

Workshop on Physical Processes in Natural Waters 2020

PPNW 2020 Programme



The presentations will be delivered live as Zoom video conferences. Please familiarize yourself with the system. We will open the session a few minutes before the start of the presentations. Colleagues (beyond the presenters), who intend to participate, are asked to indicate so by Email to Muhammed.Shikhani@ufz.de by Wednesday 10th June 2020, that we can send the link for the sessions.

Times are given in Berlin time, i.e. UTC+2

More information on www.ufz.de/ppnw2020 and ppnw.info

MONDAY, June 15, 2020

	16:50	Boehrer	Welcome note
Plenary	17:00	Caulfield Colm	Open questions in turbulent stratified mixing: Do we even know what we do not know?
	18:00	B. Fernández-Castro, C. Troy, T. Doda, H. Chmiel, C. Minaudo, H. N. Ulloa, L. Serra, O. Sepúlveda-Steiner, D. Bouffard and A. Wüest	Seasonality of the mechanical energy budget in a large lake, Lake Geneva (Switzerland-France)
BREAK			
	18:45	E. Bohórquez, L. Rovelli and A. Lorke	Near-surface turbulence generated by rain: Laboratory experience using Particular Image Velocimeter (PIV)
	19:15	Allen, S., N.K. Soontiens, M. Dunphy and D.J. Latornell	Controls on Exchange through a Tidal Mixing Hotpot at an Estuary Constriction
	19:45	Sally MacIntyre, David Bastviken, Lars Arneborg, Adam T. Crowe, Jan Karlsson, Andreas Andersson, Magnus Gålfalk, Anna Rutgerson, Eva Podgrajsek, and John Melack	Turbulence in a small boreal lake: Consequences for air-water gas exchange
	19:51	R. Schwefel, S. MacIntyre, A. Cortés, and S. Sadro	Controls on temperature and oxygen depletion in ice-covered arctic lakes
	19:57	All	Informal discussion

TUESDAY, June 16, 2020

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| 10:00 | Guseva, S., M. Aurela, A. Cortés, R. Kivi, et al. | Physical drivers of near-surface turbulence in a regulated river |
| 10:30 | Doda, T., C. Ramon, H.N. Ulloa, A. Wuest, et al. | Density currents induced by differential cooling in a small temperate lake: seasonality in their occurrence and magnitude |
| 11:00 | Boehrer B., Wentzky, V.C., M.A. Frassl, C. Mi, T. Shatwell, K. Rinke | Metalimnetic oxygen minimum and the presence of Planktothrix rebescons in the low-nutrient Rappbode reservoir |
| 11:30 | J. Jansen, B. F. Thornton, M. Wik, S. MacIntyre and P. M. Crill | Physical and biological drivers of the temperature sensitivity of lake CH ₄ emissions |
| 11:36 | Jia Liu, Shangbin Xiao, Zhengjian Yang, Defu Liu, Xiaojuan Guo, Liu liu, Denghua Yan, Andreas Lorke, Chenghao Wang | Spatial high-resolution investigation of dissolved CH ₄ , CO ₂ and their emission fluxes in the Three Gorges Reservoir |
| 11:42 | Guo Xiaojuan, Liu Jia, Liu Defu, Yang Zhengjian, Xiao Shangbin and Andreas Lorke | High-resolution profiles reveal the Three Gorges Reservoir (TGR) backwater reduces nitrous oxide emission potential in its tributary bay |
| 11:48 | M. Ishikawa, I. Haag, J. Krumm, K. Teltscher and A. Lorke | The effect of stream shading on inflow characteristics in downstream reservoirs |
| 11:54 | All | Informal discussion |

WEDNESDAY, June 17, 2020

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| 17:00 | Wells, M. | Convection above and below sediment laden intrusions in stratified lakes and the ocean |
| 17:30 | Senja Walberg, Marek Stastna, Kevin Lamb | High resolution simulations of Lake Erie over the summer season |
| 18:00 | D. Deepwell, R. Ouillon, E. Meiburg and B. Sutherland | Particle pair settling through a thin density interface |
| BREAK | | |
| 18:45 | Garcia, S. | Turbulence behaviour over reservoir sedimented non cohesive soil |

19:15	Yang, B., M. Wells	Wind mixing during the restratification period in dimictic lakes determines initial winter thermal profiles under the ice: observations from a range of Northern American, European, and Asian lakes.
19:45	Adam Jiankang Yang, Edmund Tedford, Jason Olsthoorn and Gregory Lawrence	Asymmetric Holmboe instabilities in stratified shear flow
19:51	W. Zhou, J. Imberger, C. L. Marti, N. Fowkes	A New Pseudo-3D Lagrangian-Eulerian Hydrodynamic Model
19:57	Muhammed Shikhani, Tadhg N. Moore, Daniel Mercado-Bettín, María Dolores Frías, Chenxi Mi, Marc Scheibel, Eleni Teneketzi, Bertram Boehrer, Tom Shatwell, Karsten Rinke	New workflows for the integration of seasonal forecasts into reservoir operation
20:03	All	Informal discussion

THURSDAY, June 18, 2020

17:00	H. N. Ulloa, C. L. Ramón, K. B. Winters, T. Doda, A. Wüest and D. Bouffard	Buoyancy-driven modes of motion in radiatively heated rotating ice-covered waterbodies hugo.ulloa@epfl.ch
17:30	McInerney, J.B.T., A.L. Forrest and J. Largier	Resolution of internal wave sampling paths for autonomous underwater gliders
18:00	Graves, K., B. Laval and G. Lawrence	Seasonal mixing depth in a small, deep lake near the temperature of maximum density and with ice-cover

BREAK

18:45	J. Bonneau, B.E. Laval, D. Mueller, A.K. Hamilton, A.M. Friedrichs, A.L. Forrest	Winter dynamics in Milne Fiord, NU, Canada
19:15	B. Moore-Maley and S. E. Allen	Topographic influences on wind driven upwelling in a large fjord sea
19:21	Horwitz, R.M, Y. Wu, M.Z. Li and E. Devred	Mackenzie River outflow dynamics in an FVCOM model of the Arctic
19:27	Lawrence, G, Oolsthorn J.	Vancouver 2021 Introduction
19:32	Boehrer	Farewell note
19:34	All	Informal discussion