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Domenii de interes: Hidrologie, Limnologie, Managementul resurselor de apa, Zone umede, Geografie Regionala a României

Competente manageriale:

- 2016-2020, Director Departamentul de Geografie
- 2008 – prezent, membru fondator si Secretar stiintific – Asociatia Romana de Limnogeografie
- Editor in chief – Annals of Valahia University of Targoviste. Geographical series

Activitate didactică:

Cursuri: Hidrologie continentală și Oceanografie; Amenajarea bazinelor hidrografice și apărarea împotriva inundațiilor; Metode și tehnici de analiză a datelor geografice

Teza de doctorat:

- **Bretcan, P.** (2007), *Complexul lacustru Razim-Sinoie. Studiu de limnologie [The Razim-Sinoie lacustrine complex. A limnology study]*. Edit. Transversal, 310 p.

Activitate de cercetare:

- 2017-2018 - Complex investigation (Neutron Activation Analysis, Fourier Transform Infrared and Raman Spectroscopy, Inductively Coupled Plasma – Mass Spectroscopy, Scanning Electron Microscopy +Multielemental Analysis, Optical Microscopy and Image Analysis) of the unconsolidated sediments of Romanian Plain salt lakes
- 2015- 2016 - Paleoenvironmental studies in Romanian Plain using nuclear and related analytical techniques, protocol no 4521-4-2015/2016 in the topic no. 03-4-1104-2011/2016
- 2006 – Contract de cercetare cu Universitatea Valahia cu tema: „Riscuri hidrologice pe râul Ialomița în zona subcarpatică”
- 1999- 2001 – Contract de cercetare cu CNCSIS cu tema: Studiul geografic al resurselor de apă din România în concepția dezvoltării durabile

Cărți reprezentative:

- Dunea, D., **Brețcan, P.**, Șerban, G., Tanislav, D., Țuchiu, E., Iordache, Ș. (2022). Water Temperature Variability in the Lower Danube River. Pp. 137-159 In: Negm, A., Zaharia, L., Ioana-Toroimac, G. (eds) The Lower Danube River. Earth and Environmental Sciences Library. Springer, Cham. https://doi.org.am.e-nformation.ro/10.1007/978-3-031-03865-5_5
- Șerban, G., Sabău, D., Bătițaș, R., **Brețcan, P.**, Ignat, E., & Nacu, S. (2020). *Water Resources from Romanian Upper Tisa Basin*. In *Water Resources Management in Romania* (pp. 393-434). Springer, Cham.
- Gâștescu P., **Brețcan P.** (2019), *Hidrologie și Oceanografie, editia a II-a [Hydrology and oceanography, Second Edition]*, Valahia University Press, 357 p.
- Gâștescu P., **Brețcan P.** (edit.) (2012, 2014, 2016, 2018, 2021, 2023), *4th International Conference Water resources and wetlands. CONFERENCE PROCEEDINGS 5-9 September, 2018 Tulcea (Romania)*, 312p.
- Gâștescu, P., **Brețcan, P.** (2010), *Resursele de apă din România. Vulnerabilitate la presiunea activităților antropice*, Edit. Transversal, 479 p.
- Gâștescu, P., **Brețcan, P.** (2009), *Hidrologie și Oceanografie [Hydrology and oceanography]*, Edit Transversal, 384 p.
- Gâștescu, P. Murarescu, Dinu, I. M. **Brețcan, P.** (2006), *Hidrologie generală. Lucrări practice [Hydrology Overview - practical work]*, Edit Transversal, 144 p.

Articole reprezentative:

- Pastor I, Tanislav D, Nedelea A, Dunea D, Serban G, Haghghi AT, Sabau D, **Bretcan P.** (2024) Morphometric Analysis and Prioritization of Sub-Watersheds Located in Heterogeneous Geographical Units—Case Study: The Buzău River Basin. *Sustainability*. 16(17):7567. <https://doi.org/10.3390/su16177567>
- Nguyen, H.D., Nguyen, QH., Dang, D.K., Nguyen T.G., Truong Q.H., Nguyen V.H., **Bretcan P.**, Serban Gh., Bui Q-T., Petrisor A-I. (2024) Integrated machine learning and remote sensing for groundwater potential mapping in the Mekong Delta in Vietnam. *Acta Geophys.* <https://doi.org/10.1007/s11600-024-01331-5>
- Sabău, D.A., Șerban, G., **Brețcan, P.**, Dunea D., Petrea D., Rus I., Tanislav D. (2023) Combining radar quantitative precipitation estimates (QPEs) with distributed hydrological model for controlling transit of flash-flood upstream of crowded human habitats in Romania. *Nat Hazards* **116**: 1209-1238. <https://doi.org/10.1007/s11069-022-05718-9>
- **Bretcan, P.**; Tanislav, D.; Radulescu, C.; Serban, G.; Danielescu, S.; Reid, M.; Dunea, D. Evaluation of Shallow Groundwater Quality at Regional Scales Using Adaptive Water Quality Indices. *Int. J. Environ. Res. Public Health* **2022**, *19* (17), 10637. <https://doi.org/10.3390/ijerph191710637>
- **Bretcan P**, Dunea D, Vintescu G, Tanislav D, Zelenakova M, Predescu L, Șerban G, Borowiak D, Rus I, Sabău DA, Mititelu-Ionuș O, Hueci M, Moreanu A, Samoila E, Nguyen HD, Frasin LN, Mirea I-A, Muntean R-C. (2022) Automated versus Manual Mapping of Gravel Pit Lakes from South-Eastern Romania for Detailed Morphometry and Vegetation. *Water*; 14(12):1858. <https://doi.org/10.3390/w14121858>
- Dunea D, **Bretcan P**, Tanislav D, Serban Gh, Teodorescu R, Iordache S, Petrescu N, Tuchiu E. (2020) Evaluation of Water Quality in Ialomița River Basin in Relationship with Land Cover Patterns *Water* 12(3), 735; <https://doi.org/10.3390/w12030735>
- Diaconu DC., **Bretcan, P.**, Peptenatu, D., Tanislav, D., Mailat, E. (2019) The importance of the number of points, transect location and interpolation techniques in the analysis of bathymetric measurements, *Journal of Hydrology* 570: 774-785 <https://doi.org/10.1016/j.jhydrol.2018.12.070>
- Popa C., **Bretcan, P.**, Radulescu, C., Carstea, E., Tanislav, D., Dontu, S., Dulama, D. (2019) [Spatial distribution of groundwater quality in connection with the surrounding land use and anthropogenic activity in rural areas](#) *Acta Montanistica Slovaca* 24(2) 73-87
- Diaconu DC, Andronache I., Pintilii R.I., **Brețcan P.**, Simion A.G., Drăghici C.C., Gruia KA, Grecu A, Marin M, Peptenatu D. (2019), [Using fractal fragmentation index \(FFI\) in analysis of the deforestation process in Bucegi Mountains Group, Romania, Carpathian Journal of Earth And Environmental Sciences](#), Volume 14 (2) 431-438
- Dunea, D., Tanislav, D., Stoica, A., **Bretcan, P.**, Muratoreanu, G., Frasin, L. N., ... & Iliescu, N. (2018). [ECO-PRACT: a project for developing the research competences of students regarding the monitoring of floristic composition in mountain grasslands.](#) *Journal of Science and Arts*, 18(1), 225-238.
- Radulescu, C., Pohoata, A., Bretcan, P., Tanislav, D., Stih, C., & Chelarescu, E. D. (2017). Quantification of major ions in groundwaters using analytical techniques and statistical approaches. *Romanian Reports in Physics*, 69, 705.
- Șerban G., Rus I., Vele D., **Brețcan P.**, Alexe M., Petrea D. (2016), [Flood-prone area delimitation using UAV technology, in the areas hard-to-reach for classic aircrafts: case study in the north-east of Apuseni Mountains, Transylvania.](#) *Natural Hazards* 82 (3): 1817-1832
- Radulescu C., **Bretcan P.**, Pohoata A., Tanislav D., Stirbescu R.M. (2016) [Assessment of drinking water quality using statistical analysis: A case study](#) *Romanian J. Phys* 61 (9-10): 1604-1616
- Gâștescu P, **Brețcan P.**, Teodorescu D.C., (2016), [The lakes of the Romanian Black Sea coast. Man-induced changes, water regime, present state.](#) *Romanian Journal of Geography*, 60 (1): 27-42
- Radulescu C., Stih C., Dulama ID, Chelarescu ED, **Bretcan P**, Tanislav D. (2015), [Assessment of heavy metals content in water and mud of several salt lakes from Romania by atomic absorption spectrometry.](#) *Romanian J. Phys* 60 (1-2):246-256

- **Bretcan P.**, Tuchiu E., Bretcan S. (2012), [Importance of water circulation in lakes Razim-Golovita. Status and quality of ecosystems](#), in Gastescu, P., Lewis, W., **Bretcan, P.** (edit) (2012) *Water resources and wetlands, Conference Proceedings*, 14-16 September 2012, Tulcea, Romania. p.100-105
- **Bretcan P.**, Mihaela Florina Tampu (2008), The Razim-Sinoie lacustrine complex. Protection, resources, valorization, *Lakes reservoirs and ponds*, vol. 1-2, p. 99-112 ISSN: 1844-6477.
- **Bretcan P.**, Murarescu O, Samoila E, Popescu O, (2009), Water Management in the Razim-Sinoie Lacustrine Complex, în vol. *International Symposium on Water Management and Hydraulic Engineering Ohrid/Macedonia*, p. 791-802
- **Bretcan P.**, Murarescu O., Samoila E., Popescu O (2008) The modification of the ecological conditions in the Razim-Sinoie lacustrine complex as an effect of the anthropic intervention, *XXIVth Conference of the Danubian Countries, 2-4 June 2008, Bled, Slovenia*, ISBN: 978-961-91090-2-1.