



**Public Lecture by Dr. Gary Strobel
Plant Sciences, Montana State University
“Gifts from the Rain Forest”**

**Wednesday, February 19, 2003 at 6:00 p.m. in the Garren Auditorium, Basic Science Building
Sponsored by the Sam & Rose Stein Institute for Research on Aging, UCSD**

ABSTRACT:

An increase in the number of people in the world having health problems caused by certain cancers, drug resistant bacteria, parasitic protozoans, and fungi has caused alarm. An intensive search for newer and more effective agents to deal with these problems are now underway. Endophytes are a potential source of novel chemistry and biology to assist in helping solve not only human health, but plant and animal health problems also. Endophytes reside in the tissues between living plant cells. The relationship that they establish with the plant varies from symbiotic to bordering on pathogenic. Of all of the world's plants, it seems that only a few grass species have had their complete complement of endophytes studied. As a result, the opportunity to find new and interesting endophytes among the myriad of plants is great. Sometimes extremely unusual and valuable organic substances are produced by these endophytes. These compounds may contribute to the host-microbe relationship. The initial step, in dealing with endophytic microorganisms, is their successful isolation from plant materials. Then, the isolation and characterization of bioactive substances from culture filtrates is done using bioassay guided fractionation and spectroscopic methods. Some of the more interesting compounds produced by endophytic microbes, with which we have dealt, are taxol, cryptocin, cryptocandin, jesterone, oocydin, isopestacin, the pseudomycins and ambuic acid. In this seminar, I shall discuss an approach for bio-prospecting the rainforests, not only to harvest their endophytic microorganisms, but to eventually build a better understanding of the importance and value they have to humankind. During the seminar I shall show photos of some of the world's great rainforests and the organisms that live there. These forests are some of the most biologically diverse places on earth and likewise hold the greatest array of endophytes.