

Marc Peipoch

Division of Biological Sciences, University of Montana
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Education:

- 2014 Ph.D. in Aquatic Ecology, University of Barcelona (Spain), Department of Ecology & Spanish National Research Council, *Advisor*: Dr. Eugènia Martí
 - 2010 M.S. in Fundamental Ecology, University of Barcelona (Spain), Department of Ecology & Spanish National Research Council, *Advisor*: Dr. Eugènia Martí
 - 2009 B.Sc. in Environmental science, University of Girona (Spain)
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Fellowships and Awards:

- 2016 *NSF-EPSCoR Award*, Montana Institute on Ecosystems, UM. Research funding for 'Multi-scale Assessment of Riverscape Complexity'; Award: \$49,248
 - 2016 *Hynes Award*, nominated, Annual meeting of Society for Freshwater Science
 - 2011 *International Exchange Award*, Spanish Ministry of Science and Innovation. Research funding to PhD students conducting research at international institutions; Award: \$6000
 - 2010 *International Exchange Award*, Spanish Ministry of Science and Innovation. Research funding to PhD students conducting research at international institutions; Award: \$6000
 - 2010 *Best Poster Presentation in Basic Research* at ASLO&NABS meeting in Santa Fe, NM, North American Benthological Society
 - 2009 *Doctoral Dissertation Fellowship*, Spanish Ministry of Science and Innovation
 - 2008 *Undergraduate Student Fellowship*, University of Girona, Department of Aquatic Ecology
 - 2008 *Undergraduate Student Scholarship* for excellent performance, Spanish Ministry of Science and Education
 - 2007 *Undergraduate Student Scholarship* for excellent performance, Spanish Ministry of Science and Education
 - 2006 *Undergraduate Exchange Scholarship*, Erasmus Program - European Region Action Scheme for the Mobility of University Students
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Professional Experience:

- 2016-*present* Professional Research Associate, Division of Biological Sciences, The University of Montana, Missoula MT
 - 2013-2016 Postdoctoral Scholar, Division of Biological Sciences, The University of Montana, Missoula MT
 - 2010-2011 Visiting Scholar, Flathead Lake Biological Station, The University of Montana
 - 2009-2013 Graduate Researcher, Center for Advanced Studies of Blanes, Spanish National Research Council
 - 2009 Undergraduate Research Assistant, Institute of Aquatic Ecology, Department of Aquatic Sciences, University of Girona, Girona (Spain)
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Teaching Appointments:

- 2017 Instructor, BIOS 595: Stream Ecology, The University of Montana, Graduate Level Course

- 2016 Instructor, BIOB 596 Data Analysis in Ecology, The University of Montana, Graduate Level Course
- 2016 Guest lecturer, Microbial Ecology, The University of Montana. Undergraduate Level Course
- 2015 Teaching Assistant for *Ecosystem Ecology*, The University of Montana, Graduate Level Course
- 2015 Teaching Assistant for *Stream Ecology*, The University of Montana, Graduate Level Course
- 2011 Teaching Assistant for Stream Ecology, Flathead Lake Biological Station, The University of Montana, Undergraduate and Graduate Level Course
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Grants and Proposals:

Currently funded:

- 2016-2021 **Co-PI**; Long Term Research in Environmental Biology (LTREB), National Science Foundation, *River ecosystem responses to floodplain restoration*, PI H.M. Valett; Amount funded \$360,807

Submitted:

- 2017 Office of Biological and Environmental Research, DOE/Office of Science, *Sources and fates for organic carbon in the subsurface interaction zone – river metabolism, organic matter composition, and microbial community responses*. Co-wrote the proposal with PI H.M. Valett and other three Co-PI's; \$599,609 – under review
- 2015 Coupled Natural-Human Systems Research, National Science Foundation, *Social and ecological foundations of restoration success*, Wrote the experimental design and data analysis sections; \$1,799,330 - not funded
- 2015 **Co-PI**; Long Term Research in Environmental Biology (LTREB), National Science Foundation, *River ecosystem responses to floodplain restoration*, Co-wrote the proposal with PI H.M. Valett and other three Co-PI's; \$360,807 - not funded

