FACULTY OF
HYDROTECHNICAL ENGINEERING

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Fax: +40-256-404083
E-mail: decan@hidro.upt.ro
Web: www.hidro.upt.ro
RESEARCH CENTER FOR
MODELLING, DESIGNING AND BEHAVIOR MONITORING
OF THE HYDROTECHNICAL DEVELOPMENTS

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 and rural sanitation
- Land reclamation arrangements.

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 harbors
- modern technologies in water engineering
- drinking 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 and improvement, irrigations and drainages
- rural sustainable development
- soil science studies and erosion controls
- polluted soils rehabilitation
- surveying, cadastre
- waste disposal sites design and monitoring

PROJECTS

RESEARCH TEAM

Expertise of the Mures river right bank in the area of the scaffold bridge foot for transportation pipes at Sanpetru German – Bodrog storage

<table>
<thead>
<tr>
<th>Contract no.</th>
<th>Value</th>
<th>Beneficiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>656/ 2007</td>
<td>1,610 RON</td>
<td>S.C. PETROM SA TIMISOARA</td>
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</table>

Technical assistance regarding the achievement of the required monitoring and control devices at Valiug, Secu, Gozna and Timis - Trei Ape dams.

<table>
<thead>
<tr>
<th>Contract no.</th>
<th>Value</th>
<th>Beneficiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>689/ 2007</td>
<td>5,000 RON</td>
<td>S.C. TMK-RESITA S.A</td>
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</table>

Behavior monitoring at the hydrotechnical constructions of Valiug, Secu, Gozna and Timis – Trei Ape permanent water reservoirs.

<table>
<thead>
<tr>
<th>Contract no.</th>
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</thead>
<tbody>
<tr>
<td>705/ 2007</td>
<td>30,000 RON</td>
<td>S.C. TMK-RESITA S.A</td>
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</table>

Expertise of the Timis - Trei Ape dam crest and of the over crossing track.

<table>
<thead>
<tr>
<th>Contract no.</th>
<th>Value</th>
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</tr>
</thead>
<tbody>
<tr>
<td>707/ 2007</td>
<td>5,000 RON</td>
<td>S.C. TMK-RESITA S.A</td>
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Feasibility study for the Sulinis and Fiac stream courses regulation in the area of Bata locality, Arad County

<table>
<thead>
<tr>
<th>Contract no.</th>
<th>Value</th>
<th>Beneficiary</th>
</tr>
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<tbody>
<tr>
<td>708/ 2007</td>
<td>10,000 RON</td>
<td>Bata Municipal Council</td>
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Technical documentation required for obtaining the water management permit for Valiug, Secu, Gozna and Timis – Trei Ape dams

<table>
<thead>
<tr>
<th>Contract no.</th>
<th>Value</th>
<th>Beneficiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>709/ 2007</td>
<td>20,000 RON</td>
<td>S.C. TMK-RESITA S.A</td>
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</table>

Consolidation of the Mures river right bank in the area of the scaffold bridge foot for the mineral oil transportation pipes at Sanpetru German – Bodrog storage

<table>
<thead>
<tr>
<th>Contract no.</th>
<th>Value</th>
<th>Beneficiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>734/ 2007</td>
<td>14,000 RON</td>
<td>S.C. PETROM SA TIMISOARA</td>
</tr>
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Expertise - implications of locating the new Caransebes Prosecutor’s office building in Timis river major streambed upon high water flow

<table>
<thead>
<tr>
<th>Contract no.</th>
<th>Value</th>
<th>Beneficiary</th>
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</thead>
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<tr>
<td>768/ 2007</td>
<td>8,750 RON</td>
<td>S.C. TEHNOPROIECT COMTRANS S.R.L</td>
</tr>
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</table>

RESEARCH TEAM
Ion, M., Doandes, V.
Structure behavior monitoring in safety working conditions for the S.K.TMK – Resita S.A. wharf construction located on the Gozna water reservoir right bank
Contract no. 710/ 2007
Value: 5,000 RON
Beneficiary: S.C. TMK-RESITA S.A

Cotoroaia stream arrangement on Voloiac-Cotoroaia sector, Mehedinti county
Contract no. 585/ 2007
Value: 2,000 RON
Beneficiary: S.C. DEVIS PROTEAM SRL

Dimensioned plan in digitate format, performed through the cross – sectional profiles method in order to develop the sewerage system design in Gavojdia village, Timis County
Contract no. 632/ 2007
Value: 7,000 RON
Beneficiary: SC. P&CONSULT SRL

Dimensioned plan in digitate format, performed through the cross – sectional profiles method in order to develop the sewerage system design in VV Delamarina village, Timis County
Contract no. 633/ 2007
Value: 7,000 RON
Beneficiary: SC. P&CONSULT SRL

RESEARCH TEAM
Nemes I., Doandes, V., Constantinescu L., Man, T.E

Amelioration perimeters in agrarian land stock (Herneacova – Recas, Otelec, Uivar)
Contract no. 765/ 2007
Value: 5,117 RON
Beneficiary: DADR TIMIS

RESEARCH TEAM
Orlescu, M., Man, T.E., Nicoara, S.V., Constantin T.A., Popescu-Busan, A.I., Beilicci,R.

