

1. PERSONAL INFORMATION

Damien Bouffard (28.04.1979), Married, 2 children

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Group Leader Aquatic Physics, Eawag

<https://www.eawag.ch/en/department/surf/main-focus/aquatic-physics/>

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2. EDUCATION

2008 **PhD.** Ecole Polytechnique Fédérale de Lausanne, EPFL, Lausanne, CH

3. EMPLOYMENT HISTORY

2017-now **Group Leader**, Aquatic Physics, Eawag, Kastanienbaum, CH

2012-2016 **First assistant**, Aquatic Physics Laboratory (Prof A. Wüest), EPFL, Lausanne, CH

2009-2012 **Post-doctoral fellow**, Environmental Fluid Dynamics (Prof L. Boegman), Queen's University, Kingston, On, CA

4. INSTITUTIONAL RESPONSIBILITIES

2017-now Head of the Aquatic Physics group at Eawag, CH

5. APPROVED RESEARCH PROJECTS

Year Title, (funding sources), main PI, **Function**

2018-2020 DataLakes, (SDSC, CH), PI: J. Sukys & Bouffard, **DB: Co-PI**

2018-2020 Forecasting environmental change effects on population densities of bloom forming cyanobacteria in Swiss lakes (Eawag, CH), PI: F. Pomati (Eawag), **DB: Co-PI**

2018-2022 Buoyancy driven nearshore transport in lakes, HYPOLimnetic THERmal SiphonS (HYPOTHESIS) (SNF, CH), PI: D. Bouffard, **DB: PI**

2017-2020 Evolution of coupled stream and lake water temperature in the context of climate change (FOEN, CH), PI: H. Huwald (EPFL), **DB: Co-PI**

2017-2019 Water Level, Deep Currents and Waves in Lake Kivu, Rwanda (LKMP), PI: Deltares, **DB: Co-PI**

2016-2017 Coupling PHYSics on Lake Onego with Zooplankton and PHYtoplankton, PHYLOZOPHY (Feel foundation). PI: D. Bouffard, **DB: Co-PI**

2016-2019 Integrated monitoring of ice in selected Swiss lakes (GCOS, CH), PI: M. Baltavias (ETHZ), **DB: Co-PI**

2016-2018 COupling REMote Sensing, In-Situ and Model. CORESIM (ESA, EU), PI: D. Bouffard, **DB : PI**

2015-2016 Satellite Observation of Lakes and Vegetation Environments. SOLVE. (SSO, CH), PI: A. Ivanov (EPFL), **DB: Co-PI**

2014-2016 Lake Ladoga: Life under the ice. (Feel foundation, CH). PI: A. Wüest (EPFL), **DB: Co-PI**

2009 Swiss Research Fellowship (SNF, PBL2 12554, CH). PI: D. Bouffard, **DB: PI**

6. SUPERVISION OF JUNIOR RESEARCHERS

Msc students

[8] Oriane **Etter**. Integrated modelling approach of urban discharges into lakes, 2017. EPFL, CH

[7] Christel **Chappuis**. 3D water quality modelling of a eutrophic lake, 2017. EPFL, CH

[6] Fabrizio G. **Zurita**. 3D coupled hydrodynamic and ecological modelling of Greifensee. 2016. EPFL, CH

[5] Benjamin **Lemonnier**. Coupling hydrodynamic and CHL-a growth model. 2015. Uni Pierre - Marie Curie, Paris, F

[4] Jonathan **Schenk**. 3D hydrodynamic of Lake Biel. 2015. EPFL, CH

[3] Isabel **Kiefer**. Water quality and remote sensing on Lake Geneva. 2014. EPFL, CH. *Awarded Msc. (2 prizes).*

[2] Adrien **Gaudard**. 3D Hydrodynamics modelling of Lake Geneva. 2014. EPFL, CH. *Awarded Msc. (1 prize).*

[1] Michael **Andre**. 3D Hydrodynamics modelling of Lake Geneva. 2013. EPFL, CH

Phd students

[9] Pascal **Perolo**. CARBOCycle of Lake GENeva (ongoing 2018). Co-supervisor with Prof. Perga (UNIL, CH).

