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RESEARCHGATE PROFILE:
https://www.researchgate.net/profile/Elias_Bassil/info?ev=prf_info

EDUCATION

PhD	**University of California, at Davis**	**Plant Biology**	**2008**
MS	**University of California, at Davis**	**Agronomy**	**2000**
BS	**California Polytechnic State University, San Luis Obispo**	**Soil Science**	**1997**

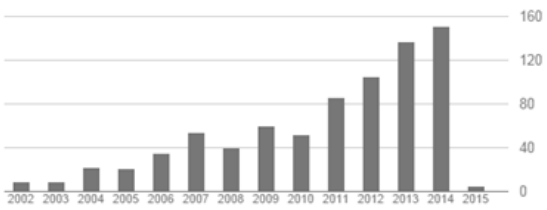
PUBLICATIONS

Google Scholar Citation index as of January 2015

Citation indices

	All	Since 2009
Citations	780	531
h-index	10	9
i10-index	10	8

Citations to my articles



REFEREED JOURNALS:

In revision /submission/ preparation

Reguera M*, **Bassil E*,** Tajima H, Wimmer M, Chanoca A, Otegui M, Paris N and Blumwald E. pH regulation by NHX-type antiporters is required for receptor-mediated protein trafficking to the vacuole. **PLANT CELL** (submitted) *equal contribution

Suzuki N, **Bassil E**, Rivero RM, Blumwald E, Mittler R (2014) Dissecting the response of Arabidopsis to a combination of heat and salinity stresses. *In preparation*.

Bassil E, Brown PH and O'Neill MA. Phenylboronates disrupt borate dependent cross-linking of cell wall rhamnogalacturonan II *In preparation*

Published

Bassil E and Blumwald E. **2014.** NHX-type Cation/H+ transporters: The ins and outs of intracellular ion homeostasis. **CURRENT OPINION IN PLANT BIOLOGY** 22: 1-6.

McCubbin T, **Bassil E**, Zhang S, Blumwald E. **2014**. Vacuolar Na+/H+ NHX-type Antiporters are Required for Cellular K+ Homeostasis, Microtubule Organization, and Directional Root Growth. **PLANTS** *3:*409-426

Martins, V, Teixeira, A, **Bassil, E**, Blumwald, E and Geros, H. **2014.** Metabolic changes of Vitis vinifera berries and leaves exposed to Bordeaux mixture. **PLANT PHYSIOLOGY BIOCHEMISTRY** 82:270-278

Martins, V, Teixeira, A, **Bassil, E**, Hanana, M, Blumwald, E and Geros, H. **2014.** The copper-based fungicide Bordeaux mixture regulates copper homeostasis at the transcriptional level - in silico and gene expression analysis of VvCTrs (Vitis vinifera L.) **AUSTRALIAN J GRAPE & WINE RESEARCH** 20:451-458

Martins, V, **Bassil, E**, Hanana, M, Blumwald, E and Geros, H. **2014.** Copper homeostasis in grapevine:Functional characterization of the *Vitis vinifera* copper transporter 1. **PLANTA** 240:91-101

Martinière A, **Bassil E**, Jublanc E, Alcon C, Reguera M, Blumwald E, Paris N. **(2013).** *In vivo* intracellular pH measurements in tobacco and *Arabidopsis* reveal an unexpected pH gradient in the plant endomembrane system. **PLANT CELL** 25: 4028-4043

Reguera M, **Bassil E** and Blumwald E.**(2013)**. Intracellular NHX type cation/H^+ antiporters in plants. **MOLECULAR PLANT** 7:261-263 doi: 10.1093/mp/sst091

Bassil E, Coku A, Blumwald E. **(2012)**. Cellular ion homeostasis: emerging roles of intracellular NHX Na+/H+ antiporters in plant growth and development. **JOURNAL OF EXPERIMENTAL BOTANY**. 63:5727-5740. **(Darwin Review)**

