

# Marc Peipoch

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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:

- 2018-*present* Assistant Researcher, Stroud Water Research Center, Avondale PA
  - 2016-2018 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:

- 2018 **Co-PI**; Coupled Natural-Human Systems Research, National Science Foundation, *Social and Ecological Dimensions of Dam Removal Restoration*, Co-wrote the proposal; \$1,499,987 - under review
- 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 – not funded
- 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
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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. *JGR: Biogeosciences*. 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 <sup>15</sup>N 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 <sup>15</sup>N 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. Romani 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 Paisos Catalans, Historia Natural dels Paisos 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  $^{15}\text{N}$  signatures in the context of global change. Target Journal *Global Change Biology*

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### **Selected Research Presentations and Invited Talks:**

**Peipoch, M.** and H. M. Valett. Linking habitat heterogeneity, biofilm diversity, and ecosystem metabolism in floodplain landscapes. 64<sup>th</sup> 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 25<sup>th</sup>, 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 20<sup>th</sup>, 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. 60<sup>th</sup> 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.  $^{15}\text{N}$  signatures reveal in-stream nitrogen uptake by aquatic macrophytes. 7<sup>th</sup> 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  $^{15}\text{N}$  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.

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## **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

### *Reviewer:*

- 2017-present Review Editor for *Frontiers - Freshwater Science* section  
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 3<sup>rd</sup> to 6<sup>th</sup> 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 3<sup>rd</sup> to 10<sup>th</sup> graders about the research being conducted in the Center.

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## **Graduate & Undergraduate Students Mentored:**

- 2018 *Lauren Sullivan*, Graduate Student; member of his Master Thesis Committee.
- 2018 *Patrick Hurley*, Graduate Student; member of his Master Thesis Committee.
- 2017 *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