

# Curriculum Vitae



## Personal information

First name / Surname	<b>Ophelie FOVET</b>
Address	INRAE, UMR 1069 – Soil Agro and hydro Systems, 65 route de Saint Briec, CS 84215, 35042 Rennes, France
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Nationality	French
Date of birth	January, the 13 <sup>th</sup> , 1985.
Gender	female

## Education

Location and dates	<b>2007-2010 , Montpellier, France</b>
Title of qualification awarded	<b>PhD thesis</b> in Integrated Systems in Biology, Agronomy, Geosciences, Hydrosociences and Environment
Principal subjects/occupational skills covered	Management of benthic algal developments in open-channel networks: models for hydraulic regulation strategies.
Name of Institute	<b>UMR G-EAU, Cemagref Montpellier/</b> Montpellier SupAgro-International Center for Higher Education in Agriculture Sciences

Location and dates	<b>2004-2007, Montpellier, France</b>
Title of qualification awarded	<b>Master degree</b> in Agronomy – International Center for Higher Education in Agriculture Sciences
Principal subjects/occupational skills covered	Specialization in water and environmental resources management.
Name of Institute	<b>Montpellier SupAgro-International Center</b> for Higher Education in Agriculture Sciences

## Work experience

Location and dates	February to December <b>2014, Bangor, Gwynedd, UK</b>
Occupation or position held	<b>Visiting Scientist, supported by AgriSkills Post-doctoral Fellowship</b>
Research topics	The Dissolved Organic Matter reactivity in headwater streams
Name of hosting Laboratory	<b>Centre for Ecology and Hydrology</b> , Environmental Centre of Wales

Location and dates	<b>Since September 2011, Rennes, France</b>
Occupation or position held	<b>Researcher</b> (permanent position)
Research topics	<ul style="list-style-type: none"><li>• <b>Water and solutes</b> transport and reactivity in <b>agricultural catchments</b>, with a focus on <b>C, N and P</b> elements</li><li>• <b>Monitoring of the environment (critical zone observation)</b></li><li>• Hydrological and water quality <b>modelling</b></li></ul>

Responsibilities	<ul style="list-style-type: none"> <li>Co-chairman of the <b>Environmental Research Observatory AgrHys</b> for long-term environmental monitoring, part of the French and European Critical Zone Observatories (OZCAR-RI and eLTER-RI). Staff coordination, Monitoring strategy, Data analysis</li> <li>Supervisor of Master students/ PhD Students</li> <li>Teaching: practical works on hydrology, lectures on hydrology and water quality</li> </ul>
Name of employer	<b>INRAE, UMR SAS</b>

Location and dates	November 2010 to May 2011, <b>Montpellier, France</b>
Occupation or position held	<b>Researcher</b>
Research topics	Control of water quality parameters during flushing flows for fixed algae removal in regulated rivers and canals. Application on the canal de Provence regulation system.
Name of employer	<b>Cemagref (Irstea since 2012) Montpellier, UMR G-EAU</b>

Location and dates	<b>2007-2010, Montpellier, France</b>
Occupation or position held	<b>PhD student</b> on the “modelling for hydraulic management of benthic algae developments in open-channel networks”
Research topics	Modelling strategies for hydraulic management of benthic algae developments in open-channel networks
Responsibilities	<ul style="list-style-type: none"> <li>Supervision of 2 Master students and a High Level Technician training</li> <li>Teaching : practical works and tutorials on open-flow hydraulics</li> </ul>
Name of employer	<ul style="list-style-type: none"> <li><b>Cemagref, UMR G-EAU</b></li> </ul>

