functional diversity. *Plant Ecology and Evolution*, 155(1), 3-15. <https://www.jstor.org/stable/48658285>

*Kaushik, K., **Bricca, A.**, Mugnai, M., Viciani, D., Rudolf, K., Somfalvi-Tóth, K., Morschhauser, T. (2021). Effects of a dominant species on the functional diversity of coexisting species in temperate deciduous understorey. *Plants*, 10, 2252. <https://doi.org/10.3390/plants10112252>

Personal Contribution: Conceptualization, Methodology, Roles/Writing - original draft.

*Chelli+, S., **Bricca+, A.**, Cutini, M., Campetella, G., Cervellini, M., Tsakalos, J. L., & Canullo, R. (2021). Large standard trees and deadwood promote functional divergence in the understory of beech coppice forests. *Forest Ecology and Management*, 494, 119324 (+ joint first author). <https://doi.org/10.1016/j.foreco.2021.119324>

Personal Contribution: Conceptualization, Methodology.

Bonari, G., Fantinato, E., Lazzaro, L., Sperandii, M. G., Acosta, A. T. R., Allegranza, M., Assini, S., Caccianiga, M., Di Cecco, V., Frattaroli, A., Gigante, D., Riviaccio, G., Tesei, G., *Valle, B., Viciani, D., Rocchetti, G.A., Angiolini, C., Badalamenti, E., Berberis, E., Barcella, M., Bazan, G., Bertacchi, A., Bolpagni, R., Bonini, F., **Bricca, A.**, et al. (2021). Shedding light on typical species: implications for habitat monitoring. *Plant Sociology*, 58, 157. <http://hdl.handle.net/2318/1797280>

Ballelli, S., Tardella, F. M., Pennesi, R., *Panichella, T., **Bricca, A.**, Vitanzi, A., & Catorci, A. (2021). Contribution to the knowledge of the non-

calcareous grasslands of the Monti Sibillini National Park (central Italy):
coenological structure, syntaxonomy, ecology, and floristic aspects.
Hacquetia, 21(1), 41-72. <https://ojs.zrc-sazu.si/hacquetia/article/view/10265>

***Bricca**⁺, A., Carranza⁺, M. L., Varricchione, M., Cutini, M., & Stanisci, A. (2021). Exploring plant functional diversity and redundancy of Mediterranean high-mountain habitats in the Apennines. *Diversity*, 13(10), 466. (* joint first author) <https://doi.org/10.3390/d13100466>. **has been selected by Editor as particularly interesting to readers and important in the respective research area (Editor's choice)**

Personal Contribution: Conceptualization, Formal analysis, Methodology, Roles/Writing – original draft, review and editing.

*Tardella, F. M., **Bricca**, A., Chelli, S., Competella, G., Canullo, R., Cutini, M., ... & Catorci, A. (2021). Species trait syndrome drives the leaves' functional variations of dominant grasses to modifications in summer water supply. *Plant Ecology*, 1-16. <https://doi.org/10.1007/s11258-021-01165-x>

Personal Contribution: Conceptualization, Investigation, Formal analysis, Roles/Writing -original draft, -review and editing.

***Bricca**, A., Tardella, F.M., Ferrara, A., Panichella, T., Catorci, A. (2021). Exploring assembly trajectories of abandoned grasslands in response to 10 years of mowing in sub-Mediterranean context. *Land*,10, 1158. <https://doi.org/10.3390/land10111158>

Personal Contribution: Conceptualization, Data, curation, Formal analysis, Methodology, Roles/Writing – original draft.

***Bricca**, A., Tardella, F. M., Ferrara, A., Xinfang, X., Tolu, F., & Catorci, A. (2021). Environmental heterogeneity compensates the potential homogenising effect of abandonment of grazing in a sub-Mediterranean mountain landscape. *Plant Ecology & Diversity*, 14(5-6), 223-243. <https://doi.org/10.1080/17550874.2022.2039314>

Di Biase, L., *Fattorini, S., *Cutini, M., & **Bricca**, A. (2021). The role of inter- and intraspecific variations in grassland plant functional traits along an elevational gradient in a Mediterranean mountain area. *Plants*, 10(2), 359. <https://doi.org/10.3390/plants10020359>

Personal Contribution: Conceptualization, Methodology, Investigation, Data curation, Roles/Writing -review and editing.

