



Europass Curriculum Vitae



Personal information

First name(s) / Surname(s) **Horia Leonard Banciu**

Address(es)

Telephone(s)

Fax(es)

E-mail

Nationality

Date of birth

Gender

Desired employment / Occupational field

Member of Doctoral Committee

Work experience

Dates 2012 – Present

Occupation or position held Associate Professor

Main activities and responsibilities Teaching and research

Name and address of employer Babes-Bolyai University, 1 Kogălniceanu Street, Cluj-Napoca, Romania

Type of business or sector Academic teaching and research

Dates 2004 – 2012

Occupation or position held Lecturer

Main activities and responsibilities Teaching and research

Name and address of employer Babes-Bolyai University, 1 Kogălniceanu Street, Cluj-Napoca, Romania

Type of business or sector Academic teaching and research

Dates 1997 – 2004

Occupation or position held Tutor/Teaching assistant

Main activities and responsibilities Teaching and research

Name and address of employer Babes-Bolyai University, 1 Kogălniceanu Street, Cluj-Napoca, Romania

Type of business or sector Academic teaching and research

Education and training

Dates 2015

Title of qualification awarded	Habilitation Degree/ PhD supervisor															
Principal subjects/occupational skills covered	Microbial physiology and diversity, Molecular Biology, Bioinformatics															
Name and type of organisation providing education and training	Institute of Doctoral Studies; Babes-Bolyai University of Cluj-Napoca, Romania															
Level in national or international classification	No classification in Shanghai Ranking															
Dates	2002-2004															
Title of qualification awarded	PhD.															
Principal subjects/occupational skills covered	Microbial physiology and biotechnology															
Name and type of organisation providing education and training	TU Delft, The Netherlands															
Level in national or international classification	Top 200 in Shanghai Ranking (2010)															
Dates	1999															
Title of qualification awarded	Research assistant															
Principal subjects/occupational skills covered	Molecular biology of extremophilic bacteria															
Name and type of organisation providing education and training	Mount Sinai School of Medicine New York City, U.S.A.															
Level in national or international classification	Top 200 in Shanghai Ranking (2010)															
Dates	1998															
Title of qualification awarded	MSc.															
Principal subjects/occupational skills covered	Cell and molecular biology															
Name and type of organisation providing education and training	Faculty of Biology and Geology, Babes-Bolyai University of Cluj-Napoca, Romania															
Level in national or international classification	No classification in Shanghai Ranking															
Dates	1997															
Title of qualification awarded	BSc.															
Principal subjects/occupational skills covered	Biology															
Name and type of organisation providing education and training	Faculty of Biology and Geology, Babes-Bolyai University of Cluj-Napoca, Romania															
Level in national or international classification	No classification in Shanghai Ranking															
Personal skills and competences	Specify mother tongue Romanian															
Mother tongue(s)																
Other language(s)																
Self-assessment																
European level (*)																
English	<table border="1"> <thead> <tr> <th colspan="2">Understanding</th> <th colspan="2">Speaking</th> <th>Writing</th> </tr> <tr> <th>Listening</th> <th>Reading</th> <th>Spoken Interaction</th> <th>Spoken production</th> <th></th> </tr> </thead> <tbody> <tr> <td>GOOD</td> <td>GOOD</td> <td>GOOD</td> <td>GOOD</td> <td>GOOD</td> </tr> </tbody> </table>	Understanding		Speaking		Writing	Listening	Reading	Spoken Interaction	Spoken production		GOOD	GOOD	GOOD	GOOD	GOOD
Understanding		Speaking		Writing												
Listening	Reading	Spoken Interaction	Spoken production													
GOOD	GOOD	GOOD	GOOD	GOOD												
Social skills and competences	Team spirit and good communication skills															

