Davide Vanzo, Ph.D.

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Employment History

2020 – ...
Senior Research Assistant at the Laboratory of Hydraulics, Hydrology and Glaciology (VAW) of ETH Zurich.

2018 – 2020
Postdoctoral fellow at Eawag, Swiss Federal Institute of Aquatic Science and Technology, Surface Waters - Research and Management.

2015 – 2018
Postdoctoral fellow at the Laboratory of Hydraulics, Hydrology and Glaciology (VAW) of ETH Zurich.

2011
Research fellow within the project "Noce River". Department of Civil, Environmental and Mechanical Engineering (DICAM), University of Trento.

Research Summary

I am passionate about river environments and their sustainability. My research focuses on river hydro-morphodynamic processes and their mutual feedback with river ecosystems. I mainly use modelling for the quantification of environmental processes such as sediment dynamics, pollutant and thermal transport in rivers, vegetation and habitat dynamics. I also investigate the role of anthropogenic pressure on river systems, with focus on sediment and water flow alterations and their effects on river eco-morphodynamics. Moreover, I work on the development and implementation of accurate and efficient modelling strategies to simulate river eco-morphodynamic processes. In this scope, I am developer and scientific advisor within the BASEMENT project. Eventually, my research is both basic and practical, aiming at promoting sustainability and resilience of rivers in a changing world.
My list of publications is at the bottom of this cv.

Education

2012 – 2015
PhD degree in Environmental Engineering. Department of Civil, Environmental and Mechanical Engineering, University of Trento (Italy).
Thesis title: *Eco-hydraulic quantification of hydropeaking and thermopeaking: development of modeling and assessment tools* (advs. Prof. G. Zolezzi and Dr A. Siviglia). Available here.

2007 - 2011
Master's degree in Environmental Engineering (CL 38/S), major in Land and Civil Defence. University of Trento, Italy. Faculty of Engineering. Thesis title: *Morphodynamics of Gravel Bed Rivers: a two-dimensional numerical study* (advs. Prof. G. Zolezzi and Prof. M. Tubino; co-advs. Dr A. Siviglia and Dr G. Stecca).

2004 - 2007
Bachelor's degree in Environmental Engineering (CL 8). University of Trento, Italy. Faculty of Engineering. Thesis title: "*Prove di risospensione su sedimenti bentonici* (*Sediment resuspension tests on benthic substrates*)" (adv. Prof. M. Righetti).

Teaching

Master courses

2023 – ... **Lecturer**: Numerical Hydraulics. ETH Zurich.

2017 – ... **Lecturer**: River Morphodynamic Modelling. ETH Zurich.

2019 – 2020 **Teaching assistant**: Biogeochemical modeling of sediments, lakes and oceans, held by Dr. Martin Schmid. ETH Zurich.

2013 – 2014 **Lecturer**: Introduction to Fortran programming for Environmental Engineers. University of Trento.

2012 **Teaching assistant**: Fortran programming for Environmental Engineers, held by Dr. A. Siviglia. University of Trento.

Supervision Activity

Doctoral thesis

2022 The development and application of a new automatic fluvial mesohabitat approach. van Rooijen, E.J.. Doctoral dissertation, ETH Zurich.

2022 – ... Influence of river morphodynamic processes on fluvial habitat dynamics. Awadallah, Mahmoud O.M. ETH Zurich

Master thesis

2023 Coupled modelling of 2D hydrodynamics with seed dispersal and recruitment processes in an Alpine floodplain, M. Looser, ETH Zurich.

Analysis and modelling of river thermal dynamics in the Maggia valley, E. Bonetti, ETH Zurich.

2022 Quantifying Pathway Suitability for Fish Escaping Rapid Flow Changes, J.R. Wittmann, ETH Zurich. Awarded with ETH Medal and Culmann-Prize.

A Modelling Approach for Implementing Logjams using Basement v3, M. Altmann, ETH Zurich.

2021 Numerical simulation of sedimentation at Solis reservoir, I. Mora-Robles. ETH Zurich.

2020 Quantification of flood-induced fish habitat changes in an Alpine river, L. Toma. ETH Zurich.

Impact of flow regime alteration due to hydropeaking on biogeomorphic patterns in the Alpine Rhine river, P. Wild. ETH Zurich.