### Teaching & Training activities

PhD thesis supervision	<p>Co-supervision of <b>Youness Hrou</b> PhD thesis: 2020-2023 (Institut Agro Rennes, France/ Institut Agronomique et Veterinaire Hassan II Rabat, Morocco). “Planning and Management of water ressources and agricultural development in Loukkos catchment: adaptation strategies to climate change”.</p> <p>Supervision of <b>Laurent Strohmenger</b> PhD thesis: 2017-2020 (AgroCampus Ouest, France). “Modelling coupled emissions of carbon, nitrogen and phosphorus to surface waters in rural headwater catchments and analysis of climate effect”.</p> <p>Participation in the supervision of <b>Guillaume Humbert</b> PhD thesis: 2012-2015 (AgroCampus Ouest, France). “Hydro-climatic control of composition and transport of dissolved organic matter in an agricultural catchment”.</p>
Master students supervision	<p>2018 – Lise Andro (M1 degree, Université Rennes 1 – ACO, Rennes, France). “Characterization of recharge dynamics on a granitic hillslope: monitoring and modelling water storage variations over a vertical profile at multi-annual scale”.</p> <p>2018 – Nils Dubois (M2 degree, ISTOM – Angers, France). “Studying the use of groundwater with different nitrate concentrations on black soils and red soils in South India”.</p> <p>2016 - Fayina Soafidine (M1 degree, Université Rennes 1 – ACO, Rennes, France). “Performance of distributed hydrological model in simulating the dynamics of soils wetness content”.</p> <p>2015 - Gilbert Thelusma (M2 degree, AgroCampus-Ouest, Rennes, France) “Characterizing intra and inter annual variability of storm events based on very high</p>

	<p>frequency monitoring of meteorological, hydrological and chemical data in a small agricultural headwater catchment “</p> <p>2009 - Marion Suaire (M1 degree, Université Paul Verlaine, Metz, France). “Characterization of stream current velocity effect on algal population growth and estimate of detaching and drifting biomass”.</p> <p>2009 - Audrey Guyon (M1 degree, Polytech’Montpellier, France) “Modelling water quality of a hydrodynamic system: case of water temperature”.</p>
Lectures	<p><b>Since 2012 Lecture</b> on “Hydrology and water quality monitoring”, and “General Hydrology” for Licence degree PARTAGER, Université Rennes 1- AgroCampus Ouest.</p> <p><b>Since 2011 Practical works on hydrology and water quality:</b> Master degree “H3” Université Rennes 1, AgroCampus Ouest Rennes, and then Master degree “Water and Environment Sciences” University of Tours.</p> <p><b>2007-2010 Practical works</b> on hydraulics: Master degree in Montpellier SupAgro (Specialization Water management “GEME”), ENGREF “Eau” AgroParis Tech</p>

