

Translational Plant Sciences Graduate Program

Faculty and Fellow Rights and Responsibilities

The Ohio State University
Center for Applied Plant Sciences
012 Rightmire Hall
1060 Carmack Rd.
Columbus, OH 4321

Phone: 614-292-7656
Email: tpsgp@osu.edu
Website: <http://tpsgp.osu.edu/>

Table of Contents

I.	Program Overview.....	pg. 1
II.	Graduate Studies Committee.....	pg. 1
III.	Faculty Membership.....	pg. 1
IV.	Student Admissions.....	pg. 1
V.	Overview of Fellow Experience in the TPS.....	pg. 2
VI.	Fellow Advisory and Exam Committees.....	pg. 5
VII.	Candidacy.....	pg. 6
VIII.	Dissertation.....	pg. 7
IX.	Good Academic Standing.....	pg. 8
X.	Financial Support.....	pg. 8
XI.	Appendix	
	<i>A. Appendix 1. – Dual Degree.....</i>	<i>pg. 11</i>
	<i>B. Appendix 2. Procedures Candidacy Examination.....</i>	<i>pg. 64</i>
	<i>C. Appendix 3. Timetable.....</i>	<i>pg. 69</i>

Preface

This handbook provides information regarding the rights and responsibilities of associated faculty and Fellows enrolled in the Translational Plant Sciences Graduate Program (TPSGP). These guidelines may be modified as necessary based on faculty and Fellow feedback. They are meant to complement The Ohio State University's Graduate School Handbook, which can be found at <http://www.gradsch.osu.edu/graduate-school-handbook1.html>. Please read the Graduate School Handbook Appendix F for Graduate Advising Best Practices.

I. Program Overview

The Translational Plant Sciences Graduate Program (TPSGP) is an innovative 5-year long (maximum) PhD experience intended for exceptional students with interests that go beyond cutting-edge research. The activities in the program can be broadly defined under the general umbrella of global agricultural biotechnology, and academia-industry interactions. Specifically, research areas in the program involve genetic, molecular, biochemical and computational approaches to solve challenging problems in the areas of plant-microbe interactions, photosynthesis and carbon fixation, biofuel and bio-product formation, crop improvement, food security and health. The ultimate goal is to engage TPS Fellows in actively exploring these areas through a tailored program of focused research experiences coupled with unique internship opportunities. The TPSGP also offers an International Dual-Degree Program with the University of São Paulo in Brazil. TPSGP provides to Fellows in good standing full remission of tuition and fees, a competitive stipend, and all travel and research related costs for the entire duration of the program.

II. Graduate Studies Committee

The TPS Graduate Studies Committee (TPS GSC) oversees the TPS and serves as the liaison with the Graduate School and all TPS faculty. The GSC is responsible for determining faculty membership, Fellow admission, and degree requirements. The GSC typically comprises up to 6 faculty with at least one member located on the Wooster campus. GSC members are selected by agreement of the current GSC Committee Chair and Director, CAPS. Current members can be found at <http://tpsgp.osu.edu/about/gsc>.

III. Faculty Membership

TPSGP faculty members must hold a regular, tenure-track faculty position (Assistant, Associate, Full Professor) and meet criteria provided by the Center for Applied Plant Sciences (CAPS) Pattern of Administration. Faculty membership to TPSGP is recommended by the TPS GSC and ultimately subject to approval by the OSU Graduate School. A current list of all P-status TPS faculty members can be found at <http://tpsgp.osu.edu/directory>. All TPS Faculty members are expected to welcome rotating Fellows into their laboratories with the premise of becoming a member of the Fellow's Scientific Advising Committee (SAC). TPS faculty also agree to support the various opportunities for students, including internships and the Dual-Degree option. TPS faculty must also agree to cover support, including tuition and fees and publication costs, for a student in their lab that fails to maintain good standing in the TPS.

