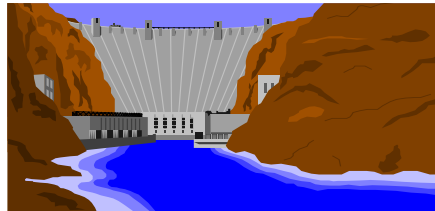


FACULTY OF HYDROTECHNICAL ENGINEERING



Str. George Enescu, Nr. 1A
300022 – Timișoara, Romania
Tel: +40-256-404082
Fax: +40-256-404083

E-mail: decan@hidro.utt.ro
Web: www.hidro.utt.ro

RESEARCH CENTER FOR MODELLING, DRAWING AND BEHAVIOUR MONITORING OF THE HYDROTECHNICAL ARRANGEMENTS

GENERAL PRESENTATION

The center was set up in 2001 and certified by the Romanian Research Authority in Higher Education (CNCSIS certificate no. 99 / CC-C, 11 May 2001).

The main research fields of the center lies generally on water engineering, having as subfields:

- Water constructional works
- Urban sanitation
- Land reclamation arrangement.

Based on the long experience of the researchers and the existing research infrastructure, the center is able to manage engineering projects in fields connected to water engineering.

MAIN ACTIVITIES

- managing research projects in water engineering
- design and technical assistance in hydrotechnical structures
- water constructional works
- rivers regulation works
- waterways and harbours
- modern technologies in water engineering
- dinking and industrial water supply network and plants
- waste water treatment plants
- sewage network
- water biology and chemistry
- water quality monitoring
- numerical modeling in surface water and groundwater flow
- numerical modeling of the pollutants transport in groundwater
- land reclamation, irrigations and drainages
- rural sustainable development
- soil science studies and soil erosion
- polluted soils rehabilitation
- surveying, cadastre
- waste disposal sites design and monitoring

PROJECTS

Solution study for nitrification and denitrification step from Bistrita waste water treatment plant

Contract No. 132/03.Sept.2004

Beneficiary: Local Water Company Bistrita

Value: 38,000,000 ROL

Project Description

The waste water treatment plant Bistrita was build in 80's and rehabilitated in 2000.The plant consist

in three different circuits for water line and a single circuit for sludge tehnological line.

By the rehabilitation the bar screens, the screen rake were replaced and the gas holder was covered by a plastic device.

The project solved the biological step regarding the nitrification and the denitrification processes.

The proposed solution consists keeping the temperature in the sludge tanks higher than 15⁰ C. By this solution the concentration of nitrogen and phosphorus in the outfall river Bistrita was significant reduced.

PUBLICATIONS

BOOKS

1. Ciomocos, D.F., Nicoara, S., Constantin, T. A., *Strength of materials. Applications*, Vol. I, Politehnica Publishing House, Timisoara, 229 pages, 2004 (Published in Romanian)
2. Ciomocos, D.F., Nicoara, S., Constantin, T. A., *Strength of materials. Applications*, Vol. II, Politehnica Publishing House, Timisoara, 257 pages, 2004 (Published in Romanian)
3. Eles, G., *Initiatory in Cadastre*, Mirton Publishing House, Timisoara, 200 pages, ISBN 9-73661-553-7, 2004 (Published in Romanian)

PUBLISHED PAPERS

1. David, I.: *Modeling stratified immiscible fluid flows by the recovery of free-phase NAPL for aquifer remediation*, Brebbia C.A.; Mendes, A.C. *Advances in Fluid Mechanics V*, Vol. 40, Lissabon, Portugal, 2004, WIT Press, ISBN 1-85312-704-3, pp. 277-288, Southampton, Boston, 2004
2. David, I.: *A weighted averaging technique for the linearized governing equation for sharp interface NAPL transport models*. Miller, C.T., XVth International CMWR 2004, Chapel Hill, NC, USA, 2004
3. David, I., Anim-Addo, Samuel B.: *Analytical solutions for NAPL recovery using complex multiple well systems*. Miller, C.T., XVth International CMWR 2004, Chapel Hill, NC, USA, 2004
4. David, I., Anim-Addo, Samuel B.: *Dynamic Groundwater modeling for the evaluation of*