Bassil E, Tajima H, Liang YC, Ohto M, Ushijima K, Nakano R, Esumi T, Coku A, Belmonte M, and Blumwald E **(2011)**. The Arabidopsis Na^+/H^+ Antiporters NHX1 and NHX2 Regulate Vacuolar pH and K+ Homeostasis to Control Growth Flower Development and Reproduction. **PLANT CELL** 23:3482-3497
***Highlighted article for the issue and selected for Cover**

Bassil E, Ohto M, Esumi T, Tajima H, Zhu Z, Cagnac O, Belmonte M, Peleg Z, Blumwald E.**(2011)** The Arabidopsis Intracellular Na^+/H^+ Antiporters NHX5 andNHX6 Are Endosome Associated and Necessary for Plant Growth and Development **PLANT CELL** 23, 224-239.
***Highlighted in F1000**

Brown P and **Bassil E (2011)** Overview of the acquisition and utilization of boron, chlorine, copper, manganese, molybdenum, and nickel by plants and prospects for improvement of micronutrient use efficiency. In *The Molecular and Physiological Basis of Nutrient Use Efficiency in Crops.* MJ Hawkesford and PB Barraclough (Eds) Wiley-Blackwell, UK.

Wimmer MA, Lochnit G, **Bassil ES**, Mühling KH Goldbach HE **(2009)** Membrane-associated, boron-interacting proteins isolated by boronate affinity chromatography. **PLANT CELL PHYSIOLOGY** 50:1292–1304

Wimmer MA, **Bassil ES**, Brown PH, Läuchli AE. **(2005)** Boron tolerance in wheat is genotype dependent and related to boron uptake, translocation and allocation as well as plant growth. **FUNCTIONAL PLANT BIOLOGY** 32:507-515

Bassill E, Nijo G, Baluska F, Volkmann D, Menzel D, Goldbach H, Brown P **(2005)** Boron deficiency rescues the Arabidopsis thaliana rhd2 root hair phenotype: are reactive oxygen species involved? **EUROPEAN JOURNAL OF CELL BIOLOGY** 84: 63-63

Bassil ES, Hu, H., and Brown, P.H. **(2004)**. Use of phenylboronic acids to investigate boron function in plants: possible role of boron in trans-vacuolar cytoplasmic strands and cell to wall adhesion. **PLANT PHYSIOLOGY** 136:3383-3395

Brown, PH, Bellaloui, N, Wimmer, MA, **Bassil, ES**, Ruiz, J, Hu, H, Pfeffer, H, Dannel, F, and Römheld, V **(2002)**. Boron in Plant Biology. **PLANT BIOLOGY** 4:205-223.

Bassil, ES, and Kaffka, SR **(2001)**. Response of safflower (*Carthamus tinctorius* L.) to saline soils and irrigation I: Consumptive water use. **AGRIC. WATER MANAGEMENT** 54:67-80.

Bassil, ES, and Kaffka, SR **(2001)**. Response of safflower (*Carthamus tinctorius* L.) to saline soils and irrigation II: Crop response to salinity. **AGRIC. WATER MANAGEMENT** 54:81-92.

Bassil, ES, and Kaffka, SR **(2001)**. Response of safflower to residual soil nitrogen. **JOURNAL OF AGRIC. SCIENCE** 138:395-402.

PROCEEDINGS AND TECHNICAL DOCUMENTS

Bassil, E, Krebs M, Halperin S, Schumacher K, Blumwald E. **(2013)**. Fluorescent Dye Based Measurement of Vacuolar pH and K^+**. BIOPROTOCOLS** (3)13. http://www.bio-protocol.org/wenzhang.aspx?id=810

Wimmer, MA, Lochnit, G, **Bassil, E**, Muehling, K., Brown, PH, and Goldbach, HE (2009). Identification of boron-binding proteins supports a function of boron at the cell membrane. UC Davis: The Proceedings of the International Plant Nutrition Colloquium XVI. Retrieve from: http://escholarship.org/uc/item/7v68m82b

Bassil ES, Nijo G, Wimmer MA, Baluska F, Volkmann D, Menzel D, Goldbach H, Brown P (2006). Does boron deprivation inhibit endocytosis of cell wall pectins by causing high membrane fluidity? *In* **All aspects of boron in animal and plant nutrition** (Xu et al eds) Kluwer Academic, NY.