Research grants

No.	Title	Period	Budget	Responsabilities
As Principal Investigator				
1.	Diversity of Archaea Inhabiting Saline Lakes from Transylvanian Basin (Central Romania)Code PN II-PCE-3-0546, Contract No. 186/2011.	2011-2016	1,500,000 RON/ 300,000 Euro	Project manager
2.	Modeling of heavy metal impact on aquifers by complex investigations using hyporheic fauna and GRID monitoring system. Project CDI II, Code 1247, Contract No. 31-032/14.09.2007	2007-2010	157,601 RON/ 45,000 Euros-	Representing Babes-Bolyai University of Cluj-Napoca.
3.	Energy conservation in double extremophilic bacteria: basic and applicative research. CEEX Grant, Code 85, type ET, Contract No. 5913/ 18.09.2006	2006-2008	140,250 RON/ 40,000 Euros	Project manager
4.	Purification of avidin from chicken egg yolk for using in immunochemical assays. C.N.C.S.I.S. Grant, Code 88, type AT, Contract No. 2771/ 23.05.2006.	2006-2007	31,500 RON/ 10,000 Euros	Project manager
As Member				
1.	Methane fluxes at the lithosphere-atmosphere interface in hydrocarbon-prone areas. Implications for the greenhouse gases atmospheric budget. (FLUX). Project CDI II, Contract no. 31-094/14.09.2007.	2007-2010	1,416,000 RON/ 380,000 Euros	Supervised acquisitions of molecular biology consumables. Designed experiments and wrote progress reports for given activities.
2.	Molecular biology methods for the amelioration of crop cultures of economic interest. Project CDI II, Contract no. 51-085 /18.09.2007	2007-2010	410,000 RON/ 115,000 Euros	Performed experiments and wrote progress reports for given activities.
3.	Natural computing of excellence. Project CDI II, Code 543, Contract No. 130/1.10.2007	2007-2010	526,500 RON/ 150,000 Euros	Designed experiments and wrote progress reports for given activities.

Organisational skills and competences	Research grant member and manager, between 2006-2015
Technical skills and competences	Related to laboratory work experience
Computer skills and competences	Basic knowledge in Windows and Office
Other skills and competences	Professional skill: cell and molecular biology techniques (cloning, transformation, PCR), broad knowledge in biochemistry, biophysics, genetics, microbiology, biotechnology. I am used to techniques of membrane protein purification by gel chromatography, gradient centrifugation, gel electrophoresis, Western blotting, HPLC, characterization of proteins by spectrophotometry, spectrofluorometry, membrane vesicles preparation; practical knowledge of bacteriology and applied microbiology, bacterial cell cultivation and identification
Annexes	<p>Annex 1: Research grants</p> <p>Annex 2: Publications</p> <p>Annex 3: Conferences (most relevant during 2012-2016)</p>