- [8] Tomy **Doda**. Buoyancy driven nearshore transport in lakes, HYPOLimnetic THERmal SyphonS (ongoing 2018)
- [7] Yann **Guenand**. The role of hydrodynamics in carbon cycling in alpine lakes. (Defended May 2020). Co-supervisor with Prof. Perga (UNIL, CH). *Now at Segula Technologies.*
- [6] Oscar Sepulveda **Steiner**. Lateral variability of mixing processes in stratified and its ecological implications (Defended May 2020). Co-supervisor with Prof. Wüest. EPFL. *Now at Eawag*
- [5] Theo **Baracchini**. Integrating information sources for inland waters. A new global framework for lakes modelling and monitoring. (Defended June 2019). Co-supervisor with Prof. Wüest. EPFL.
- [4] Vincent **Nouchi**. Remote sensing of peri alpine lakes (Defended April 2018). Co-supervisor with Prof. Wüest. EPFL. *Now in industries*
- [3] Love **Vinna Raman**. Particle transport in Lake Biel (Defended Aug. 2017). Co-supervisor with Prof. Wüest. EPFL. *Now at Eawag*
- [2] Robert **Schwefel**. Oxygen depletion in perialpine lakes (Defended Jan. 2017). Co-supervisor with Prof. Wüest. EPFL. *Now at UCSB*
- [1] Reza **Valipour**. Lake Erie circulation and benthic boundary layer dynamics (Defended Nov. 2012). Co-supervisor with Prof. Boegman. Queen's University. *Now at Environment Canada.*

Post-Doc

- [3] Oscar Sepulveda **Steiner** (2020-2022). Bioconvection in Lake Cadagno. (BIOCAD)
- [2] Cintia Luz **Ramon Casanas** (2018-2020). Buoyancy driven nearshore transport in lakes, (HYPOTHESYS)
- [1] Love **Vinna Raman** (2018-2020). Evolution of coupled stream and lake water temperature in the context of climate change (CH2018)

Phd committee

- [6] 2020. Dr. Marina **Amadori**. Supervisor Prof. M. Toffolon. Trento University. I
- [5] 2019. Dr. Matthias **Zimmermann**. Supervisor Prof B. Wehrli, ETHZ, CH
- [4] 2019. Dr. Gregorio Alejandro **López**. Supervisor Prof M Toffolon. Trento University. I
- [3] 2018. Dr. Jessica **Zordan**. Supervisor: Prof. A. Schleiss and Dr. M. Franca. EPFL. CH
- [2] 2017. Dr. Frédéric **Soullignac**. Supervisor : Dr. B Vinçon-Leite. University Paris Est. F
- [1] 2016. Dr. Cintia Luz **Ramon Casanas**. Supervisor: Prof. F. Rueda. University of Granada. E

7. TEACHING ACTIVITIES

- 2019-now Physical limnology, UNIL, master level, 4h
- 2018-now Biogeochemical modeling of sediments, lakes & oceans, ETHZ, master level, 26h
- 2017-now Physical limnology, UNIGE, block course, batchelor level, 8h
- 2015 Mixing and dispersion in flows dominated by rotation and buoyancy. CISM Udine Italy, Advanced school, 8h
- 2013-2018 Hydrodynamic modelling, EPFL, master level, 6h.