### Academic Record

Selected publications	<p>Strohmerger, L., <b>Fovet, O.</b>, Akkal-Corfini, N., Dupas, R., Durand, P., Faucheux, M., Gruau, G., Hamon, Y., Jaffrezic, A., Minaudo, C., Petitjean, P., and Gascuel-Oudou, C., 2020. Multi-temporal relationships between the hydro-climate and exports of carbon, nitrogen and phosphorus in a small agricultural watershed, Water Resour. Res., e2019WR026323. <a href="https://doi.org/10.1029/2019WR026323">https://doi.org/10.1029/2019WR026323</a></p> <p>Benettin, P., <b>Fovet, O.</b>, and Li, L. , 2020. Nitrate removal and young stream water fractions at the catchment scale, Hydrological Processes, 34, 2725-2738. <a href="https://doi.org/10.1002/hyp.13781">https://doi.org/10.1002/hyp.13781</a></p> <p><b>Fovet, O.</b>, Ndom, M., Crave, A., and Pannard, A., 2020. Influence of dams on river water-quality signatures at event and seasonal scales: The Sélune River (France) case study, River Research and Applications, <a href="https://doi.org/10.1002/rra.3618">https://doi.org/10.1002/rra.3618</a></p> <p><b>Fovet, O.</b>, Cooper, D. M., Jones, D. L., Jones, T. G., and Evans, C. D., 2020. Dynamics of dissolved organic matter in headwaters: comparison of headwater streams with contrasting DOM and nutrient composition, Aquatic Sciences, 82, 29. <a href="https://doi.org/10.1007/s00027-020-0704-6">https://doi.org/10.1007/s00027-020-0704-6</a></p> <p>Abbott, B. W., Moatar, F., Gauthier, O., <b>Fovet, O.</b>, Antoine, V., and Ragueneau, O., 2018. Trends and seasonality of river nutrients in agricultural catchments: 18 years of weekly citizen science in France, Science of the Total Environment, 624, 845-858. <a href="https://doi.org/10.1016/j.scitotenv.2017.12.176">https://doi.org/10.1016/j.scitotenv.2017.12.176</a></p> <p><b>Fovet, O.</b>, L. Ruiz, G. Gruau, N. Akkal, L. Aquilina, S. Busnot, R. Dupas, P. Durand, M. Faucheux, Y. Fauvel, C. Fléchar, N. Gilliet, C. Grimaldi, Y. Hamon, A. Jaffrezic, L. Jeanneau, T. Labasque, G. Le Henaff, P. Mérot, J. Molénat, P. Petitjean, A.-C. Pierson-Wickmann, H. Squidant, V. Viaud, C. Walter and C. Gascuel-Oudou, 2018. AgrHyS: An Observatory of Response Times in Agro-Hydro Systems. Vadose Zone Journal 17(1). <a href="https://doi.org/10.2136/vzi2018.04.0066">https://doi.org/10.2136/vzi2018.04.0066</a></p> <p>Mellander, P.-E., Jordan, P., Bechmann, M., <b>Fovet, O.</b>, Shore, M. M., McDonald, N. T., and Gascuel-Oudou, C., 2018. Integrated climate-chemical indicators of diffuse pollution from land to water, Scientific Reports, 8, 944. <a href="https://doi.org/10.1038/s41598-018-19143-1">https://doi.org/10.1038/s41598-018-19143-1</a></p> <p><b>Fovet, O.</b>, Humbert, G., Dupas, R., Gascuel-Oudou, C., Gruau, G., Jaffrezic, A., Thelusma, G., Faucheux, M., Gilliet, N., Hamon, Y., and Grimaldi, C., 2018. Seasonal variability of stream water quality response to storm events captured using high-frequency and multi-parameter data, Journal of Hydrology, 559, 282-293. <a href="https://doi.org/10.1016/j.jhydrol.2018.02.040">https://doi.org/10.1016/j.jhydrol.2018.02.040</a></p> <p>Hrachowitz, M., <b>Fovet, O.</b>, Ruiz, L., and Savenije, H. H. G., 2015. Transit time distributions, legacy contamination and variability in biogeochemical 1/ƒ<sub>a</sub> scaling: how are hydrological response dynamics linked to water quality at the catchment scale?, Hydrological Processes, 29, 5241-5256. <a href="https://doi.org/10.1002/hyp.10546">https://doi.org/10.1002/hyp.10546</a></p> <p><b>Fovet, O.</b>, Ruiz, L., Faucheux, M., Molenat, J., Sekhar, M., Vertes, F., Aquilina, L., Gascuel-Oudou, C., and Durand, P., 2015a. Using long time series of agricultural-derived nitrates for estimating</p>