The rehabilitation of the irrigations in the Aranca drainage-irrigations system for 590 hectares, in the Saravale area
Contract no. 696/ 2007
Value: 25,000 RON
Beneficiary: S.C. Genagricola SRL

RESEARCH TEAM
Beilicci, R., Beilicci, E.,

Water supply system in Bogda, Timis County
Contract no. 799/ 2007
Value: 17,993 RON
Beneficiary: Bogda Local Council

RESEARCH TEAM
Man, T.E., Constantinescu,L., Halbac Cotoara,R., Modra,C.

Complex models and methods for research in rural sustainable development in Romania
Contract no. 78GR/ 2007
Value: 10,000 RON
Beneficiary: CNCSIS

RESEARCH TEAM
Badaluta, M.C.

Researches regarding the identification, understanding, simulation and calculus mechanism of the flooding caused by breakdown of the linear protection systems
Contract no. TD code 10 no. 169/ 2007
Value: 28,300 RON
Beneficiary: CNCSIS

RESEARCH TEAM
David, I., Sumalan, I., Beilicci, R.,

Providing services for implementation of models and training in the field of groundwater and solute transport modelling
Contract no. 737/ 2007
Value: 3,000 Euro
Beneficiary: Dutch Ministry of Economic Affairs (EVD), The Netherlands

PUBLICATIONS
BOOKS
7. Lazar, Gh., Numerical modelling of the water flow in free surface systems, Examples,
FACULTY OF HYDROTECHNICAL ENGINEERING


PUBLISHED PAPERS


4. Rogobete, Gh., Beutură, D., Grozav, A., Nemes, I., Soil Acidification by Ferrolysis in Pedological Sequence of Muntele Mic, Caras-Severin, County, Factors and Soil Processes in the Temperate Zones, ISSN 1582-4616, pp. 67-74


7. Nemeş I., Solutions to Improve Land Slip in the Sadova Veche Area (Caras – Severin County), Scientifical papers. Agriculture, Part II, 5th Session – Soil Sciences, 2007, Timişoara, ISSN 1221-5279, pp. 51-54


15. Constantinescu, L., Rogobete, Gh., Environmental Pollution by Heavy Metals Resulting from the Waste Pile of the Thermic Power Plant in Timişoara, Scientific Bulletin of “Politehnica” University of Timişoara, Romania, Transactions on Hydrotechnics, Vol. 52 (66), 2007, No.1, ISSN 1224-6042, pp.19-22


17. Man T. E., Receau R., G. Olaru C. R., Sustainable Rural Development in Europe, Scientific Bulletin of “Politehnica” University of Timişoara, Romania, Transactions on


Sumalan, I., Establishing sanitary protection zones for water supply systems with complex hydrogeologic conditions, Scientific Bulletin of “Politehnica” University of Timişoara, Romania, Transactions on Hydrotechnics, Vol. 52 (66), 2007, No.2, ISSN 1224-6042, pp. 3-6

Man, T. E., Nedelcu-Ienei A., Nedelcu, R., The Quality of the Surface Waters on Timiş and Bega Rivers in Compliance with the European Legislation in Romania, Scientific Bulletin of “Politehnica” University of Timişoara, Romania, Transactions on Hydrotechnics, Vol. 52 (66), 2007, No.2, ISSN 1224-6042, pp. 7-12


Wehry A., Man, T. E., Orlescu, M., Coput-Hora, F., Taping the underground waters for irrigation, with wells having radial drainpipes, Scientific Bulletin of “Politehnica” University of Timişoara, Romania, Transactions on Hydrotechnics, Vol. 52 (66), 2007, No.2, ISSN 1224-6042, pp. 19-22


Wehry A., Panţu H., Ţumălan M., The positive effect of the plain temporary laterally storages upon the flooding on Timis River, Scientific Bulletin of “Politehnica” University of Timişoara, Romania, Transactions on Hydrotechnics, Vol. 52 (66), 2007, No.2, ISSN 1224-6042, pp. 27-32