8. MEMBERSHIPS IN PANELS, BOARD / INDIVIDUAL SCIENTIFIC REVIEWING ACTIVITIES

- 2020-now Associate Editor for Journal of Great Lakes Research
 - 2018-now Scientific Committee Physical Processes in Natural Waters workshop
 - 2017-now Member International Society of Limnology (SIL)
 - 2017-now Member Association of the Sciences of Limnology and Oceanography (ASLO)
- Reviewing activities (since 2017): *Nature, Geophysical Research Letters, Limnology and Oceanography, Journal of Geophysical Research, Water Resources Research, Hydrology and Earth System Sciences, Aquatic Sciences, Plos One, Journal of Great Lake Research, Journal of Atmospheric and Oceanic Technology, Atmosphere and Ocean, River Research and Applications, Water Quality Research Journal of Canada, Journal of Limnology, Journal of Hydrology*

9. ACTIVE MEMBERSHIPS IN SCIENTIFIC SOCIETIES, FELLOWSHIPS IN RENOWNED ACADEMIES

- 2017-now Member of steering committee of the LéXPLORE platform (Lake Geneva)
- 2019-now Member of the steering committee of the Swiss Hydrological and Limnological Society

10. ORGANIZATION OF CONFERENCES

- 2020 Co-convener Swiss Geosciences Meeting
2020 Co-convener European Geoscience Union
2018 Co-organizer conference Physical Processes in Natural Waters, Solothurn, CH, Co-host with Prof. McGinnis.

11. PRIZES, AWARD, FELLOWSHIPS

- 2009 Swiss Research Fellowship (SNF, PBL2 12554, CH)

12. PUBLICATIONS

Names in bold refer to directly supervised students and DB.

OA = Open access publication

See also <https://scholar.google.ca/citations?user=uqhWjF8AAAAJ&hl=fr>

2020

- [57] OA Jenny, JP., Anneville, O., Arnaud, F., Baulaz, Y., **Bouffard, D.**, & al., 2020. Scientists' warning to humanity: rapid degradation of the world's large lakes. *Journal of Great Lakes Research*. 46:4 686-702. <https://doi.org/10.1016/j.jglr.2020.05.006>
- [56] **Baracchini, T.**, Hummel, S, Verlaan, M, Cimatoribus, A., Wüest, A., & **Bouffard, D.**, 2020. An automated calibration framework and open source tools for 3D lake hydrodynamic models. *Environmental Modelling & Software*. <https://doi.org/10.1016/j.envsoft.2020.104787>
- [55] OA Kranenburg, W., Tiessen, M., Weenstra, J., de Graaf, R., Uittenbogaard, R., **Bouffard, D.**, Sakindi, G., Unutoni, A., Van de Walle, J., Thierry, W., van Lipzig, N., 2020. 3D-modelling of Lake Kivu: Horizontal and vertical flow and temperature structure under spatially variable atmospheric forcing. *Journal of Great Lakes Research*. 46:4 947-960. <https://doi.org/10.1016/j.jglr.2020.05.012>
- [54] OA Wirth, S.B., **Bouffard, D.**, & Zopfi, J., 2020. Lacustrine groundwater discharge through giant pockmarks (Lake Neuchatel, Switzerland). *Frontiers in Water*. 2,13. <https://doi.org/10.3389/frwa.2020.00013>
- [53] OA **Baracchini, T.**, Chu, P.Y., Sukys, J., Lieberherr, G., Wunderle, S., Wüest, A., & **Bouffard, D.**, 2020. Data assimilation of in situ and satellite remote sensing data to 3D hydrodynamic lake models: a case study using Delft3D-FLOW v4.03 and OpenDA v2.4. *Geoscientific Model Development*, 13, 1267-1284. <https://doi.org/10.5194/gmd-13-1267-2020>
- [52] OA **Baracchini, T.**, Wüest A., & **Bouffard, D.**, 2020. Meteorolakes: An operational online three-dimensional forecasting platform for lake hydrodynamic. *Water Research*. 172. <https://doi.org/10.1016/j.watres.2020.115529>
- [51] OA Jabbari, A., Boegman, L., Valipour, R., Wain, D & **Bouffard, D.**, 2020. Dissipation of turbulent kinetic energy in the oscillating bottom boundary layer of a large shallow lake. *Journal of Atmospheric and Oceanic Technology*, 37, 517-531. <https://doi.org/10.1175/JTECH-D-19-0083.1>
- [50] Perga, M-E, Syarki, M., Kalinkina, N., & **Bouffard, D.**, 2019. A rotiferan version of the punishment of Sisyphus. *Ecology*. 101(3). <https://doi.org/10.1002/ecy.2934>