A. *Obtaining and Maintaining P-Status Faculty Standing*

Application to the GSC for TPS P-Status is available to any OSU faculty with an active and successful research program in one or more CAPS Strategic Areas. In addition, continuation as a TPS P-Status Faculty requires ALL of the following:

- Serve in the TPS GSC as requested
- Participate in TPSGP recruitment activities
- Serve in TPS Fellow SAC as requested
- Be completely familiar with unique aspects of TPSGP
- Contribute to teaching TPSGP courses and workshops
- Provide rotation evaluation forms for TPS students

B. *Requesting P-Status Faculty Standing*

Faculty who wish to attain P-Status in the TPSGP must submit the following information to the TPS Program Manager:

- Current CV, please only include published articles or those that are in press, not just submitted
- Past and current grant support
- Comprehensive list of PhD students mentored. It should include at a minimum:
 - Current students: Program, dates in lab, expected graduation date
 - Past students: Program, dates in lab, position immediately following graduation and current position (if known)

C. *TPSGP GSC*

The Director appoints the TPS GSC Chair for a period of two years. The Chair can be reappointed or a new Chair can be selected, preferable but not exclusively from the GSC to serve as Chair. The Director in consultation with the GSC would do this.

The TPSGP Chair will initially appoint GSC members. The TPSGP GSC typically comprises up to 6 faculty members. Each member of the TPSGP GSC will be expected to serve for two years (unless not meeting the criteria outlined below, in which appointment to the GSC will be discontinued), and two members will be rotated out every other year. New members will be decided by a simple majority vote of the remaining of the GSC members.

Essential duties of each TPSGP GSC member:

- Be fully aware of the Graduate School Handbook and guidelines to be a Graduate Faculty
- Actively participate in program advertisement events

- Actively participate in recruitment and interviews
- Actively participate in nominating TPSGP students for Fellowships and other awards
- Actively participate in following each of the TPSGP students during their participation in the program.
- Actively participate in improving and contributing to the TPS web site (<http://tpsgp.osu.edu/>)

II. Student Admissions

A. Application Package

There are typically two application deadlines for the TPSGP, November 15 and January 1. It is expected that short-listed candidates will attend a 2 - 3 day interview at The Ohio State University. Students will apply to the program through the OSU Graduate School Application located at <https://www.applyweb.com/apply/osugrad/index.html>. Fellows are required to pay the non-refundable OSU Application Fee, which is an Ohio State Graduate School requirement. The following material must also be submitted by each applicant:

- GRE general test score submission
- TOEFL or MELAB test scores required for international Fellows
- Resume/CV
- Statement of Purpose limited to 500 words (this should detail why you are seeking a PhD in TPSGP and elaborate on your long-term career goals)
- Optional: Applicants may submit one document regarding research experience. This could be a poster, paper, etc.
- Three letters of recommendation

B. Entrance Guidelines

Due to the research-intensive nature of this program, students should have a minimum of a 3.5 GPA and fundamental training in the biological sciences. It is expected that applicants will have coursework or research experience in molecular genetics, biochemistry, plant physiology, microbiology, and molecular and cellular biology. It is also expected that applicants have completed courses in general chemistry, organic chemistry and introductory mathematics through calculus. Acceptance into the TPSGP is based on a majority vote of the GSC.

III. Overview of Fellow Experience in the TPS

The curriculum and research experience will be customized to align with the interests and career aspirations of each Fellow. Sample plans can be found at <http://tpsgp.osu.edu/node/156/#modelplan>. Each Fellow will identify an advisor

and a co-advisor (either before starting the program or after conducting a maximum of three rotations), who will also serve on the Fellow's Scientific Advisory Committee (SAC). Before starting in the program and until the second year, the GSC will work with each Fellow to personalize his or her experience. After the Fellow passes the Candidacy Examination towards the end of the second year, the Fellow's SAC will take over supervising the activities of the Fellow and how the Fellow is progressing towards the proposed Study Plan. Decisions regarding curricular needs before the Candidacy Examination will be made by discussions between the Fellow, advisors and the GSC. Fellows are responsible for registering for the appropriate courses in a timely fashion. For a detailed description of the enrollment requirements for maintenance of status and degree requirements, Fellows are encouraged to consult the Registration and Scheduling section in the OSU Graduate School Handbook.

