

Curriculum Vitae

Javier A. Izquierdo

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EDUCATION

2000-present Ph.D. candidate, Microbiology, University of Massachusetts, Amherst, MA
1994-1998 B.Sc. Biology, Case Western Reserve University, Cleveland, OH
1992-1994 United World College of the Adriatic, Duino, Italy

HONORS and AWARDS

Lotta M. Crabtree Scholarship in Agriculture, Spring 2005
Galileo Program Scholarship for Undergraduate Study, August 1994-May 1998

RESEARCH

Research Experience

2001-present *Research Assistant*
Department of Microbiology, University of Massachusetts, Amherst
“Diversity and function of soil microbial communities at the aggregate scale”
Advisor: Klaus Nüsslein
Molecular analysis of microbial community composition of soil aggregate fractions and individual soil microaggregates, with a focus on 16S rRNA gene diversity and functional genes involved in the nitrogen cycle.

Fall 2000 *Research Assistant*
Department of Microbiology, University of Massachusetts, Amherst
“Methane and CO₂ mineralization in MTBE-contaminated sediments”.
Advisor: Derek Lovley

1997-1998 *Undegraduate Independent Study Researcher*
Biology Department, Case Western Reserve University
“Quantification of habitat constraints of Lake Erie fish populations”
Advisor: Joseph Koonce

Other Professional Experience

Environmental Consulting Analyst
1998-2000 Arthur D. Little, Caracas, Venezuela
Responsibilities varied depending on the needs of each case. Projects included a site assessment investigation at a 1,400-acre petroleum storage facility, geotechnical surveillance of gas-storage facility, and environmental assessment of underground storage tanks in gas stations.

Professional Organizations

American Society for Microbiology Member 2001-present
 Soil Science Society of America Member 2002-present

Publications

Izquierdo, J.A. and K. Nüsslein (In preparation) Effect of tillage on the distribution of genes involved in the nitrogen cycle across aggregate fractions of agricultural ecosystems.

Izquierdo, J.A. and K. Nüsslein (In press) Distribution of extensive *nifH* gene diversity across physical soil microenvironments. *Microbial Ecology*.

Conference Participation – Oral Presentations

Izquierdo, J., and K. Nüsslein. 2005. Nitrogen processes of soil prokaryotic communities at the scale of aggregate fractions and individual microaggregates. To be presented at the Soil Science Society of America Annual Meeting, November 6-10. Salt Lake City, UT.

Izquierdo, J., and K. Nüsslein. 2005. Micro-scale separation of microbial communities involved in the nitrogen cycle across soil aggregate fractions. Presented at the Boston Bacterial Meeting, June 16-17. Cambridge, MA.

Conference Participation - Posters

Lebrun, L., J. Izquierdo and K. Nüsslein. 2005. Temporal comparison of tillage effect on nitrogen-fixing communities at the aggregate scale. To be presented at the Soil Science Society of America Annual Meeting, November 6-10. Salt Lake City, UT.

Izquierdo, J., and K. Nüsslein. 2004. Shifts in the microbial community involved in the nitrogen cycle of agricultural soil microenvironments. Poster presented at the Soil Science Society of America Annual Meeting, October 31-November 4. Seattle, WA.

Izquierdo, J., and K. Nüsslein. 2004. Diversity of *nifH*, *narG* and *amoA* genes in agricultural soil microenvironments. Poster presented at the American Society for Microbiology General Meeting, May, 23-27. New Orleans, LA.

Izquierdo, J., A. Sandel and K. Nüsslein. 2003. Diazotrophic diversity in soil microenvironments from three different latitudinal regions. Poster presented at the American Society for Microbiology General Meeting, May 18-22. Washington, D.C.

Izquierdo, J., and K. Nüsslein. 2002. The water-stable microaggregate as a unique soil community microenvironment. Poster presented at the American Society for Microbiology General Meeting, May 19-23. Salt Lake City, Utah.

Other Presentations (Departmental seminars and posters)

Izquierdo, J., and K. Nüsslein. 2004. Diversity of *nifH* genes across a range of soil microenvironments. Poster presented at the Annual Department of Microbiology Retreat, UMass Amherst.

Izquierdo, J., and K. Nüsslein. 2002. Microbial ecology at the soil microscale: Investigation of a new structural unit. Poster presented at the Annual Department of Microbiology Retreat, UMass Amherst.

TEACHING

Mentoring of Undergraduate Student Research

Name	Project Title	No. of semesters	Class
Abraham Sandel	“Isolation of diazotrophic organisms from a diversity of Arctic soils”	2	2003
Lauren Lebrun	“Temporal shifts in the distribution of <i>nifH</i> genes in agricultural environments”	3	2005

Teaching Assistant Experience

Department of Microbiology at the University of Massachusetts, Amherst.

Course ¹	Course Title	No. of credits	Times taught	No. of students
MICBIO 255	Introduction to Medical Microbiology	3	5	30
MICBIO 312	General Microbiology Laboratory	3	3	30
BIOTECH 385	Biotechnology	3	1	24
MICBIO 552	Pathogenic Bacteriology	2	1	24
MICBIO 562	Methods In Environmental Biotechnology	3	1	12

¹ As listed in Course Catalogue – University of Massachusetts, Amherst

University-Level Teaching

Invited lectures within the Department of Microbiology at the University of Massachusetts, Amherst.

Course ¹	Lecture Title	Semester
Environmental Microbiology (MICBIO 515)	<u>Terrestrial Environments: Soil Habitats</u>	Fall 2002, Fall 2004
	<u>Microbial Ecology and Macroecology</u>	Fall 2004
	<u>Nitrogen, Sulfur and Iron Cycling</u>	Fall 2004
Microbial Ecology (MICBIO 560)	<u>Nitrogen fixation</u>	Spring 2005
	<u>Methanogens</u>	Spring 2005
General Microbiology (MICBIO 310)	<u>Introduction to Extremophiles</u>	Fall 2005

¹ As listed in Course Catalogue – University of Massachusetts, Amherst

Additional Teaching Experience and Outreach

- February 2005-present. Coordinator of Microbial Ecology Journal Club,
Department of Microbiology, University of Massachusetts, Amherst.
<http://www.bio.umass.edu/micro/nusslein/mejc.htm>

- September 2004-present Committee Member
Commonwealth College Honors Candidate: Lauren Lebrun
Department of Microbiology, University of Massachusetts, Amherst.

- Spring 2005 Speaker/Organizer of 3-part laboratory on Winogradsky Columns
High school senior AP Biology students, Eastchester High School, NY.

- Fall 2002 Committee Member
Departmental Honors Candidate: Caitlin Rex
Department of Animal Sciences, University of Massachusetts, Amherst.

- Summer 1998 Language Instructor (English and Spanish)
Inlingua International Language Center, Caracas, Venezuela.

- August 1994-May 1995 Undergraduate Tutor
Educational Services for Students, Case Western Reserve University.

SERVICE

- UMass Microbiology Graduate Student Group, Founder and Coordinator. . September 2004-present
- ASM Minority Mentoring Program Mentor May 2005-present
- ASM International Mentor May 2005-present
- ASM Spanish Translator Network Member May 2003-present
- Panelist, “A Ph.D. Is Not Enough” Career Development Event September 2005