In preparation:

- 2017 **Co-PI**; Coupled Natural-Human Systems Research, National Science Foundation, *Social and ecological foundations of restoration success*, Co-writing the proposal with PI Jakki Mohr and other four Co-PI's. Submission date: Fall 2017
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Publications:

Peer-reviewed publications:

14. **Peipoch, M.** and H. M. Valett. 2017. Beyond Heavy Metal Contamination: Nutrient Challenges to Ecological Restoration of the Upper Clark Fork River. *Environmental Science & Technology*. Submitted
13. **Peipoch, M.**, E. Gacia. E. Bastias, A. Serra, L. Proia, M. Ribot, S. N. Merbt, and E. Martí. 2016. Small-scale heterogeneity of microbial nitrogen uptake in streams and its implications at the ecosystem level. *Ecology*. 97: 1329–1344. doi:10.1890/15-1210.1
12. **Peipoch, M.**, R. Jones, and H. M. Valett. 2015. Spatial patterns in biofilm diversity across hierarchical levels of river-floodplain landscapes. *PLoS ONE* 10(12): e0144303. doi:10.1371/journal.pone.0144303
11. **Peipoch, M.**, M. Brauns, H. M. Valett, F. R. Hauer, and M. Weitere. 2015. Ecological simplification: human influences on riverscape complexity. *BioScience*. Vol. 65 Issue 11,

p1057 doi:10.1093/biosci/biv120

10. Levi, P. S., T. Riis, A. J. Baisner, **M. Peipoch**, A. Baattrup-Pedersen. 2015. Macrophyte complexity controls nutrient uptake in lowland streams. *Ecosystems*. doi: 10.1007/s10021-015-9872-y
9. González-Pinzón, R., **M. Peipoch**, R. Haggerty, E. Martí, J. H. Fleckenstein. 2015. Diel fluctuations of respiration in a headwater stream. *Ecohydrology*. doi: 10.1002/eco.1615
8. **Peipoch, M.**, E. Gacia, A. Pastor, M. Ribot, J. LL. Riera, F. Sabater, and E. Martí. 2014. Intrinsic and extrinsic drivers of autotrophic N cycling in stream ecosystems: results from a translocation experiment. *Limnology and Oceanography*. 59(6):1973-1986
7. Pastor, A., J. LL. Riera, **M. Peipoch**, L. Cañas, M. Ribot, E. Gacia, , E. Martí, and F. Sabater. 2014. Temporal variation of nitrogen stable isotopes in primary uptake compartments in four streams differing in human impacts. *Journal of Environmental Science and Technology*. 48(12):6612-9
6. Caldwell, S. K., **M. Peipoch**, and H. M. Valett. 2014. Spatial drivers of ecosystem structure and function in a floodplain riverscape: spring brook nutrient dynamics. *Freshwater science*. 34(2):233-244
5. **Peipoch, M.**, E. Gacia, A. Blesa, M. Ribot, and E. Martí. 2014. Contrasts among macrophyte riparian species in their use of stream water nitrate and ammonium: insights from ¹⁵N natural abundance. *Aquatic sciences*.76:203-215
4. Pastor, A., **M. Peipoch**, L. Cañas, E. Chappuis, M. Ribot, E. Gacia, J. LL. Riera, E. Martí, and F. Sabater. 2013. Natural abundance of nitrogen stable isotopes in primary uptake compartments across streams differing in nutrient availability. *Journal of Environmental Science and Technology*. 47(18):10155-62
3. Ribot, M., D. Von Schiller, **M. Peipoch**, F. Sabater. N. B. Grimm, and E. Martí. 2013. The influence of nitrate and ammonium availability on uptake kinetics of stream biofilms. *Freshwater science*. 32(4):1155-1167
2. **Peipoch, M.**, E. Martí and E. Gacia. 2012. Variability in ¹⁵N natural abundance of basal resources in fluvial ecosystems: a meta-analysis. *Freshwater Science*. 31(3): 1003-1015
1. Proia, L., S. Morin, **M. Peipoch**, A.M. Romaní and S. Sabater. 2011. Resistance and recovery of river biofilms receiving short pulses of Triclosan and Diuron. *Science of the Total Environment*. 409:3129-37