A. Coursework

Due to the nature of the TPSGP, a major difference in the TPS is that there is no formal coursework requirement. This program is targeted to Fellows with a strong basic background that will not need intense classwork. Each Fellow will meet with the GSC to determine what skills and knowledge will be needed for a successful PhD in the program. The Fellow will complete the TPS Study Plan (<https://tpsgp.osu.edu/study-plan>) identifying courses they may need one month prior to entering the program. Once the GSC approves this plan, the Fellow can begin implementing the plan, e.g. including registering for classes, beginning rotations, etc. When either the Fellow or the GSC deems strengthening in a particular area is desirable, the GSC will work with the Fellow to identify the appropriate most efficient venue to fill that gap. This could be in the form of an existing OSU course, a new course, or a workshop or course at another institution. Costs for achieving the advised experiences will be covered by the TPSGP. One OSU course (lecture, lab or research) per semester must be taken in order to have a GPA calculated with The Ohio State University Graduate School.

B. Research

Whether a Fellow chooses lab rotations or not, they are expected to engage full-time in their research project. Fellows will work with their faculty mentor to acquire the necessary background knowledge and skills as well as participate in all lab meetings, CAPS seminars, and retreats. Fellows are expected to present their research progress at least annually or more often if required by the advisors or GSC. Each presentation will be considered like a progress report from the Fellow to the GSC and SAC. Fellows are responsible for letting members of the GSC and SAC know when such presentations take place. Required annual research presentations will be fulfilled through CAPS Seminars, special seminars at OSU, or venues approved by the GSC. Fellows are expected to continue research activities during breaks in the

academic calendar when regular classes are not held. For information regarding vacations and leaves of absence, please see Section X below.

TPS faculty members will present short talks to incoming Fellows or provide them with materials that allow Fellows to evaluate their research program during the interview. Fellows should prepare a list of selected faculty who they wish to meet and discuss possible projects immediately after being admitted to the degree program. If the Fellows were not able to gather enough information during the interview, the TPSGP will ensure that the Fellows are aware of the available research opportunities with TPSGP faculty. The Fellow is expected to complete a Study Plan (<https://tpsgp.osu.edu/study-plan>) with his/her preferred labs for two (minimum) or three (maximum) rotations, or the decision to begin their doctoral research with a specific faculty member.

C. Rotations

Two required laboratory rotations are necessary for Fellows to experience life in different TPSGP labs and gain a deeper knowledge of research goals of each faculty program. Exceptions can be made to this requirement and requests should be made to the GSC Chair to discuss with the GSC. Fellows will rotate for at least seven (7) weeks in at least two TPSGP faculty labs (current list of TPSGP faculty participation is updated here <http://tpsgp.osu.edu/directory>). The Fellow will work with the GSC to determine the appropriate labs to meet their educational goals. During the last week of each rotation, Fellows will present their findings in a seminar to their lab members, and inform the GSC of the time and location of the presentation to provide the GSC members an opportunity to attend. Rotation advisors will submit to the Program Manager a Rotation Evaluation form (<https://tpsgp.osu.edu/current-fellows-and-faculty>) that indicates strengths and areas of improvement for the Fellow.

At the end of the last rotation, the Fellow should meet with the faculty member he/she wishes to continue working with. If mutually agreed upon, decisions should be sent to the Program Manager. By accepting the Fellow, the TPS faculty member is agreeing to become one of the co-advisors for the Fellow. If the faculty does not wish the Fellow to join his/her lab, notification should be sent to the TPS GSC Chair. If necessary, the GSC Chair will facilitate discussions with the GSC.

Due to the focused research nature of the TPS, more than three rotations will not be allowed. In the rare case that a Fellow does not identify a research mentor by then, the Fellow must submit a detailed explanation and plan for moving forward with the program to the GSC. The GSC will meet to determine the appropriate course of action on a case-by-case basis.

D. Internships

A major difference between traditional graduate programs and the TPS is the internship opportunities. If not clear by the time the Study Plan (<https://tpsgp.osu.edu/study-plan>) is initially filled-out during the first year, but certainly no later than year 3, each Fellow should complete the Study Plan with their advisor regarding what internship opportunities they would like to pursue. Change forms are available if Fellows decisions regarding internships change. The program will provide Fellows' travel to and from the internship location, housing and transportation as deemed necessary. There may be additional costs depending on location. These costs should be discussed with the Program Manger. The length of the internship can vary and should be discussed with the advisors and GSC.