Kari K, Panayiotou C, **Bassil E** (2006) Environmental impact assessment of restoration works and conservation measures in the Larnaca Salt Lake in Cyprus. Environment Service, Republic of Cyprus

Kari K, Panayiotou C, **Bassil E** (2006) Environmental impact assessment of a constructed wetland in the Diarizos river valley CY4000003. Environment Service, Republic of Cyprus

Kari K, Panayiotou C, **Bassil E** (2006) Environmental impact assessment of the revegetation with *Ziziphus lotus* in Capo Greco National Park. Environment Service, Republic of Cyprus

Kari K, Panayiotou C, **Bassil E** (2006) Environmental impact assessment of the construction of a boat anchoring system in the Cavo Greco Marine National Park. Environment Service, Republic of Cyprus

Bassil, ES, Baluska F, Volkmann, D, Menzel D, Goldbach H, Hu H, Brown P. (2005) Boron-dependent cytoarchitecture in plants: *In vivo* visualization of cytoskeleton in Arabidopsis root hairs after disruption of boron-dependent structural cross-links with phenylboronates. *In* **Proceedings of the 15th International Plant Nutirition Colloquium** p188-189

Brown PH, Bellaloui N, Sah RN, **Bassil, ES**, Hu, H **(2002)** Uptake and transport of boron. *In* **Boron in plant and animal nutrition** (Goldbach et al eds) Kluwer Academic, NY, pp87-101.

Kaffka, S and **Bassil, E. (2000)**. The use of saline soils and drainage water for the production of safflower and sugarbeet. Pg 103-113 IN: Letey, J, (ed.). Salinity/Drainage Program Annual Report. Center for Water Resources, Div. Of Agriculture and Natural Resources, Univ. of California. Oakland.

PROFESSIONAL EXPERIENCE

Post-Doctoral Fellow, University of California, Davis 2009-present
Supervisor, Eduardo Blumwald

- Project title: *Functional characterization of intracellular Na+/H+ antiporters in Arabidosis*
  Use of genomics, cell biology, biochemistry, and physiology to dissect the role of ion and pH homeostasis in cell growth, development, vesicular trafficking as well as protein processing and sorting. Investigate the role of vacuolar ion homeostasis in cell growth, stress responses and quality.

- Project title: *Arabidopsis 2010:Abiotic stress combinations: bridging the gap between Arabidopsis stress research and agriculture.*
  Use of a systems biology approach to identify gene networks and metabolic pathways that specifically respond to combinations of salt, drought and heat stress.

Research Scientist & Consultant in Agriculture and the Environment
Head of Initiative in Bioremediation Atlantis Consulting Cyprus LTD
Director, Charalambos Panayiotou 2005-2008

- Project title: *Uptake of heavy metals in the Alyssum hyperaccumulators of Cyprus*
  Plant uptake and distribution of nickel and other heavy metals in several species of Alyssum hyperaccumulators. Physiological characterization and responses to soil pH, and several soil amendments.

- Project title: *Phytoremediation of heavy metal contaminated sites in Cyprus*
  Initiated a research program aimed to develop the use of plants and associated microorganisms (mycorrhizae) for phytoremediation of Cu^{2+} and other heavy metal contaminated sites. The research sought to develop a set of phytoremediation management tools for restoring abandoned mines. I was principal author and project coordinator of a €380 000 grant funded by the European EUREKA network of industrial grants. Collaborators were scientist at ECOREM n.v. and Hasselt University in Belgium, the University of Nottingham, UK, as well as the Frederick University, Cyprus.