Räumlich explizite Habitatmodellierung für die Bachforelle (Salmo trutta) in Schwall-Sunk beeinflussten Flussauen unter besonderer Berücksichtigung der Wassertemperatur, L. Hoppler. ZHAW.

2019 Study of fish mesohabitat dynamics in the Moesa river, P. Paszti. ETH Zurich.

2016 Mitigation of fish stranding risk under hydropeaking scenarios: a modeling approach, F.Howald. ETH Zurich.

2015 Interazione eco-idraulica tra hydropeaking e morfologia fluviale: modellazione numerica non stazionaria (*Eco-hydraulic interaction between hydropeaking and river morphology: non-stationary numerical model*), M. Tancon. University of Trento.

Supervision Activity (continued)

Master projects

2021
- Trout spawning habitat assessment in a transect of the Sorne river impacted by diversion hydropower, L. Chevalier. ETH Zurich.
- Modeling the 2D spatiotemporal thermal variability in the Maggia River (CH,TI), M. Looser and S. Meierhans. ETH Zurich.
- Co-evolution of riparian vegetation and fluvial landforms in the Maggia Valley, N. Flury and S. Lindemann. ETH Zurich.

2020
- Modelling the sediment dynamics during a secular flood in an Alpine river, I. Mora Robles. ETH Zurich.

2018
- Assessment of 1D and 2D Model Capabilities for Hydropeaking Impact Analysis, T. Wicki and M. Burgler. ETH Zurich.

Project Management

2020 – . . .
- Responsible for the educational project TiRiLab (Ticino Rivers Lab), in partnership with the Institute for Environmental Engineering (IfU) of ETH Zurich and the Canton Ticino.

2021 – 2022
- Project coordinator: Monitoring residual flows in Canton Tessin, ETH Zurich.

Visiting Periods

May – June 2014
- Visiting period at NTNU. Trondheim, Norway.

Sept – Oct 2013
- Visiting period at VAW-ETH. Zurich, Switzerland.

International Invited Talks and Workshops

2020
- Invited talk, 'High Performance Computing in river modelling: insights into the BASEMENT project' and 'Hydropower and local river water temperature dynamics: challenges and opportunities of a modelling approach'. At the Department of Civil and Environmental Engineering, NTNU. Trondheim, 28 January 2020.

2019
- Invited talk, 'Hydropower and local river water temperature dynamics: challenges and opportunities of a modelling approach'. At the Lunchtime Seminar, IHE Delft. Delft, 6 December 2019.
- Special session organizer, 'Links between thermal dynamics, hydromorphology and freshwater ecology'. At *6th International Society for River Science (ISRS) Symposium*. Wien, 8-13 September 2019.

2018
- Workshop organizer, 'Interdisciplinarity in Ecohydraulics: an early career perspective'. Supported by Kurita Fundation. At *12th International Symposium on Ecohydraulics*. Tokyo, 18-19 August 2018.
- Special session organizer, 'Advances in ecohydraulic modelling: metrics and approaches towards genuinely integrated models'. At *12th International Symposium on Ecohydraulics*. Tokyo, 18-19 August 2018.

2017
- Workshop participant, 'Early careers, fine sediment and hydroecology: Supporting Good Ecological Status through research'. Supported by the British Ecological Society Aquatic Group (BESAG). Organized by Environmental Agency. Reading (UK). 27 July 2017.

International Invited Talks and Workshops (continued)

2012
- Workshop participant, 'OpenACC Workshop'. Organized by Center for Computing and Communication of the RWTH Aachen University. Aachen (DE). 11-12 October 2012.
- Workshop participant, 'International Workshop on Hydropeaking'. Organized by Platform Water Management in the Alps and Eawag. Zurich (CH). 19-21 June 2012.

Editorial/review Activities

Guest Editor

2022 – 2023
- *Innovations in hydropeaking research.* River Research and Applications - Wiley

Reviewer for peer-reviewed journals

- Advances in Water Resources - Elsevier
- Ecohydrology - Wiley
- Journal of Applied Water Engineering and Research - Taylor & Francis Online
- Journal of Cleaner Production - Elsevier
- Journal of Limnology - Pagepress
- Journal of Hydrology - Elsevier
- Science of the Total Environment - Elsevier
- PLOS ONE
- Water Resources Research - AGU
- Marine & Freshwater Research - CSIRO
- River Research and Applications, (Wiley)
- The Journal of Ecohydraulics - Taylor & Francis Online

