SCIENTIFIC CURRICULUM
Dr. Silvia Lampis

1. Personal Data

LAST NAME**:** Lampis
FIRST NAME: Silvia
DATE OF BIRTH **:** 9 November 1975
AFFILIATION: Department of Biotechnology - University of Verona
Strada Le Grazie 15, 37134 Verona, Italy
Tel: 0039 045 8027095, Fax: 0039 045 8027051
Email: silvia.lampis@univr.it

2. Education

October 31th, 2001: Degree in Agro – Industrial Biotechnology; final mark 108/110. Title of the thesis "*Caratterizzazione delle cenosi batteriche tipiche della rizosfera di Astragalus bisulcatus, leguminosa iperaccumulatrice di selenio potenzialmente utilizzabile in operazioni di bonifica di terreni mediante fitoestrazione*".
January 2002: Recipient of a scholarship at ISE – CNR – Pisa.
October 2002: Recipient of a research fellowship entitled: "*Caratterizzazione molecolare di ceppi batterici in grado di biotrasformare tiofeni condensati in coltura pura"* at, Department of Science and Technology – University of Verona
August 2004: Recipient of a research fellowship entitled: "*Studio di sistemi suolo-pianta-microorganismi caratterizzate da specie botaniche iperaccumulatrici di selenio*" at Department of Science and Technology – University of Verona
May 18th, 2006: *Ph.D.* degree. Doctoral course in Molecular, Industrial and Environmental Biotechnologies, XVIII cycle – University of Verona-. Title of the thesis: "*New insights in microbial transformations of selenium: a biotechnological perspective*".
August 2006: Recipient of a research fellowship entitled "*Caratterizzazione delle cenosi batteriche produttrici di PHAs da fermentati acidogenici mediante analisi DGGE e studio dei chinoni respiratori*" at Department of Science and Technology – University of Verona -.

From October 1st, 2007: Assistant Professor SSD/BIO19 (RU) – General microbiology – at Department of Biotechnology,- University of Verona-.

3. Research activity

3.1. Research interests

Scientific expertise on environmental microbiology with a special interest on microbial interactions with metals and toxic organic compounds in terrestrial ecosystems and relative applications.
Main topic of interest:

- bacteria and fungi involved in selenium and tellurium cycle
- bacteria and fungi capable of transforming arsenic, lead, vanadium
- bacteria and fungi capable of degrading aromatic and aliphatic hydrocarbons;
- bacteria that can act as biocontrol agents
- the study of microbial community:

- at dismissed and polluted industrial sites
- involved in water treatment processes, in PHA and biogas production.
- at the rizosphere of hyperaccumulating plants
- of endophytes of hyperaccumulating plants and crop species

- Exploitation of microbial metabolism to:

- bioremediate soils, sediments, waters from environmental polluttants such as toxic organic compounds, heavy metals and metalloids
- bioproduce active compounds: biogenic nanomaterials, biosurfactants, PJAs

3.2 Project involvement

- (Partecipazione) **PROVINCIA AUTONOMA DI TRENTO** - Ex-SLOI pollutted site (Trento Nord), founded by Provincia Autonoma di Trento – Developed of phytoremediation strategies for the decontamination of a Dismissed Industrial Site heavily pollutted by organic and inorganic Lead (Pb). Durata: **2003-2005**

- (Partecipazione) **MIUR PRIN 2005** - "Dinamica e caratterizzazione molecolare delle cenosi batteriche accumulatrici di poliidrossialcanoati a seguito di processi sequenziali anaerobici/aerobici per lo sfruttamento delle acque di vegetazione dei frantoi oleari"; durata **01/02/2006-30/01/2008**

- (Partecipazione) **Ministero degli Affari Esteri** - Progetti di grande rilevanza ai sensi della Legge 401/90 - XVII Executive Programme of Scientific and Technological Co-operation between Italy and Hungary for the years 2008-2010: "Plant-microbe interactions in bioremediation of polluted environmental matrices"; durata **11/04/2008-31/12/2010**

