

PUBLICATIONS (extract)

Prof. Dr.-Ing. Ioan David

Books:

1. **David, I.**, Beilicci, E., Beilicci, R.: *Basics for Hydraulic Modelling of Flood Runoff Using Advanced Hydroinformatic Tools*, Chap.8 (pg. 205-239) in Book “Extreme Weather and Impacts of Climate Change on Water Resources in the Dobrogea Region”, IGI Global, USA, 2015, ISBN 978-1-4666-8438-6 (hardcover) -- ISBN 978-1-4666-8439-3 (e-book), DOI: 10.4018/978-1-4666-8438-6.ch008, <http://www.igi-global.com/chapter/basics-for-hydraulic-modelling-of-flood-runoff-using-advanced-hydroinformatic-tools/131531>
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3. **David I.**, *Grundwasserhydraulik. Strömungs-und Transportsprozesse*, (VIEWEG-Springer, 1998, ISBN 3-528-07713-1, <https://www.springer.com/de/book/9783528077136>
4. **David, I.:** *Grundwasserfassungsanlagen mit Filterrohren*, Technischer Berichte aus dem Institut für Hydraulik und Hydrologie der TU Darmstadt, Nr. 19, Bönecke-Druck, 3392-Clausthal-Z.29, 1977, https://www.wasserbau.tu-darmstadt.de/media/fachgebiet_wasserbau/daten_pdf/publikationen/Gesamtverzeichnis_1965_bis_1995.pdf
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2. **David, I.**, Sumalan, I., Achim, C., *Hydraulik. Experimentelle Themen*, Editura Politehnica, Timișoara, 2012, ISBN 978-606-554-149-8
3. **David, I.**, Sumalan, I., *Metode numerice cu aplicatii in hidrotehnica*. Ed. MIRTON, Timisoara, 1998, ISBN 973-578-607-9
4. **David I.**, *Hidraulica*, vol. I+II, 2.Ed., Politehnica Timisoara, 1990 (630 pg.)
5. **David, I.** *Hidraulica Vol.II*, Ed. Politehnica Timisoara, 1984, (430 pg.)
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Published scientific papers:

2015-20

1. **David, I.**, Stefanescu, C. Gravity Compressed -Air- Hydraulic- Power-Tower Energy Storage Plants, 2020 IOP Conf. Ser.: Mater. Sci. Eng. 960 022077, 2020
2. **David, I.**, Stefanescu, C., Vlad, I., A simplified technical-economic calculation example to upgrading of a hydropower plant through re-equipment and extension with a pump-hydro-storage-unite, Scientific Bulletin of Politehnica University of Timișoara Transactions on HYDROTECHNICS Volume 65 (79), Issue 1, 2020

3. **David, I.** Sumalan, C. Stefanescua, M. Visescu, I. Vlad, Cristian Gradinarua, *Numerical Experiment to Analyse the Reliability of Coarse Grid based Numerical Methods for Modelling Groundwater Flow by Drainage Objects like Wells in Confined Aquifer*, WMCAUS 2016, Procedia Engineering 161 (2016), 1957 – 1964, Procedia Engineering 161 (2016) 1949 – 1956, Available online at www.sciencedirect.com

1. **David, I.**, Stefanescu, C., Mathematical modelling of groundwater flow in shallow aquifer containing a cavity of arbitrary form bounded by a partially permeable contour Scientific Bulletin of Politehnica University of Timișoara, Transactions on HYDROTECHNICS, Volume 64 (78), Issue 1, **2019**

2. Ioan David, Ioan Vlad, Camelia Monica Stefanescu, Replacement possibilities of the heavy overload piston of gravity- hydro-power-tower energy storage plants using compressed air. 18th International Multidisciplinary Scientific GeoConference & EXPO - SGEM 2018, Bulgaria, June **2018**, DOI: 10.5593/sgem2018/4.1/S17.078

3. Zsolt Marossy, Ioan David, Mircea Visescu, Camelia Monica Stefanescu, *A review of hydraulic aspects and calculation methods of local head losses focussing on gate valves and check valves*, 18th International Multidisciplinary Scientific GeoConference SGEM 2018, Bulgaria, June **2018**, DOI: 10.5593/sgem2018/3.1/S12.002