Memberships

2021 – . . .
- Member of HyPeak: Hydropeaking Research Network

2020 – . . .
- Leadership Team Member of IAHR Technical Committee on Ecohydraulics

2016 – . . .
- Scientific Board Member and Developer in the BASEMENT software project
- Committee member of the Early Careers on Ecohydraulics Network, (ECoENet)

2013 – . . .
- Member of the International Association for Hydro-Environment Engineering and Research, (IAHR)

2013 – 2019
- Member of the European Geophysical Union, (EGU)

2013 – . . .
- Member of the Gruppo Italiano di Idraulica, (GII)

Skills

Technical skills

- Programming languages: Fortran, Matlab, C, C++, R, Python
- Applications: LaTeX, Office Suite and similar, Autocad, Maple, Qgis, HecRas, OpenMP, OP2, Paraview, BASEMENT, Simstrat, GLM
- Operating systems: Linux-based OS, Microsoft Windows

Skills (continued)

Fieldwork experience

2019-2022 River morphodynamics and riparian vegetation dynamics: fieldwork campaigns in Moesa River (Switzerland).

2018-2019 River water temperature monitoring: fieldwork campaigns in Moesa River and Vorderrhein (Switzerland).

2018 Fieldwork assistant in 2 fieldwork campaigns (March and November): water quality measurements in Zambezi and Kafue River basins (Zambia). DAFNE project.

Languages

Italian native, *English* fluent, *German* beginner, *Spanish* beginner

Miscellaneous Experience

Educational experience and continuous learning

2022 Career Planning Workshop, ETH Zürich.

2020-2022 Organizer of the Ecohydraulics Challenge for the IAHR Young Professionals Hydro-Environment challenge contest.

2022 The power of your voice - voice training for lecturers. Workshop, UZH-ETH Zürich.

Emotional Intelligence course. ETH Zürich.

2021 Building an effective Moodle course. Self-learning course, ETH Zürich.

Time Management course. ETH Zürich.

2020 Introduction to Online Teaching. ETH Zürich.

2019 Scientific Visual Communication Workshop. EAWAG, Dübendorf.

Foundations on Teaching and Learning. ETH Zürich.

Surface Water – Groundwater Interaction: From Watershed Processes to Hyporheic Exchange (Workshop organized by University of Zurich)

2012 Lecture and field trip about river and water with a primary school class. Primary School of Pove del Grappa, Piazza Europa (VI-Italy).

2008 ERASMUS Intensive Course SUSTMONT: "Training on tools and methods of sustainable rural development in context with Global Change in European mountain areas". Spain. Organized by University of Trento, Italy - University of Innsbruck, Austria - ERASMUS IP.

2003 ESOL-PET Preliminary English Test Certificate. University of Cambridge, ESOL Examinations.

Two weeks of study holiday in England, upper intermediate level course. Angloschool. 146 Church Road, Crystal Palace, London.

2002 Two weeks of study holiday in Ireland, intermediate level course. International Summer Schools. 91 Hillside, Greystones, Co. Wicklow.

Publications

Peer-reviewed Scientific Articles

1. Altmann, M., **Vanzo**, **D.**, Valero, D., & Schalko, I. (Under review). A simple approach to simulate logjams in two-dimensional hydrodynamic models. *Journal of Hydraulic Engineering*.

2. Caponi, F., Vetsch, D. F., & **Vanzo**, **D.** (2023). Baseveg: A python package to model riparian vegetation dynamics coupled with river morphodynamics. *SoftwareX*, *22*, 101361. doi:10.1016/j.softx.2023.101361

3. Hayes, D., Bruno, M. C., Alp, M., Boavida, I., Batalla, R., **Vanzo**, **D.** et al. (2023). 100 key questions to guide hydropeaking research and policy. *Renewable & Sustainable Energy Reviews*, *187*. doi:https://doi.org/10.1016/j.rser.2023.113729

4. **Vanzo**, **D.**, Bejarano, M. D., Boavida, I., Carolli, M., Venus, T. E., & Casas-Mulet, R. (2023). Innovations in hydropeaking research. *River Research and Applications*. doi:10.1002/rra.4118

5. Alp, M., Batalla, R. J., Bejarano, M. D., Boavida, I., Capra, H., Carolli, M., … **Vanzo**, **D.** et al. (2022). Introducing hypeak: An international network on hydropeaking research, practice, and policy. *River Research and Applications*. doi:10.1002/rra.3996

