ITC CONFERENCE GRANT
SCIENTIFIC REPORT

This report is submitted for approval by the grantee to the MC Chair.

Action number: CA15203
Conference title: 20th European Bioenergetics Conference – EBEC 2018
Conference start and end date: 25/08/2018 to 30/08/2018
Conference attendance start and end date: 25/08/2018 to 30/08/2018
Grantee name: Filipa Calisto

ACTIVITIES DURING YOUR ATTENDANCE AT THIS CONFERENCE:

During the 20th European Bioenergetics Conference (EBEC 2018) from 25 to 30 August 2018, held in Budapest, Hungary, I have presented a poster entitle “Functional and structural characterization of Alternative Complex III” in the conference session: Quinol oxidases and terminal oxidases. This poster shows the structure of Alternative Complex III (ACIII) from *Rhodothermus marinus*, recently solved by cryo-electron microscopy at 3.9 Å resolution and our hypothesis for the redox-driven proton translocation mechanism of ACIII. In the poster we also showed the functionally characterizization of ACIII, using several complementary biochemical and biophysical approaches, such as enzymatic assays, Resonance Raman and 1H-1D-NMR spectroscopy spectroscopy. After presenting the poster there have been a couple of questions from the participants about the proposed redox-driven proton translocation mechanism of ACIII. It was an excellent opportunity for me to discuss my work with international experts in the field and have their feedback and helpful sugestions to approach my current research.
During EBEC I also had the opportunity to attend presentations by experts in the mitochondria field and to start building a scientific network thal will be important to pursue my postdoctoral studies.

IMPACT ON YOUR RESEARCH AND FUTURE COLLABORATIONS (if applicable)

During EBEC 2018 I had the opportunity to know Doctor Duncan McMillan, an Assistant Professor in Enzymology at Delft University of Technology in The Netherlands. Doctor Duncan is focused on ‘energy and life’ exploring microbial physiology using classical microbiology and biochemistry, biomimetic membrane technologies and single-molecule biophysics. We established a collaboration in order to extend ACIII characterization using bioelectrochemistry in biomimetic lipid bilayers in the Membrane Bioenergetics Unit of Doctor Duncan. We would like to study the proton translocation mechanism of ACIII and the role of the iron sulfur clusters of ACIII and their function in the electron transfer.