2019

- [59] **Sepulveda Steiner, O.**, **Bouffard, D.**, & Wüest A., 2019. Convection-diffusion competition within mixed layers of stratified natural waters. *Geophysical Research Letters*. 46(22), 13199-13208. <https://doi.org/10.1029/2019GL085361>
- [48] OA Soullignac, F., Anneville O., **Bouffard, D.**, Chanudet, V. Dambrine, E., **Guénand Y.**, Hamel T., Ibelings B.W., Uittenbogaard, R., & Danis P.A. 2019. Contribution of 3D coupled hydrodynamic-ecological modeling to assess the representativeness of a sampling protocol for lake water quality assessment. *Knowledge & Management of Aquatic Ecosystems*, 420, 42. <https://doi.org/10.1051/kmae/2019034>
- [47] Winters, K. B., Ulloa, H. N., Wüest, A., & **Bouffard, D.**, 2019. Energetics of radiatively-heated ice-covered lakes. *Geophysical Research Letters*. 46(15), 8913-8925. <https://doi.org/10.1029/2019GL084182>
- [46] OA **Gaudard, A.**, **Vinnå, L. R.**, Bärenbold, F., Schmid, M., & **Bouffard, D.**, 2019. Toward an open-access of high-frequency lake modelling and statistics data for scientists and practitioners. The case of Swiss Lakes using Simstrat v2. 1. *Geoscientific Modelling Development*. 12, 3955-3974. <https://doi.org/10.5194/gmd-12-3955-2019>
- [45] Soomets, T., Kuster, T., Wüest, A., & **Bouffard, D.**, 2019. Spatial and temporal changes of primary production in a deep peri-alpine lake. *Inland Waters*, 9(1),49-60. <https://doi.org/10.1080/20442041.2018.1530529>

- [44] OA Wynne, Z., Reynolds, T., **Bouffard, D.**, Schladow, G., & Wain, D., 2019. A novel technique for experimental modal analysis of barotropic seiches for assessing lake energetics. *Environmental Fluid Mechanics*, 19, 1527-1556. <https://doi.org/10.1007/s10652-019-09677-x>
- [43] OA Bogdanov, S., Zdrovennova, G., Volkov, S., Zdrovennov, R., Palshin, N., Efremova, T., ... & **Bouffard, D.**, 2019. Structure and dynamics of convective mixing in Lake Onego under ice-covered conditions. *Inland Waters*, 9(2), 177-192. <https://doi.org/10.1080/20442041.2018.1551655>
- [42] **Bouffard, D.**, & Wüest, A. 2019. Convection in lakes. *Annual Review of Fluid Mechanics*, 51, 189-215. <https://doi.org/10.1146/annurev-fluid-010518-040506>
- [41] OA **Bouffard, D.**, Zdrovennova, G., Bogdanov, S., Efremova, T., Lavanchy, S., Palshin, N., ... & Zdrovennov, R., 2019. Under-ice convection dynamics in a boreal lake. *Inland Waters*, 9(2), 142-161. <https://doi.org/10.1080/20442041.2018.1533356>
- [40] OA **Nouchi, V.**, Kutser, T., Wüest, A., Müller, B., Odermatt, D., **Baracchini, T.**, & **Bouffard, D.**, 2019. Resolving biogeochemical processes in lakes using remote sensing. *Aquatic Sciences*, 81(2), 27. <https://doi.org/10.1007/s00027-019-0626-3>
- [39] OA Pasche, N., Hofmann, H., **Bouffard, D.**, Schubert, C. J., Lozovik, P. A., & Sobek, S., 2019. Implications of river intrusion and convective mixing on the spatial and temporal variability of under-ice CO₂. *Inland Waters*, 9(2), 162-176 <https://doi.org/10.1080/20442041.2019.1568073>
- [38] OA Ulloa, H. N., Constantinescu, G., Chang, K., Horna-Munoz, D., **Steiner, O. S.**, **Bouffard, D.**, & Wüest, A., 2019. Hydrodynamics of a periodically wind-forced small and narrow stratified basin: a large-eddy simulation experiment. *Environmental Fluid Mechanics*, 19(3), 667-698. <https://doi.org/10.1007/s10652-018-9645-1>
- [37] OA Volkov, S., Bogdanov, S., Zdrovennov R., Zdrovennova G., Terzhevik A., Palshin N., **Bouffard D.**, and G. Kirillin., 2019. Fine scale structure of convective mixed layer in ice-covered lakes. *Environmental Fluid Mechanics*. 19 (3), 751-764. <https://doi.org/10.1007/s10652-018-9652-2>