- complex NAPL recovery systems.* Martin-Duque, J.F.; Brebbia, C.A.; Godfrey, A.E.; Diaz de Teran, J.R. (Hrsg.): Geo-Environment - Monitoring, Simulation and Remediation of the Geological Environment, Segovia, Spain, 2004, WIT Press, ISBN 1-85312-723-X, pp. 345-356, Southampton, Boston, 2004
5. Mirel, I., Ghergheleş, C., Barabas, K., Ghergheleş, V., *Urban wastewater sludge neutralization and exploitation*, MICROCAD 2004, International Scientific Conference, 18-19 March, Section A: Environmental and Earth Sciences, University of Miskolc, Hungary, ISBN 963-661-6086, ISBN 963-661-6094, pp. 125-130, 2004
 6. Mirel, I., Ghergheleş, V., Popescu, D., Ghergheleş, C., Pantea, E., *Instalation to produce and utilize biogas in countryside*, MICROCAD 2004, International Scientific Conference, Section A: Environmental and Earth Sciences, University of Miskolc, Hungary, ISBN 963-661-60860, ISBN 963-661-6084, pp. 131-136, 2004
 7. Mirel, I., Marculescu, G., Florescu, C., Tiţan, G., Damian, A., Achim, C., *The environment and the laws- major factors for ambient comfort*, Proceedings of the International Conference, Building Equipment and Comfort Ambient, Timişoara, ISBN 973-625-140-3, pp. 148-155, 2004
 8. Mirel, I., Nacov, V., Florescu, C., Oneţiu, M., Podoleanu, C., *Drilling public wells like an alternative solution in water supply central systems*, Proceedings of the International Conference, Building Equipment and Comfort Ambient, Timişoara, ISBN 973-625-140-3, pp. 193-198, 2004
 9. Mirel, I., Stăniloiu, C., Bătea, F., Sabău, E., Ieremiaş, D., Koranda, C., *Toilets with different drain off systems of waste waters*, Proceedings of the International Conference, Building Equipment and Comfort Ambient, Timişoara, ISBN 973-625-140-3, pp. 229-234, 2004
 10. Mirel, I., Florescu, C., Stăniloiu, C., Podoleanu, C., Bătea, F., *Consideration regarding the integration of pumping stations in the regional water supply system*, The 6th International Conference on Hydraulic Machinery and Hydrodynamics, Timisoara, Tom 49(63), ISSN 1224-6077, pp. 229-234, 2004
 11. Mirel, I., *The optimisation of the filtering equipments from waste water treatment plants*, Proceedings of the International Conference Actual problems in city planning and territory arrangement, Chisinau, Moldavia, ISBN:9975-70-444-1, pp. 189-192, 2004
 12. Mirel, I., Florescu, C., Stăniloiu, C., Podoleanu, C., *Considerations about urban sanitation works in rural area*, Proceedings of the International Conference Actual problems in city planning and territory arrangement, Chisinau, Moldavia, ISBN: 9975-70-444-1, pp. 193-198, 2004
 13. Mirel, I., Stăniloiu, C., Florescu, C., Gîrbaciu, A., Sabău, E., *Considerations regarding the sewerage of waste water, coming from tourist complexes situated in mountainous and hilly areas*, 6th International Conference on Hydraulic Machinery and Hydrodynamics, Timisoara, ISSN 1224-6077, pp. 707-712, 2004
 14. Mirel, I., Mitraşcă, M., Păţcaş, R., *Saftening the geothermal waters*, Annals of the Oradea University, Civil Engineering and Sanitation, vol. VII., ISSN 1454-4067, pp. 37-43, 2004
 15. Carabet, A., Beilicci, R., Gîrbaciu, A., Achim, C., Podoleanu, C., *Pollutants transport simulation in aquifers layer, provided from infiltration of the waste water coming from pig's farms*, 6th International Conference on Hydraulic Machinery and Hydrodynamics, HMH 2004, ISSN 1224-6077, pp. 695-700, Timisoara, 2004
 16. Carabet, A., Vlaicu, I., Hedes, A., Beilicci, R., *Monitoring system for local dispatcher in a pumping station*, ROMAQUA 3, Bucharest, ISSN 1453-6986, pp. 16-20, 2004
 17. Carabet, A., Vlaicu, I., Hedes, A., Beilicci, R., *The use of the pumps with variable rotation in the water supply system of Timisoara*, ROMAQUA 3/2004, Bucharest, ISSN 1453-6986, pp. 5-9, 2004
 18. Carabet, A., *Considerations regarding pollutants content from pig's residues*, Proceedings of the International Conference Actual problems in city planning and territory arrangement, Chisinau, Moldavia, ISBN 9975-70-444-1, pp. 100-105, 2004
 19. Carabet, A., *Waste water utilisation on agricultural field and environmental impact*, Proceedings of the International Conference Actual problems in city planning and territory arrangement, Chisinau, Moldavia, ISBN 9975-70-444-1, pp. 106-110, 2004
 20. Constantinescu, L., Barabás, K., *Opportunities regarding the use of sludge from waste water treatment plant for soil fertilization*, Proceedings of the International Conference Actual problems in city planning and territory arrangement, Chisinau, Moldavia, ISBN 9975-70-444-1, pp. 120-125, 2004