4. E. Gabor, **I. David**, C. Stefanescu, *Accuracy Assessment of Very High-Resolution Multispectral Images Derived Data for River Flow Modelling*, WMCAUS 2016, Procedia Engineering 161 (2016) 1949 – 1956, doi: 10.1016/j.proeng.2016.08.785, Available online at www.sciencedirect.com

5. **I. David**, C. Gradinaru, M. Visescu, I. Vlad, C. Stefanescu, *Modelling of horizontal drainage objects in regional groundwater simulation using grid block corrections*, 16th International Multidisciplinary Scientific GeoConference SGEM 2016, Conference Proceedings, ISBN 978-619-7105-55-1 / ISSN 1314-2704, June 28 - July 6, **2016**, Book1 Vol. 1, 909-920pp, DOI: 10.5593/SGEM2016/B11/S02.115

6. **David, I.**, Stefanescu, C., Vlad, I.: Efficiency assessment of ground-source heat pumps in comparison with classical heating system, Conference Proceedings SGEM **2015**, Vol. Renewable energy resources and Clean Technologies, ISBN: 978-649-7105-38-4; ISSN: 1314-2704; DOI: 10.5593/sgem2015B41 pg. 191-198

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8. **I. David**, C. Ștefănescu, C. Grădinaru, I. Vlad, C. Gabor, *Mathematical Modelling of Groundwater flow in Aquifers which Contain Extraction/infiltration Cavity of Arbitrary Shape, Using the Theory of Functions of a Complex Variable*, Proceedings of the International Conference on Mathematical Methods, Mathematical Models and Simulation in Science and Engineering (**MMSSE 2015**), Vienna, March 1-17, 2015, ISBN: 978-1-61804-287-3, pg. 400-405

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10. Gabor, C., **David, I.**, Beilicci, E., Beilicci, R., Gradinaru, C.: *Digital terrain model - basic element for the construction of a hydrodynamic river model using advanced hydroinformatic tools*, Conference Proceedings **SGEM 2015**, Vol. 1, Hydrology & Water resources, ISBN: 978-619-7105-36-0; ISSN: 1314-2704; DOI: 10.5593/sgem2015B31, pg. 205-212

11. C.Stefanscu, **I. David**, I.Vlad, M.Visescu, E.Beilicci, *Potential resources and opportunities for alternative energy production in centralRomania*, 15th International

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16. **David, I.**: *Mathematical method for estimation the temperature field changes by vertical heat exchangers during real time exploitation of ground source heat pump systems*, Proceedings of the 3rd International Conference on Mathematical and Computational methods in Science and Engineering (**MACMESE '12**, isbn 978-1-61804-141-8, paris, 2-4 december, **2012** (invited plenary speaker), <http://www.naun.org/wseas/cms.action?id=3656>
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18. **David, I.**, Pişleaga, M., Visescu, M., Ştefănescu, C., Iliuţă, C.: *Numerical Experiment to Determine the Influence of the Particle Number of the Random Walk Simulation Method for Heat and Pollutant Transport in the Aquifer*, in Journal of Environmental Protection and Ecology 13, No 3A, 1989-1996, **2012**
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21. **David, I.** *Analytical and Boundary Elements based Integral Representation for Numerical Solution of 3-D Potential Problems in Heterogeneous Media Containing Singularities*. Proceedings of the 12th WSEAS International Conference on Mathematical and Computational Methods in Science and Engineering (**MACMESE '10**), University of Algarve, Faro, Portugal, November 3-5, 2010, pg.350-357,ISBN: 978-960-474-243-1, (plenary speaker) <http://www.wseas.us/conferences/2010/faro/macmese/>
22. Constanatin, A., **David, I.**, Chebuţiu A.,Nicoară S., Vişescu M.: *The possibility of fitting a pumped storage plant within the complex water development on upper Barzava, Romania*, Proceedings of the 25th AIRH Symposium on Hydraulic Machinery, **2010**, published by the Institute of Physics (IoP), Conference Series: Earth and Environment Science, Volume 12, **2010**, ISBN: 978-606-554-136-8, pg. 863-870, <http://iopscience.iop.org/1755-1315/12/1>
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