2018

- [36] Rahaghi, A.I., Lemmin U., Cimatoribus, A., **Bouffard, D.**, Riffler, M., Wunderle, S. & Barry, D.A., 2018. Improving surface heat flux estimation for a large lake through model optimization and two-point calibration: The case of Lake Geneva. *Limnology Oceanography Methods*. 16(9), 576-593. <https://doi.org/10.1002/lom3.10267>
- [35] Ulloa, H.N, A Wüest, & **Bouffard, D.**, 2018. Mechanical energy budget and mixing efficiency for radiatively heated ice-covered waterbody. *Journal of Fluid Mechanics*, 852. <https://doi.org/10.1017/jfm.2018.587>
- [34] Perga, M-E, Bruel, R, Rodriguez, L, **Guenand, Y**, & **Bouffard, D.**, 2018. Storm impacts on alpine lakes: antecedent weather conditions matter more than the event intensity. *Global Change Biology*, 24(10), 5004-5016. <https://doi.org/10.1111/gcb.14384>
- [33] **Nouchi, V.**, Odermatt, D, Wüest, A & **D. Bouffard, D.**, 2018. Effects of non-uniform vertical constituent profiles on remote-sensing reflectance of oligo- to mesotrophic lakes. *European Journal of Remote Sensing*. 51(1),808-821. <https://doi.org/10.1080/22797254.2018.1493360>
- [32] Soullignac, F, Danis, P-A, **Bouffard, D.**, et al., 2018. Using 3D modeling and remote sensing capabilities for a better understanding of spatio-temporal heterogeneities of phytoplankton abundance in large lakes. *Journal of Great Lakes Research*, 44(4), 756-764. <https://doi.org/10.1016/j.jglr.2018.05.008>
- [31] **Bouffard, D.**, Kiefer, I., Wüest, A., Wunderle, S., & Odermatt, D., 2018. Are surface temperature and chlorophyll in a large deep lake related? An analysis based on satellite observations in synergy with hydrodynamic modelling and in-situ data. *Remote Sensing of Environment*, 209:510-520. <https://doi.org/10.1016/j.rse.2018.02.056>
- [30] OA **Raman Vinna, L.**, Wüest A., Zappa, M., Fink G., & **Bouffard, D.**, 2018. Tributaries affect the thermal response of lakes to climate change. *Hydrology and Earth System Science*, 22, 31-51. <https://doi.org/10.5194/hess-22-31-2018>
- [29] OA Cimatoribus, A.A, Lemmin, U., **Bouffard, D.**, & Barry, D.A., 2018 Nonlinear dynamics of the near-shore boundary layer of the large lake (Lake Geneva). *Journal of Geophysical Research*. 123, 1016-1031. <https://doi.org/10.1002/2017JC013531>
- [28] OA Monchamp ME., Spaak P., Domaizon I., Dubois N., **Bouffard D.**, & Pomati, F., 2018. Homogenization of lake cyanobacterial communities over a century of climate change and eutrophication. *Nature Ecology and Evolution*, 2, 317-324. <https://doi.org/10.1038/s41559-017-0407-0>