6. Antonetti, M., Hoppler, L., Tonolla, D., **Vanzo**, **D.**, Schmid, M., & Doering, M. (2022). Integrating two-dimensional water temperature simulations into a fish habitat model to improve hydro- and thermopeaking impact assessment. *River Research and Applications*. doi:10.1002/rra.4043

7. Bürgler, M., Vetsch, D. F., Boes, R., & **Vanzo**, **D.** (2022). Systematic comparison of 1d and 2d hydrodynamic models for the assessment of hydropeaking alterations. *River Research and Applications*. doi:10.1002/rra.4051

8. Siviglia, A., **Vanzo**, **D.**, & Toro, E. F. (2022). A splitting scheme for the coupled saint-venant-exner model. *Advances in Water Resources*, *159*, 104062. doi:10.1016/j.advwatres.2021.104062

9. Toro, E. F., Castro, C. E., **Vanzo**, **D.**, & Siviglia, A. (2022). A flux-vector splitting scheme for the shallow water equations extended to high-order on unstructured meshes. *International Journal for Numerical Methods in Fluids*. doi:10.1002/fld.5099

10. van Rooijen, E., Siviglia, A., Vetsch, D. F., Boes, R., & **Vanzo**, **D.** (2022). Quantifying fluvial habitat changes due to multiple subsequent floods in a braided alpine reach. *The Journal of Ecohydraulics*. doi:10.1080/24705357.2022.2105755

11. Aksamit, C. K., Carolli, M., **Vanzo**, **D.**, Weber, C., & Schmid, M. (2021). Macroinvertebrate recovery to varying hydropeaking frequency: A small hydropower plant experiment. *Frontiers in Environmental Science*, *8*, 602374. doi:10.3389/fenvs.2020.602374

12. Calamita, E., **Vanzo**, **D.**, Wehrli, B., & Schmid, M. (2021). Lake modeling reveals management opportunities for improving water quality downstream of transboundary tropical dams. *Water Resources Research*, *57*(4), e2020WR027465. doi:10.1029/2020WR027465

13. Phiri, W., **Vanzo**, **D.**, Banda, K., Nyirenda, E., & Nyambe, I. (2021). A pseudo-reservoir concept in swat model for the simulation of an alluvial floodplain in a complex tropical river system. *Journal of Hydrology: Regional Studies*, *33*, 100770. doi:10.1016/j.ejrh.2020.100770

14. van Rooijen, E., **Vanzo**, **D.**, Vetsch, D. F., Boes, R. M., & Siviglia, A. (2021). Enhancing an unsupervised clustering algorithm with a spatial contiguity constraint for river habitat analysis. *Ecohydrology*, *14*(4), e2285. doi:10.1002/eco.2285

15. **Vanzo**, **D.**, Peter, S., Vonwiller, L., Bürgler, M., Weberndorfer, M., Siviglia, A., … Vetsch, D. F. (2021). Basement v3: A modular freeware for river process modelling over multiple computational backends. *Environmental Modelling & Software*, *143*, 105102. doi:10.1016/j.envsoft.2021.105102

16 Casas-Mulet, R., **Vanzo**, **D.**, Adeva-Bustos, A., Macnaughton, C. J., Stewardson, M. J., Pasternack, G. B., … Dyer, F. (2020). How to strengthen interdisciplinarity in ecohydraulics? outcomes from ise 2018. *Journal of Ecohydraulics*, 1–12. doi:10.1080/24705357.2020.1813057

17 Vetsch, D., Bürgler, M., Gerke, E., Kammerer, S., **Vanzo**, **D.**, & Boes, R. (2020). Basement–softwareumgebung zur numerischen modellierung der hydro-und morphodynamik in fließgewässern. *Österreichische Wasser-und Abfallwirtschaft*, *72*(7), 281–290. doi:10.1007/s00506-020-00677-6

18 Wilkes, M. A., Gittins, J. R., Mathers, K. L., Mason, R., Casas-Mulet, R., **Vanzo**, **D.**, … Gurnell, A. et al. (2019). Physical and biological controls on fine sediment transport and storage in rivers. *Wiley Interdisciplinary Reviews: Water*, *6*(2), e1331. doi:10.1002/wat2.1331

