

## **CURRICULUM VITAE**

### **PERSONALIA**

Surname: BRAD  
Given name: Traian

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Date of birth: May 10, 1977  
Nationality: Romanian

### **ACADEMIC QUALIFICATIONS**

#### **2001-2005**

PhD at the Department of Molecular Cell Physiology, Faculty of Earth and Life Sciences, Vrije Universiteit Amsterdam

Thesis: *Resilience of the groundwater ecosystem in reaction to anthropogenic disturbances*

#### **1999-2001**

MSc research on *System Ecology and Conservation of Biodiversity* at the Department of Ecology-Genetics, Faculty of Biology and Geology, Babes-Bolyai University Cluj-Napoca, Romania

Dissertation: *Distribution, abundance, dynamics and reproductive cycle of the dominant species in the pelagic zone of Lacul Stiucii Lake (Nature Reserve, Cluj, Romania)*

#### **1995-1999**

BSc research on *Ecology and Protection of Environment* at the Department of Ecology-Genetics, Faculty of Biology and Geology, Babes-Bolyai University Cluj-Napoca, Romania

Diploma: *Ecological context and the groundwater fauna from Pestera Huda lui Papara Cave (Trascau Mountains, Romania)*

### **TECHNICAL SKILLS**

*Groundwater ecology-related:* sampling of various groundwater environments, identification of different groups and species of groundwater organisms, physicochemical measurements and chemical analysis of groundwater samples

*General microbiology related:* Isolation and conventional identification of various microorganisms, anaerobic techniques, batch cultivation, Coulter Counter analysis, Culturing dependent MPN estimation

*Molecular microbiocology-related:* environmental DNA isolation, PCR of 16S rRNA, 18S rDNA and functional genes, Most-Probable-Number (MPN) PCR, 16S rDNA and 18S rDNA-

based denaturing gradient gel electrophoresis (DGGE), Amplified Ribosomal DNA Restriction Analysis (ARDRA), gel analysis, DNA sequencing, generation and analysis of clone libraries, phylogenetic analysis

#### **Science-related computer skills**

Phylogenetic analysis (Fasta-searches, ClustalW, Phylip, Treecon, BioEdit), quantitative gel analysis (GelCompar), statistical analyses (SPSS, Systat)

#### **GENERAL RESEARCH INTERESTS**

Groundwater ecology in general; Natural Attenuation and bioremediation of polluted groundwater in particular. Molecular and environmental microbiology research that aims at understanding microbial interactions in microbial communities, and relates community structure to ecosystem functioning, environmental parameters and environmental processes. Research that has a multidisciplinary character and generates scientific knowledge that is of obvious benefit for human society (e.g. leading to improved processes and policies)

#### **CURRENT RESEARCH INTERESTS**

- Bioremediation of landfill leachate-contaminated aquifers
- Molecular microbial ecology of contaminant biodegradation
- Prey-predator interactions in relation to biodegradation
- Ecology of the groundwater fauna in reaction to anthropogenic disturbances

#### **COOPERATIONS**

- Department of Hydrology and Geo-Environmental Sciences, Faculty of Earth and Life Sciences, Vrije Universiteit Amsterdam, The Netherlands
- Department of Animal Ecology, Faculty of Earth and Life Sciences, Vrije Universiteit Amsterdam, The Netherlands
- Laboratory of Microbiology, Wageningen University, Wageningen, The Netherlands
- Institute for Biodiversity and Ecosystem Dynamics, University of Amsterdam, The Netherlands
- Institute for Environmental Studies (IVM), Vrije Universiteit Amsterdam, The Netherlands
- Royal Belgian Institute of Natural Sciences, Brussels, Belgium

#### **AFFILIATIONS**

- Science Society in Cluj Romania
- Romanian Federation of Speleology
- Romanian Ornithological Society
- SENSE Research School, The Netherlands
- ISSM – International Society for Subsurface Microbiology

#### **LANGUAGES**

Fluent in English and Romanian (native), fair in French, poor in Dutch

## Traian Brad

### Publications list

1. **Brad, T.**, 1999, *The present stage of our knowledge concerning the spreading of the subterranean Amphipods from Romania*, Studii si Cercetari (Biologie), 5, Bistrita, 157-164
2. **Brad, T.**, 2000, *Note préliminaire sur la faune aquatique de la grotte Huda lui Papara (Monts du Trascau, Roumanie)*, Evolution and Adaptation, T. 6, 103-109
3. **Brad, T.**, 2002, *Structure and dynamics of the zooplankton community in the Stiucii Lake (North-Western Romania)*, Studia Universitatis Babes-Bolyai, Biologia, XLVII, 1, 33-41
4. Ghira, I., Venczel, M., Covaciu-Marcov, S., Mara, G., Ghile, P., Hartel, T., Torok, Z., Farkas, L., Racz, T., Farkas, Z., **Brad, T.**, 2002, *Mapping of Transylvanian Herpetofauna*, Nymphaea Folia Naturae Bihariae, XXIX, 145-201