Eles, G., How GPS technologies can be useful in soil mapping activities, Scientific Bulletin of “Politehnica” University of Timişoara, Romania, Transactions on Hydrotechnics, Vol. 52 (66), 2007, No.2, ISSN 1224-6042, pp. 41-44


Pisleaga, M., Processes of Movement and Transfer in Non-Homogenous Media, Scientific Bulletin of “Politehnica” University of Timişoara, Romania, Transactions on

35. Mirel, I., *The Optimization of the Plants Exploitation for Producing and Using Biogas*, Scientific Bulletin of “Politehnica” University of Timișoara, Romania, Transactions on Mechanics, Vol. 52 (66), 2007, No.4, ISSN 1224-6077, pp. 54-64


40. Gherman, V.D., Jean-Gabriel Bréheret, Mihail Drăgan-Bularda, *Microorganisms associations within a thin acid solution film from an old mine in Banat Mountains*, Studia Universitatis Babeș-Bolyai, Biologia, L II, 2, ISSN 1221-8103, pp. 119-127


42. Bârliba, L.L, Bârliba, C., Eleș, G., Hamza, S. *Using topographical equipment and planimetical methods in order to prepare topographical works and technical documentation on the USAMVB Timișoara Territory*, The Annals of Craiova University, vol XII (XLVIII) – Faculty of Horticulture, 2007, ISSN 1435-1275, pp. 345-350

**CONFERENCE PAPERS**


9. Badaluta Minda C., Cretu Gh, Flood Risk Assessment Associated to a Linear Defence System, Water Management And Engineering, Šibenec, Croatia


17. Mirel I., Pantea E, Ramoncea T., Mitraca M., Wastewater Treatment Technologies of Beer Industry in Romania, Joint International Conference on Term Experiments Agricultural Research and Natural Resources, Debrecem-Nvirlugas, Hungary


PhD THESIS


5. Lauer, I., Economical technologies of maintenance and exploitation of drainage arrangements. Ph.D supervisor: Prof. Dr. Eng. Man T.E.


7. Madar, M., Researches regarding the renaturation of the water bodies strongly modified. Ph.D supervisor: Prof. Dr. Eng. Cretu Gh.


PhD STUDENTS

1. Scientific Supervisor: Prof. Dr. Eng. Ioan David: Hydraulics and Fluid Mechanics
   - Pisleaga, M., The optimization of the retention basins for the sewerage systems
   - Crisan, M., Environmental Monitoring Systems
   - Busan, A., The environmental impact of the hydraulic structures on rivers
   - Chebutiu, A., Rehabilitation strategies of the industrial estate and their environmental impact
   - Ghitescu, A., Mesh less methods for hydraulic structures
   - Gardan, M., The study and modeling of the sanitary protection zones in complex hydrogeological conditions
   - David, C., The impact of the terrestrial ways on the groundwater regime
2. Scientific Supervisor: Prof. Dr. Eng. Gheorghe Cretu, Water Management

- Riti, A., Water developments impact upon the ecosystems in mining areas
- Podaru, C.A., Water management quality models on a river
- Mocanu, F., Ecohydrology modeling of some aquatic systems
- Nagy, C., Optimization of the water management system in dry periods
- Garbaciu, C., Contributions to the optimization of integrated water management systems
- Balla, G., Researches regarding sediments flow for complex arrangements of the hydrographic basin
- Talau, M., Researches regarding the flow rates forecast in dry periods in a arranged hydrographic basin
- Georgescu, A., Study of qualitative water management in Barzava river hydrographic basin for a clean water
- Damascu, A., Researches regarding navigation on Danube River in extremely hydrological conditions on Bazias-Bechet section
- Stoica, B.S., Economic analysis of the Jiu hydrographic basin
- Badaluta Minda, C., The study of the flooding occurred by the damages of the defense works
- Husaru, G., (second year Phd Student)
- Aldescu, C. (first year Phd Student)
- Cepeha D. (first year Phd Student)

3. Scientific Supervisor: Prof. Dr. Eng. Teodor Eugen Man, Land Reclamation

- Nedelcu, D.R., Hydro ameliorative works impact on the trans boundary water quality from the hydrographic area of Banat
- Suiugan, M., Using of GIS in the water management from the hydrographic basin of Bihor county
- Pavel, C., Rehabilitation and modernization solutions of irrigation system Crivina-Vânju Mare
- Halbac Cotoara, R., Efficient drainage systems for humidity excess lands
- Gabor, A., The retehnologization of irrigation system Șagu-Fântânele-Arad
- Modra, C., Evaluation and calculus methods of the drought mitigation in western Side of Romania
- Campan, G., Irrigation schemes using the mobile irrigation and sprinkling equipment
- Iosip, C. D., Economic reconstruction models and the influence of the financing programs on the sustainable rural development
- Tentis, M., Hazards ans risk in the Crisuri`s hydrographic basin
- Olariu Casauteanu R., (second year Phd Student)
- Receanu, R., (second year Phd Student)
- Raduica, R. (first year Phd Student)