Publications

Peer-reviewed Journals

- Sorokin, D.Y., **Banciu, H.**, van Loosdrecht, M.C.M., Kuenen, J.G. (2003) Growth physiology and competitive interaction of obligately chemolithoautotrophic, haloalkaliphilic, sulfur-oxidizing bacteria from soda lakes, *Extremophiles*, 7 (3): 195-203.
- Hicks, D.B., Wang, Z., Wei, Y., Kent, R., Guffanti, A.A., **Banciu, H.**, Bechhofer, D.H. Krulwich, T.A. (2003) A newly discovered tenth atp gene and the conserved atpI gene of a *Bacillus* atp operon have a role in Mg²⁺ uptake. *Proc. Natl Acad Sci USA* 100 (18): 10213-10218.
- Banciu, H.**, Sorokin, D.Y., Kleerebezem, R., Muyzer, G., Galinski, E.A., Kuenen, J.G. (2004) Growth kinetics of haloalkaliphilic sulfur-oxidizing bacterium *Thioalkalivibrio versutus* strain ALJ 15 in continuous culture, *Extremophiles* 8 (3): 185-192.
- Banciu, H.**, Sorokin, D.Y., Muyzer, G., Kleerebezem, R., Galinski, E.A., Kuenen, J.G. (2004) *Thioalkalivibrio halophilus* sp. nov, a novel obligately chemolithoautotrophic facultatively alkaliphilic and extremely salt-tolerant sulfur-oxidizing bacterium from a hypersaline alkaline lake. *Extremophiles* 8 (4): 325-334.
- Takaichi, S., Maoka, T., Akimoto, N., Sorokin, D.Y., **Banciu, H.**, Kuenen, J.G. (2004) Two novel yellow pigments natronochrome and chloronatronochrome from the natrono(alkali)philic sulfur-oxidizing bacterium *Thioalkalivibrio versutus* ALJ 15. *Tetrahedron Lett* 45 (45): 8303-8305.
- Banciu, H.**, Sorokin, D.Y., Rijpstra, W.I., Sinninghe Damste, J.S., Galinski, E.A., Takaichi, S., Muyzer, G., Kuenen, J.G. (2005) Fatty acid, compatible solute and pigment composition of obligately chemolithoautotrophic alkaliphilic sulfur-oxidizing bacteria from soda lakes. *FEMS Microbiol Lett*. 243 (1): 181-187.
- Banciu, H.L.**, Sorokin, D.Y., Tourova, T.P., Galinski, E.A., Muntyan, M.S., Kuenen, J.G., Muyzer, G. (2008) Influence of salts and pH on growth and activity of a novel facultatively alkaliphilic, extremely salt-tolerant, obligately chemolithoautotrophic sulfur-oxidizing Gammaproteobacterium *Thioalkalibacter halophilus* gen. nov., sp. nov. from South-Western Siberian soda lakes. *Extremophiles*. 12 (3): 391-404.
- Geelhoed J.S., Sorokin D.Y., Epping E., Tourova T.P., **Banciu H.L.**, Muyzer G., Stams A.J., van Loosdrecht M.C. (2009) Microbial sulfide oxidation in the oxic-anoxic transition zone of freshwater sediment: involvement of lithoautotrophic *Magnetospirillum* strain J10. *FEMS Microbiol Ecol*. 70 (1): 54-65.
- Moldovan O.T., Levei E., Marin C., Banciu M., **Banciu H.L.**, Pavelescu C., Brad T., Cimpean M., Meleg I., Iepure S., Povara I. (2011) Spatial distribution patterns of the hyporheic invertebrate communities in a polluted river in Romania. *Hydrobiologia*, 669 (1): 63-82.
- Andrei A-Ş, **Banciu HL**, Oren A (2012). Living with salt: metabolic and phylogenetic diversity of archaea inhabiting saline ecosystems. *FEMS Microbiol. Lett*, 330 (1):1-9.
- Ionescu MI, Costache AZ, Oniga O, **Banciu HL**, Lupan I (2013). Inhibition of *Streptococcus pneumoniae* adenylate kinase by some 5-arylidene-thiazolidin-4-on-2-thione derivates. *Rev. Romana Med. Lab.*, 21 (1):93-99.
- Baricz A, Coman C, Andrei A-Ş, Muntean V, Keresztes ZG, Păusan M, Alexe M, **Banciu HL** (2014). Spatial and temporal distribution of archaeal diversity in meromictic, hypersaline Ocnei Lake (Transylvanian Basin, Romania). *Extremophiles*, 18 (2):399-413.
- Bartha L, Sramkó G, Volkova PA, Surina B, Ivanov AL, **Banciu HL** (2015). Patterns of plastid DNA differentiation in *Erythronium* (Liliaceae) are consistent with allopatric lineage divergence in Europe across longitude and latitude. *Plant Syst Evol*, 301 (6): 1747-1758.
- Bartha, L., Stepanov, N. V., Rukšāns, J., **Banciu, H.L.**, Keresztes, L. (2015). Non-monophyly of Siberian *Erythronium* (Liliaceae) leads to the recognition of the formerly neglected *Erythronium sajanense*. *J. Plant. Res.* 128 (5): 721-729.
- Baricz A, Cristea A, Muntean V, Teodosiu G, Andrei A-Ş, Molnár I, Alexe M, Rakosy-Tican E, **Banciu HL** (2015). Culturable diversity of aerobic halophilic archaea (Fam. *Halobacteriaceae*) from hypersaline, meromictic Transylvanian lakes. *Extremophiles*, 19 (2):525-537.
- Coman C, Chiriac CM, Robeson MS, Ionescu C, Dragoş N, Barbu-Tudoran L, Andrei A-Ş, **Banciu HL**, Sicora C, Podar M (2015). Structure, mineralogy and microbial diversity of geothermal spring microbialites associated with a deep oil drilling in Romania.. *Front. Microbiol.*, 6:253,
- Andrei A-Ş, Robeson MS, Baricz A, Coman C, Muntean V, Ionescu A, Etiope G, Alexe M, Sicora CI, Podar M, **Banciu HL** (2015). Contrasting taxonomic stratification of microbial communities in two hypersaline meromictic lakes. *ISME J.*, 9 (12): 2642-2656.

