



## **APPS SPECIAL ISSUE CALL FOR PAPERS:** "Methodologies in Gametophyte Biology"

*Applications in Plant Sciences* (APPS), the [Botanical Society of America's](#) (BSA) open access journal highlighting new tools and protocols across the plant sciences, is organizing a special issue titled "Methodologies in Gametophyte Biology."

For most taxa, the gametophytic life stage has been studied less extensively than its sporophytic counterpart. Yet, among all land plants, the gametophyte is equally important, if not more so, than the sporophyte, as it is the stage in which fertilization occurs. Therefore, the goal of this **APPS special issue** is to highlight novel advances in gametophyte biology. We will consider manuscripts that *highlight novel methodologies, software, genomic or ecological resources, or reviews*, focusing on the three areas of gametophyte biology outlined below. Manuscripts in which gametophytes are compared to sporophytes will be considered; however, the authors should ensure that the manuscript is strictly written from the perspective of the gametophytic life stage.

Contributions from the following three categories will be considered:

**1. Gametophyte ecology** — Gametophytes experience various abiotic and biotic components of their surrounding environment (novel environments, temperature and water availability changes, plant/fungi and plant/microbe interactions). These environmental interactions may be positive or negative in nature and may be evaluated in a number of ways (biomass, growth rate, gametangia development, etc.). This category aims to highlight studies that investigate such interactions, as well as the niche space of gametophytes across land plants.

**2. Gametophyte physiology** — For those taxa that have a free-living gametophyte life stage (bryophytes, lycophytes, ferns), physiological patterns associated with this generation may differ compared to a respective sporophyte. Given that this life stage is essential for the successful continuation of populations and ultimately taxa, understanding these physiological patterns and drivers ultimately plays a large part in a species' ecology and evolutionary biology. This category aims to feature studies that examine the physiological patterns of gametophytes alone or across the gametophyte-sporophyte continuum expressed in the alternation of generations.

**3. Gametophyte genetics** — Gametophytes by definition are haploid structures that give rise to a diploid sporophyte. As such, in taxa that have large and complex genomes, studying the gametophytic life stage may be much easier than respective sporophytes. In addition, molecular processes may occur that are specific to gametophytes (i.e., the production of gametes or sporophytes), and are therefore linchpins in subsequent development. This category aims to highlight approaches to the study of gametophyte genetics. This may entail studies that focus solely on the gametophyte, or on the gametophyte in relation to a respective sporophyte.

**How to submit:** Authors interested in contributing to this special issue should email a proposal that

includes the target category (gametophyte ecology, physiology, or genetics), tentative title, tentative author list, and a 200–300-word abstract to the *APPS* editorial office ([apps@botany.org](mailto:apps@botany.org)).

**The deadline for proposal submission is February 15, 2021.** Proposals will be reviewed by the Editor-in-Chief and the special issue editors. Authors will be notified by March 8, 2021, as to whether their proposal was accepted. Proposal submissions from early-career researchers are particularly encouraged.

**Authors whose proposals are accepted should submit their manuscript by August 15, 2021.** Note that acceptance of a proposal does not guarantee the eventual acceptance of the manuscript, as all manuscripts will be rigorously peer-reviewed. **The target date for publication of the special issue is early 2022.**

Reduced [article publication charges](#) (at the BSA member rate) are available for papers accepted for publication in the special issue. Any questions may be sent to the *APPS* editorial office ([apps@botany.org](mailto:apps@botany.org)).

For more information about journal scope, article types, and manuscript preparation, please see the [Author Guidelines](#).

Best wishes,

Sally Chambers (Marie Selby Botanical Gardens)

Jerald Pinson (University of Florida)

Susann Wicke (Humboldt University of Berlin)

Special Issue Editors