- Project title: *Conservation management of Natura 2000 sites in Cyprus*.
  Field coordinator of several teams representing government agencies, university and public research organizations involved in conservation activities of priority species and habitats in 5 Natura 2000 sites in Cyprus. I lead efforts to monitor soil and water pollution, and initiated the restoration of halophytic vegetation at the Larnaca Salt Lake. Preparation of reports and environmental impact assessments, budgets, awareness campaigns, and participation in conferences.

- Consultant in urban and ecosystem restoration

I consulted on urban vegetation restoration projects throughout the island and worked closely with government and University scientists in formulating environmental impact assessments and best management practices of several urban landscape areas and natural habitats and national parks.

Grower and Farm Manager
2005-2008

- Oversaw the full operation of my 3 hectare family farm in Limassol, Cyprus. Farm included olives (200 trees), citrus (100 trees), pomegranates (80 trees) and an assortment of smaller scale cherimoya, figs, almonds and grapes. The farm also produced seasonal vegetables such as field beans, potatoes, squash, tomatoes and okra but the main product was cured olives and olive oil. I was responsible of all aspects of day to day operations including the management of 3 seasonal workers, irrigation, nutrient, pest and soil management, as well as produce marketing and management of finances. The farm was a community supported venture, which practiced sustainable farm practices and tended to local customers directly.

Research Associate in Plant Cell Biology, University of Bonn, Germany 2004-2005
Supervisors, Professors Frantisek Baluska, Heiner Goldbach and Dieter Volkmann

- Project title: *Investigation of the structural role of boron in plant cytoarchitecture*
  Use of fluorescent protein reporter lines and live cell imaging to understand the early cellular responses to boron deficiency in roots.
- Project title: *Boron deficiency affects on membrane fluidity and endocytosis of cell wall pectins*
  Used diverse immunostaining techniques on treated maize roots to investigate the effects of boron deficiency on membrane fluidity and endocytosis of internalized cell wall pectins. The experiments aimed at indirectly showing the effects of boron deficiency on membrane associated processes and stiability.
- Project title: *Physiological characterization of boron transporters involved in boron homeostasis*
  Performed bioinformatic analysis of a mutant library which lead to the identification of several mutant plants putatively disrupted in their boron transport mechanisms. Physiological characterization of several of these mutant plants was initiated with the intention of understanding more about specific transporters' contribution to boron homeostasis.

Research Associate in Plant Biology, University of California, Davis 2000–2004, 2005
Supervisor, Professor Patrick Brown

- Project title: *Use of phenylboronic acids to investigate boron function in plants*
  Conceived and developed the use of phenylboronates as a tool to investigate boron function in plants. The approach bypasses traditional methods of studying boron function and is currently being adopted by several independent research groups in the field.
- Project title: *Function of boron in biological membranes*
  Collaborative project with Dr. Monika Wimmer (University of Bonn) to develop laboratory protocol to extract and characterize membrane bound boron binding (glyco)proteins. Employed biochemical methods in 2 phase membrane separation, affinity chromatography, 2D and 1D gel eletrophoresis,
- Project title: *Use of phenylboronic acids to study pectin rhamnogalacturonan II dynamics*

Collaborative project with Dr. Malcolm O'Neill, University of Georgia and Prof John Labavitch, University of California, Davis to determine the effect of phenylboronates on structure and interaction of pectin components of the plant cell wall.

- Project title: *Role of boron in pollen tube germination and growth*
  Despite boron's importance in reproductive development little is known about the exact role that boron has. Using affinity chromatography and proteomic analysis, this project focuses on identifying glycoproteins that might interact with boron in extending pollen tubes.

