

***Dear Faculty, Postdocs, Students, and Friends:***

***You are cordially invited to attend a special seminar presented by the  
Institute for Integrative Genome Biology***



**Dr. Tim Flowers  
School of Biological Sciences  
University of Sussex**

**Title:  
“eHALOPH and the evolution of salt tolerance in  
plants”**

**DATE: Friday, April 2, 2021  
TIME: 12:00 pm PST**

**MEETING ID: 963 2886 4096  
PASSCODE: 929813**

***Host: Dr. Katie Dehesh***

**Abstract:** The earth has an abundant supply of water, but unfortunately for most plant species, most of this water contains a lethal concoction of salts. How is it, then, that most plants cannot tolerate seawater? Apart from the academic challenge, there is also a practical reason for trying to understand this conundrum: it has proven difficult to enhance the tolerance of our crops to salt. We need to understand the physiology and biochemistry of salt tolerance as this trait is likely to be of increasing importance as our climate changes. The database eHALOPH, developed from HALOPH compiled by James Aronson in the 1980s, lists the number and characteristics of salt tolerant plants. I will describe how this database is being revised and can be used to trace the evolution of salt tolerance. Of the approximately 351,000 species of higher plants, less than 600, tolerate seawater concentrations of salt. Most of these euhalophytes are in just one fifth of the families of flowering plants. One explanation of why most of our plants are not salt tolerant is that the colonisation of land occurred from fresh rather than salt water and so salt tolerance of terrestrial species evolved as a secondary trait.