

LARA VIMERCATI

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Education

Ph.D. Student

August 2012 – current

Ecology and Evolutionary Biology Department, University of Colorado at Boulder
Research topic: Microbial diversity and function at extremely high elevation

M.S **BIOLOGY** with a final grade of 110/110 and honours

October 2010, University of Milano Bicocca, Italy

Majors in Genetics, Microbiology and Evolutionary Biology; Minor in Geology

GPA: 29.6/30 or 3.94/4

B.S. **BIOLOGICAL SCIENCES** with a final grade of 110/110 and honours

December 2007, University of Milano Bicocca, Italy

Major in Biology; Minor in Geology

GPA: 28.26/30 or 3.77/4

Research and Work Experience

Internship at the **Australian Centre for Astrobiology (ACA)** for Undergraduate Thesis project:

“Identification of Extremophilic Archaea From Samples of Acidic Hydrothermal Environments Through the Analysis of the Metabolic Gene SOR Sequence.”

February to May 2007, Macquarie University, Sydney, Australia.

Research advisor: Dr. Ruth Henneberger

Internship at **SETI Institute/ NASA Ames Research Center** for Master’s Thesis project:

“Assessing Microbial Viability in Space Flights: Comparative UV Radiation Resistance in Two Strains of the Halophilic Archaea *Halorubrum chaoviatoris*, the First Known Organism to Survive Exposure to Space Environment in a Vegetative State.”

February to October 2009, SETI Institute/NASA Ames Research Center, Mountain View, CA. Research advisor: Dr. Rocco Mancinelli

Mars Desert Research Station (MDRS) (<http://mdrs.marssociety.org/>)

November-December 2009, as crew Biologist

March-April 2011, as crew Biologist and Executive Officer

(<http://mdrs.marssociety.org/home/field-reports/crew102/>)

March-April 2012, as Commander and Crew Biologist

(<http://mdrs.marssociety.org/home/field-reports/crew116/>)

Internship at **NASA Ames Research Center** on the project:

“Astrobiology of Martian Analogue Environments: Comparative Habitability of Clay and Iron-Rich Mineral Samples.”

June to August 2010, NASA Ames Research Center, Mountain View, CA.

Research advisor: Dr. Christopher McKay

Planetary Biology Internship at NASA Ames Research Center

“DNA damage caused by UV on the desiccation and radiation resistant

Cyanobacterium *Chroococidiopsis*, strain 029”

Research Advisor: Dr. Christopher McKay

“Habitat water recycling system to grow edible Cyanobacteria at the Mars Desert Research Station (MDRS)”

Research Advisor: Dr. Michael Flynn

January to April 2011, NASA Ames Research Center, Mountain View, CA.

Dachstein Mars Simulation 2012

Biology field assistant, April 2012, Austria

Long Term Ecological Research (LTER) at Palmer Station, Antarctica

“Capturing seasonal changes in bacterial and primary production in the Palmer marine ecosystem”

Biology field assistant, January to March, 2013

Research Advisor: Dr. Hugh Ducklow

Teaching Experience

University of Colorado at Boulder

General Biology Laboratory, August-December 2012 ,2013, 2014

Microbiology Laboratory, March-May 2013

A. Einstein Institute (Vimercate, Italy)

Summer course of “Biochemistry and Molecular Biology”, June-July 2011

Peer-Reviewed Publications

Vimercati, L., Hamsher, S., Schubert, Z. and Schmidt, S.K., 2016. Growth of high-elevation *Cryptococcus* sp. during extreme freeze–thaw cycles. *Extremophiles* 20(5), 579-588
DOI: 10.1007/s00792-016-0844-8

Awards and Scholarships

NASA Astrobiology Institute Research Scholarship, February 2009
EXTRA Scholarship for Master's Thesis, awarded by University of Milano Bicocca, May 2009
NASA Spaceward Bound Scholarship, November 2009
PBI (Planetary Biology internship), June 2010

Conferences

2011 European Mars Convention, Neuchatel, Switzerland, 30 Sept-02 Oct 2011
“Crew 102: International Scientific Cooperation at MDRS”

American Society for Microbiology (ASM) General Meeting May 30th - June 2nd 2015, New Orleans
“High elevation microbial community shifts due to freeze-thaw cycles” (poster)

Expeditions and Field Work

Ascent of Mt. Aneto (highest of the Pyrenees) with GORE-TEX Experience Tour led by Edurne Pasaban, 13-17 October 2011

Ascent of Mt. Kilimanjaro (5895m), 30th May- 5th June 2012

Scientific research expedition to Mt. Lullailaco (Chile) (up to 5800m) March 2016

Certificates

Open Water Diver (Scuba Schools International), May 2012
CPR/AED and First Aid, American Red Cross, April 2013
Advanced Open Water Diver (PADI), July 2015

Filmography/TV appearances

Featured on prime-time Einstein TV show of Schweizer Fernsehen (SF), Switzerland's major TV station covering the Mars Desert Research Station (MDRS);

Schweizerin will auf den Mars, 7th January 2010

Featured on French TV ARTE covering scientific research at the Mars Desert Research Station (MDRS), On a marché sur Mars ! 6th September 2011

Featured on YouTube for GORE-TEX® Experience Tour: An all womens' project: Share tips and tricks with Edurne Pasaban

Skills

Fluent in ENGLISH (TOEFL certificate, 111/120), SPANISH and ITALIAN.
Scholastic level of GERMAN

Molecular techniques (DNA/RNA extraction, PCR, antigen/antibody assays), bioinformatics (sequence analysis, Geneious, MEGA phylogenetic software, R), bacterial culturing and development, DNA clone library development

Personal Interests

Enjoy travelling, hiking, and trying any kind of sport and new activity
Animal lover and vegan. Keen on science in general and nature conservation

Countries visited

USA, Canada, Mexico, Spain, France, Italy, UK, Poland, Austria, Switzerland, Australia, Tanzania, Egypt, Chile, Argentina, Virgin Islands (US), Puerto Rico (US), Turks and Caicos Islands (UK), Antarctica