

BIOPHYSICAL STUDIES OF THE STRUCTURE/ FUNCTION OF ANTIMICROBIAL PEPTIDES AND ENZYMES ISOLATED FROM EXTREMOPHILE ORGANISMS

This project would use novel developments for spectroscopic characterization of these AMP in liposomes, lipid films and lipid monolayers to establish the mechanism of action and optimize the design of novel related peptides as bacteriocins. The project will also focus on the identification and characterisation of new hyper-stable enzymes isolated from petrochemical sources. Extremophiles isolated from hot oilfield waters produce a range of enzymes that exhibit both thermostability and stability in non-aqueous solvents, that give them potential for use in industrial applications where their unique properties are compatible with bioprocessing and biomodification requirements. This project will examine the thermal stability and environmental stability factors associated with enzymes from extremophile isolates using a range of novel spectroscopic methods, including SRCD and fluorescence. The functional enzymatic properties would be correlated with structural features, in particular in organic, lipophilic and other non-aqueous milieux.

PRINCIPAL INVESTIGATORS

ANA PAULA ULIAN DE ARAUJO

São Carlos Institute of Physics / University of São Paulo (USP)

BONNIE ANN WALLACE

University of London

ABOUT THE PROJECT

FAPESP Process 2015/50347-2

Term: Oct 2015 to Mar 2018

Regular Research Grant

UKRI – BBSRC

CONTACT

✉ anapaula@ifsc.usp.br