- (Partecipazione) **Ministero degli Affari Esteri** - Progetti di grande rilevanza ai sensi della Legge 401/90 - XVII Executive Programme of Scientific and Technological Co-operation between Italy and Hungary for the years 2011-2013: "Optimization of soil-plant- microbe interactions in the bioremediation of soils polluted with toxic organic compounds and heavy metals"; durata **01/06/2011-31/12/2013**

- (Partecipazione) **Regione Toscana** – APQ Ricerca e trasferimento tecnologico per il sistema produttivo: Progetto "R.E.P.E.T. (Rhizosphere-Enhanced Phyto-Extraction Technology)"; oggetto della ricerca dell'Unità Operativa presso il Dip. Di Biotecnologie dell'Università di Verona era: ' Ecologia microbica del sito contaminato (Scarlino-Toscana) con particolare riferimento ai rapporti pianta-microorganicmi nella rizosfera delle specie botaniche caratteristiche della fitocenosi, relativamente all'interazione con l'arsenico; durata **01/11/2007-31/12/2011**

- (Partecipazione) **Joint Project 2011 – Università di Verona –** 'Sviluppo di Inoculi Microbici per il recupero di terreni forestali percorsi da incendio'. Durata **18/01/2012-17/01/2014**

- (Partecipazione) **Joint Project 2014** – Università di Verona – 'Biocleaning of stone artworks by a combined use of hydrocarbon degrading microbial strains and sulfate reducing bacteria'. Durata **01/02/2015-31/01/2018.**

- (Partecipazione) **Programma Operativo FSE 2014-2020 – Asse 'Capitale umano' – Regione Veneto –** 'Sviluppo di una procedura innovativa per il restauro di manufatti lapidei di interesse artistico mediante bio-pulitura e bio-cementazione, basata sullo sfruttamento integrato di microorganismi idrocarbonoclastici e del processo di carbonatogenesi microbica'. Durata **01/09/2016-31/08/2017.**
- (Responsabile Scientifico) **Joint Project 2015** - Università di Verona – 'Biological reclamation of polluted dredged sediments'. Durata **01/02/2016-31/07/2019.**
- (Responsabile Scientifico) **Programma Operativo FSE 2014-2020 – Asse 'Capitale umano' – Regione Veneto –** 'Analisi dell'efficacia di bionanomateriali per l'inibizione ed eradicazione di biofilm microbici su superfici ad uso industriale'. Durata **01/09/2016-31/08/2017.**
- (Responsabile Scientifico) **Joint Project 2017** - Università di Verona – 'DEVELOPMENT OF SINTHETIC TEXTILE MATERIALS WITH ANTIMICROBIAL PROPERTIES BY USING BIOGENIC SELENIUM NANOPARTICLES'**.** Durata **01/03/2018-28/02/2020**

3.3 Research papers

In international journal or books with international *referee*.

1. Piacenza E, Presentato A, Ambrosi E, Speghini A, Turner RJ, Vallini G, **Lampis S**. Physical-Chemical Properties of Biogenic Selenium Nanostructures Produced by Stenotrophomonas maltophilia SeITE02 and Ochrobactrum sp. MPV1. Front Microbiol. 2018 Dec 19;9:3178. doi: 10.3389/fmicb.2018.03178. eCollection 2018.

2. Andreolli M, Zapparoli G, Angelini E, Lucchetta G, **Lampis S***, Vallini G. Pseudomonas protegens MP12: A plant growth-promoting endophytic bacterium with broad-spectrum antifungal activity against grapevine phytopathogens. Microbiol Res. 2019 Feb;219:123-131. doi: 10.1016/j.micres.2018.11.003. Epub 2018 Nov 23.

3. Cremonini E, Boaretti M, Vandecandelaere I, Zonaro E, Coenye T, Lleo MM, **Lampis S***, Vallini G. Biogenic selenium nanoparticles synthesized by Stenotrophomonas maltophilia SeITE02 loose antibacterial and antibiofilm efficacy as a result of the progressive alteration of their organic coating layer. Microb Biotechnol. 2018 Nov;11(6):1037-1047. doi: 10.1111/1751-7915.13260. Epub 2018 Apr 10.