Research Associate in Agronomy, University of California, Davis 1997-1999
Supervisor: Steve Kaffka PhD, University of California, Davis

- Project title: *Response of safflower to saline soils and irrigation.*
  Coordinated and conducted large-scale field experiment to evaluate use of saline agricultural drain water for safflower irrigation. The research focused on ways to reduce fresh water use, as well as reuse saline drainage water for irrigation. I characterized safflower root water uptake in the soil profile (9ft).
- Project title: *Response of safflower to residual soil nitrogen.*
  Coordinated and conducted large-scale field experiment to evaluate whether safflower can be used to access subsoil residual nitrogen prone for leaching. The research was significant because it tried to define agronomic tools to manage nitrogen balance in fields by making use of safflowers ability to utilize N in the subsoil (>6ft).

TEACHING AND SUPERVISORY EXPERIENCE

Blumwald Lab, 2008-present
Project leader and supervisor the graduate students, Ardian Coku (MSc), Tyler Mccubbin (MSc candidate), and Shiqui Zhang (PhD candidate); two postgraduate scientists Iana Kalina and Yin-Chih Liang; and the undergraduate students Ann Nguen, Athena Kan, Sue Suboden, Melinda Yin, Huy Thai, Ngoc Pham.

Co-instructor: PBI 200C- Plant Biology Graduate Group Core Class. UC Davis 2014
Lectured on plant stress perception and responses and ion transport.

Lecturer: Plant Physiology Laboratory (PLS100AL) UC Davis 2013

Lecturer: Plant Biotechnology Laboratory (BIT161B) UC Davis 2013-14

Atlantis Consulting Cyprus LTD 2005-2008
Research and group leader, Head of Bioremediation Initiative and supervisor of two project scientists.

Teaching assistant, course: "Introductory Plant Biology" UC Davis 2004
Supervisors: Professors, John Labavitch and Ken Shackel, University of California, Davis

Teaching Assistant, course: "Mineral Nutrition of Plants" 2002
Supervisors: Professors Patrick Brown & James Richards, University of California, Davis

Teaching Assistant, course: "Agriculture and the Environment 1998-1999

Supervisors: Professors Steve Kaffka, & James Hill, University of California, Davis

Teaching Assistant, course: "Introduction to Soil Science" 1996-1997
Supervisor: Professor Delmar Dingus, Cal Poly State University, San Luis Obispo, CA

LANGUAGES

Excellent proficiency in written and spoken **English** and **Greek** , fluent in spoken **Arabic**

GRANTS

Principal author and investigator of project entitled "Phytoremediation of heavy metal contaminated sites in Cyprus"- EUREKA European network industrial grants program Award amount L €380 000, 2007-2010.

University of California Salinity Drainage Program Grant 98-9 (co-author) $ 98 000, 1998-1999

AWARDS,

Deans List and Honors program Antelope Valley College, Lancaster California, 1994-1995
California Polytechnic State University, Soil Science Department assistantship, 1996-1997
University of California at Davis, Agronomy Department Research Assistantship, 1998-1999
University of California at Davis, Graduate Studies work study grant $15 000, 2000
University of California at Davis, Pomology Department Research Assistantship, 2001-2005

SERVICE

University of California at Davis, Agronomy Graduate Student Association Committee1998-2000
University of California at Davis, Pomology Graduate Student Association Committee (Treasurer) 2001-2002
University of California at Davis, Plant Biology Graduate Group, Graduate Student Admission Committee, 2003.
University of California at Davis, Hellenic Student Association (President) 2002-2003

Member American Society of Plant Biology, Cyprus Council of Agriculturalists, COST859 delegate for Cyprus.

Reviewer for Plant Journal, Plant Cell Environment, Journal of Experimental Botany, New Phytologist, Plant Science, Plant Cell Physiology, Plant Biology, Plant Physiology and Biochemistry, Journal of Plant Nutrition and Soil Science, Plant Growth Regulation, Bio-Protocols

REFERENCES

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Professor and Director,
Institute of Plant Nutrition
University of Bonn
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