- Banciu, H.L., Munyan, M.S.** (2015). Adaptive strategies in the double-extremophilic prokaryotes inhabiting soda lakes. *Curr. Opin. Microbiol.*, **25**: 73-79.
- Sorokin, D.Y., **Banciu, H.L.**, Muyzer, G. (2015). Functional microbiology of soda lakes. *Curr. Opin. Microbiol.*, **25**: 88-96.
- Ionescu, M., Rădulescu, A.Z., Oniga, S., Banciu, H.L., Lupaș, I. (2015). Inhibition of *Streptococcus pneumoniae* and *Escherichia coli* adenylate kinase by 2-amino-4-methyl-n'-arylidenethiazole-5-carbohydrazides. *Farmacia*, **63** (3): 338-342.
- Andrei, A.Ş., Baricz, A., Păusan, M., Muntean, V., Sicora, C., Alexe, M., Rakosy-Tican, E., **Banciu, H.L.** (2016) Spatial distribution and molecular diversity of archaeal communities in the extreme hypersaline meromictic Brâncoveanu Lake (Transylvanian Basin, Romania). *Geomicrobiol. J.* DOI:10.1080/01490451.2016.1149527.
- Voica, D.M., Bartha, L., **Banciu, H.L.**, Oren, A. (2016). Heavy metal resistance in halophilic Bacteria and Archaea. *FEMS Microbiol. Lett.* 363(14). pii: fnw146. doi: 10.1093/femsle/fnw146

Romanian Journals

- Miclea A., Van der Star, W.R.L., Kleerebezem R., **Banciu H.** (2009) Anammox process and its applications in wastewater treatment. *Studia UBB Biologia*, **54** (2): 97-110.
- Banciu H.** (2009) Dancing in the soda with the haloalkaliphilic sulfur-oxidizing bacteria. *RBCAR Newslett.*, **1** (2): 5-7.
- Rusu M., **Banciu H.L.**, Banciu M., Brad T., Moldovan, O.T. (2010) Oxidative stress enzymes as biomarkers of heavy metal pollution in interstitial invertebrates. *Studia UBB Biologia*, **55** (2): 61-66.
- Banciu H L** (2013). Diversity of endolithic prokaryotes living in stone monuments, *Studia UBB Biologia*, **58** (1):99-109.
- Cristea A, Andrei AŞ, Baricz A, Muntean V, **Banciu HL** (2014). Rapid assessment of carbon substrate utilization in the epilimnion of meromictic Ursu lake (Sovata, Romania) by the BIOLOG ECO PLATE™ approach. *Studia UBB Biologia*, **59** (1):41-53.

Book Chapters

- Sorokin, D.Y., **Banciu, H.**, Robertson, L.A., Kuenen, J.G. (2006) Haloalkaliphilic Sulfur-Oxidizing Bacteria, in *The Prokaryotes: A Handbook on the Biology of Bacteria – 3rd Edition* (Dworkin, M., Falkow, S., Rosenberg, E., Schleifer, K.-H., Stackebrandt, E., Eds.) Springer-Verlag, New York, pp. 969-984. ISBN 978-0387254999
- Sorokin DY, **Banciu H**, Robertson LA, Kuenen JG, Munyan MS, Muyzer G (2013). Halophilic and haloalkaliphilic sulfur-oxidizing bacteria. In: *The Prokaryotes: Prokaryotic Physiology and Biochemistry - 4th Edition* (Rosenberg E, DeLong EF, Lory S, Stackebrandt E, Thompson F, Eds.), pp. 529-554, Springer-Verlag, Berlin, ISBN 978-3-642-30140-7.

(http://link.springer.com/referenceworkentry/10.1007%2F978-3-642-30141-4_77)

- Banciu HL**, Sorokin DY (2014). Adaptation in haloalkaliphiles and natronophilic bacteria. In: *Polyextremophiles: Life Under Multiple Forms of Stress* (Seckbach J, Oren A, Stan-Lotter H, Eds), Cellular Origin, Life in Extreme Habitats and Astrobiology 27, pp. 121–178, Springer Science+Business Media, Dordrecht, ISBN 978-94-007-6487-3.

(http://link.springer.com/chapter/10.1007%2F978-94-007-6488-0_5)

Conferences (most relevant during 2012-2016)