4. Doni S., S., Macci C., Martinelli C., Iannelli R., Brignoli P., **Lampis S**., Andreolli M., Vallini G., Masciandaro G. Combination of sediment washing and bioactivators as a potential strategy for dredged marine sediment recovery. Ecological Engineering, 2018 125: 26-37

5. Piacenza E, Presentato A, Zonaro E, Lemire JA, Demeter M, Vallini G, Turner RJ, **Lampis S**. Antimicrobial activity of biogenically produced spherical Se-nanomaterials embedded in organic material against Pseudomonas aeruginosa and Staphylococcus aureus strains on hydroxyapatite-coated surfaces. Microb Biotechnol. 2017 Jul;10(4):804-818. doi: 10.1111/1751-7915.12700.

6. Zonaro E, Piacenza E, Presentato A, Monti F, Dell'Anna R, **Lampis S***, Vallini G. Ochrobactrum sp. MPV1 from a dump of roasted pyrites can be exploited as bacterial catalyst for the biogenesis of selenium and tellurium nanoparticles. Microb Cell Fact. 2017 Nov 28;16(1):215. doi: 10.1186/s12934-017-0826-2

7. Khoei NS, **Lampis S***, Zonaro E, Yrjälä K, Bernardi P, Vallini G. Insights into selenite reduction and biogenesis of elemental selenium nanoparticles by two environmental isolates of Burkholderia fungorum. N Biotechnol. 2017 Jan 25;34:1-11. doi: 10.1016/j.nbt.2016.10.002. Epub 2016 Oct 4.

8. Cremonini E, Zonaro E, Donini M, **Lampis** S, Boaretti M, Dusi S, Melotti P, Lleo MM, Vallini G. Biogenic selenium nanoparticles: characterization, antimicrobial activity and effects on human dendritic cells and fibroblasts. Microb Biotechnol. 2016 Jun 20. doi: 10.1111/1751-7915.12374. [Epub ahead of print] PubMed PMID: 27319803.

9. Lampis S, Zonaro E, Bertolini C, Cecconi D, Monti F, Micaroni M, Turner RJ, Butler CS, Vallini G. Selenite biotransformation and detoxification by Stenotrophomonas maltophilia SeITE02: Novel clues on the route to bacterial biogenesis of selenium nanoparticles. J Hazard Mater. 2016 Feb 16. pii: S0304-3894(16)30162-5. doi: 10.1016/j.jhazmat.2016.02.035. [Epub ahead of print] PubMed PMID: 26952084.

10. Andreolli M, **Lampis** S, Brignoli P, Vallini G. Trichoderma longibrachiatum Evx1 is a fungal biocatalyst suitable for the remediation of soils contaminated with diesel fuel and polycyclic aromatic hydrocarbons. Environ Sci Pollut Res Int. 2016 May;23(9):9134-43. doi: 10.1007/s11356-016-6167-6. Epub 2016 Feb 1. PubMed PMID: 26832871.

11. Andreolli M, **Lampis** S, Zapparoli G, Angelini E, Vallini G. Diversity of bacterial endophytes in 3 and 15 year-old grapevines of Vitis vinifera cv. Corvina and their potential for plant growth promotion and phytopathogen control. Microbiol Res. 2016 Feb;183:42-52. doi: 10.1016/j.micres.2015.11.009. Epub 2016 Nov 25. PubMed PMID: 26805617.

12 Andreolli M, Albertarelli N, **Lampis** S, Brignoli P, Khoei NS, Vallini G. Bioremediation of diesel contamination at an underground storage tank site: a spatial analysis of the microbial community. World J Microbiol Biotechnol. 2016 Jan;32(1):6. doi: 10.1007/s11274-015-1967-2. Epub 2015 Dec 28. PubMed PMID: 26712621

13. Zonaro E., **Lampis S**., Turner RJ., Qazi SJS, Vallini G. Biogenic selenium and tellurium nanoparticles synthesized by environmental microbial isolates efficaciously inhibit bacterial planktonic cultures and biofilms. Front. Microbiol., 16 June 2015 | http://dx.doi.org/10.3389/fmicb.2015.00584

14. Lampis S, Santi C, Ciurli A, Andreolli M, Vallini G. Promotion of arsenic phytoextraction efficiency in the fern *Pteris vittata* by the inoculation of As-resistant bacteria: a soil bioremediation perspective. **Front Plant Sci**. 2015 Feb 18;6:80. doi: 10.3389/fpls.2015.00080.

