Instructor and Office Hours:
Dr. Jan Leach
C203A Plant Sciences;
phone: 970-491-2924;
e-mail: Jan.Leach@colostate.edu
Office hours: arranged (call or email)

Course Structure:
Lectures/paper discussions on Mon and Wed (2:00 – 3:15 PM); 1 credit

Required Text:
None. The lectures/discussions will be developed from current literature.

Recommended Informational Materials (if you need background):
Phytobacteriology: Principles and Practice by J.D. Janse. 2006. Cabi Publishing. (This link says it can be downloaded for free; I did not try: http://ebookee.org/Phytobacteriology-Principles-and-Practice_351790.html)

Useful Weblinks:
http://www.pk.uni-bonn.de/ppigb/bacterio.htm
http://www.bacterio.cict.fr/ List of prokaryotic names with published standing

Course Overview:
The course provides an overview of the broad range of interactions that bacteria have with plants, with an emphasis on interactions leading to disease. Particular emphasis will be on the major groups of plant pathogenic bacteria, the diseases they cause, and how they cause various disease phenotypes. This course builds upon basic concepts provided in an introductory plant pathology course, and assumes a basic knowledge of microbiology.

Learning Outcomes:
1. To enable integration of concepts in microbial ecology, physiology, molecular biology, and genetics within the context of interactions with plants.
2. To be current in information on how bacteria cause disease on plants.

Exams:
There will be one exam, a final (60 points), and it will be comprehensive. It will contain short answer and multiple choice questions.
Homework:
Two homework assignments will be assigned. The first assignment will be for each student to develop a two page case study on an assigned bacterial pathogen that will describe host and host range, tissue specificity, virulence factors produced, symptoms caused, etc. The second assignment will be a problem set that introduces students to tools that enable mining of information on bacterial virulence, ecology, etc. from microbial genome sequences.

Grades:
The final will be worth 60 points; class participation will be worth 10 pts; homework will be worth 30 pts (15 pts each). Grades will be based on a percentage of the total points possible. Grades will be assigned according to a grading scale (i.e. 95-100% = A+, 89-94% = A, 83-88 = B+, etc.).

LECTURE TOPICS/SCHEDULE
BSPM 502B - Phytobacteriology
Fall, 2013

<table>
<thead>
<tr>
<th>Date</th>
<th>Lecture Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept 30</td>
<td>Introduction: History of Phytobacteriology, Structure of bacteria; Taxonomy &amp; Classification of bacteria</td>
</tr>
<tr>
<td>Oct 2</td>
<td>DNA transfer, Plant associations, Pathogenesis (invasion, movement, pathogenicity and virulence factors)</td>
</tr>
<tr>
<td>Oct 7</td>
<td>Detection and diagnosis of bacterial plant pathogens; Comparative genomics</td>
</tr>
<tr>
<td>Oct 9</td>
<td>Gall diseases</td>
</tr>
<tr>
<td>Oct 14</td>
<td>Soft rot diseases</td>
</tr>
<tr>
<td>Oct 17</td>
<td>Leaf spot diseases</td>
</tr>
<tr>
<td>Oct 17</td>
<td>Blight and wilt diseases</td>
</tr>
<tr>
<td>Oct 21</td>
<td>Scorches &amp; Exercises</td>
</tr>
<tr>
<td>Oct 23</td>
<td>Yellows diseases</td>
</tr>
<tr>
<td>Oct 28</td>
<td>Summary</td>
</tr>
<tr>
<td>Nov 3</td>
<td>Final exam</td>
</tr>
</tbody>
</table>