### PhD-related publications (all in preparation)

1. **Brad, T.**, Braster, M., Van Breukelen, B., M., Van Straalen, N., M., Röling, W., F., M., *Hydrogeochemical heterogeneity and organic pollution – contributing factors to heterogeneity in microbial community structure in sediments of a landfill leachate-contaminated aquifer*
2. **Brad, T.**, Braster, M., Van Breukelen, B., M., Van Straalen, N., M., Röling, W., F., M., *Assessment of the eukaryotic diversity in a landfill leachate-contaminated aquifer by means of 18s rRNA gene fragments cloning and sequencing*
3. **Brad, T.**, Braster, M., Van Breukelen, B., M., Van Straalen, N., M., Röling, W., F., M., *Dynamics of the plume of pollution in a landfill leachate-contaminated aquifer based on variation of bacteria and eukaryotic community profiles*
4. **Brad, T.**, Braster, M., Van Breukelen, B., M., Van Straalen, N., M., Röling, W., F., M., *Influence of protozoan grazing/predation on organic matter biodegradation under different nutrient limitations*
5. **Brad, T.**, Braster, M., Van Breukelen, B., M., Van Straalen, N., M., Röling, W., F., M., *Essay on the resilience of the groundwater ecosystem in reaction to anthropogenic disturbances*

### Participation to conferences and posters

1. Iepure, S. and **Brad, T.**, 1999, *Temporal distribution of the stygofauna from Huda lui Papara cave (Transylvania, Romania), with special reference on Cyclopida (Copepoda) and Amphipoda*, The 14<sup>th</sup> International Symposium of Biospeleology, September 19-26, 1999, Makarska, Croatia
2. **Brad, T.**, Rusu, A., 1999, *Comportamentul de ajutor interindividual la chiroptere*, Sesiunea Nationala a Cercurilor Stiintifice Studentesti (Biologie si Geologie), 1999, Cluj-Napoca, Romania
3. **Brad, T.**, Tudorancea, C., 2000, *Date preliminare privind structura si dinamica comunitatii zooplanctonice din lacul Stiucii (rezervatie naturala, jud. Cluj), cu privire speciala asupra abundentei si ciclului de viata la speciile comune*, a IV-a Sesiune Stiintifica "Ecologia si Protectia Ecosistemelor", 2002, Bacau, Romania
4. **Brad, T.**, Tudorancea, C., 2001, *Migrarea pe verticala a comunitatii zooplanctonice din zona pelagica a Lacului Stiucii (Jud. Cluj, Romania)*, Sesiunea Stiintifica Anuala "Taxonomie, Faunistica si Ecologie Animala", May 4-5, 2001, Cluj-Napoca
5. **Brad, T.**, Braster, M., van Breukelen, B., M., van Straalen, N., M., Röling, W., F., M., 2002, *Effects of pollution on the biodiversity of groundwater fauna and related*

*microbial communities (preliminary results)*, First National Scientific Symposium BodemDiep, June 5-6, 2002, Zeist, The Netherlands

6. **Brad, T.**, Braster, M., van Breukelen, B., M., van Straalen, N., M., Röling, W., F., M., 2003 *Eukaryotic diversity and influence of protozoan grazing on microbial processes in a contaminated aquifer - Poster*, International Conference on the Molecular Biology and Biotechnology of Ciliates and Anaerobic Protozoa, March 4-6, 2003, Nijmegen, The Netherlands
7. **Brad, T.**, Braster, M., van Breukelen, B., M., van Straalen, N., M., Röling, W., F., M., 2003 *Eukaryotic diversity and influence of protozoan grazing on microbial processes in a contaminated aquifer - Poster*, 2<sup>nd</sup> National Scientific Soil Symposium BodemDiep, June 4-5 2003, Zeist, The Netherlands
8. **Brad, T.**, Braster, M., van Breukelen, B., M., van Straalen, N., M., Röling, W., F., M., 2003 International Symposium *Structure and Function of Soil Microbiota*, Philipps-University Marburg, Germany, September 18-20, 2003
9. Parsons, J., Botton, S., **Brad, T.**, Röling, W., F., M. and van Breukelen, B., M., 2003, *Anaërobe afbraak van benzeen ondergrond voormalige vuilstort Banisveld*, SKB workshop on anaerobic benzene degradation, 4 November 2003, Utrecht, The Netherlands
10. **Brad, T.**, Braster, M., van Breukelen, B., M., van Straalen, N., M., Röling, W., F., M., 2004, *Eukaryotic community structure in a landfill-leachate contaminated aquifer and its relationship to pollution and Natural Attenuation*, Netherlands Scientific Symposium "Soil and Water", June 2-3 2004, Zeist, The Netherlands (extended abstract)
11. **Brad, T.**, Braster, M., Van Breukelen, B., M., Van Straalen, N., M., Röling, W., F., M., 2005, *Relationships and contribution of eukaryotes to subsurface contaminant biodegradation*, Netherlands Scientific Symposium "Soil and Water", June 1-2 2005, Zeist, The Netherlands
12. **Brad, T.**, Braster, M., Van Breukelen, B., M., Van Straalen, N., M., Röling, W., F., M., 2004, *Eukaryotic community structure in a landfill-leachate contaminated aquifer and its relationship to pollution and Natural Attenuation*, 10<sup>th</sup> International Symposium on Microbial Ecology ISME-10, Cancun, Mexico, August 22-27, 2004
13. Röling, W., F., M., **Brad, T.** and Botton, S., 2004, UNESCO Workshop, December 2004, München, Germany (Röling, W., F., M. invited speaker)
14. **Brad, T.**, Braster, M., Van Breukelen, B., M., Van Straalen, N., M., Röling, W., F., M., 2005, *Relationships and contribution of eukaryotes to Natural Attenuation in a landfill leachate-contaminated aquifer*, The Joint International Symposia for Subsurface Microbiology (ISSM 2005) and Environmental Biogeochemistry (ISEB XVII), ISBN: 1-555-81-363-1, Jackson Hole, Wyoming, USA, August 14-19, 2005