15. Andreolli M, **Lampis S**, Brignoli P, Vallini G. Bioaugmentation and biostimulation as strategies for the bioremediation of a burned woodland soil contaminated by toxic

hydrocarbons: A comparative study. **J Environ Manage**. 2015 Apr 15;153:121-31. doi: 10.1016/j.jenvman.2015.02.007

16. Zeppilli M, Villano M, Aulenta F, **Lampis S**, Vallini G, Majone M. Effect of the anode feeding composition on the performance of a continuous-flow methane-producing microbial electrolysis cell. **Environ Sci Pollut Res** Int. 2014 Jul 5.

17. Bertolini C, van Aerle R, **Lampis S**, Moore KA, Paszkiewicz K, Butler CS, Vallini G, van der Giezen M. Draft Genome Sequence of *Stenotrophomonas maltophilia* SeITE02, a Gammaproteobacterium Isolated from Selenite-Contaminated Mining Soil. **Genome Announc**. 2014 May 8;2(3). pii: e00331-14. doi: 10.1128/genomeA.00331-14.

18. Lampis, S., Zonaro, E., Bertolini, C., Bernardi, P., Butler, C.S., Vallini, G. Delayed formation of zero-valent selenium nanoparticles by *Bacillus mycoides* SeITE01 as a consequence of selenite reduction under aerobic conditions (2014) **Microbial Cell Factories** 13 (1) PP. 1 - 14

19. Piccoli S, Andreolli M, Giorgetti A, Zordan F, **Lampis S**, Vallini G. Identification of aldolase and ferredoxin reductase within the dbt operon of *Burkholderia fungorum* DBT1. **J Basic Microbiol.** 2014 May;54(5):464-9. doi: 10.1002/jobm.201200408.

20. Di Fabio, S**.**, **Lampis, S**., Zanetti, L., Cecchi, F., Fatone, F. Role and characteristics of problematic biofilms within the removal and mobility of trace metals in a pilot-scale membrane bioreactor (2013) **Process Biochemistry** 48 (11) PP. 1757 - 1766

21. Andreolli, M., **Lampis, S**., Poli, M., Gullner, G., Biró, B., Vallini, G. Endophytic *Burkholderia fungorum* DBT1 can improve phytoremediation efficiency of polycyclic aromatic hydrocarbons (2013) **Chemospher**e 92 (6) PP. 688 - 694

22. Biró, B., Kádár, I., **Lampis, S.**, Gullner, G., Komíves, T. Inside and outside rhizosphere parameters of barley and dose-dependent stress alleviation at some chronic metal exposures. **Acta Phytopathologica et Entomologica Hungarica** 2012 47(2):373-383

23. Andreolli M, **Lampis S**, Zenaro E, Salkinoja-Salonen M, Vallini G. **FEMS Microbiol Lett**. 2011 Jun;319(1):11-8. Burkholderia fungorum DBT1: a promising bacterial strain for bioremediation of PAHs-contaminated soils.

24. L. Bertin, **S. Lampis**, D. Todaro, A. Scoma, G. Vallini, L. Marchetti, M. Majone and F. Fava (2010). Anaerobic acidogenic digestion of olive mill wastewaters in biofilm reactors packed with ceramic filters or granular activated carbon. **Water Research**. 44(15):4537-4549.

25. Villano, M., Beccari, M., Dionisi, D., **Lampis S.**, Miccheli, A., Vallini, G., Majone, M. Effect of pH on the production of bacterial polyhydroxyalkanoates by mixed cultures enriched under periodic feeding. 2010. **Process Biochemistry**. Article In Press

26. Farinati S, DalCorso G, Bona E, Corbella M, **Lampis S,** Cecconi D, Polati R, Berta G, Vallini G, Furini A. Proteomic analysis of *Arabidopsis halleri* shoots in response to the heavy metals

cadmium and zinc and rhizosphere microorganisms. **Proteomics**. 2009 Nov;9(21):4837-50. PubMed PMID: 19810031

27. Beccari M, Bertin L, Dionisi D, Fava F, **Lampis S**, Majone M, Valentino F, Vallini G, Villano M. 2009 *Exploiting olive oil mill effluents as a renewable resource for production of biodegradablr polymers through a combined anaerobic-aerobic process.* **J Chem Technol Biotechnol**. 84(6): 901-908.