*Bricca, A., Chelli, S., Canullo, R., & Cutini, M. (2020). The Legacy of the Past Logging: How Forest Structure Affects Different Facets of Understory Plant Diversity in Abandoned Coppice Forests. *Diversity*, 12(3), 109. <https://doi.org/10.3390/d12030109>

Personal Contribution: Conceptualization, Formal analysis, Methodology, Roles/Writing – original draft, review and editing.

*Filibeck, G., Sperandii, M. G., Bragazza, L., **Bricca**, A., Chelli, S., Maccherini, S., Wellstein, C., Conte, A., Donatantonio, M., Forte, L. T.G.W., Lazzaro, L., Macchiavelli, T., Maestri, S., Marchesini, R., Marignani, M., Midolo, G., Oddi, L., Rosati, L., Silan, G., & Cancellieri, L. (2020). Competitive dominance mediates the effects of topography on plant richness in a mountain grassland. *Basic and Applied Ecology*, 48, 112-123. <https://doi.org/10.1016/j.baae.2020.09.008>

***Bricca**, A., Catorci, A., & Tardella, F. M. (2020). Intra-specific multi-trait approach reveals scarce ability in the variation of resource exploitation strategies for a dominant tall-grass under intense disturbance. *Flora*, 270, 151665. <https://doi.org/10.1016/j.flora.2020.151665>

Personal Contribution: Investigation, Roles/Writing – original draft.

Tardella, F. M., **Bricca, A.**, *Goia, I. G., & Catorci, A. (2020). How mowing restores montane Mediterranean grasslands following cessation of traditional livestock grazing. *Agriculture, Ecosystems & Environment*, 295, 106880. <https://doi.org/10.1016/j.agee.2020.106880>

*Stanisci, A., **Bricca, A.**, Calabrese, V., Cutini, M., Pauli, H., Steinbauer, K., & Carranza, M. L. (2020). Functional composition and diversity of leaf traits in subalpine versus alpine vegetation in the Apennines. *AoB Plants*, 12(2), plaa004. <https://doi.org/10.1093/aobpla/plaa004>

Personal Contribution: Conceptualization, Methodology, Formal analysis, Roles/Writing -original draft.

Bricca, A., Tardella, F. M., Tolu, F., Goia, I., *Ferrara, A., & Catorci, A. (2020). Disentangling the effects of disturbance from those of dominant tall grass features in driving the functional variation of restored grassland in a sub-Mediterranean context. *Diversity*, 12(1), 11. <https://doi.org/10.3390/d12010011>

Personal Contribution: Formal analysis, Roles/Writing – original draft, - review and editing.

*Tardella, F.M., Postiglione, N., **Bricca, A.**, Cutini, M., Catorci, A., (2019) Altitude and aspect filter the herb layer functional structure of sub-Mediterranean forests. *Phytocoenologia* 49(2), 185-198 <https://doi.org/10.1127/phyto/2019/0226>

*Chelli, S., Marignani, M., Barni, E., Petraglia, A., Puglielli, G., Wellstein C., Acosta, A.T.R., Bolpagni, R., Bragazza, L., Campetella, G., Chiarucci, A., Conti, L., Nascimbene, J., Orsenigo, S., Pierce, S., Ricotta, C., Tardella, F.M., Abeli, T., Aronne, G., Bacaro, G., Bagella, S., Benesperi, R., Bernareggi, G., Bonanomi, G., **Bricca, A.**, et al., (2019) Plant functional traits and the environment: a review of Italian studies. *Plant Biosystems-An International Journal Dealing with all Aspects of Plant Biology*, 153(6), 853-869. <https://doi.org/10.1080/11263504.2018.1559250>

***Bricca, A.**, Conti, L., Tardella, M. F., Catorci, A., Iocchi, M., Theurillat, J. P., & Cutini, M. (2019). Community assembly processes along a sub-Mediterranean elevation gradient: analyzing the interdependence of trait community weighted mean and functional diversity. *Plant Ecology*, 220(12), 1139-1151. <https://doi.org/10.1007/s11258-019-00985-2>

* Petriccione, B., **Bricca, A.**, (2019) Thirty years of ecological research at the Gran Sasso d'Italia LTER site: climate change in action. *Nature Conservation* 34:9-39 <https://doi.org/10.3897/natureconservation.34.30218>