Fellows are responsible for setting up periodic meetings with their TPSGP advisors throughout the duration of their internship. The schedule and modes for meeting are at the discretion of the Fellow and advisor, however these meetings should be no less frequent than monthly. After the internship is completed, the Fellow will meet with the Program Manager and/or GSC Chair to discuss the overall experience and areas of improvement.

E. Dual-Degree Program

Another unique aspect of the TPS is the Dual Degree option with the University of São Paulo (USP), Brazil. For more information regarding this option, please see Appendix 1. Interested Fellows will send notification to the Program Manager before the Candidacy Exam is completed at the beginning of the second year. This opportunity requires a significant level of dedication to study abroad. One advisor from each institution must agree to serve as a co-advisor for the Fellows. This is not the same as a Fellow having an international experience (internships, research exchange, etc). For Fellows interested in this experience, special attention should be paid to choosing an advisor that has existing (or is developing) collaborations with USP.

Faculty with Fellows who are pursuing the Dual-Degree option should have current collaborations with faculty at USP. Affiliate membership with USP will need to be granted. Please see Appendix 1 for more information.

IV. Fellow Advisory and Exam Committees

A. Advisors

Each Fellow will be paired with two advisors (a primary advisor and a co-advisor), both having P-status in the TPSGP. These two advisors should ideally have interests/experience differently placed in the basic to applied research continuum, providing Fellows with a more integrative perspective of translational plant sciences. In addition, if pursuing the Dual Degree, a co-advisor at the international site will be identified. The faculty advisors must be members of the TPS faculty. The

GSC and Fellows will work together to approve the advisors. Any changes to the advisors will be discussed directly with the GSC Chair. The Chair will work directly with the Fellow on plans and inform the GSC. The GSC must ultimately approve all changes.

B. Scientific Advisory Committee (SAC)

In consultation between the Fellow and co-advisors, Fellows will select at least three additional faculty members for their SAC (total five members) before the end of the second year. The additional faculty members need not be part of TPS or the Center for Applied Plant Sciences (CAPS). SAC members need to be approved by the TPS GSC.

All post-candidacy fellows must hold annual SAC meetings. It is highly recommended that the first SAC meeting be held prior to candidacy. After each meeting, the Fellow will write a brief summary of the meeting and obtain the consent of each committee member prior to submitting it to the Program Manager and GSC Chair.

This SAC also serves as the Candidacy Examination Committee for both the written and oral portions for the Candidacy Examination.

The SAC will serve throughout the Fellow's program. Occasionally, Fellows may want to change the membership of the committee when unanticipated conflicts arise. Fellows are encouraged to work with the Program Manager to resolve any issues either through the remaining members of the advisory committee or the GSC directly. All changes must be submitted and approved by the GSC.

C. Doctoral Examination Committee

The SAC will serve as the Doctoral Examination Committee with the caveat that one additional external member (neither from OSU nor from the State of Ohio) will be added in the last year. External Committee Members play an important role in providing a non-biased, fresh perspective of the overall research conducted as part of the PhD, and also provide an opportunity for an outside OSU point of contact for Fellows as they explore post-doctoral career opportunities. This external member must be a professional of high standing in the research community, and his/her inclusion in the Doctoral Examination Committee will be evaluated by the GSC prior to submitting the external member for approval by the Graduate School. The approval process will require a short justification by the co-advisors and a complete CV of the external member.

V. Candidacy Exam

The Candidacy Examination is both a test of the Fellows' comprehension of the field of Plant Science and allied areas of study, and of the capacity to undertake independent research, moreover it provides an opportunity to examine the ability to think and express ideas clearly and succinctly. This is a rigorous examination that is composed of both written and oral portions. The written portion of the examination can be on the topic of the Fellow's dissertation, or can be in a completely unrelated subject, as long as it meets the criteria outlined in Appendix 2.

