

Outline (and study guide)

- What is an endophyte? How is it different from a rhizospheric bacterium?
- Adaptation to environmental pollutants with microbes
- What is endophyte-assisted phytoremediation?
- Examples

Questions:

- Are there more petroleum-degrading bacteria in the plants or outside the plants (endophytes vs rhizosphere)?
 - Assay: check for the genes
- Are there differences between the plant species in terms of endophytes?

	<h2>Assisting Endophyte-Assisted Phytoremediation</h2>
	<ul style="list-style-type: none">■ Some bacteria can effectively degrade the pollutant■ Other bacteria can effectively colonize poplar and willow■ Need to combine the traits■ Move catabolic genes to the endophyte through normal conjugation

	<h2>Summary of Endophyte-Assisted Phytoremediation</h2>
	<ul style="list-style-type: none">■ Microbes can help plants remediate■ Unknown "recruitment mechanism"■ Inoculating plants with microbes that can degrade the pollutants can lead to adaptation of the native endophytes and improved phytoremediation

Current Topics in Phytoremediation

**CFR 521G- Winter Quarter
2010**

2 credits, graded

Wednesdays 9:30-10:20



This course includes a lecture on phytoremediation, the use of plants to remove environmental pollutants. The rest of the course is in a journal club format with presentations by the students on current research articles. A background in biology is needed for an understanding of the papers. Grading is based on the oral presentation, class participation, and two short writing assignments.