IVAN ROBIN BAXTER, Ph.D.
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EDUCATION AND EMPLOYMENT

1992–1996	Goucher College, Towson, Maryland B.A. in Chemistry. General Honors, Honors in Chemistry
1996–1997	Massachusetts Institute of Technology, Cambridge, Massachusetts Graduate student in the laboratory of James R. Williamson, Department of Chemistry
1998–2000	The Scripps Research Institute (TSRI), La Jolla, California Graduate student in the laboratory of James R. Williamson, Molecular Biology Department
2000–2004	The Scripps Research Institute (TSRI), La Jolla, California Graduate student in the laboratory of Jeffrey F. Harper, Cell Biology Department
2004–2006	Postdoctoral Researcher at the Center for Phytoremediation Research and Development, Bindley Bioscience Center, Purdue University, West Lafayette, Indiana
2006–present	Senior Research Associate, Bindley Bioscience Center, Purdue University, West Lafayette, Indiana

Current Research Programs

Ionomics. PI David Salt. Goals: Identify genes critical for controlling uptake and accumulation of elements in the model plant *Arabidopsis thaliana*. Role: Manage flow of high-throughput elemental analysis profiling pipeline; map loci of interest using current cutting-edge genomics techniques; develop Purdue Ionomics Information Management System (PiiMS); integrate data sets for knowledge generation.

GRANTS

The Genetic Basis of Natural Ionomic Variation, David Salt PI, National Institutes of Health, GM078536-01, 1/1/2007–12/31/2010.

AWARDS AND EXPERIENCE

2008–present	Plant Biology Section Editor, *PLoS One*
2007	Session Chair: Emerging Genome Technologies, ASPB Plant Biology 2007
2007	American Society of Plant Biologists Lab Leadership Workshop
2007	Plant and Animal Association Mapping Module, Summer Institute for Statistical Genetics, Seattle, WA
2006–present	Member, *PLoS One* Editorial Board
2003	Recipient of Deep Gene Travel Award (ASPB Plant Biology 2003)
2002	Recipient of American Society of Plant Biologists Travel Award
2000–2004	Mentored high school students in Harper lab as part of outreach program.
1998–2003	Distinguished Lecture Series Committee member, TSRI. Invited prominent scientists from across the country to give seminars and interact with graduate students at TSRI; coordinated and hosted their visits.
1997	TA: Biochemistry Lab, MIT
1996	Head TA: Freshman Chemistry, MIT
1996	Inducted into Phi Beta Kappa
1995–1996	President, Student Government Association, Goucher College
1993–1996	Claasen Chemistry Scholar, Goucher College
1993–1996	Dean's List, Goucher College
1992–1996	Recipient of Dean's Scholarship, Goucher College

PEER-REVIEWED PUBLICATIONS

Danku J, Gumaelius L, **Baxter I,** Salt DE. (2008) A high-throughput method for Saccharomyces cerevisiae (yeast) ionomics. *J. Anal. Atomic Spec.* DOI: 10.1039/b803529f

Baxter I , Vitek O, Lahner B, Muthukumar B, Borghi M, Morrissey J, Guerinot ML, Salt DE. (2008) The leaf ionome as a multivariable system to detect a plant's physiological status. *Proc. Natl. Acad. Sci. USA* 105(33):12081–12086. *Faculty of 1000 Factor: 6.0, Must Read.*

Baxter I, Muthukumar B, Park HC, Buchner P, Lahner B, Danku J, Zhao K, Lee J, Hawkesford MJ, Guerinot ML, Salt DE. (2008) Variation in molybdenum content across broadly distributed populations of *Arabidopsis thaliana* is controlled by a novel mitochondrial molybdenum transporter (*MOT1*). *PLoS Genet.* 4(2):e1000004. doi: 10.1371/journal.pgen.1000004. *Faculty of 1000 Factor: 6.0, Must Read.*

Eltabakh MY, Ouzzani M, Aref WG, Elmagarmid AK, Laura-Silva Y, Salt DE, **Baxter I**. (2008) Managing biological data using bdbms. IEEE International Conference on Data Engineering.

Borevitz JO, Michael TP, Hazen SP, Morris GP, **Baxter IR**, Hu TT, Chen H, Werner J, Salt DE, Kay SA, Chory J, Weigel D, Nordborg M, Jones JDG, Ecker JR. (2007) Genome-wide patterns of single feature polymorphism in *Arabidopsis thaliana*. *Proc. Natl. Acad. Sci. USA* 104(29):12057–12062.

Baxter I, Ouzzani M, Orcun S, Kennedy B, Jandhyala SS, Salt DE. (2007) Purdue Ionomics Information Management System (PIIMS). An integrated functional genomics platform. *Plant Physiol.* 143:600–611.

Rus A, **Baxter I**, Muthukumar B, Gustin J, Lahner B, Yakubova E, Salt DE. (2006) Natural variants of At*HKT1* enhance Na^+ accumulation in two wild populations of *Arabidopsis. PLoS Genet.* 2(12):e210. doi: 10.1371/journal.pgen.0020210. *Faculty of 1000 Factor: 4.9, Must Read.*

Baxter I, Young JC, Armstrong G, Foster N, Bogenschutz N, Cordova T, Peer WA, Hazen SP, Murphy AS, Harper JF. (2005) A plasma membrane H^+-ATPase is required for the formation of proanthocyanidins in the seed coat endothelium of *Arabidopsis thaliana*. *Proc. Natl. Acad. Sci. USA* 102:2649–2654.