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	<p>catchment transit times, <i>Journal of Hydrology</i>, 522, 603-617.  <a href="https://doi.org/10.1016/j.jhydrol.2015.01.030">https://doi.org/10.1016/j.jhydrol.2015.01.030</a></p> <p><b>Fovet, O.</b>, Ruiz, L., Hrachowitz, M., Faucheux, M., and Gascuel-Oudou, C. , 2015b. Hydrological hysteresis in catchments and its value for assessing process consistency in conceptual models, <i>Hydrol. Earth Syst. Sci.</i>, 19, 105-123. <a href="https://doi.org/10.5194/hess-19-105-2015">https://doi.org/10.5194/hess-19-105-2015</a></p>
<p>Selected conference contributions</p>	<p><b>Fovet, O.</b>, Strohmenger L., Guillemot S., Dupas R., Moatar F., Gruau G. and Gascuel-Oudou C. Moving from research headwater observatories to the understanding of mesoscale hydrobiogeochemical processes and of climatic change effects on these processes. (2019) 10th EGU Leonardo Conference: Global change, landscape ageing and the pulse of catchments, Esch-sur-Alzette, Luxembourg (2019-10-16 – 2019-10-18). Invited key note.</p> <p>[Poster] <b>Fovet O.</b>, Ndom M., Gilliet N., and Crave A. (2018) Understanding the effect of reservoirs on suspended sediments and biogeochemical fluxes over seasonal and storm scales. Presented at EGU General Assembly 2017, Vienna, AUT (2018-04—07 – 2017-04-12).</p> <p><b>Fovet O.</b>, Dupas R., Gruau G., Jeanneau L., Jaffrezic A., Ruiz L., Humbert G., Denis M., Gu S., Strohmenger L., and Gascuel-Oudou C. (2018). Groundwater storage as a major control of seasonal stream waterquality dynamics during both base and stormflows. Presented at EGU General Assembly 2017, Vienna, AUT (2018-04—07 – 2017-04-12). Solicited Talk.</p> <p>[Poster] <b>Fovet O.</b>, Ruiz L &amp; Hrachowitz M (2017). Which Signatures do Matter for Identifying and Modelling Critical Zone Processes of Water and Solutes Transfert in Headwater Catchments. <i>Goldschmidt Abstracts, 2017</i>. Presented at Goldschmidt Conference 2017, Paris, FR (2017-08-14 – 2017-08-17).</p> <p><b>Fovet O.</b>, Thelusma G., Humbert G., Dupas R., Grimaldi C., Jaffrezic A<sup>1</sup>, Faucheux M., Gilliet N., Hamon Y., Durand P., Gruau G., and Gascuel-Oudou C. (2016). Characterizing storm event flowpaths and their seasonal variability based on near-continuous monitoring of multi-element and multiproxy of the water chemical composition. Workshop on Temporal High resolution Water Quality Monitoring and Analysis, Sandbjerg, Denmark, Jun. 2016.</p> <p><b>Fovet O.</b>, Thelusma G., Humbert G., Dupas R., Faucheux M., Gilliet N., Hamon Y., Jaffrezic A., Grimaldi C., and Gruau G. (2016). Characterizing seasonal variability of storm events based on very high frequency monitoring of hydrological and chemical variables: comparing patterns in hot spots and hot moments for nutrient and sediment export. <i>Geophysical Research Abstracts Vol. 18</i>. Presented at EGU general Assembly 2016, Vienna, AUT (2016-04-17 – 2016-04-22).</p> <p>[Poster] <b>Fovet O.</b>, Dupas R., Durand P., Gascuel-Oudou C., Gruau G., Hamon Y. and Petitjean P (2016). Interannual climate variability and spatially heterogeneous improvement of agricultural management impede detection of a decreasing trend in nitrate pollution in an agricultural catchment. <i>Geophysical Research Abstracts Vol. 18</i>, Presented at EGU general Assembly 2016, Vienna, AUT (2016-04-17 – 2016-04-22).</p> <p><b>Fovet O.</b> (2015) Water &amp; solutes residence times in agricultural catchments with high nutrient storages. Presented at 11<sup>th</sup> Annual Krycklan Symposium SLU, Umeå (2015-10-01 – 2015-10-02).</p>
<p>Identifiers</p>	<ul style="list-style-type: none"> <li>• ORCID : <a href="https://orcid.org/0000-0003-2359-000X">https://orcid.org/0000-0003-2359-000X</a></li> <li>• Web of Science ResearcherID: <a href="https://orcid.org/0000-0003-2359-000X">A-7809-2013</a></li> </ul>