19 Carraro, F., **Vanzo**, **D.**, Caleffi, V., Valiani, A., & Siviglia, A. (2018). Mathematical study of linear morphodynamic acceleration and derivation of the masspeed approach. *Advances in Water Resources*, *117*, 40–52. doi:10.1016/j.advwatres.2018.05.002

20 **Vanzo**, **D.**, Siviglia, A., Carolli, M., & Zolezzi, G. (2016). Characterization of sub-daily thermal regime in alpine rivers: Quantification of alterations induced by hydropeaking. *Hydrological Processes*, *30*(7), 1052–1070. doi:10.1002/hyp.10682

21 **Vanzo**, **D.**, Siviglia, A., & Toro, E. F. (2016). Pollutant transport by shallow water equations on unstructured meshes: Hyperbolization of the model and numerical solution via a novel flux splitting scheme. *Journal of Computational Physics*, *321*, 1–20. doi:10.1016/j.jcp.2016.05.023

22 **Vanzo**, **D.**, Zolezzi, G., & Siviglia, A. (2016). Eco-hydraulic modelling of the interactions between hydropeaking and river morphology. *Ecohydrology*, *9*(3), 421–437. doi:10.1002/eco.1647

23 Wilkes, M. A., Neverman, A. J., Casas-Mulet, R., Adeva-Bustos, A., ..., **Vanzo**, **D.** et al. (2016). Early careers on ecohydraulics: Challenges, opportunities and future directions. *Journal of Ecohydraulics*, *1*(1-2), 102–107. doi:10.1080/24705357.2016.1249423

24 Carolli, M., **Vanzo**, **D.**, Siviglia, A., Zolezzi, G., Bruno, M. C., & Alfredsen, K. (2015). A simple procedure for the assessment of hydropeaking flow alterations applied to several european streams. *Aquatic sciences*, *77*(4), 639–653. doi:10.1007/s00027-015-0408-5

25 Siviglia, A., Stecca, G., **Vanzo**, **D.**, Zolezzi, G., Toro, E. F., & Tubino, M. (2013). Numerical modelling of two-dimensional morphodynamics with applications to river bars and bifurcations. *Advances in Water Resources*, (52), 243–260. doi:10.1016/j.advwatres.2012.11.010

Conference Proceedings

1 Hayes, D., Bruno, M. C., Alp, M., Boavida, I., Batalla, R., Bejarano, M. D., … Vericat, D. et al. (2023). 100 key questions to guide hydropeaking research. In *Egu general assembly 2023, wien, 24-28 april 2023*.

2 **Vanzo**, **D.**, Michael, L., Vetsch, D. F., Fink, S., & Caponi, F. (2023). Modelling seed recruitment controls in an alpine floodplain subject to hydropeaking. In *Egu general assembly 2023, wien, 24-28 april 2023*.

3 Caponi, F., Vetsch, D. F., Molnar, P., Salvetti, A., & **Vanzo**, **D.** (2022). Integrated modelling and monitoring of e-flows regulation in a swiss alpine river. In *Proceedings of the 14th international symposium on ecohydraulics (2022, nanjing)*.

4 Caponi, F., Vetsch, D. F., Siviglia, A., & **Vanzo**, **D.** (2022). Baseveg: A modelling framework integrating vegetation dynamics and river hydro-morphodynamic processes. In *EGU22, the 24th EGU general assembly, held 23-27 may, 2022 in vienna, austria and online*.

5 Silva, L. G. M., Luthy, E., Naudascher, R., **Vanzo**, **D.**, & Stocker, R. (2022). Fish escaping routes – fier: Modelling escaping routes for fish larvae under rapid flow changes during hydropeaking. In *Proceedings of the 14th international symposium on ecohydraulics (2022, nanjing)*.

6. Castro, C., **Vanzo**, **D.**, Siviglia, A., & Toro, E. (2021). High-order splitting schemes for the shallow water equations with applications to tsunami wave propagation. In *Numhyp 2021, 7th international conference on numerical methods for hyperbolic problems. 26-30 july 2021, online and trento (italy)*.

7. Conde, D., **Vanzo**, **D.**, Siviglia, A., & Vetsch, D. (2021). An efficient implementation of turbulent-diffusive processes and suspended sediment transport in shallow-water models: Hyperbolization, flux splitting approach and gpu acceleration. In *Numhyp 2021, 7th international conference on numerical methods for hyperbolic problems. 26-30 july 2021, online and trento (italy)*.