Fellows must complete the Candidacy Exam by the end of the Spring semester of the second year (See Timeline Table). To meet this requirement, it is critical that Fellows have an approved exam topic by the end of the Autumn semester of year 2. Topic approval may take several weeks. In special circumstances, such as for example if the Fellow has failed the written portion, the GSC may extend this deadline. However, Fellows who fail to complete the candidacy exam by the end of Summer semester of year two will no longer be in Good Academic Standing, therefore jeopardizing financial support.

The SAC, chosen as described above (without an external member), serves as the examination committees for both written and oral portions of the Candidacy Examination. Note that in order to complete the exam on time, it is critical that the Committee be formed early in year 2. If a member of the SAC is not able to participate in the candidacy exam, another faculty member, with the approval of the advisor and the GSC, may be recruited for the purpose of serving on the candidacy exam.

Details regarding the exam procedure can be found in Appendix 2.

VI. Dissertation

As described in the Graduate School Handbook <http://www.gradsch.osu.edu/graduate-school-handbook1.html>, the PhD dissertation is "*a scholarly contribution to knowledge in the Fellow's area of specialization.*" In the field of TPS, contributions to the field must be directly reflected in publications. Published papers are the most important indicator of research productivity and creativity. TPS Fellows must strive to publish first-author papers in well-regarded, peer-reviewed journals. A dissertation will contain, at a very minimum, one first-author paper that has been published, or is in press.

Before proceeding with preparation of the dissertation, but not later than the end of year 4, the Fellow calls a meeting of the SAC, which determines whether the Fellow is ready to write and defend the dissertation. Many factors ultimately contribute to the length of time a Fellow pursues experimentation before they have completed a significant body of research.

The nature of current research is such that most Fellows participate in collaborative research projects. However, the dissertation contains only the Fellow's individual contributions to such projects, such that the document reflects the original thoughts and work of the PhD candidate. Contributions made by others and presented as part of the document must be clearly identified as such.

The Dissertation Committee will be formed by the advisor, co-advisor, SAC and External Committee Member. An outside representative assigned by the Graduate School will augment the final exam committee. Only when *absolutely necessary* may the Dissertation Committee not include members from the Candidacy Examination Committee. Such changes should be reported to the GSC in a written statement from the Fellow and her/his advisor. This statement should be presented as soon as possible, but no later than when the graduation paperwork is submitted to the GSC Chair for signature.

The Dissertation Committee is given finished draft approved copies of the thesis three weeks in advance of the scheduled oral defense to allow time for reading and thoughtful consideration.

The final oral exam consists of two parts. The first is a one-hour public seminar scheduled at least two weeks in advance, with announcements circulated to faculty and graduate Fellows of relevant programs/departments. Immediately following the seminar, the Dissertation Committee meets with the candidate for a period of not less than one hour to discuss the originality of the research, the independence of the candidate, and the ability of the candidate to interpret his/her work and place it in the broader context of the field.

As for the Candidacy Exam, a successful outcome requires unanimity. In the event of an unsatisfactory outcome, the Dissertation Committee determines whether a second final exam will be permitted. In such circumstances, the Dissertation Committee is encouraged to consult relevant portions of the Graduate School Handbook.

All Dissertation Committee members must approve the final dissertation copy.

VII. Good Academic Standing

Fellows must maintain good academic standing or face dismissal from the program. Fellows unable to maintain the good academic standing required by TPS will be invited to transfer to another program. Academic standing is assessed by identifying advisors in a timely fashion, performance in graduate classes, timely preparation of the Candidacy Exam, and demonstration of reasonable progress toward the PhD. The consequences of probation are described and should be reviewed in section V of the Graduate School Handbook. Poor academic standing results from:

- Failure to maintain a GPA of 3.50
- Failure to hold the Candidacy exam before the end of the second year
- Failure to hold annual Committee meetings
- Two unsatisfactory attempts at the candidacy examination
- Failure to participate as a member of the audience or speaker in the various CAPS and TPS programs and seminars
- Failure to comply or perform satisfactorily with a pre-arranged internship
- Poor research performance as assessed by the SAC
- Several unexcused absences from seminars and labs

Please note this is more stringent than the OSU Graduate School. Students that fail to stay in good academic standing will meet with the GSC to determine the appropriate course of action.