4. Scientific Supervisor: Prof. Dr. Eng. Gheorghe Rogobete, Land Reclamation

- Pascovici, I., The impact of the lignite exploitation from Husnicioara-Mehedinti basin and the ecological reconstruction possibilities of their natural habitat
- Gheteu, M., Solutions for the rehabilitation of the terrain polluted with radioactive substances and heavy metals from Banat
- Covaci, C., The impact of the forest administration from Caraș-Severin County over the forester soils
- Grozav, A., Phenomena of the water and soil pollution-the study of a section from hydrographic basin of the river Bârzava
- Beutura, S., Contribution of the study of regosols and erodosols from Caraș-Severin county
- Timbota, O., Land reclamation and improvement measures of the ecological reconstruction of some acid soils from Timiş County
- Nemes, N., Phenomena of retention and mobility of phosphorus inside the soils waters of the hydrographic basin of Bistra-Caraș-Severin
- Tudor, V., Phenomena of nitrates pollution of soils from the Down Plain of the Bârzava river
Costescu, I., Integrated management of the quality of soils and surfaces water in the hydrographic basin of Bega river

Stroie L., Sterile waste stabilization of Banat region

Liuba C., Modern methods of soil erosion monitoring from Timiş County

5. Scientific Supervisor: Prof. Dr. Eng. Mirel, I.: Sanitary Engineering

Sabau, E., Sewerage systems models

Barabas, K., Technologies for sludge treatment

Moldovan, Gh., Contributions on the laws application in the environment protection

Pistrui, T., Human settlements protection and environment legislation

Vargovici, S., Contributions to the effects of the accidental events on the human psychology

Pantea, E., The study of the waste water treatment from food industry

Opruta, N., Contribution to the regional water supply systems optimization

Retezan, R., The drawing and exploitation optimization of the sanitation systems

Mihart, D., The effects of the natural reservoirs on the environment quality

Sandru, I., (second year PhD student)

Olaru, I., (first year Phd Student)

Szigiarto, I., (first year Phd Student)


Capotescu, V.M.C., Management of the sewerage system in Timisoara

Paian, S., Water purification plant for surface water

7. Scientific Supervisor: Prof. Dr. Eng. A. Wehry: Land Reclamation

Breja R., Ecological reconstruction and pursuance of bauxite land career

Stoica V. C., Ecological management solutions for waste products

Panțu, H., The modernization of Timiş-Bega hydrotechnical system

Stoica D. M., The forecast of water quality evolution in Cibin river for the middle and lower basin

8. Scientific Supervisor: Prof. Dr. Eng. Popa Gh.: Water Structures

Matei, F., Stress and strain state determination in the arch shape dams foundations

Maries, C., Water flow around a retention structure with low water head

Riiosu, J., High waters management

Botos, M., Running behavior study for temporary storage dams in case of turning into permanent ones

Ciobanu, P., Stress state study in the of abutment pier of the weir dams under tainted gate action depending on the hinge geometry

Jugariu, E., The monitoring and maintaining the functions of the old water storages in the Banat area

Zaharia, M., The monitoring of the water flow rate for the Mures river on the Arad section

Orlescu, C., Water tightening accomplishment an hydrotechnical retention and protection works

Schipor, F., Waste water treatment plants optimization for small and medium localities

Marinescu, L., The calculus of the buried hydrotechnical constructions

PERSPECTIVES

Merloi L., The land reclamation and improvement potential, workable solution for Banat

Nuțăș Vancia G., Land reclamation and improvement evolution and efficiency in Timiş county

Pasztai, Z.A., Modern technologies for the execution of landfills. Case study: Oradea City

Blaj, C., Mathematic modeling of drainage arrangement efficiency

Coput, F., Mathematic modeling of drainage systems

Steolea, P., Gravitational irrigation for slope lands, as irrigation methods in relation with pressure

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 acting in the Romanian west side of the country
regarding research demands and in this way to set up new research projects

- studies, research and design for rehabilitation of the land reclamation arrangements
- 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
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Studies regarding the dams safety running

Studies regarding the location of the building in the major valley of the river
Studies. Modeling Landfill sites