21. Carabet, A., *Considerations regarding working personal protection at wastewater distribution on agricultural field*, Proceedings of the International Conference Actual problems in city planning and territory arrangement, Chisinau, Moldavia, ISBN 9975-70-444-1, pp. 111-116, 2004
22. Constantinescu, L., Nemeş, I., Beilicci, R., Rogobete, Gh., *The degree and expansion of soil pollution in the land improvement systems in Timiş County*, Micro CAD 2004 – International Scientific Conference, Miskolc, Hungary, ISBN 963-661608, pp. 21-27, 2004
23. Nemeş, I., Constantinescu, L., Beilicci, R., Beilicci, E., *Ecological accidents due to cyanide pollution*, Micro CAD 2004 – International Scientific Conference, Miskolc, Hungary, ISBN 963-661608, pp. 145-151, 2004
24. Constantinescu, L., Nemeş, I., *Soil's hydraulic conductivity in Aranca Surface – Drainage System*, International Symposium „Civil Engineering 2004”, Constanţa, pp. 146-150, 2004
25. Nemeş, I., Constantinescu, L., *Romanian Lands: Concepts and Evaluation Methods Development*, International Symposium „Civil Engineering 2004”, Constanţa, pp. 150-154, 2004
26. Rogobete, Gh., Bertici, R., Beutură, D., *Rheological behavior in vertisoils from Cheglevici-Timiş County*, Soil Science, Journal of the Romanian National Society of Soil Science, vol 2-3, 2004
27. Rogobete, Gh., Beutură, D., Beutură, S., Bertici, R., *Specific soils on mining exploitation area Moldova Nouă*, Vol. „Factors and pedogenesis processes in the temperate zones, University “Alexandru Ioan Cuza” Iaşi Publishing House, ISSN 1224-0303, 2004
28. Beutură, D., Rogobete, Gh., Ţîmbota, O., *The estimation of the mining exploitation on soils, air and water at Moldova Nouă*, Vol. Factors and pedogenesis processes in the temperate zones, University “Alexandru Ioan Cuza” Iaşi Publishing House, ISSN 1224-0303, 2004
29. Bertici, R., Rogobete, Gh., Beutură, D., Tudor C., *Podosols and vertisoils Aranca water shead*, Vol. „Factors and pedogenesis processes in the temperate zones, University “Alexandru Ioan Cuza” Iaşi Publishing House, ISSN 1224-0303, 2004
30. Lazar, Gh., Nicoara, S.V., *Numerical Modeling of the Unsteady Water Flow in a Two Steps Energy Dissipator*, Proceedings of the 6th International Conference on Hydraulic Machinery and Hydrodynamics, Timisoara, ISSN 1224-6077, pp. 629-634, 2004
31. Constantin, T.A., Lazar, Gh., Popa, Gh., *Design of Romania's Tarnita-Lapustesti pumped-storage scheme*, Hydro 2004, A New Era for Hydropower, International Conference and Exhibition, Porto, Portugal, 2004
32. Man, E.T., Wehry, A., David, I., Popescu, F., *Drainage studies for ground arrangement solutions of soils with humidity excess form the western part of Romania (Timiş, Arad, Bihor, Maramureş and Satu Mare counties)*, 8th International Drainage Symposium of ASAE, Sheraton Grand Hotel & Sacramento Convention Center, Sacramento, USA, 21-24.03.2004, pp. 272 - 280
33. Blenessi, A., Man, T.E., Oncia, S., Fazakas, P., Cârciu, G., *Tehniques and methods to tighten the ecological landfill using claying geocomposite created in our country*, SAMVB University Timișoara, Vol. XXXVI / 2004
34. Man, T.E., Popescu, F., Mintaş, I., *Rural development in Bihor County*, The Anals of Oradea University, Vol. X , pp. 369 – 378, 2004
35. Man, T.E., Otiman, P.I., *Rural development in counties Timis, Arad and Bihor*, XVIIth National Conference of Soil Science, Vol. 1, No. 34A, pp. 40-65, Bucharest, 2004
36. Man, T.E., Rogobete, Gh., Constantinescu, L., Popescu, F., *Drainage studies for main soils in western part of Romania*, XVIIth National Conference of Soil Science, Vol. 1, No. 34A, pp. 298-314, Bucharest, 2004

