

ZOLTÁN SIMONFFY

Date of birth: 02/08/1953 **Nationality:** HUNGARIAN **Civil status:** MARRIED

EDUCATION

M.Sc. in hydraulic constructions, 09/1972 to 07/1977, Technical University of Budapest, Faculty of Civil Engineering, Hungary

LANGUAGE SKILLS: Hungarian, English, French, German

MEMBERSHIP OF PROFESSIONAL BODIES: Hungarian Hydrological Society

PRESENT POSITION: Research Associate (Hungarian Academy of Sciences)

KEY QUALIFICATIONS

- Groundwater management problems including quantitative and qualitative aspects
- Extended practice in the organization of subsurface hydrological networks (drilling of wells, collection and processing of groundwater observation data)
- Consultancy in modeling of subsurface water flow and transport of pollutants
- Experience in research of unsaturated flow and transport problems and interaction between different types of water

PROFESSIONAL EXPERIENCE

03/1998 – Present	Research Associate, Hungarian Academy of Sciences, Research Group for Water Management. Project engineer in the development of the strategic policy in water management of Hungary after 2000
07/1997 - 02/1998	Head, Section of Hydrologic Evaluations, Water Resources Research Plc., Budapest, Hungary
01/1996 - 07/1997	Co-ordinator of projects related to subsurface water, Water Resources Research Plc., Budapest, Hungary
01/1991 - 12/1995	Head, Subsurface Hydrology Group, Water Resources Research Plc., Budapest, Hungary
06/1985 - 12/1990	Head, Shallow Groundwater Group, Water Resources Research Plc., Budapest, Hungary
10/1981 - 07/1985	Project Engineer, Office for Technical & Scientific Cooperation TESCO – VITUKI Société des Études Hydraulique d'Alger, Algier, Algeria
10/1979 - 09/1981	Project Engineer, Office for Technical & Scientific Cooperation TESCO – VITUKI Institut National des Ressource en Eau, Algier, Algeria Project manager of the development and operation of the hydrological data base of Algeria, 1979-1981
08/77 - 09/79	Research Associate, Water Resources Research Centre, Budapest, Hungary

EDUCATIONAL ACTIVITIES

- Lecturer on hydrological data processing at Postgraduate Course in Hydrography at the BUTE
- Lecturer on groundwater management and pollution sources at the international course "Protection of Environment - Groundwater pollution" - the course is financed by EEC-TEMPUS project (support for education) at Budapest
- Lecturer and tutor of participants at the UNESCO-sponsored International Postgraduate Courses in Hydrology at VITUKI

SELECTED RECENT PUBLICATIONS

1. Németh, T. - Radinszky, L. - Fehér, J. - Simonffy, Z.: Movement and distribution on ^{15}N labeled nitrogen in undisturbed soil column. Extended Synopses of Int. Symp. on the Use of Stable Isotopes in Plant Nutrition Soil Fertility and Environmental Studies, Vienna, 1990
2. Simonffy, Z. - Németh, T - Fehér, J.: Modeling nitrate accumulation and leaching in unsaturated soils. XVI. General Assembly of EGS, Wiesbaden, 1991
3. Tóth, E. - Simonffy, Z. - László, F.: Mercury pollution of industrial origin in groundwater & soil. Int'l Symp. on Environmental Contamination in Central and Eastern Europe, Budapest, 1992
4. Lennaerts, A.B.M. - Simonffy, Z.: Tools & methods for safeguarding withdrawals in Hungary, Intern'l Symp. on Environmental Contamination in Central and Eastern Europe, Budapest, 1992
5. Lennaerts, A.B.M. - Simonffy, Z.: Groundwater protection in Hungary, Land & Water International, No. 78, 1993
6. Fehér, J. - Simonffy, Z. - Németh, T. - van Genuchten, M. Th.: Studies on infiltration & nitrogen leaching in the South-eastern Hungary, Conf. on Diffuse (Non-point) Pollution, Chicago, 1993
7. Simonffy, Z. - Márton, T.: Environmental limits of groundwater withdrawals, Proceedings of Workshop on Sustaining Soil and Water Quality, Budapest, 1995
8. Simonffy, Z. - Márton, T.: Assessment of available recharge from precipitation in the Danube-Tisza interfluvial ridge, Proceedings of Symposium on Groundwater, Siófok, 1995
9. Vekerdy, Z. - Simonffy, Z.: Parameter estimation using GIS techniques, Assembly of the Hungarian Hydrological Society, Baja, 1995
10. Simonffy, Z.: Concept of modeling complex subsurface problems, Proceedings of Symposium on Groundwater, Siófok, 1996

Proposed CUAP Research Area: *Ecological Criteria for Sustainable Water Resources*

Management for the Great Hungarian Plains. The relationship between water availability and plant communities of wetland and terrestrial habitats at a landscape scale: elaboration of ecological criteria for sustainable water resources management for the Great Hungarian Plains. The zonal vegetation of the Great Hungarian Plains (area is about 35,000 km²) is the East-European forest steppe. Along the northeast (550 mm yr⁻¹) to the southwest (450 mm yr⁻¹) precipitation gradient, the forest steppe gradually opens up. Large-scale river regulation during the last century has resulted in a loss of over 1 million ha of wetland habitats, as well as in an expansion of less water demanding terrestrial plant communities. In the present time, extremely dry periods repeatedly revealed an overexploitation of groundwater resources in the southwestern areas of the Hungarian Plains that led to a rearrangement of the vegetation and to serious decrease in both productivity and biodiversity. Most likely future weather scenarios suggest a substantial increase in the frequency and duration of extremely dry conditions. We aim at establishing empirical relationships between water availability and plant communities at a landscape scale by using remote sensing for vegetation mapping and simple water balance models for describing availability of water.

Principal investigators: Drs. Vera Istvánovics, Zoltan Simonffy, Miklós Kertész, István Hahn.

First year activities: Study the experience of the American partner in developing ecological criteria for water quality management. Develop and submit proposals for extramural support of this activity including identification of existing resources, elaboration of a work plan for a 3 to 5 years project, and pre-evaluation of benefits in terms of research outputs.

First year costs: 3 months visit from the Hungarian partner(s), travel (\$3,000) + subsistence

Subsequent year's costs: 2 months visits during the next two years.