VIII. Financial Support

The TPS program will pay a stipend for TPS graduate Fellows (2013 starting stipend is \$26,500, with annual increases consistent with local/national trends). The Program will also provide \$2,000 per year for study-related costs for five years. Study-related costs include the purchase of books, software or a computer, the participation in meetings, conferences or workshops, extra expenses incurred as part of an internship, etc. All these expenses will need prior approval. The funds must **NOT** be used to pay for research costs in the host lab, or for recreational activities.

Fellows interested in teaching should indicate so in the Study Plan, and consult with the advisors and Program Manager to help identify a proper venue. Fellows and their advisors are required to participate in Fellowship and grant opportunities to identify funding for positions.

Fellows are required to pay other non-optional fees as part of the OSU fees 2013 fees include: COTA fee, the Fellow activity fee, facility fee, and the Fellow recreation fee. All Fellows must purchase health insurance. For a description of fees please see <http://registrar.osu.edu/policies/feesexplanation.asp>. Other fees, such as parking, late penalties, etc., are also the Fellow's responsibility. Such requirements follow the typical guidelines issued to all OSU graduate students.

Fellows are trainees and thus do not earn annual vacation time or sick leave. Fellows are excused for illness and personal emergencies at the discretion of the primary advisor or, in the first year, the Chair of the GSC. Documentation should be submitted to leave approver. The Ohio State Graduate School Handbook should be referenced for policies for leaves of absences (<http://www.gradsch.osu.edu/appendix-e.html>). Fellows are granted two weeks of excused absence per year in addition to University holidays, by prior arrangement

with the primary advisor. For vacation requests, Fellows must request this in writing to the advisors and program manager. If the request is approved, a written communication that includes the advisors approval needs to be provided by the Fellows to the Program Manager at least one month before the requested vacation. If this is not done, it will be assumed that Fellows are in campus.

IX. Appendix

B. Appendix 2. Procedures for the Translational Plant Sciences Admissions to Candidacy Examination (ACE)

1. Timing

A Fellow should take the ACE no later than the end of their second year in the program. By this time the Fellow should have (1) completed the course requirements with a GPA of at least 3.5, and (2) defined and become well ensconced in the dissertation research. Exceptions will be considered by the GSC in individual cases, within the guidelines of the Graduate School Handbook.

A Fellow planning on taking the ACE should give a short presentation of their plan for the ACE with their Advisory Committee at least several months before the exam to work out the final aspects of fulfilling the course requirements and to update the committee on the progress in research (The Advisory Committee will consist of 5 faculty members, including the Fellow's advisor and co-advisor, and will be chosen in consultation with the advisors and approval of the GSC). Written documentation of readiness to take the ACE should be submitted to the GSC by the Fellow's advisor.

This documentation should include:

- a) An updated CV of the Fellow,
- b) A list of graduate courses taken and grades, and
- c) A brief description of the Fellow's current and intended research.

If possible, all documents should be submitted as pdf to facilitate timely distribution among the GSC members for evaluation. GSC approval is required for the ACE to proceed.

2. Written Portion

- a) The objective of the ACE is to test the Fellow's ability
 - (1) *To identify an important area of research,*
 - (2) *To formulate meaningful and testable hypotheses,*
 - (3) *To select strategic and feasible methodology,*
 - d) *to explain the context (literature and relevant data) of the questions, and*
 - (4) *To write a coherent and convincing grant/Fellowship proposal.*
- b) The Fellow proposes to his/her Advisory Committee a topic related to the Fellow's doctoral research to form the subject for the grant/Fellowship proposal.
- c) The Advisory Committee will evaluate and approve the topic of the proposal. This can be done easily by e-mail communication, or by a meeting between and Fellow and the Advisory Committee if so desired.
- d) The grant proposal should represent the Fellow's own creativity and intellectual work. A proposal previously written by the Fellow and evaluated by peer review cannot be used for the ACE. An example is a

proposal submitted to fulfill course requirements. Nor is a proposal acceptable if it overlaps extensively with existing grant proposals, for example those from the Fellow's advisor. The Fellow's advisor or the co-mentor should not help the Fellow to write the ACE but can meet to discuss with the Fellows the initial ideas. Needless to say that no part of the document should be copied from other printed or web documents – every effort must be made to avoid plagiarism and ensure originality. Evidence of plagiarism is immediate reason for failing the exam and immediate reporting to the Committee on Academic Misconduct within the Office of Academic Affairs. The TPS will defer to the actions of Committee. Each student will be required to watch the misconduct and plagiarism videos available at <http://kb.osu.edu/dspace/handle/1811/46848> and sign a statement of understanding. More information regarding academic misconduct can be found at <http://oaa.osu.edu/coam.html>.