2017

- [27] OA Mashayek, A., Salehipour, H., **Bouffard, D.**, Caufield, C.P., Ferrari, R., Nikurashin, M., Peltier, W.R., & Smyth, W.D., 2017. Efficiency of mixing in the Abyssal Ocean Circulation. *Geophysical Research Letters*, 44, 6296-6306, <https://doi.org/10.1002/2016GL072452>

- [26] OA **Gaudard, A., Schwefel, A., Raman Vinna, L., Schmid, M., Wüest, A., & Bouffard, D.**, 2017. Optimizing the parameterization of deep mixing and internal seiches in one-dimensional hydrodynamic models: a case study with Simstrat v1.3. *Geoscientific Model Development*, 10(9), 3411-3423. <https://doi.org/10.5194/gmd-10-3411-2017>
- [25] OA **Woolway, R. I., Dokulil, M.T., Marszelewski, W., Schmid, M., Bouffard D., & Merchant, C.J.**, 2017. Warming of Central European lakes and their response to the 1980s climate regime shift. *Climatic Change*, 142, 505-520. <https://doi.org/10.1007/s10584-017-1966-4>
- [24] OA **Raman Vinna L, Bouffard D., & Wüest, A.**, 2017. Physical effects of thermal pollution in lakes. *Water Resources Research*. 53(5), 3968-3987. <https://doi.org/10.1002/2016WR019686>
- [23] OA **Schwefel, R., Steinsberger, T., Bouffard, D., Bryant, L., Müller, B., & Wüest, A.**, 2017. Using small-scale measurements to estimate hypolimnetic oxygen depletion in a deep lake. *Limnology and Oceanography*. 63(S1), S54-S67. <https://doi.org/10.1002/lno.10723>
- [22] OA **Valipour, R., Bouffard, D., Boegman, L., & Rao, Y.R.**, 2017. Sediment resuspension mechanisms in central Lake Erie. *Limnology and Oceanography*, 62(3), 1045-1065. <https://doi.org/10.1002/lno.10485>
- [21] OA **Schwefel R., Hondzo M., Wüest A., & Bouffard, D.**, 2017. Scaling oxygen microprofiles in natural waters. *Geophysical Research Letters*, 44(3), 1340-1349. <https://doi.org/10.1002/2016GL072079>
- [20] OA **Razmi A.M., Lemmin U., Bouffard D., Wüest A., Uittenbogaard R.E., & Barry, D.A.**, 2016. Gyre formation in open and deep lacustrine embayment: The example of Lake Geneva, Switzerland. *Environmental Fluid Mechanics*, 17, 415-428. <https://doi.org/10.1007/s10652-016-9494-8>

2016

- [19] OA **Graham N., Bouffard D., & Loizeau, J-L.**, 2016 The influence of bottom boundary layer hydrodynamics on sediment focusing in a contaminated bay. *Environmental Science and Pollution Research*, 23(24), 25412-25426. <https://doi.org/10.1007/s11356-016-7715-9>
- [18] OA **Schwefel R., Gaudard A, Wüest A., & Bouffard, D.**, 2016. Effects of climate change on deep-water oxygen and winter mixing in a deep lake (Lake Geneva) - Comparing observational findings and modeling. *Water Resources Research*, 52(11), 8811-8826. <https://doi.org/10.1002/2016WR019194>
- [17] OA **Bouffard D., Zdrovennov R.E., Zdrovennova G.E., Pasche N., Wüest A., & Terzhevik, A.Y.**, 2016. Ice-covered Lake Onego: Effects of radiation on convection and internal waves. *Hydrobiologia*, 780(1), 21-36. <https://doi.org/10.1007/s10750-016-2915-3>
- [16] OA **Bouffard D., & Perga, M-E.**, 2016. Are flood-driven turbidity currents hot-spots for priming effect in lakes? *Biogeosciences*, 13(12), 3573-3584. <https://doi.org/10.5194/bg-13-3573-2016>