28. Lampis S, Ferrari A, Cunha-Queda AC, Alvarenga P, Di Gregorio S, Vallini G. Selenite resistant rhizobacteria stimulate SeO(3) (2-) phytoextraction by *Brassica juncea* in bioaugmented water-filtering artificial beds. **Environ Sci Pollut Res Int**. 2009 Sep. 16(6):663-670

29. Antonioli P, **Lampis S**, Chesini I, Vallini G, Rinalducci S, Zolla L, Rigetti PG. *Stenotrophomonas maltophilia SeITE02, a new bacterial strain suitable for bioremediation of selenite-contaminated environmental matrices*. **Appl Environ Microbiol**. 2007 Nov;73(21):6854-63.

30. Di Gregorio S., **Lampis S.**, Malorgio F., Petruzzelli G., Pezzarossa B., Vallini G. *Brassica juncea can improve selenite and selenate abatement in selenium contaminated soils through the aid of its rhizospheric bacterial population.* (2006). **Plant soil**, 285(1-2): 233-244

31. Di Gregorio S., Barbafieri M., **Lampis S.**, Sanangelantoni A.M., Tassi E., Vallini G. *Combined application of Triton X-100 and Sinorhizobium sp. Pb002 inoculum for the improvement of lead phytoextraction by Brassica juncea in EDTA amended soil.* (2006). **Chemosphere**, 63(2):293 - 299

32. S. Di Gregorio, **S. Lampis**, G. Vallini. *Selenite precipitation by a rhizospheric strain of Stenotrophomonas sp. isolated from the root system of Astragalus bisulcatus: a biotechnological perspective*. (2005). **Environment International** 31:233 – 241.

33. G Vallini, S Di Gregorio, **S Lampis**. *Rhizosphere-induced Selenium Precipitation for Possible Applications in Phytoremediation of Se Polluted Effluents.* (2005) **Z. Naturforsch.** 60c, 349-356

In *Proceedings* of international conferences (selection after *referee* view)

- *Isolation of a Stenotrophomonas sp. strain reducing selenite to selenium.* S. Di Gregorio, **S. Lampis** & G. Vallini (2003) Proc. *"Second European Bioremediation Conference"*, Chania, Crete, Greece, June 30 – July 4, pp 75

- *Potential of application of non-ionic surfactants and plant growth promoting rhizobacteria in ethylene diamine tetraacetic (EDTA) assisted lead phytoextraction*. Simona Di Gregorio, **S. Lampis**, M. Barbafieri, E. Tassi, C. Mastretta, G. Vallini. (2005) Proc. "*COST 859 – Phytotecnologies to promote sustainable land use and improbe food safety*" Pisa, Italy, June 14-16

- *Microbial transformation of organic to inorganic lead, putative involvement of a soil bacterial community.* Simona Di Gregorio, **S. Lampis**, C. Benvenuti, G. Vallini (2005) Proc. *"Third European Bioremediation Conference"*, Chania, Crete, Greece, July 4-7, pp 79

- *Selenite precipitation by a strain of Bacillus sp. in a sequencing batch system, potential application for wastewater treatment*. **S. Lampis**, S. di Gregorio, G. Vallini. (2005) Proc. *"Third European Bioremediation Conference"*, Chania, Crete, Greece, July 4-7, pp 85

- *The phenomenon of sampling and growing in biopopulation*. V. Manca, G. Franco, **S. Lampis** and G. Vallini 'The 14th International Meeting on DNA Computing, DNA 14' Prague, Czech Repuplic June 2-6 2008 pp 187-188

- *Characterization of the soil bacterial cenosis at a dismissed industrial site highly contaminated by alkyl lead*. **Silvia Lampis**, Chiara Benvenuti, Anna Campolungo, Anita Ferrari and Giovanni Vallini. Contaminated Sites – Bratislava 15-17 June 2009, Conference Proceedings, Scientific Articles. pp 141-148