e) After the Advisory Committee has approved the topic of the proposal, the Fellow submits a one-page summary of the proposal to the Advisory Committee. The topic must be approved unanimously by the Fellow's SAC. A committee member indicates approval by signing the summary or by e-mail communications. If the topic is rejected, the above steps are repeated.

f) Upon approval, the Fellow has 4 weeks to complete the grant proposal. During the process, the Fellow may consult peers and postdoctoral researchers on ideas and on the proposal itself. Faculty input should be minimal. Any major participation of the research advisors in the proposal preparation must be documented. However, both the Fellow and the advisor should be fully aware that any significant inputs from the advisor on the proposal may jeopardize the quality of the ACE. The Fellow should be prepared to fully defend and justify the proposal orally.

g) When the proposal is written, the Fellow should make copies of the Research Proposal Evaluation Form (<https://tpsgp.osu.edu/fac-eval>). The Fellow should fill in the top half of the form and distribute it to each SAC member. The Fellow should ensure that his/her advisor is aware of the date of return of the evaluations and that the advisor notifies the members of the committee to return the evaluations in a timely fashion. The advisor collects the completed Evaluation Forms and comments and distributes copies to the candidate and to all members of the Candidacy Exam Committee.

h) If the proposal is judged acceptable as is or with minor revision, an Oral Examination is scheduled and conducted as soon as possible. If one or more member(s) of the Committee indicates that the proposal requires

major revisions, the Fellow shall submit a revised proposal to the Committee within two weeks.

i) If the revision is acceptable, an Oral Exam is scheduled. If the revised proposal is still judged as seriously flawed, the Committee can either recommend: 1) The Fellow be given the option of canceling the exam with an overall grade of Unsatisfactory. If this option is chosen, the Chair of the Candidacy Exam Committee returns the exam results form to the Graduate School along with a letter signed by the Fellow to waive his/her right to take the Oral part of the ACE. 2) The candidacy exam may be rescheduled at the discretion of the Committee.

j) The proposal format should follow that required by the agency (NSF, USDA, NIH, DOE) to which the proposal will be “submitted”. In any case, it should be no longer than 6 pages long, single-spaced with one-inch margins and 11 point font. Included in the 6 pages are figures and tables, but not references. Sufficient information needs to be included to facilitate an effective review by committee members without requiring them to refer to the literature.

(1) Abstract: The abstract should be one paragraph, not to exceed 250 words. It should be a summary statement of the background, research goals, methodology, and expected outcomes and impact.

(2) Aims & Hypotheses: The specific aims of the proposal and the hypotheses to be tested should be clearly defined and justified.

(3) Background: The introductory portion of the proposal should discuss the current status, knowledge gaps, and/or pressing issues in field of the proposed research. This discussion serves the purpose of formulating testable hypotheses. It needs to be presented such that the reviewers are convinced of the importance, necessity and feasibility of the proposal research. The writing needs to maintain a balance between providing sufficient information and brevity.

(4) Experimental design: The experiments should be well planned to convince reviewers that they will succeed. This section should not be simply a listing of the techniques to be used or a detailed description of methods. Rather, it should be a general experimental design with brief and informative description of key aspects of the methods with thoughtful justifications. It is important to discuss why a particular method is used, what pros and cons are associated with method, and what alternative approaches will be used. It is also essential to discuss how data generated from an experiment will be analyzed and interpreted.