8. Fink, S., van Rooijen, E., **Vanzo**, **D.**, Vetsch, D. F., Siviglia, A., & Scheidegger, C. (2021). A hierarchical approach linking hydraulic and ecological modeling for habitat predictions for riverine pioneer vegetation. In *Egu general assembly conference abstracts* (EGU21–6450).

9. Siviglia, A., **Vanzo**, **D.**, & Toro, E. (2021). A second-order well-balanced splitting scheme for the non-conservative saint-venant-exner model. In *Numhyp 2021, 7th international conference on numerical methods for hyperbolic problems. 26-30 july 2021, online and trento (italy)*.

10. Caponi, F., Wild, P., Vetsch, D. F., Boes, R., Siviglia, A., & **Vanzo**, **D.** (2020). Quantifying the role of hydropeaking regimes on reach-scale vegetation recruitment in a gravel bed river. In *Agu fall meeting abstracts* (Vol. 2020, EP052–0010).

11. van Rooijen, E., Toma, L., Vetsch, D. F., Boes, R., Siviglia, A., & **Vanzo**, **D.** (2020). Quantification of flood induced fish habitat changes in an alpine river. In *Agu fall meeting abstracts* (Vol. 2020, EP055–04).

12. Vetsch, D., **Vanzo**, **D.**, Bürgler, M., Bacigaluppi, P., Conde, D., Boes, R., … Siviglia, A. (2020). High performance computing in river modelling: A novel two-dimensional software for river hydro-and morphodynamic simulations. In *River flow 2020* (pp. 1401–1408). CRC Press.

13. van Rooijen, E., Paszti, P., **Vanzo**, **D.**, Vetsch, D., & Siviglia, A. (2019). A new method for predictive mesohabitat modelling. In *Proceedings of: 6th international society for river science (isrs) symposium, wien, 8-13 september 2019*.

14. **Vanzo**, **D.**, Weber, C., Döring, M., & Schmid, M. (2019). The influence of hydropower production on river thermal heterogeneity: A modelling approach. In *Geophysical research abstracts* (Vol. 21).

15. Carraro, F., Siviglia, A., **Vanzo**, **D.**, Caleffi, V., & Valiani, A. (2017). Morspeed: A new concept for the seedup of morphological simulations. In *10th symposium on river, coastal and estuarine morphodynamics* (pp. 95–95).

16. **Vanzo**, **D.**, Adami, L., Siviglia, A., Zolezzi, G., & Vetsch, D. F. (2017). The role of numerical diffusion in river alternate bar simulations. In *10th symposium on river, coastal and estuarine morphodynamics (rcem 2017): Book of abstracts* (pp. 253–253). RCEM2017 Organizing Commitee.

17. Vetsch, D. F., Vonwiller, L., **Vanzo**, **D.**, & Siviglia, A. (2017). Morphological response to sediment replenishment in confined meandering rivers. In *Rcem 2017 back to italy: 10th symposium on river, coastal and estuarine morphodynamics, trento-padova, september 15-22, 2017: Book of abstracts* (pp. 258–258).

18. Vonwiller, L., **Vanzo**, **D.**, Siviglia, A., Zolezzi, G., Vetsch, D. F., & Boes, R. M. (2017). Response of free migrating bars to sediment supply reduction. In *Rcem 2017 back to italy: 10th symposium on river, coastal and estuarine morphodynamics, trento-padova, september 15-22, 2017: Book of abstracts* (pp. 259–259).

19. Siviglia, A., **Vanzo**, **D.**, Carolli, M., & Zolezzi, G. (2016). Development of two indices for the quantification of thermopeaking alterations in alpine rivers. In *11th international symposium on ecohydraulics (ise 2016)* (pp. 456–459). Engineers Australia Barton, ACT.

20. **Vanzo**, **D.**, Tancon, M., Zolezzi, G., Alfredsen, K., & Siviglia, A. (2016). A modeling approach for the quantification of fish stranding risk: The case of lundesokna river (norway). In *Proceedings from the 11th international symposium on ecohydraulics (ise 2016). engineers australia* (pp. 326–333).

21. Carolli, M., **Vanzo**, **D.**, Zolezzi, G., Siviglia, A., & Bruno, M. (2014). How much hydropeaking? development of a first screening approach to assess the level of hydropeaking pressures. In *10th international symposium on ecohydraulics*.