- Selenite detoxification within the *Bacillus cereus* Group**. Lampis S**. Malfatti M. and Vallini G. SIMGBM 28th National Meeting 2009, Spoleto (Italy) 11-13 June. Proceedings Book, pp 161

- *Burkholderia* sp. DBT1, a promising bacterial strain for bioremediation protocols non-reletated to the *Burkholderia cepacia* complex (BCC). Andreolli M., **Lampis S**. and Vallini G. SIMGBM 28th National Meeting 2009, Spoleto (Italy) 11-13 June. Proceedings Book, pp 87

3.4 Oral presentation at interntional or national scientific conferences

- Oral presentation entitled: 'Azione sinergica di pinte accumulatrici e specie microbiche della rizosfera nella bonifica biologica di terreni inquinati da elementi tossici: il caso del selenio.' **S. Lampis**, Simona Di Gregorio, Antonio Pera, Giovanni Vallini (2002). - *Siti Contaminati – Giornata Studio* - Istituto Milanese Martinitt GSISR Milano, Italy

- Oral presentation entitled: 'Ruolo dei microorganismi del suolo nella speciazione del selenio: ipotesi di sfruttamento per interventi di bonifica biologica.' **S. Lampis**, Marco Paganella, Simona Di Gregorio, Giovanni Vallini (2003) - *Siti Contaminati: dalla teoria alla realizzazione pratica degli interventi di bonifica*, Istituto Milanese Martinitt, GSISR, Milano, Italy

- Oral presentation entitled: 'Selenite precipitation by a strain of *Bacillus* sp. in a sequencing batch system. Potential application for wasterwater treatment.' **S. Lampis,** Simona Di gregorio, Giovanni Vallini (2005). *"Third European Bioremediation Conference"*, Chania, Crete, Greece, July 4-7.

- Oral presentation entitled: 'Il risanamento per via biologica di siti contaminati da Idrocarburi Policiclici Aromatici.' Giovanni Vallini, Gianniantonio Petruzzelli, Chiara Zocca, Simona Di Gregorio, **S. Lampis** e Francesca Pedron (2006) Day study:

HYDROCARBON REMEDIATION IN POLLUTED SOILS. Juli 4th, 2006. Istituto Milanese Martinitt, GSISR, Milano.

- Oral presentation entitled: 'Stenotrophomonas maltophilia SeITE02: a bacterial strain able to reduce selenite to Se^0 in aerobic condition' **S. Lampis**, P Antonioli, P.G. Rigetti and G. Vallini (2007) – FISV 26-29 Settembre – Riva del Garda TN

- Oral presentation entitled: 'Stenotrophomonas maltophilia SeITE02: un ceppo batterico per il biorisanamento di matrici ambientali contaminate da selenito'. **S. Lampis**, P. Antonioli, P.G. Rigetti and G. Vallini (2008) Proteo-Micro - 7 Febbraio, Milano

- Oral presentation entitled: 'Influence of selenite resistant rhizobacteria on the SeO32- phytoextraction efficiency of Brassica juncea grown on water-filtered artificial beds.' **S. Lampis**, A. Ferrari, A.C.F. Chuna-Queda, P. Alvarenga, S. Di Gregprio, G. Vallini. (2008) IV European Bioremediation Conference, September 3-6, (2008), Chania-Crete, Greece.

- Oral presentation entitled: 'Approccio alla bonifica biologica di un sito contaminato da piombo tetraetile mediante indagine conoscitiva della della cenosi batterica acclimatatasi nel suolo'. **Lampis** S., Benvenuti C., Zanetti L, Ferrari A and Vallini G. XIX Congresso S.It.E., Bolzano 15-17 September (2009);

- Oral presentation entitled: 'Struttura della comunità batterica del suolo presso un sito industriale con pregressa contaminazione da arsenico.' **Lampis** S., Freddo A., Gini B. and Vallini G. XIX Congresso S.It.E., Bolzano 15-17 September (2009);

