CAP-CANCER

Project's Full Title

Cold atmospheric plasma treatment for effective cancer cell apoptosis.

Description

The project aims to investigate a new medical therapy based on cold atmospheric plasma energy (CAP). This new type of energy has many potential medical applications ranging from chronic wound healing, drug delivery, and immune system activation to fight a range of diseases, to cancer treatment. An important property of CAP in the treatment of cancer is that CAP can selectively treat diseased tissue while leaving the healthy tissue intact. This selectivity, which is the focus of this project, would have significant implications in the surgical treatment of cancer. It would result in less pain and faster recovery times for the patient and also in the ability to cure forms of inoperable cancer which has spread too much or that it is so intermingled that any operation will damage too much critical tissue. To investigate and ultimately optimize this selectivity, a series of experiments is planned to explore how the electric field produced by CAP interacts with cancerous and healthy cells. The goal will be to determine the optimal conditions under which cancer cells die while healthy cells are not harmed.

Partners

Individual Fellowships

Funding Agency: Marie-Curie

Funding Amount for University of Cyprus: €163,649