Reports, proceedings, and texts:

3. **Peipoch, M.** and H. M. Valett. 2016. Assessment of Environmental Conditions Effecting Trout Abundance: Flint Creek-Rock Creek, Upper Clark Fork River (Annual Report 2015-16). *prepared for* Natural Resource Damage Program, Montana Department of Justice
2. Martí, E., S. Bernal, E. J. Martín, S. Merbt, **M. Peipoch**, M. Ribot, C. Romero, A. Serra, and D. von Schiller. 2014. Ecological role of stream floods in the context of global change. In J. Grimalt (Ed.), *Consequences of rapid climate changes*.
1. Martí, E., D. Von Schiller, M. Ribot, **M. Peipoch**, S. N. Merbt, A. Serra, and F. Sabater. 2013. Els rius de muntanya mitja. In *Ecosistemes dels Països Catalans, Historia Natural dels Països Catalans*. ISBN: 978-84-412-2255-7, Encyclopedia of Catalonia, Barcelona.

Publications in progress:

- Peipoch, M.**, S. Miller, and H. M. Valett. *In preparation*. Linking physicochemical heterogeneity, microbial diversity, and ecosystem function in river-floodplain landscapes. Target journal *Nature Communications*

Bastias, E. M. Bolivar, M. Ribot, **M. Peipoch**, S. A. Thomas, F. Sabater, and E. Martí. *In preparation*. The influence of water flow heterogeneity in streams leaf litter dynamics. Target Journal *L&O*

Peipoch, M., E. Gacia, and E. Martí. *In preparation*. Isotopic Discontinuum in Fluvial Ecosystems: local and regional drivers of ^{15}N signatures in the context of global change. Target Journal *Global Change Biology*

Selected Research Presentations and Invited Talks:

Peipoch, M. and H. M. Valett. Linking habitat heterogeneity, biofilm diversity, and ecosystem metabolism in floodplain landscapes. 64th Annual Meeting of the Society for Freshwater Science, Sacramento, CA, USA, May 19-23, 2016. Oral presentation.

Peipoch, M. Biofilm diversity, ecosystem production, and ecological restoration of riverine landscapes in the Rocky Mountains. UFZ-Seminar "Water and Environment". Center for Environmental Research – UFZ. Magdeburg, Germany, January 29, 2016. (*Invited Seminar*)

Peipoch, M. and H. M. Valett. Biotic form and function across Montana riverine floodplains: the case of the Bitterroot River. Annual meeting of MPG ranch, Missoula, Montana (US), March 3 – 4, 2015. (*Invited Seminar*)

Peipoch, M., K. P. Driscoll, R. F. Hauer, H. M. Valett. Variation in biotic form and function among aquatic habitats of riverine floodplains. Joint Aquatic Sciences Meeting, Portland, Oregon (US), May 18 – 23, 2014. Oral presentation.

Martí, E., **M. Peipoch**, E. Gacia, E. Bastias, A. Serra, L. Proia, M. Ribot, and S.N. Merbt. Spatial heterogeneity in microbial nitrogen uptake at the microhabitat scale and implications for reach-scale nitrogen cycling. Joint Aquatic Sciences Meeting, Portland, Oregon (US), May 18 – 23, 2014. Oral presentation.

Peipoch, M., K. P. Driscoll, R. F. Hauer, H. M. Valett. Variation in biotic form and function among aquatic habitats of riverine floodplains. Annual Conference of the Northwest Scientific Association (NWSA), Missoula, Montana (US), March 25 – 26, 2014. Oral presentation.

