Alessandro Manfrin

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RESEARCH INTERESTS

My interests include theoretical and applied ecology, conservation and evolution, as related to freshwater and terrestrial ecosystems. I combine observational and experimental studies, both in the field in laboratory setting to gain a better understanding of the interactions between multiple stressors. I developed particular competence in the analysis of large spatial and temporal dataset adopting linear and non-linear mixed-effects modelling in which potential spatial and serial dependency are considered. My interest is to continue my carrier in science.

EDUCATION

Oct 2013 – May 2017	PhD student, Freie Universität (FU), Berlin: Erasmus Mundus (SMART) joint doctoral program of the Freie Universität Berlin, Leibniz-Institute IGB Berlin and Queen Mary University of London. - PhD project: “Effect of artificial light on aquatic-terrestrial invertebrate communities”, supervised by Dr. Michael T. Monaghan, Dr. Franz Hölker and Prof. Geraldene Wharton - Collection, identification, data analysis and results publication.
Sep 2006 – May 2010	Master’s Degree in Biological Science. Roma Tre University, Rome: Thesis title: “Macroinvertebrates community distribution in the Aniene river: ecological and applied aspects” supervised by Prof. Giancarlo Gibertini and Dr. Massimiliano Scalici (final mark: 110 cum laude on 110): - Freshwater invertebrate community ecological assessment and identification.

Sep 2000 – Feb 2005	Bachelor's degree in Biology. Roma Tre University, Rome: Thesis title: "Nesting bird community analysis in a Site of Community Importance (SCI): "Basso Corso del Rio Fiumicino" supervised by Prof. Marco A. Bologna and Dr. Corrado Battisti (110 on 110) - Community assessment and identification of aquatic wild bird species and census techniques.
Sep 1995 – Jun 2000	Matura in Science (informatic division), Leonardo Da Vinci High School, Rome.

WORK EXPERIENCE

Apr 2017 - present	**Postdoc research position**, Leibniz Institute (IGB), Berlin: Analysis of the effect of habitat diversity on invertebrates and fish (Baggersee project) - Field collection and laboratory identification of macroinvertebrate samples and data analysis
Dec 2013 – Feb 2017	**PhD Student** (Erasmus Mundus Joint Doctoral Student), Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB), Freie Universität (FU), Berlin and Queen Mary University of London (QMUL): Study of the effect of artificial illumination on structure and trophic interactions of aquatic - terrestrial invertebrates in aquatic and riparian ecosystems: - Field collection and Identification of invertebrate samples - Stable isotope processing - Data analysis using statistical modelling, multivariate analysis, analysis of time series - Visiting scientist in Queen Mary University of London (QMUL, 6 months) and University of Trento (UniTn, 3 months) as part of the Erasmus Mundus Joint Doctoral Program "SMART" (Science for Management of Rivers and their Tidal Systems).

Mar 2013 – Dec 2013	**Visiting scientist**, Leibniz Institute (IGB), Berlin: Analysis of the effect of artificial illumination on freshwater vegetation, invertebrates and fish: - Field collection and laboratory identification of plant and animal samples - Sample processing for stable isotope analysis of collected samples - Use of Bayesian mixing models statistic to analyse stable isotopes (SIAR), - Statistical analysis of large dataset from the “Verlust Der Nacht” project (head of the project Dr. Franz Hölker)
Feb 2011 – Feb 2013	**Researcher biologist**, Roma Tre University, Rome: Analysis the effect of global changes and in particular of global warming on freshwater systems using the non-biting midge, *Chironomus riparius*: - Use of molecular biomarker techniques on macroinvertebrates and fish specimens in inland water risk assessment of the Rome Province - Fish (*Micropterus salmoides*) and Crayfish (*Procambarus clarkii*) population dynamics: trophic, dispersal and competition aspects over Regional and National scale. - Visiting scientist in Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB) to perform Gene expression (HSP70) and physiological stress (haemoglobin synthesis) in *Chironomus riparius* as part of a research internship.
Nov 2009 – Feb 2010	**Biology consultant and collaborator,** Provincia di Roma – Nature Conservation Office, Rome: Writing of the "Atlas of Mammals of Rome Province” and “Biodiversita´, Disturbi, Minacce - Dall’ecologia di base alla gestione e conservazione degli ecosistemi: - Collection and analysis of available literature and data from Nature conservation associations at local and national scale

Jan 2007 – Jul 2007	**Teacher** of biology and nutrition science, Comune di Fiumicino (C.F.P.), Rome: Health and nutrition science course: - Nutritional methods, nutrients and dietary principles
Apr 2006 – Oct 2006	**Quality inspector**, Rome Airport Society (A.D.R.), Rome. Quality control on airplanes (Alitalia), gates, luggage delivery area (Alitalia, Airone, Iberia, Air France), vip lounges, check-in and ticket counters, passenger disembark and block-on time data gathering

TECHNICAL SKILLS

- Statistical data analysis: mixed effect models; linear regressions; time series analysis; stable isotope mixing modelling (SIAR); univariate and multivariate statistic:	expert
- Life-history trait analysis:	expert
- Freshwater and riparian arthropods collection and identification:	expert
- Gene expression: RNA and DNA extraction; quantitative PCR:	intermediate
- Protein analysis:	intermediate
- Stable Isotope analysis (SIA) in food web characterization:	advanced
- Landscape analysis (Kriging):	intermediate

COMPUTER SKILLS

- Microsoft Office packages (Word, Excel):	expert
- R statistical software:	expert
- Past statistical software:	expert
- Statistica statistical software:	expert
- ArcGIS	intermediate
- Photoshop and Corel Photo-paint:	advanced

TRAINING AND COURSES

May 2016	Marie Curie Proposal Writing Course. University of Trento, Trento.
Sep 2015	Mixing Modelling Course. Leibniz IGB, Berlin.