CONFERENCE PAPERS

1. Mirel, I., *Opportunities regarding water supply for collectivities in specific climates*, Conference Water and disasters, World Water Day, Timișoara, 2004
2. Crețu, Gh., *For an integrated approach of the floods vulnerability*, Conference Water and disasters, World Water Day, Timișoara, 2004
3. Balica, Ș., Balla, G., *Arrangement schemes for watersheds in the case of floods*, Conference Water and disasters, World Water Day, Timișoara, 2004
4. Beilicci, E., Roșu, C., Beilicci, R., *The methodolgy of the environmental impact evaluation of soil erosion*, Conference Water and disasters, World Water Day, Timișoara, 2004
5. Lazar, Gh., Girbaci, C., *Numerical simulation method for unsteady flow regime with flood hydrograph generating for small water*

sheads, Conference Water and disasters, World Water Day, Timișoara, 2004

6. Nagy, C., Girbaciuc, C., *Drought phenomena in Banat County*, Conference Water and disasters, World Water Day, Timișoara, 2004

PhD THESIS

1. Constantin, T. A., *Contributions regarding the optimisation of the National Electric Power System by pumped storage plants*, PhD supervisor: prof. dr. eng. Popa Gheorghe
2. Bojin, T., *Contributions to the study and implementation of the economic tools in water management*, PhD Supervisor: prof. dr. eng. Cretu Gheorghe
3. Ghiba, Ghe., *Contributions to the water pollution on water ways caused by the shipping activity*, PhD Supervisor: prof. dr. eng. Cretu Gheorghe

PhD SUPERVISORS

- Cretu Ghe., *Wate Management*
- David I., *Hydraulics and Fluid Mechanics*
- Mirel I., *Sanitary Engineering*
- Wehry A., *Land Reclamation*
- Man T.E., *Land Reclamation*
- Jura C., *Sanitary Engineering*
- Popa Ghe., *Hydraulic Structures*
- Rogobete Ghe., *Land Reclamation*

PERSPECTIVES

- updating the European trends in water engineering and applying them to Romanian realities
- ensuring technical assistance for the design groups and companies in order to provide water supply projects for small communities
- a complete inventory of the companies located in the Romanian west side of the country regarding research demands and in this way to set up new research projects
- enlarging the international cooperation in the field of water engineering researches
- further co-operation between our research center and other research centers from Iasi, Bucharest and Constanta Universities in the field of the groundwater management and its protection against pollution

CONTACT

Prof. dr. eng. Ion Michael
 Faculty of Hydrotechnical Engineering
 300022 Timișoara
 George Enescu Street, 1/A
 Tel: +40-256-404082, +40-256-404084,
 Fax: +40-256-404083, +40-256-404090
 E-mail: decan@hidro.utt.ro
sumi@hidro.utt.ro
 Web: <http://www.hidro.utt.ro>