

## PERSONAL INFORMATION

Name and surname: Loredana Brinza (married Tepes)  
Address: Str. Lascar Catargi nr. 54, 700107 Iasi, Romania  
E-mail: b\_loredana@yahoo.com

## EDUCATION

- 2011: PhD in Chemical Engineering at "Gh. Asachi" Technical University, Faculty of Industrial Chemistry, Department of Environmental Engineering and Management, Iasi, Romania; Thesis title: "Recuperative bioremediation of environmental media (water, soil) polluted with heavy metals, using biosorption processes",
- 2010: PhD in Earth Sciences/Biogeochemistry at University of Leeds, School of Earth and Environment, Leeds, United Kingdom, Thesis title: "Interactions of Mo and V with iron oxyhydroxides nanoparticles in marine setting",
- 2003: Master of Science in Environmental Management at "Gh. Asachi" Technical University, Faculty of Industrial Chemistry, Department of Environmental Engineering and Management, Iasi, Romania; Thesis title: "Biosorption of heavy metals on yeasts",
- 2002: Bch Degree in Environmental Engineering at "Gh. Asachi" Technical University, Faculty of Industrial Chemistry, Department of Environmental Engineering and Management, Iasi, Romania; Thesis title: "Application of anaerobic bioreactors in liquid effluents de-pollution. Design of a wastewater pre-treatment plant from juice mills".

## SELECTED PUBLICATIONS

1. Loredana Brinza, Hong P. Vu, Samuel Shaw, J. Fred W. Mosselmans, Liane G. Benning, 2015, The effect of molybdenum and vanadium on the hydrothermal crystallization of hematite from ferrihydrite at seawater pH and ionic strength - an in situ EDXRD and XAS study, **Crystal Growth and Design**, 15 (10), pp 4768–4780; DOI: 10.1021/acs.cgd.5b00173
2. Mark E Hodson, Stuart Black, Loredana Brinza, Daniel Carpenter, Denise C. Lambkin, J. Fred W Mosselmans, Barbara Palumbo-Roe, Paul F Schofield, Tom Sizmur, Emma A Versteegh, 2014, Biology as an agent of chemical and mineralogical change in soil, **Procedia Earth and Planetary Science**. 10, 114 – 117
3. Loredana Brinza, Frederick J. W. Mosselmans, Paul F. Schofield, Erica Donner, Enzo Lombi, Mark E. Hodson, 2014, Can earthworm-secreted calcium carbonate immobilise Zn in contaminated soils?, **Soil Biology and Biochemistry**, 74, 1-10, DOI:10.1016/j.soilbio.2014.01.012;
4. L. Brinza, P. F. Schofield, M. E. Hodson, S. Weller, K. Ignatyev, K. Geraki, P. D. Quinn and J. F. W. Mosselmans, 2014, Combining  $\mu$ XANES and  $\mu$ XRD mapping to analyse the heterogeneity in calcium carbonate granules excreted by the earthworm *Lumbricus terrestris*, **Journal of Synchrotron Radiation**, 01/2014, 21, 235-41; DOI:10.1107/S160057751303083X;
5. Hong Phuc Vu, Samuel Shaw, Loredana Brinza, Liane G Benning, 2013, Partitioning of Pb (II) during goethite and hematite crystallisation: implication for Pb transport in natural systems, 2013 **Applied Geochemistry**, 39, 119-128; DOI:10.1016/j.apgeochem.2013.10.001, FI: 2.021/2013;
6. Loredana Brinza, Paul D. Quinn, Paul F. Schofield, Frederick J. W. Mosselmans, Mark E. Hodson, 2012, Incorporation of strontium in earthworm-secreted calcium carbonate granules produced in strontium-amended and strontium-bearing soil, **Geochimica et Cosmochimica Acta**, 113 21-37, DOI: 10.1016/j.gca.2013.03.011;
7. Sofia Diaz-Moreno, M. Amboage, R. Boada-Romero, L. Brinza, G. Cibir, A. Dent, A. Freeman, T. Geraki, S. Hayama, F. Mosselmans, S. Parry, P. Quinn and S. Ramos (2012), X-Ray Absorption Spectroscopy at Diamond Light Source: Three Complementary Beamlines to Deliver a Comprehensive Service, **XAS Research Review**, 3
8. Rob Raiswell, Hong Phuc Vu, Loredana Brinza, Liane Benning, (2010), The determination of Fe in ferrihydrite by ascorbic acid extraction: methodology, dissolution kinetics and loss of solubility with age and de-watering, **Chemical Geology**, Vol 278, 1-2, 70-79 doi:10.1016/j.chemgeo.2010.09.002;
9. Vu Hong Phuc, Shaw Samuel, Brinza Loredana, Benning Liane G., (2010), The crystallization of hematite ( $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>) under alkaline condition: the effects of Pb" **Crystal Growth and Design**, Vol 10, No 4, 1544–1551, DOI: 10.1021/cg900782g.
10. Loredana Brinza, Charlotta A. Nygard, Matthew J. Dring, Liane G. Benning, Maria Gavrilescu, (2009), Cadmium tolerance and adsorption by the marine brown alga *Fucus vesiculosus* from the Irish Sea and the Bothnian Sea, **Bioresource Technology**, Vol. 100, No 5, 1727-1733, doi:10.1016/j.biortech.2008.09.041;

## RESEARCH INTEREST

- Synchrotron techniques used in biogeochemistry: Metal speciation within solid phase (bio and geo matrixes): *synchrotron XAS*; Mineral crystallization/transformation kinetic and thermodynamics: *synchrotron ED-XRD*; Complementary synchrotron characterization techniques: *i.e.,  $\mu$ -XANES mapping and  $\mu$ -XRD mapping*;
- Nanoparticle synthesis and characterization for specific applications. Amorphous nanoparticles stabilization, size and shape control for specific functions;
- Biomass as byproducts for environmental friendlier biotechnologies for soil and wastewater treatments; chemical and process engineering;
- Solid – fluid interactions: mechanisms (uptake mechanisms: adsorption, ion exchange, accumulation, precipitation or dissolution mechanisms), kinetics and thermodynamics;
- Geochemical and molecular modeling;