

# LUZ-ESTELA GONZALEZ DE-BASHAN

## CURRICULUM VITAE

### PROFESSIONAL PREPARATION

#### *Undergraduate institution*

1990 – B.Sc., Department of Biology, Pontificia Universidad Javeriana, Bogota, Colombia. (Area: Biology).

#### *Graduate institution*

1995 – M.Sc., Department of Biology, National University of Colombia, Bogota, Colombia. (Area: Biology-microalgae systematics)

2006 – Ph.D., Department of Soils and Food Engineering, University of Laval, Sainte-Foy, Quebec, Canada (Area: Microbiology-Physiology and Biochemistry of microalgae)

#### *Postdoctoral Institute*

2007- Present. Department of Water, Soil and Environmental Science. The University of Arizona, Tucson, USA (Area: Phytoremediation).

### RESEARCH FIELDS

1994-Present- Use of microalgae for wastewater treatment and bioremediation of water and eroded soils.

### HONORS

1. 1999 - My Research group (two researchers, one technician and three students) was selected as Category “B” (from 6 possible categories) by the national evaluation of research groups of COLCIENCIAS, Colombia (National Science Foundation of Colombia), based on productivity and quality of the research.
2. 2000 - Received the title “Honorific Professor-Researcher”, from the Department of Biology, Faculty of Science, Pontificia Universidad Javeriana, Bogota Colombia, allowing regular academic and research activities within the university from abroad without a salary.
3. 2002-2008 (twice). Member of the Sistema Nacional de Investigadores (SNI), Mexico (National Researcher level 1)
4. 2005. Recognized by the Sistema Nacional de Investigadores, Mexico as a scientist with high quality and high impact publications.
5. 2005 - National recognition of project. The Project “Bioremediation of wastewater” was recognized by the Ministry of Ecology of Mexico as exemplary, and was selected as a “success case” of applied research to be presented to the President of Mexico (5.8.2005).
6. 2005 - A top download article. The paper on removing of phosphorus from wastewater (Water Research 38: 4222-4246) originated from the project “Bioremediation of wastewater” reached the 2<sup>nd</sup> place in number of worldwide downloads in the “Top 25 articles” of the high impact journal “Water Research”. (ScienceDirect.com; September 6, 2005).
7. 2006 - Ph.D. Graduation with High Distinction (Thesis defense evaluation, “A+”, 97/100; average Ph.D. studies, “A+”) at Laval University, Quebec, Canada.

8. 2007 - Evaluator of the international award in Applied Microbiology "Elizabeth Grose" that was presented at the 6<sup>th</sup> Simposio Latinoamericano de Biodeterioro y Biodegradation. Bogota, Colombia, April 30, 2007.

## SCIENTIFIC PRODUCTION

- Original publications in peer-reviewed, scientific, international journals. (ISI-listed with an impact factor)	
Published and "in press" -	23
Submitted papers -	4
- Publication of a scientific book	1
- Publications of chapters in books -	17
- Publications in languages other than English and popular scientific publications	16
- Publications in websites (scientific)	2
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- Total number of scientific papers - (published, "in press" and submitted)	63

### **Others:**

- Theses (B.Sc., M.Sc., Ph.D.)	3
- Technical reports for funding agencies	2
- Participation in scientific conferences	39

## PUBLICATIONS

Peer-reviewed journal	No. Publications	Impact factor*
Canadian Journal of Microbiology	4	1.071-1.118
Water Research	4	1.611-2.304
Applied and Environmental Microbiology	2	3.389-3.691
Bioresource Technology	2	0.417-2.018
Journal of Phycology	2	2.58
Applied Microbiology and Biotechnology	1	1.641
Enzyme and Microbial Technology	1	1.897
European Journal of Plant Pathology	1	1.475
FEMS Microbiology Ecology	1	2.787
Natural Areas Journal	1	0.452
Naturwissenschaften	1	2.021
Plant Biology	1	1.352
Science of the Total Environment	1	2.359
Soil Biology & Biochemistry	1	2.414

- \*Impact factor (ISI) at the time of publication

Accumulative impact of all papers in refereed journals: 43.277

**Average impact factor of refereed papers: 1.882**

### SCIENTIFIC INTERNATIONAL IMPACT

**Citations:** 2000-2006 - 64 citations in international journals. (According to Dialog Information System, USA).

**Invited lectures** in scientific, national and international conferences: 13 (Up to January 2008)

**Editorial board member:** Wildflower, 2001-2004 (Canada).

**Referee of international journals and funding agencies:** Total: 21 manuscripts.

### Most significant publications

1. **Gonzalez, L.E.** and Y. Bashan. 2000. Growth promotion of the microalgae *Chlorella vulgaris* when coimmobilized and cocultured in alginate beads with the plant growth-promoting bacteria *Azospirillum brasilense*. **Applied and Environmental Microbiology** **66**: 1537-1541
2. **de-Bashan, L.E.**, Moreno, M. Hernandez, J.-P., and Bashan, Y. 2002. Removal of ammonium and phosphorus ions from synthetic wastewater by the microalgae *Chlorella vulgaris* coimmobilized in alginate beads with the microalga growth-promoting bacterium *Azospirillum brasilense*. **Water Research** **36**: 2941-2948
3. **de-Bashan, L.E.**, Bashan, Y., Moreno, M., Lebsky, V.K., and Bustillos, J.J. 2002. Increased pigment and lipid content, lipid variety, and cell and population size of the microalgae *Chlorella* spp. when co-immobilized in alginate beads with the microalgae-growth-promoting bacterium *Azospirillum brasilenses*. **Canadian Journal of Microbiology** **48**: 514-521
4. **de-Bashan L.E.**, Hernandez J.-P., Morey, T., and Bashan Y. 2004. Microalgae growth-promoting bacteria as "helpers" for microalgae: a novel approach for removing ammonium and phosphorus from municipal wastewater. **Water Research** **38**: 466-474.
5. **de-Bashan L.E.** and Bashan Y. 2004. Recent advances in removing phosphorus from wastewater and its future use as fertilizer (1997–2003). **Water Research** **38**: 4222-4246
6. **de-Bashan, L.E.**, Antoun, H., and Bashan, Y. 2005. Cultivation factors and population size control uptake of nitrogen by the microalgae *Chlorella vulgaris* when interacting with the microalgae growth-promoting bacterium *Azospirillum brasilense*. **FEMS Microbiology Ecology** **54**: 197-203
7. **de-Bashan, L.E.**, Antoun, H., and Bashan Y. 2008. Involvement of indole-3-acetic-acid produced by the microalgae growth-promoting bacterium *Azospirillum* spp. in growth promotion of *Chlorella vulgaris*. **Journal of Phycology** (accepted)
8. **de-Bashan L.E.**, Trejo A., Huss V.A.R., Hernandez J.-P. and Bashan, Y. 2008. *Chlorella sorokiniana* UTEX 2805, a heat and intense, sunlight-tolerant microalga with potential for removing ammonium from wastewater. **Bioresource Technology** (In Press).

9. **de-Bashan, L.E.**, Magallon, P., Antoun, H, and Bashan, Y. 2008. Participation of glutamate dehydrogenase and glutamine synthetase in ammonium absorption by *Chlorella vulgaris* jointly immobilized with the microalgae growth-promoting bacterium *Azospirillum brasilense*. **Journal of Phycology** (accepted).