

31<sup>st</sup> July 2018

## Post-doc position

---

### **Post-doc position: developing molecular tools for detecting early signals of stress in the tropical seagrass species *Halophila stipulacea*.**

A two-year post doc is currently being offered in the labs of Prof. Simon Barak (Ben-Gurion University of the Negev) and Dr. Gidon Winters (The Dead Sea Arava Science Center) to develop molecular tools for detecting early signals of stress in the tropical seagrass species *Halophila stipulacea*.

**The project:** Seagrass meadows thrive worldwide in shallow sedimentary shorelines, where they fulfil important ecological services. Yet, seagrass ecosystems are facing a global crisis due to both direct (reduced water quality, coastal development and poor land use) and indirect (climate change) human activities. Loss of seagrass ecosystems will lead to severe ecological and socio-economic consequences. The proximity of these meadows to intense and growing potentially amplify or reduce the effect of ocean warming.

Along the Israeli coast of the northern Gulf of Aqaba (GoA), recent surveys have demonstrated widespread meadows of the tropical seagrass *Halophila stipulacea*. Using a microcosm-based approach, we aim to: (i) understand the thermal tolerance and resilience potential of *H. stipulacea* exposed to increased water temperatures, with and without increased nutrient levels; (ii) develop early warning physiological and molecular stress indicators for detecting changes when still not detectable at a morphological and population level.

To achieve this aim, the candidate will apply computational biology approaches to identify early and late response genes via analysis of transcriptome/metabolome responses to single and combined stresses. The identification of stress-sensitive groups of genes or hub genes will be useful for early warning indicators for management purposes. Early detection of internal responses to local environmental stressors (e.g. nutrient enrichment), when they are still undetectable by morphological and population level approaches, could provide policy makers and regulators sufficient time to take action to alleviate these pressures.

**The candidate:** We seek a motivated and independent post-doc with wide experience in bioinformatics, metabolic profiling and RNA-seq analyses of non-model organisms. Training in plant physiology would be an advantage for examining thermal resilience at the physiological level. A background in ecology/physiology of plants in general would be an advantage although not essential as would be some knowledge in marine ecology. Candidates are requested to submit a cover letter summarizing how they fit the position, CV and names of 3 references by 1<sup>st</sup> of Sep 2018 to [wintersg@adssc.org](mailto:wintersg@adssc.org). Please use “post doc application” in heading of e-mail.