May 2015	Advanced Data Plotting with R Package Ggplot2 and Handling Large Datasets. Leibniz IGB, Berlin.
Sep 2014	Summer School in Stable Isotope Analysis (SIA). Leibniz IZW, Berlin.
Jan 2016	Scientific Writing Course. Leibniz IGB, Berlin.
	Insect Taxonomy Identification and Sampling Techniques.
Jan 2014	Oxford University, Oxford.
	Introduction to the Statistic with R/R studio. Leibniz IGB, Berlin.
Oct 2013	Statistical Methodologies with SPSS. Leibniz IGB, Berlin.
Oct 2013	Statistics and Geostatistics Analysis of Environmental data:
Sep 2011	Variogram and Spatial Anisotropy. Roma 3 University, Rome
	Laboratory G.I.S. (Geographic Information System): ArcMap and
Sep 2011	ArcCatalog. Roma 3 University, Rome.
	Health Safety and Prevention Course of Security. ADR soc. –
Apr 2006	Fiumicino (RM).

TEACHING EXPERIENCE

Jun 2010 & Jul 2012	Student assistant, Freie Universität (FU), Berlin: practical field course “Evolution and Biodiversity”
Oct 2010 – Feb 2012	Student assistant, Roma Tre University, Rome: course animal anatomy and inland freshwater biology,
Oct 2009 – Jun 2010	Primary school educator, Fiumicino A.S.D., Rome
Jan 2007 – Jul 2007	Secondary school teacher, Comune di Fiumicino (C.F.P.), Rome: biology, health and nutrition science course.

AWARDS AND FELLOWSHIPS

Oct 2016	Keynote speaker – ALAN 2016 Conference, Cluj-Napoca (RO)
Sep 2014	Best Poster Award – ALAN 2014 Conference, Leicester (UK)
Oct 2013-Sep 2016	Erasmus Mundus PhD scholarship (SMART Program)
Sep 2013	COST – European Cooperation in Science and Technology 8, mobility scholarship) between Leibniz- IGB & Ulster University
Feb 2010- Jan 2012	Roma Tre University and Rome province scholarship (24 months)

LANGUAGES

ITALIAN:	fluent in written and spoken (native speaker)
ENGLISH:	fluent in written and spoken
GERMAN:	good working knowledge
SPANISH:	good working knowledge

PUBLICATIONS

Published:

- Manfrin, A., Traversetti, L.,Pilotto F., Larsen, S., & Scalici, M. 2016. Effect of spatial scale on macroinvertebrate assemblages along a Mediterranean river*. Hydrobiologia*, 765: 185-196.

- **Manfrin, A.**, Bombi, P., Traversetti, L., Larsen, S., & Scalici, M. 2016. A landscape-based predictive approach for running water quality assessment: A Mediterranean case study. *Journal for Nature Conservation*, 30: 27-31.

- Holzhauer, S. I., S. Franke, C. Kyba, **A. Manfrin**, R. Klenke, C. C. Voigt, D. Lewanzik, M. Oehlert, M. T. Monaghan, S. Schneider, S. Heller, H. Kuechly, A. Brüning, A.C. Honnen, and F. Hölker. 2015. Out of the dark: establishing a large-scale field experiment to assess the effects of artificial light at night on species and food webs. *Sustainability* 7: 15593-15616.

- Traversetti L., Ceschin S., **Manfrin A.**, Scalici M. 2014. Co-Occurrence between macrophytes and macroinvertebrates: towards a new approach for the running waters quality evaluation? *Journal of limnology* 74: 133-142:

- Traversetti L,. Scalici M., Ginepri V., **Manfrin A.**, Ceschin S. 2014. Concordance between macrophytes and macroinvertebrates in a Mediterranean river of central Apennine region. *Journal of Environmental Biology* 35:497-503.

- **Manfrin A.**, Larsen S., Traversetti L., Pace G., Scalici M. 2013. Longitudinal variation of macroinvertebrate communities in a Mediterranean river subjected to multiple anthropogenic stressors. *International Review of Hydrobiology* 98:155-164.

- Traversetti L., **Manfrin A.**, Scalici M. 2013. Remapping hydroecoregion boundaries: A proposal for improving the base of the running water monitoring procedures. *Journal of Basic and Applied Sciences* 9: 533-537.