2015

- [15] **Valipour R., Bouffard D., & Boegman, L.**, 2015. Parameterization of bottom mixed layer and logarithmic layer heights in central Lake Erie. *Journal of Great Lakes Research*, 41(3), 707-718. <https://doi.org/10.1016/j.jglr.2015.06.010>
- [14] **Kiefer I., Odermatt D., Anneville O., Wüest A., & Bouffard, D.**, 2015. Application of remote sensing for the optimization of in-situ sampling for monitoring of phytoplankton abundance in a large lake. *Science of Total Environment*. 527, 493-506. <https://doi.org/10.1016/j.scitotenv.2015.05.011>
- [13] OA **Valipour, R., Bouffard, D., Boegman, L., & Rao, Y.R.**, 2015. Near-inertial waves in Lake Erie. *Limnology and Oceanography*, 60(5), 1522-1535. <https://doi.org/10.1002/lno.10114>
- [12] OA **Reusch A., Loher M., Bouffard D., Moernaut J., Hellmich, F., Ansemetti F.S., Bernasconi S.M., Hilbe M., Kopf A., Lilley M.D., Meinecke G., & Strasser, M.**, 2015. Giant lacustrine pockmarks with subaqueous groundwater discharge and subsurface sediment mobilization. *Geophysical Research Letters*. 42(9), 3465-3473 <https://doi.org/10.1002/2015GL064179>

2014

- [11] OA **Paturi S., Boegman L., Bouffard D., Rao, Y.R.**, 2014. Three-Dimensional Simulation of Lake Ontario North-Shore Hydrodynamics and Contaminant Transport. *Journal of Hydraulic Engineering*, 141(3) 04014082 [https://doi.org/10.1061/\(ASCE\)HY.1943-7900.0000963](https://doi.org/10.1061/(ASCE)HY.1943-7900.0000963)
- [10] OA **Akhtman, Y. Constantin D., Rehak M., Nouchi V.M., Shinkareva G., Bouffard D., Pasche N., Chalov S., Lemmin U., & Merminod, B.**, 2014. Teledetection multi-echelle des lacs depuis un aeronef ultraleger motorise. *Geomatique Suisse*. (9). <https://doi.org/10.5169/seals-389513>

- [9] OA Schwalb A.N., **Bouffard D.**, Boegman L., Leon L., Winter J.G., Molot L., & Smith, R.H.E., 2014. 3D modelling of dreissenid mussel impacts on phytoplankton in a large lake supports the nearshore shunt hypothesis and the importance of wind-driven hydrodynamics. *Aquatic Sciences*. 77(1), 95-114. <https://doi.org/10.1007/s00027-014-0369-0>
- [8] OA Toffolon M., Piccolroaz S., & **Bouffard, D.**, 2014. Crossing the boundaries of Physical Limnology. *EOS*. 95(44), 403. <https://doi.org/10.1002/2014EO440009>
- [7] **Bouffard D.**, Boegman L., **Valipour R.**, Ackerman J.D., & Rao, Y.R., 2014. Near-inertial wave driven oxygen transfer through the thermocline of a large lake. *Journal of Great Lakes Research*. 40(2), 300. <https://doi.org/10.1016/j.jglr.2014.03.014>