- Oral presentation entitled: 'Characterization of the soil bacterial cenosis at a dismissed industrial site highly contamynated by alkyllead.' **Lampis S**., Campolungo A., Benvenuti C, Ferrari A., and Vallini G. International Conference 'Contaminated Sites', Bratislava 15-17 June (2009);

- Oral presentation entitled: 'Bonifica di matrici ambientali contaminate da metalli pesanti e metalloidi mediante tecniche di fitoestrazione indotta dalla rizosfera'. **Lampis S.** Settimana Ambiente 2011: 'La bonifica dei siti contaminati, normativa e strategie di intervento.' Milano, 21 Febbraio 2011.

- Oral presentation entitled: 'Exploitation of PGPR strains wiithin phytoremediation protocols for the reclamation of soils contaminated by roasted arsenopyrite residues.' **S. Lampis**, C. Santi, A. Ciurli and G. Vallini. 2012, Hasselt, Belgium September 11-14, 2012.

- Oral presentation entitled 'Formation of Se^0 nanoparticles by *Bacillus mycoides* SeITE01 isolated from the rhizoplane of the Se hyperaccumulator legume *Astragalus bisulcatus*' **S. Lampis**. Workshop 'Soil function management through integrated soil plant-microbe interactions'. Istitute for Plant Protection, Centre for Agricultural Research of Hungarian Academy of Sciences, 5 November 2013, Budapest - Hungary

- Oral presentation entitled: 'Novel Insights into biogenesis mechanisms of selenium nanoparticles in Stenotrophomonas maltophilia SeITE02'**. S. Lampis**, C. Bertolini, E.

Zonaro, D. Cecconi, RJ Turner, C.S. Butler, and G. Vallini. 4th International Conference on research Frontiers in Chalcogen Cycle Science & Technology, 28-29 May 2015, Delft, The Netherland. (*plenary*)

- Oral presentation entitled: 'As a real case of arsenic contamination in soil can be addressed in view of possible exploitation of microbial enhanced As-phytoextraction at a dumping site for arsenopyrite cinders.' **S. Lampis**, C. Santi., A. Ciurli, M. Andreolli, G. Vallini. 6th European Bioremediation Conference, Chania-Crete, Greece June29-July 02, 2015.

- Oral presentation entitled: 'Elemental selenium nanoparticles efficiently bio-synthesized by Stenotrophomonas maltophilia SeITE02 possess promising antimicrobial activity. **S. Lampis**, E. Zonaro, C. Bertolini, D. Cecconi, RJ Turner and G. Vallini. 6th European Bioremediation Conference, Chania-Crete, Greece June29-July 02, 2015.

- Oral presentation entitled: 'Funzione delle micorrize e dei batteri della rizosfera nei suoli.' **S. Lampis**. Acque e Suoli – Milano, 25 settembre 2015.

- Oral presentation entitled: 'Microbial biofilm as biocatalityc matrices with benefical or negative impacts in industrial and environmental contexts.' **S. Lampis**. Workshop 'Bacterial biofilms in human health and the environment.' University of Verona, 1 February 2017, Verona, Italy. (*plenary*).

- Oral presentation entitled ' Reduction of Selenite and Tellurite and Generation of Nanoprecipitates by the Environmental Isolate *Ochrobactrum* sp. MPV1'. **Lampis S**., 6th International Symposium on Biosorption and Biodegradation/Bioremediation - BIOBIO2017- Prague, Czech Republic - June 25 – 29, 2017.

4. Teaching activity:

a. Supervisor of more than 50 Bachelor Degree Thesis, Co-supervisor of more than 20 Master Degree Thesis. Supervisor of 2 Master Degree Thesis.

b. Co-supervisor of 8 PhD thesis. At the moment co-supervisor of 3 PhD students.