- Battisti C., Dodaro G., **Manfrin A.**, Teofili C. 2011. Analisi delle minacce e sistemi di classificazione (IUCN, Natura 2000, WISE) In: D'Antoni S., Battisti C., Cenni M. e Rossi G.L. (eds.), Contributi per la tutela della biodiversità delle zone umide. Rapporti ISPRA 153/11.

Submitted or in preparation (from PhD thesis):

- **Manfrin A.,** Larsen S., Weiß N., van Grunsven R. H. A., Weiß N.-S., Wohlfahrt S., Singer G., Monaghan M. T., Hölker F. (under review) Artificial light at night (ALAN) alters organism flux across ecosystem boundaries and community structure in the receiving ecosystem. Submitted to *Ecological Applications*.
- **Manfrin A.**, Bruno M. C., van Grunsven R. H. A., Grubišić M., Monaghan M. T., Hölker F. Artificial light at night affects structural and functional aspects of macroinvertebrate assemblages (in prep).
- **Manfrin A.**, Lehmann D., van Grunsven R. H. A., Syväranta J., Larsen S., Wharton G., Voigt C., Monaghan M. T., Hölker F. Artificial Light at Night affects dietary composition in riparian ground-dwelling secondary consumers. To be submitted at Oikos before January 2017 (in prep).
- Grubisic M., Singer G., Bruno M. C., van Grunsven R. H. A., **Manfrin A.**, Monaghan M. T., Hölker F. (under final revision). Artificial light at night decreases biomass and alters community composition of benthic primary producers in a sub-alpine stream. Submitted to *Limnology and Oceanography*.
- Grubisic M., Singer G., Bruno M. C., Monaghan M. T., van Grunsven R. H. A., **Manfrin A.**, Hölker F. Stream periphyton communities are affected by low-level artificial light at night: a pigment composition analysis. (In prep).
- Grubisic M., van Grunsven R. H. A., **Manfrin A.**, Monaghan M. T., Hölker F. Light source matters: Nocturnal low-light LED illumination decreases periphyton biomass, but high-pressure sodium does not (in prep).

CONFERENCES and PRESENTATIONS

- **Manfrin A.**, Monaghan M. T., Larsen S., Weiß N., Weiß N. S., Wohlfahrt S., Singer G., Hölker F. 2017. Artificial light at night (ALAN) alters organism flux across ecosystem boundaries and community structure in the receiving ecosystem, Oral presentation at the ASLO meeting 2017, Honolulu (USA).
- **Manfrin A.**,Larsen S., van Grunsven R. H. A., Weiß N., Weiß N-S., Wohlfahrt S., Singer G., Monaghan M. T., Hölker F. 2016. Final PhD oral presentation Leibniz-IGB, Berlin.
- **Manfrin A.**,Larsen S., van Grunsven R. H. A., Weiß N., Weiß N-S., Wohlfahrt S., Singer G., Monaghan M. T., Hölker F. 2016. Keynote speaker ALAN 2016 conference in Cluj-Napoca (RO).
- **Manfrin A.**, Monaghan M. T., Larsen S., Weiß N., Weiß N. S., Wohlfahrt S., Singer G., Hölker F. 2015. Impact of Artificial Light on aquatic-riparian arthropod assemblages, Oral

presentation at the Symposium for European Freshwater Sciences 2015 (SEFs9), Geneva (CH).

- **Manfrin A**., Monaghan M. T., Larsen S., Weiß N., Weiß N. S., Wohlfahrt S., Singer G., Hölker F. 2015. Effect of ALAN on aquatic- terrestrial food webs. Oral presentation at the Water Research Horizon Conference (WRHC), Berlin (DE).

- **Manfrin A.**, Monaghan M. T., Weiß N., Weiß N. S., Wohlfahrt S., Larsen S., Singer G., Hölker F. 2014. Does artificial light affect aquatic and terrestrial insect communities? Poster session (awarded best poster), ALAN conference, Leicester (UK).

- **Manfrin A.**, Monaghan M. T., Hölker F. 2014. Artificial Light effect on aquatic – terrestrial insects. 17° VdN workshop. Leibniz Zentrale – Gemeinschaft, September 2014.

- **Manfrin A.** 2013. Effect of Hydrology and Artificial Light on Aquatic – Terrestrial food Web. SMART induction week project presentation 4 – 8/11/2013. Queen Mary of London, dep. of geography (UK).

- **Manfrin A.** 2013. Impact of Artificial Light on Land – Water interactions. Poster session. ALAN conference, Berlin 28 – 30/11/2013.

- Traversetti L., **Manfrin A.**, Ginepri V., Scalici, M., Ceschin S., 2012. Lotic macrophytes and macroinvertebrates respond to similar stressors. A case of study in central Italy. XXII Congress S.It.E. 2012.

- **Manfrin A.**, Gibertini G., Scalici M., Monaghan M., 2011. Biological and molecular response of *Chironomus riparius* to stress in inland water risk assessment. Roma Tre University, 17th January 2012, Rome.

- **Manfrin A.**, Gibertini G., Scalici M., 2010. Benthic macroinvertebrates distribution in the Aniene river: ecological and conservation aspects. Roma Tre University, 25th May 2010, Rome.