1. Baricz, A., Andrei, A.-S., Muntean, V., Coman, C., Keresztes, Z.G., Alexe, M., **Banciu, H.L.** Spatial distribution of microbial communities along salinity gradient in six saline and hypersaline lakes from Transylvania (Central Romania)", Abstracts Book, p. 143. 9th International Congress EXTREMOPHILES 2012, 10-13 September, Seville, Spain.
2. Andrei, A.-S., Baricz, A., Muntean, V., Coman, C., Keresztes, Z.G., Alexe, M., **Banciu, H.** Diversity of archaeal community in the chemocline of a hypersaline lake in the Transylvanian Basin (Romania). Book of Abstracts, p.40 - 41. Annual Symposium of Institute of Biology (Romanian Academy): A New Approach of the Academic Research in Biology", 12-13 December 2012, Bucharest, Romania.
3. Păușan, M.-R., Andrei, S.-A., Baricz, A., Coman, C., Muntean, V., Keresztes, Z.G., Alexe, M., **Banciu, H.** Seasonal diversity and vertical distribution of archaea inhabiting Brâncoveanu Lake (Sibiu County, Romania). 5th International Conference of RSCB, 5-9 June, 2013, Timișoara, Romania.
4. Baricz, A., Păușan, M.-R., Andrei, S.-A., Coman, C., Muntean, V., Keresztes, Z.G., Alexe, M., **Banciu, H.** Diversity of archaea in meromictic saline lake Ocnei (Turda, Romania). 5th International Conference of RSCB, 5-9 June, 2013, Timișoara, Romania.
5. Baricz, A., Cristea, A., Luca, A.-C., Istrate, D.A., Andrei, A.-S., Muntean, V., **Banciu, H.L.** Cultivable diversity of haloarchaea in four Transylvanian salt lakes. Bul. Rom. Soc. Cell. Biol., 42, 2014, p.27.
6. Coman, C., Chiriac, C., Ionescu, C., Robeson, M., Andrei, S., Dragoș, N., Sicora, C., **Banciu, H.**, Podar, M. Characterization of microbial diversity in modern hot spring laminated carbonate deposits from the Western Plain of Romania by barcoded pyrosequencing. Bul. Rom. Soc. Cell. Biol., 42, 2014, p. 32. 32nd Annual Conference with International Participation of RSCB, 4-7 June 2014, Târgu Mureș, Romania.
7. Cristea, A., Baricz, A., Andrei, A.-S., Muntean, V., **Banciu, H.L.** Biotechnological potential of haloarchaeal strains isolated from Transylvanian salt lakes". Bul. Rom. Soc. Cell. Biol., 42, 2014, p. 25. 32nd Annual Conference with International Participation of RSCB, 4-7 June 2014, Târgu Mureș, Romania.
8. Păușan, M., Andrei, A.-S., Baricz, A., **Banciu, H.L.** Epilithic bacterial communities dwelling on a public stone monument of Cluj-Napoca. Bul. Rom. Soc. Cell. Biol., 42, 2014, p. 26. 32nd Annual Conference with International Participation of RSCB, 4-7 June 2014, Târgu Mureș, Romania.
9. Andrei, A.-S., Robeson II, M.S., Podar, M., Baricz, A., Coman, C., Sicora, C.I., Muntean, V., **Banciu, H.L.** Taxonomic profiling of prokaryotic communities from an extreme hypersaline meromictic lake using a next-generation sequencing approach. Romanian J. Biochem., 51 (Suppl.), 2014, p. 16-17. International Conference of RSBMB, 5-6 June 2014, Băile Felix (Oradea), Romania.
10. Cristea, A., Baricz, A., Andrei, A.-S., Muntean, V., **Banciu, H.L.** Isolation and phenotypic characterization of Haloferax sp. strains isolated from Transylvanian salt lakes. International Symposium "Young Researchers in BioSciences". 23-27 July, 2014, Cluj-Napoca, Romania.
11. Leș, A., Banciu, H.L. Mircescu, N., Leopold, N. Discrimination between different species of halophilic archaea using Raman spectroscopy and principal component analysis. 5th Conference on Advanced Spectroscopies on Biomedical and Nanostructured Systems (BioNanoSpec), 7-10 September, 2014, Cluj-Napoca, Romania.
12. Cristea, A., Andrei, A.-S., Baricz, A., Pop, D.A., Mihuț, I., Rotar, D., Deac, I., Barciu, H.L. Biogeochemical carbon cycling in Ursu Lake. Abstract sent at 7th National Congress with International Participation and 33rd Annual Scientific Session of the Romanian Society for Cell Biology, 11-14 June, 2015, Baia Mare, Romania.
13. Voica, D.M., Barbu-Tudoran, L., Banciu H.L. Silver resistance in haloarchaeal strains isolated from Transylvanian salt lakes. Abstract sent at 7th National Congress with International Participation and 33rd Annual Scientific Session of the Romanian Society for Cell Biology, 11-14 June, 2015, Baia Mare, Romania.
14. **Invited speaker** at 11th International Conference on Halophilic Microorganisms (Halophiles 2016), 22-27 May 2016, San Juan, Puerto Rico. Banciu, H.L., Andrei, A.-S., Baricz, A., Muntean, V., Alexe, M., Podar, M. „Microbial diversity in permanently stratified hypersaline lakes of the Transylvanian Basin, central Romania.”

I hereby certify that the above statements are true and correct to the best of my knowledge.

Date: 14.10.2016