(5) References: All cited references should be listed at the end of the project description, following the formats for full citation (i.e., with all authors' names, complete article title, inclusive page numbers and year of publication listed) established by major journals. It is required that Fellows utilize a reference management program for the references (e.g., Endnote). It is also expected that the Fellows know the content of each of the references cited.

k) At the time of final stages of proposal preparation, the candidate should obtain the form for Scheduling the Candidacy Examination from the Graduate School office (250 University Hall). The candidate should arrange a time and place for the oral examination and file the form with the Graduate School at least two weeks prior to the scheduled date of the oral portion of the Examination.

l) Review of the Admission to Candidacy Exam: Each member of the Advisory Committee will evaluate the grant proposal. Each member will give an overall score and provide a written review. The proposal is evaluated with respect to the quality of the research questions being asked, the methodology, logic, and writing. These comments help the Fellow prepare for the oral defense of the proposal, which constitutes the second required portion of the ACE.

a) The Oral Exam be scheduled and the Fellow be evaluated on the basis of both the written and oral portions of the ACE.

3. **Oral Portion**

a) The Committee that conducts the Oral Portion of the ACE consists of at least five faculty members.

b) The Oral portion of the ACE will be held as soon as possible after the Advisory Committee approves the written part of the proposal. It is strongly encouraged that this portion of the ACE be conducted immediately after the two-week grace period. This portion should last for no more than 2 hours. The Fellow should prepare at most three slides for the Oral Portion, and a formal presentation of the proposal is not allowed. During this two-hour period, the Committee should focus on questioning the Fellow about the content of the proposal and about any subjects directly or indirectly related to it. These could include techniques, current literature, and basic and broad biological background. The Exam could also test Fellow's awareness of current and new progresses in plant biology/general biology and biology-related social issues.

c) The Oral and the Written Portions are considered one exam. It is possible that either the Written or Oral portion is judged Unsatisfactory, but is counterbalanced by a sufficiently good performance on the other portion to obtain an overall Satisfactory grade. Committee approval must be unanimous. A secret paper ballot will be submitted to the primary advisor from each member of the review committee.

d) If the Fellow fails the exam, the Committee must decide (a) whether the Fellow is or is not permitted to take a second ACE, or (b) whether all or part of the exam should be repeated (see relevant sections in the Graduate School Handbook.)

e) At the end of the ACE, the result will be given to the Fellow and be recorded on the Graduate School form. A copy of this form must be delivered to the GSC Chair and the original returned to the Graduate School.

B. Appendix 3. Timetable (based on Autumn start)

Date	Event	Comments
December 1	TPS Applications due	
TBD, December - February	Interviews	2-3 days in Columbus, travel expenses paid by program
End of January (Jan. 28 in 2013)	University Fellowship Deadline	Fellows meeting Ohio State guidelines will be nominated http://www.gradsch.osu.edu/funding-and-awards.html
Not later than March 31st	Notification of acceptance	
April 15 th , annually	Fellow Acceptance Deadline	
One month prior to joining TPS	Study Plan completion	If the Fellow wishes to complete rotations, an internship, international experience, or apply for the dual-degree, they are expected to complete the study plan.
Arriving at Ohio State		
ROTATION FELLOWS: Fellows do two or three seven-week rotations commencing immediately after beginning in the program. Co-advisor selection immediately following rotations.		
NON-ROTATION FELLOWS: Co-advisors determined upon entering the program. First advisor should be selected before entrance.		
Late first year	Scientific Advisory Committee created	Includes both advisors and 3 additional TPS faculty
End of Autumn semester of year 2	Candidacy Topic due	
Prior to candidacy	First meeting of the Scientific Advisory Committee	After each meeting the Fellow should write a brief summary of the meeting and provide a copy to each committee member, the Program Manager and GSC Chair.
End of spring semester of year 2	Candidacy exam	
End of year 4	Pre- dissertation meeting	Fellow calls a meeting of the Advisory Committee, which determines whether the Fellow is ready to write and defend.
1 month prior	Coordinate date, times, room(s) for oral presentation	Information should be sent to OSU faculty and Fellows.

	and advisory meeting	
Set by Committee, but typically at least one week	Finished copies of thesis sent to Advisory Committee	
Before the end of the 5 th year	Dissertation	
<p><i>For other important academic calendar dates please visit the Ohio State Registrar's Office at http://registrar.osu.edu/staff/bigcal.asp</i></p>		