

Fall 2021
AGR 6932 - Topics in Agronomy
JOURNAL COLLOQUIUM (1 credit):
Section Title: JOURNAL CLUB FOR CROP BIOTECH
Thursday, period 4
1 credit
100% online

Course Registration

The course registration is departmentally controlled.
Request registration with Danielle Adams; dadams1@ufl.edu.

Course Description and Learning Objectives

This Journal club will focus on analyzing the primary literature in crop biotechnology and advanced CRISPR/Cas genome editing technologies and aims to develop key skills such as reading and interpreting primary literature, oral presentation of scientific results and professional development.

After completion of this journal club students will be able to carry out critical evaluation of professional literature in plant biotechnology, explain enabling technologies for biotech approaches, deliver scientific presentations and lead discussions in crop biotechnology.

Instructor

Fredy Altpeter, Professor of Molecular Genetics and Biotechnology, Agronomy Department, Plant Molecular and Cellular Biology Program, Plant Breeding Program, Genetics Institute.

Dr. Altpeter was twice awarded the UF Research Foundation Professor recognition. He pioneered editing the complex sugarcane genome (targeted mutagenesis and precision gene targeting with both CRISPR/Cas9 and TALEN) and has developed and used a range of biotech and conventional breeding approaches for improvement of crops. E-mail: altpeter@ufl.edu; Office-3085 McCarty B; Phone 273 3418.

Teaching Assistants

Erin Yafuso, Ph.D., Agronomy, eyafuso@ufl.edu
Moni Qiande, Ph.D. Candidate, Agronomy, mqiande@ufl.edu

Meeting time and place

This class will be offered online (Zoom) on Thursdays, Period 4, 10:40 AM - 11:30 AM.

Office hours: Thursdays, Period 5, 11:30 AM - 12:20 PM or request an appointment by email: altpeter@ufl.edu; eyafuso@ufl.edu; mqiande@ufl.edu

Mode of Delivery

This course will be delivered synchronously online via Zoom videoconferencing. The Zoom meeting identification and password will be available through the course Canvas site at <https://elearning.ufl.edu/>.

Textbooks/Materials/Supplies Fees:

None

Weekly Topics and Assignments

Each week, one to three students will be assigned one or multiple articles for the class to read, prepare for presentation as a ppt file, present and lead discussion. articles and supplementary files will be made available at least one week before the discussion date on the course Canvas site at <https://elearning.ufl.edu/>. All students are expected to have carefully read the articles before the presentation and come prepared with questions. Depending on the level of prior knowledge reading of additional review articles will be suggested by the instructor or TA's on request. Discussions are expected to go over the chosen article including both the approach and the results similar to a conference presentation. Use of images or tables should also include supplementary figures or tables provided with the article or figures from articles that were cited in the methods section if needed for clarity. The selected content should increase the understanding of concepts/methods and results during discussions. Topics will vary from student to student, but we will focus on crop biotech approaches and their application for crop improvement as outlined below:

| <i>Topics</i> |
|---|
| Tissue culture: impact of regulatory networks on tissue culture response (e.g. somatic embryogenesis) |
| Tissue culture: Ectopic expression of morphogenic genes used to enhance transformation in recalcitrant genotypes/crops |
| Common gene transfer technologies |
| Improvements of Agrobacterium mediated gene transfer with auxotrophic Agro mutants |
| Impact of particle density on biolistic gene transfer and transgene expression |
| Comparison of Agrobacterium mediated and biolistic gene transfer |
| RNAi for crop improvement |
| Transgenic approaches for crop improvement |
| Pathway engineering for development of new products and value added crops |
| Genome editing technologies (Targeted mutagenesis, Precision nucleotide substitutions by HDR, Base editing Prime editing) |
| Design of editing experiments and analysis of the genome editing outcome |
| Genome editing for crop improvement |

Consent to Recording of Online Zoom Presentations and Discussions

The student enrolled in this course consents to being recorded during online zoom presentations and discussions. The student enrolled in this course also consents to the use of these recordings for educational purposes.

Student Evaluations

Grades will be assigned based on quality of presentations (30%), staying within the assigned time limit (10%) and quality of the led discussion (15%), attendance (15 %) and active participation in discussions (30%). Information on current UF grading policies can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Grades and Grade Points

For information on current UF policies for assigning grade points, see

<https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>.

Attendance and Make-Up Work

“Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>”

Online Course Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at:

<https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at: <https://gatorevals.aa.ufl.edu/public-results/>.

Academic Honesty

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.*” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: “*On my honor, I have neither given nor received unauthorized aid in doing this assignment.*”

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Software Use:

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation 0001 Reid Hall, 352-392-8565, <https://disability.ufl.edu/>

Campus Helping Resources

Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- **U Matter, We Care:**
If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.
- **Counseling and Wellness Center:** <http://www.counseling.ufl.edu/cwc>, and 392-1575; and
- **University Police Department:** 392-1111 (or 911 for emergencies).

Academic Resources

- **E-learning technical support**, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>.
- **Career Resource Center**, Reitz Union, 392-1601. Career assistance and counseling. <https://www.crc.ufl.edu/>
- **Library Support**, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.
- **Teaching Center**, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <https://teachingcenter.ufl.edu/>
- **Writing Studio, 302 Tigert Hall**, 846-1138. Help brainstorming, formatting, and writing papers. <https://writing.ufl.edu/writing-studio/>
- **Student Complaints On-Campus:** Visit the Student Honor Code and Student Conduct Code webpage for more information. <https://sccr.dso.ufl.edu/policies/student-honor-%20code-student-conduct-code/>
- **On-Line Students Complaints:** View the Distance Learning Student Complaint Process. <https://distance.ufl.edu/getting-help/student-complaint-process/>.