

MAFEN MASTER

Academic Year 2025 - 2026

Proposal of M1 tutored project

PROJECT TITLE AND SUMMARY:

UV-C-induced apoptosis: role of DNA damage and ROS

This topic investigates the dual role of UV-C radiation—as both a stressor and a biostimulant—in inducing programmed cell death (apoptosis) through DNA damage and reactive oxygen species (ROS) signaling. Students will explore the molecular pathways and gene expression changes involved, comparing plant and animal models to uncover conserved and divergent mechanisms. The review will emphasize how UV-C can selectively promote defense by eliminating compromised cells, contributing to overall organismal resilience and immune regulation.

HOST UNIT:

UPRI: ERIT PSII – Plant Science, Interactions and Innovation, Avignon Université

MAIN ACTIVITIES:

- **Literature Search:** Students will learn how to search for scientific articles using databases like PubMed, Scopus, or Google Scholar. They will collect recent and relevant publications related to their topic.
- **Reading and Analysis:** They will read and summarize key findings from selected articles, focusing on concepts, methods, and results that relate to their topic.
- **Structuring the Review:** Students will organize the information into sections (e.g., introduction, current knowledge, gaps, future directions) and learn how to build a coherent scientific narrative.
- **Scientific Writing:** They will practice writing in a formal and clear scientific style, using proper citations and formatting.
- **Feedback and Revision:** Drafts will be reviewed by the tutor, and students will revise their work based on feedback to improve clarity, accuracy, and structure.
- **Oral Presentation:** The students will prepare and deliver a short oral presentation of their mini-review, summarizing the key points and explaining the relevance of their topic. This helps develop communication skills and confidence in presenting scientific work.
- **Final Submission:** The goal is to produce a complete and well-written mini-review that could be submitted for publication or used as a reference for future research.

Students will have the opportunity to observe the real-life application of UV-C light in greenhouse conditions, gaining firsthand insight into an innovative biostimulation method. This experience will help them understand how modern research approaches are implemented and how their project can contribute meaningful knowledge to the field of plant resilience and defense to stress.

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