Hazen SP, Pathan MS, Sanchez A, **Baxter I,** Dunn M, Estes B, Chang HS, Zhu T, Kreps JA, Nguyen HT. (2005) Expression profiling of rice segregating for drought tolerance QTLs using a rice genome array. *Funct. Integr. Genomics* 5(2):104–116.

Baxter I, Tchieu J, Sussman MR, Boutry MR, Palmgren MG, Gribskov M, Harper JF, Axelsen KB. (2003) Genomic comparison of P-type ATPase ion pumps in *Arabidopsis* and rice. *Plant Physiol.* 132(2):618–628.

Vitart V, **Baxter I**, Doerner P, Harper JF. (2001) Evidence for a role in growth and salt resistance of a plasma membrane H^+-ATPase in the root endodermis. *Plant J.* 27:191–201.

Hegmans A, Sabat M, **Baxter I**, Freisinger E, Lippert B. (1998) Synthetic ways to tris(nucleobase) complexes derived from cis-diammineplatinum(ii) and a platinum(ii) complex containing four different ligands, three of which are nucleobases. *Inorg. Chem.* 37(19):4921–4928.

REVIEW PUBLICATIONS

Guerinot, ML, **Baxter I**, Salt DE. (2008) From the ionome to the genome: Identifying gene networks that control the mineral content of plants. In *Plant Systems Biology*. Coruzzi G and Gutierrez R, eds. Blackwell Publishing. In press.

Lahner B, **Baxter I,** Salt DE. (2008) Ionomics and the study of the plant ionome. *Annu. Rev. Plant Biol.* 59:709–733.

Baxter IR, Borevitz JO. (2006) Mapping a plant's chemical vocabulary. *Nat. Genet.* **38**(7):737–738.

Peer WA, **Baxter IR**, Richards EL, Freeman JL, Murphy AS. (2005) Phytoremediation and hyperaccumulator plants. In *Molecular Biology of Metal Homeostasis and Detoxification*. Topics in Current Genetics, Vol. 14, Tamas M and Martinoia E, eds. Springer, Berlin, pp. 299–340.

INVITED TALKS

Dow AgroSciences, Indianapolis, IN (2008) *Mapping and Modeling the Arabidopsis Ionome.*

University of Massachusetts, Amherst, MA (2008) *Mapping and Modeling the Arabidopsis Ionome.*

Baylor College of Medicine, Houston, TX (2008) *Mapping and Modeling the Ionome in Yeast and Arabidopsis*.

Danforth Plant Science Center, St. Louis, MO (2008) *Mapping and Modeling the Arabidopsis Ionome.*

Michigan State University, East Lansing, MI (2008) *Mapping and Modeling the Arabidopsis Ionome.*

International Symposium on Metallomics, Nagoya, Japan (2007) *Mapping the Arabidopsis Ionome.* Keynote lecture.

Seminis, Woodland, CA (2007) *Mapping and Modeling the Arabidopsis Ionome.*

Michigan State University, East Lansing, MI (2007) *Mapping and Modeling the Arabidopsis Ionome.*

ASPB Plant Biology 2007, Chicago, IL (2007) *Deletion and Duplication Detection in Arabidopsis Using Tiling Arrays.*

Institute for Systems Biology, Seattle, WA (2007) *Mapping the Arabidopsis Ionome.*

Midwest Developmental Biology Meeting, Chicago, IL (2007) *Linking Genetic Variation to Environmental Variation in the Arabidopsis Ionome.* Runner-up, Best Post-Doc Talk.

Pioneer Hi-Bred, Johnston, IA (2007) *Mapping the Arabidopsis Ionome.*

Purdue University, Plant Biology Lecture Series, West Lafayette, IN (2007) *Linking Genetic Variation to Environmental Variation in the Arabidopsis Ionome.*

Purdue University, Bioinformatics Seminar Series, West Lafayette, IN (2006) *From Genome to Gene: Using an "-omic" Aproach to Identify Causal Loci.*

Pan American Plant Membrane Biology Workshop, South Padre Island, TX (2006) *DNA Microarray-Based Mapping, a Novel, Rapid Technique for Gene Identification: An Ionomics Case Study.*

ASPB Plant Biology 2006, Boston, MA (2006) *Natural Ionomic Variation in Arabidopsis Identifies an E3 Ubiquitin Ligase Involved in Regulating Shoot Mo.*

University of Nevada, Reno, NV (2006) *Array-Based Mapping, a Novel, Rapid Technique for Gene Identification: An Ionomics Case Study.*

ASPB Plant Biology 2005, Seattle, WA (2005) *A Plasma Membrane H+-ATPase Is Required for the Formation of Proanthocyanidins in the Seed Coat Endothelium of Arabidopsis thaliana.*

International Conference on Arabidopsis Research, Madison, WI (2005) *Mapping the Arabidopsis Ionome*.