

## ANNE HARLAN PRATHER

PO Box 27228  
Seattle WA 98165

206.790.5217 (w)  
e-mail: dr\_anne\_prather@att.net

### EDUCATION

**Ph.D., Botany**, August 2009  
University of Washington, Seattle, WA

**Dissertation:** The Paradox of Seed Adaptation: Theoretical, Physiological and Genetic Studies of Long-Term Germination Delay in *Arabidopsis thaliana* Seeds Adviser: Rose Ann Cattolico

**B.Mus.** Classical Guitar Performance  
Wheaton College, 1981

### HONORS/AFFILIATIONS

- National Science Foundation GK-12 Fellowship in Mathematics Instruction, University of Washington, September 2003-2004
- International Society for Seed Science, 2002-2005
- American Society of Plant Biologists, 2002-2005
- National Institutes of Health Training Grant in Molecular and Cellular Biology, University of Washington, September, 2000-June 2003
- American Society for Human Genetics 1994-2003
- Four-time winner of NaNoWriMo (2008-2011)
- People's choice award for computer/digital art—OryCon art show 2008

### RESEARCH INTERESTS

- Genetic analysis of seed germination delay and temperature-dependent seed germination response
- Determination of genomic content of germination-delay associated candidate regions
- Detection and annotation of anti-phase haplotype exclusion regions in inbred-line populations
- Development of recombinant-inbred line populations for global genomic analysis
- Functional systematic analysis of seed germination delay mechanisms in *Arabidopsis thaliana*

### TEACHING INTERESTS

- Design and implementation of science courses for art, design and music majors which relate the scientific method to these fields at the community college level
- Development of an enterprise/entrepreneurship program that emphasizes personal skills, organizational skills and marketing.
- Undergraduate biology, botany, and genetics courses, including undergraduate seminars in general and quantitative genetics, undergraduate laboratory courses in quantitative/general genetics, and general botany
- Graduate genetics and botany courses, including graduate seminars in quantitative genetics, genomics, and seed science
- Design and implementation of undergraduate research projects in the fields of quantitative genetics and genomics.

## RELATED EXPERIENCE

### ***Research***

Ph.D. Research, Department of Biology, University of Washington, Seattle, WA August 2000 - present

- Designed and conducted experiments for the identification of germination-delay associated quantitative-trait loci
- Identified three quantitative-trait loci associated with seed germination delay
- Quantified ecotype-specific stratification and seed-storage responses
- Developed a rapid assay for dormancy-independent germination delay
- Hired and supervised laboratory technicians responsible for plant handling, cross-pollination, media preparation and inventory maintenance.
- Led a team of technicians and volunteers in the production of 500 F<sub>5</sub> Nossen-Columbia recombinant inbred lines
- Facilitated the purchase of an Eppendorf gradient thermal cycler for use in degenerate-primer PCR

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Research Assistant, Department of Biology, University of Washington  
Seattle, WA, September 1998 - June 1999

- Performed PCR, gel electrophoresis and Northern blotting
- Performed RNA and DNA purification
- Analyzed data

### ***Teaching***

Mathematics Content Specialist, North Shore School District

- Developed a program for math journals for upper primary mathematics. The program has generated substantial increases in standardized test scores
- Implemented a four-step problem-solving system for math journals and practice.
- Participated in GK-12 fellowship in applied mathematics by carrying out curriculum analysis and helping in the professional development of upper-primary teachers in mathematics

Mentor Seattle Student Biotech Expo, October 2001-March 2002

- Developed a detailed plan for a student Biotech Expo project which involved laboratory research, an annotated bibliography, and a poster presentation
- Taught student all relevant techniques including basic sterile technique, freezing-point osmometry, microphotography, and basic data analysis
- Wrote guided questions for each of five relevant papers from the primary literature. Answers to these questions constituted a major portion of the annotated bibliography
- Coached student on basic scientific presentations
- The student received third place in this city-wide science fair, and was recognized for her rigorous presentation of the research process and her clear interpretation of the data

Teaching Assistant, Department of Botany, University of Washington  
Seattle, WA, January 1998-March 1998

- Taught three laboratory sections for undergraduate Introductory Botany course
- Graded quizzes and laboratory notebooks
- Produced exam study guides and distributed them by e-mail
- Advised students during office hours

Peer Teaching Assistant, Department of Biology, Metropolitan State College of Denver, September 1993-June 1994

- Developed remedial study materials for students taking Biology 352, General Genetics
- Conducted small-group reviews of examination materials for this course.
- Wrote a supplemental course guide containing over 100 practice problems for this course which was used for two semesters

Master Guitar Instructor Summer Institute for Sacred Music, Quito, Ecuador, August 1979

- Prepared and presented 40 hours of lectures and workshops with two weeks' notice—in Spanish

## PUBLICATIONS

Prather, A. H., L. Lipovich, and R. A. Cattolico. 2009. Identification and annotation of germination delay associated candidate regions in *Arabidopsis thaliana* accessions Ler and Cvi. Preliminary manuscript

Prather, A. H. and R. A. Cattolico. 2004. Detection of ecotype-specific variation in seed storage behavior and stratification response in *Arabidopsis thaliana* seeds. Preliminary manuscript

Prather, A. H., and L. Lipovich. Linkage mapping and global genomic analysis of natural allelic variation in *Arabidopsis thaliana* accessions Columbia and Nossen. In development.

## DISCOGRAPHY

*Storyteller*, Off-Centaur Publications, 1982. Re-release 2010 Star Rose Arts

*Space Heroes and Other Fools*, Off-Centaur Publications 1982

*High Wings*, Thor Records, 1989, re-release 2010 Star Rose Arts

*Renaissance*, Self-release, 1991

*Dance in the Light*, Star Rose Arts 1996, re-release 2010

*Day of Jubilee*, Star Rose Arts 2010

*Harp of Light*, Star Rose Arts, 2011