2013

- [6] OA **Bouffard D.** & Lemmin, U., 2013. A newly developed moored sensor platform for turbulence measurements in stratified lakes, *Journal of Atmospheric and Oceanic Technology*. 30(8), 1789-1802. <https://doi.org/10.1175/JTECH-D-12-00159.1>
- [5] OA **Bouffard D.** & Lemmin, U., 2013. Kelvin waves in Lake Geneva, *Journal of Great Lakes Research*. 39(4): 637-645. <https://doi.org/10.1016/j.jglr.2013.09.005>
- [4] **Bouffard D.** & Boegman, L., 2013. A diapycnal diffusivity model for stratified environmental flows. *Dynamic of Atmosphere and Ocean*. 61-62: 14-34. <https://doi.org/10.1016/j.dynatmoce.2013.02.002>
- [3] OA **Bouffard D.**, Ackerman J.D., & Boegman, L., 2013. Factors affecting the evolution and dynamics of hypoxia in a large stratified lake: hourly to seasonal patterns, *Water Resources Research*. 49 :1-15. <https://doi.org/10.1002/wrcr.20241>
- [2] OA Schwalb A.N., **Bouffard D.**, Ozersky T., Smith R.E.H., & Boegman L., 2013. Impacts of hydrodynamics and benthic communities on phytoplankton distributions in a large, dreissenid-colonized lake (Lake Simcoe, Ontario, Canada), *Inland Waters*. 3(2): 269-284. <https://doi.org/10.5268/IW-3.2.596>

2012

- [1] OA **Bouffard D.**, Boegman L., & Rao, Y.R., 2012. Poincaré wave induced mixing in a large lake. *Limnology and Oceanography*. 57(4): 1201-1216. <https://doi.org/10.4319/lo.2012.57.4.1201>

13. BOOK CHAPTERS

- [3] Razmi A. M., Barry D. A., Bouffard, D., Vennemann, T. W., Barry, C. E., and U. Lemmin. 2018. Current of Lake Geneva. Eds. N. Chevre. *Micropollutants in large lakes: From potential pollution to risk assessment*.
- [2] Bouffard, D. and A. Wüest. 2017. Mixing and transport in lakes and reservoirs. *Mixing and dispersion in flows dominated by rotation and buoyancy*. Eds. H. Clercx and G. Van Heijst. Springer
- [1] Bouffard D. and L. Boegman. 2012. Basin-scale internal waves. *Encyclopedia of Lakes and Reservoirs*. Eds. L. Bengtsson, R. W. Herschy, and R. W. Fairbridge. Springer. doi:10.1007/978-1-4020-4410-6

14. CONSULTING

Year	Title	Mandator
2020-2022	Temperature monitoring in Swiss lakes	FOEN (CH)
2018	Monitoring Strategy of Swiss Lakes temperature	FOEN (CH)
2018-2019	Monitoring of Engadin Lakes	Engadin (CH)
2017-2019	Water Level, Deep Currents and Waves in Lake Kivu, Rwanda	LKMP (Rwanda)
2017	Monitoring Strategy of Swiss Lakes temperature	FOEN (CH)
2013	Water intake study	EPFL (CH)
2008	Water intake study	Jundt ingénieurs civil sa, Genève (CH)

15. SEMINARS / INVITED TALKS (SINCE 2017)

- 2019 TU Wien, Austria

2018 IGB, Berlin, Germany
Keynote speaker at ELLS-IAGLR conference, Evian, France

16. OUTREACH

Public conferences:

2018 LÉXPLORE : la plateforme pour explorer le Léman, 13.09.2018, Pully
LÉXPLORE : la plateforme pour explorer le Léman, 28.05.2018, Pully
2016 Les cratères sous lacustre du lac de Neuchâtel. Museum d'histoire naturelle Neuchâtel, 13.01.2016
2015 Modélisation du fonctionnement des lacs. Réseau lac sentinelles, 09.10.2015, Bourg d'Oisans,

Media:

15 Interviews to local journal, radio and TV since 2015

Website:

<http://meteolakes.ch/>

<https://simstrat.eawag.ch/>

<https://www.datalakes-eawag.ch/>