*Scolastri, A., **Bricca, A.**, Cancellieri, L., & Cutini, M. (2017). Understorey functional response to different management strategies in Mediterranean beech forests (central Apennines, Italy). *Forest Ecology and Management*, 400, 665-676. <https://doi.org/10.1016/j.foreco.2017.06.049>

*Vojtko, A., E., Freitag, M., **Bricca, et al.**, (2017). Clonal vs leaf-height-seed (LHS) traits: which are filtered more strongly across habitats?. *Folia Geobotanica*, 52(3), 269-281. <https://www.jstor.org/stable/44983484>

Tardella, F. M., **Bricca, A.**, *Piermarteri, K., Postiglione, N., & Catorci, A. (2017). Context-dependent variation of SLA and plant height of a dominant, invasive tall grass (*Brachypodium genuense*) in sub-Mediterranean grasslands. *Flora*, 229, 116-123. <https://doi.org/10.1016/j.flora.2017.02.022>

Further data

Presentations at scientific congress over past 3 years

Talk

2022

- **Bricca A.**, Deola T., Riviaccio G., Zerbe S., Wellstein C., Bagella S.,

Bonari G. "An integrated approach to evaluate nature conservation in protected areas". 55th SISV Congress. Scienza della vegetazione e cambiamenti globali: scenari, sfide e innovazioni

- **Bricca A.**, Bonari G., Cutini M. "Role of structure and management in shaping the biodiversity facets". 30th European Vegetation Survey. Comunità vegetali in ambienti che cambiano (with financial support)

2023

Bricca, A., Bonari, G., Padullés Cubino, J., & Cutini, M. (2023). Forest structure and management types alters LHS and clonal traits of plant understory in closed stands. Second Conference of Young Botanist (CYBO), Società Italiana Scienza della Vegetazione. University of Bozen-Bolzano (BZ).

Poster

2021

Ciaramella, D., Fellin, H., Bricca, A., Selvaggi, A., Bonari, G. "Sub-Mediterranean *Pinus nigra* forests in Italy". 55th SISV Congress. Vegetation science and global changes: scenarios, challenges and innovation

2021

Panichella T., Ferrara A., Bricca A., Pennesi R., Tardella F. M., Catorci A., Re-visiting historical seminatural grasslands at Pian Grande di Castelluccio di Norcia to assess patterns of changes in species composition and vegetation cartography update. 54th SISV Congress Twenty years in the third millennium with Vegetation Science

Statement of interest

High capacities in data analysis and in developing field protocol as highlight by the following course in Data analysis and by the „Formal analysis“ and „Methodology“ contribution in the scientific publication.

Scientific background in line with the call as indicated by scientific publication dealing with the theme of high elevation, climate change, ecosystem management

Data analysis course:

2014 R software for environmental and biological science for Ph.D.

students at University of RomaTre. Supervisor Prof. David Zelený.

- Data visualization (plot and boxplot)
- Correlation and regression
- Multivariate analysis (PCA, CCA, RDA)

2015 R software environmental and biological science for Ph.D. students at University of RomaTre. Supervisor Prof. Tommaso Jucker.

- Linear regression and ANOVA
- Generalized linear models (GLMs)
- Linear mixed effect models (LMMs)

2018 R software environmental and biological science for Ph.D. students at University of RomaTre. Supervisor Prof. Vojtech Barták.

- Basic principles of probability, statistical inference and modelling
- Principles of linear models
- Advanced linear modelling
- Principles of generalized linear models (GLMs)

2022 Online workshop organized by the IAVS Young Scientists Working Group for data analysis with R software. Supervisor Prof. David Zelený.

- Introduction, types of data, ecological similarity and introduction to ordination
- Unconstrained and constrained ordination (PCA, DCA, RDA, CCA,

- tb-RDA, NMDS)
- Classification of data and interpretation (TWINSpan, hclust, fidelity measures)
 - Analysis of diversity (diversity indices, rarefaction and extrapolation using iNEXT package)
 - Functional trait analysis in vegetation ecology (PCA and pPCA on trait matrix, considering trait data in ordination (CCA and RDA) and estimating trait-environment relationships (RLQ, fourth corner)

**Language
competence**

Written and spoken English competence (B2)

Date

21/03/2023

Signature

Alejo
Brice