22. **Vanzo**, **D.**, Siviglia, A., & Zolezzi, G. (2014). Long term 2d gravel-bed river morphodynamics simulations using morphological factor: Are final configurations always reliable? In *Egu general assembly conference abstracts* (p. 3549).

23. **Vanzo**, **D.**, Zolezzi, G., & Siviglia, A. (2014). Operational or compensation? a modelling study of some hydropeaking mitigation measures. In *10th international symposium on ecohydraulics*.

24. **Vanzo**, **D.**, Siviglia, A., & Zolezzi, G. (2013). Can self-formed river morphodynamics mitigate ecological effects of hydropower operations? In *River, coastal and estuarine morphodynamics - rcem2013*.

25. Zolezzi, G., **Vanzo**, **D.**, Siviglia, A., & Stecca, G. (2013). Benchmarking numerical morphodynamic models with analytical morphodynamic theories. In *Egu general assembly conference abstracts* (p. 13587).

26. Stecca, G., Zolezzi, G., Siviglia, A., **Vanzo**, **D.**, & Tubino, M. (2011). Bars dynamics in channelized river reaches: Integrating analytical, numerical modelling and field observations. In *Agu fall meeting abstracts* (Vol. 2011, EP33D–05).

27. **Vanzo**, **D.**, Siviglia, A., Zolezzi, G., Stecca, G., & Tubino, M. (2011). Interaction between steady and migrating bars in straight channels. In *River, coastal and estuarine morphodynamics - rcem2011*. Beijing: Tsinghua University Press.

Other publications

1. Conde, D., Juez, C., **Vanzo**, **D.**, Scheidegger, C., De Cesare, G., & Vetsch, D. (2023). Ch. 6: Simulation of fine sediment deposition on floodplains. In M. D. Giulio (Ed.), *Riverscape – sediment dynamics and connectivity. practice-oriented research in hydraulic engineering and ecology*. Bern: Federal Office for the Environment (FOEN).

2. Pasternack, G. B., Tonina, D., Casas-Mulet, R., Adeva-Bustos, A., **Vanzo**, **D.**, John, A., & Tinoco, R. (2023). Climate change prediction and adaptation in ecohydraulics. International Association for Hydro-Environment Engineering and Research (IAHR).

3. van Rooijen, E., **Vanzo**, **D.**, Vetsch, D., Siviglia, A., & Fink, S. (2023). Ch. 2: Riparian eco-hydrodynamic habitat modelling. In M. D. Giulio (Ed.), *Riverscape – sediment dynamics and connectivity. practice-oriented research in hydraulic engineering and ecology*. Bern: Federal Office for the Environment (FOEN).

4. Vetsch, D., Siviglia, A., Bacigaluppi, P., Bürgler, M., Caponi, F., Conde, D., … Weberndorfer, M. (2023). *System manuals of BASEMENT, version 4.0.0*.

5. Aksamit, C., Friese, N., **Vanzo**, **D.**, Weber, C., & Schmid, M. (2021). *Analysis of hydro- and thermopeaking in the upper rhone river during the smallflex experiment in november 2018*. Eawag, Kastanienbaum.

6. Decaix, D., Münch-Alligné, C., Zordan, J., Manso, P., Cesare, G. D., Alimirzazadeh, S., **Vanzo**, **D.** et al. (2021). *Smallflex demonstrator for flexible small hydropower plant*. Swiss Federal Office of Energy SFOE, Bern.

7. **Vanzo**, **D.**, Bürgler, M., Conde, D., & Vetsch, D. F. (2021). Basement v3, a modular freeware for river process modelling: Test cases collection. doi:https://doi.org/10.3929/ethz-b-000482308

8. Vetsch, D. F., Vonwiller, L., & **Vanzo**, **D.** (2021). Simulation der morphodynamik von fliessgewässern. Verein für Ingenieurbiologie.

9. Bürgler, M., Wicki, T., **Vanzo**, **D.**, Boes, R. M., & Vetsch, D. (2019). Hydronumerischen 1-d und 2-d-modelle-eignung zur beurteilung der auswirkungen von schwall und sunk. SWV.

10 Carolli, M., **Vanzo**, **D.**, Zolezzi, G., Siviglia, A., & Bruno, M. C. (2014). *Metodo per la quantificazione della pressione da hydropeaking*.