Peipoch, M. Microhabitat heterogeneity in nitrogen uptake by stream microbial communities. Organism Biology and Ecology program noon seminar. University of Montana, Montana (MT), September 25th, 2013. (*Invited Seminar*)

Peipoch, M. The role of stream communities in nitrogen uptake, insights from natural abundance of nitrogen stable isotopes. Department of Plant Biology, University of Aarhus, Aarhus, Denmark, June 20th, 2012. (*Invited Seminar*)

Peipoch, M., E. Martí, E. Gacia, F. Sabater, J. Ll. Riera, M. Ribot, A. Pastor and E. Martín. Understanding linkages between dissolved inorganic nitrogen and primary uptake compartments in streams using nitrogen stable isotopes. 60th Annual Meeting of the Society for Freshwater Science, Louisville, KY, USA, May 20-24, 2012. Oral presentation.

Peipoch, M., A. Blesa, M. Ribot, E. Gacia and E. Martí. ^{15}N signatures reveal in-stream nitrogen uptake by aquatic macrophytes. 7th Symposium of the European Federation for Freshwater Science, Girona, Spain, June 26 – July 1, 2011. Oral presentation.

Peipoch, M., E. Martí, and E. Gacia. Variability in ^{15}N natural abundance of dissolved inorganic nitrogen and primary uptake compartments in streams: a meta-analysis approach. Joint meeting with American Society of Limnology and Oceanography & the North American Benthological Society, Santa Fe, NM, USA, June 6-12, 2010. Poster presentation.

Professional Societies, Service, and Outreach:

Affiliations:

- 2016-present Member of American Association for the Advancement of Science
- 2015-present Associate Faculty Member of 'Faculty of 1000'
- 2011-present Member of the Iberian Society of Limnology
- 2010-present Member of Society for Freshwater Science
- 2014-present Member of Association for the Sciences of Limnology and Oceanography

Reviewer:

FEMS Microbiology Ecology, JGR-Biogeosciences, Journal of Freshwater Ecology, Limnology & Oceanography, Aquatic Sciences, Polar Biology, Environmental Earth Sciences, Environmental and Experimental Botany, Journal of Environmental Quality, Environmental Science and Pollution Research, Hydrobiologia, Water.

Outreach:

- 2013 *Annual Science Fair at Tizer Botanical Gardens (Tizer Nature Connection)*; conducted a Rhodamine release to teach 3rd to 6th graders about solute transport in streams.
- 2011 *Open House at Flathead Lake Biological Station*; conducted demonstrations of mesocosms experiments on the use of metabolism chambers to calculate metabolic rates in aquatic ecosystems
- 2010 *Open House at Flathead Lake Biological Station*; conducted demonstrations of mesocosms experiments on the use of metabolism chambers to calculate metabolic rates in aquatic ecosystems
- 2012 *Open House at Center for Advanced Research in Blanes (Spain)*; co-organized the event on teaching 3rd to 10th graders about the research being conducted in the Center.

Graduate & Undergraduate Students Mentored:

- 2016 *Kimberley Bray*, Undergraduate Student; advising his undergraduate thesis
- 2016 *Reid Langley*, Undergraduate Student; advising his undergraduate research summer appointee
- 2016 *Pete C. Davis*, Graduate Student; advising and serving as member of his Master Thesis Committee.
- 2015 *Jacob M. Dyste*, Graduate Student; advising as laboratory assistant
- 2015 *Nicholas J. Banish*, Graduate Student; advising as laboratory assistant and serving as member of his Master Thesis Committee.
- 2014 *David Fulton-Beale*, Undergraduate Research; advising as laboratory and field assistant
- 2014 *Daniel Kozel*, Undergraduate Research; advising as laboratory and field assistant
- 2014 *Bonnie Holzworth*, Undergraduate Research; advising as laboratory assistant and her undergraduate research summer appointee