- PhD student: Marco Andreolli; Titolo della tesi: 'Molecular, phylogenetic and functional characterization of Burkholderia sp. DBT1, a bacterial strain involved in Polycyclic Aromatic Hydrocarbons (PAHs) degradation'; XXII ciclo, anno 2007-2009
- PhD student: Anita Ferrari; Titolo della tesi: 'Organic and Inorganic Pb affects autochthonous bacterial communities and phytoextraction potentials of plant species grown in a formerly industrial soil contaminated by tetraethyl lead'; XXIII ciclo, anno 2008-2010
- PhD student: Manuel Speri; Titolo della tesi: ' Insights on microbial and biochemical aspects of retting for bast fiber plant processing in a bioreactor'; XXIII ciclo, anno 2008-2010
- PhD student: Chiara Santi; Titolo della tesi: 'Interaction between rhizobacteria and the hyperaccumulator fern *Pteris vittata* in arsenic transformation'; XXV ciclo, anno 2010-2012

- PhD student: Maria Cristina Bertolini; Titolo della tesi: 'Investigation on reduction of selenium oxyanions, an enigmatic reaction in the biogeochemical selenium cycle'; XXVI ciclo, anno 2011-2013
- PhD student: Emanuele Zonaro; Titolo della tesi: 'Bacteria facing chalchogens: biogenic formation of Se and Te nanoparticles and evaluation of their antimicrobial potential'; XXVIII ciclo, anno 2013-2015
- PhD student: Nazanin Seyed khoei; Titolo della tesi: 'Study of the biogenic potential of nanoparticle formation from selenite and tellurite by two environmental strains of Burkholderia fungorum and assessment of their resistance as planktonic cells or biofilms to polyaromatic hydrocarbons'; XXVIII ciclo, anno 2013-2015
- PhD student Alessandra Bulgarini, Titolo della tesi : ' Characterization of the capping layer of selenium nanoparticles synthesized by environmental bacterial strains and new hypothesis on selenium nanoparticles transport in Bacillus mycoides SeITE01'. anno 2015-2017

c. Chair of practical part in Microbiology Course [2 CFU]. Degree course in Biotechnology - II year, I semester - University of Verona, Academic Year 2015-2016: 2016-2017; 2017-2018; 2018-2019;

d. Chair of Course in Microbial biosynthesis of nanostructured materials [4 + 2 CFU, 60h]- Master degree in Biotechnology of Nano-Bio Materials - I year, I semester - University of Verona, Academic Year 2013-2014; 2014-2015; 2015-2016; 2016-2017; 2017-2018; 2018-2019;

e. Chair of course in Microbiological Methods [3 CFU]. Degree course in Biotechnology – II year, II semester - University of Verona, Academic Years 2009-2010; 2011-2012; 2012-2013; 2013-2014; 2014-2015;

f. Chair of course in Applied Microbiology, Environmental Section [3,5 CFU]. Degree course in Agroindustrial Biotechnology. – III year- University of Verona, Academic Year 2007-2008, 2008-2009, 2009-2010;

g. Chair of practical part in the Microbiology Course [1 CFU]. Degree course in Agroindustrial Biotechnology. – II year, I semester - University of Verona, Academic Year 2008-2009

5. Trasferimento tecnologico, brevetti e spin-off

Socio fondatore, componente del CDA e Referente accademico della società Bactory srl, start up innovativa, costituita come *spin off* universitario presso il dipartimento di Biotecnologie dell'Università di Verona in data 08 Febbraio 2017. La Società ha per oggetto prevalente, sebbene non esclusivo, lo sviluppo, la produzione e la commercializzazione di prodotti e servizi innovativi ad alto valore tecnologico nel settore delle biotecnologie e applicazione di conoscenze nel settore delle biotecnologie a svariati comparti industriali. La Società ha per oggetto l'ideazione, lo sviluppo, la produzione, la gestione e la commercializzazione di prodotti e/o servizi innovativi a carattere antimicrobico e antibiofilm ad alto valore biotecnologico (nanoparticelle metalliche); l'ideazione, lo sviluppo, la produzione, la gestione e la commercializzazione di prodotti e/o servizi innovativi a carattere biostimolante (micorrize e PGPR); la consulenza nel settore della microbiologia ambientale e industriale; la progettazione, la realizzazione, la

gestione e l'assistenza di sistemi microbici atti alla bonifica ambientale; la progettazione, la gestione e l'assistenza di sistemi microbici atti alla produzione o alla conservazione industriale.

Verona, 31 January, 2019

Silvia Lampis