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Natural fluorescence for cancer diagnosis

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Digitalization of human body samples evaluation fits to personalized medicine requirements by person's and sample data use in diagnostic algorithm. Fluorescence spectroscopy techniques are under intense introduction into the smart applications for everyday life. Cancer was one of the target areas. Endometrial pathology was an area where chemical dynamics of changes in the tissues was well recognized. Endometrial tissue samples, also endometrial washing were tested by fluorescence spectroscopy to create diagnostic algorithms, based on pathology standards. Both endometrial objects were successfully classified for benign vs. malignant condition recognition with proper accuracy. For cervical cancer prevention, both *in vivo* and *in vitro* fluorescence diagnostics devices and programs were created by local and international resources. While imaging technologies manifested as far-off practical application, the cervical smear spectroscopy was revealed to be reasonable for, at point of care application. The special diagnostic program creation for smear discrimination resulted in automatization of diagnostics, which further could be applied for data clouding and application in remote regions by health care personnels. The so called "optical biopsy" technology is the example of space science landing on the human utility level, where pure molecular information is classified by "golden standard" of pathology means. So medical experience transfer into modern technology results in the expansion of highest standards application globally.

Biography

Aurelija Vaitkuviene PhD, MD is affiliated as a Senior Researcher at Vilnius University. She graduated from the Vilnius University, defended PhD thesis in 1984 and later trained at Wensky Laser Center in Chicago, Northwestern University (USA), at Lund University (Sweden). She is a Founding Member of the International Academy for Laser Medicine and Surgery (Florence, Italy), Past President of International Society for Laser Surgery and Medicine, and was a President of the International Phototherapy Association (IPTA), served Vilnius University as a Representative for European Cervical Cancer Association (ECCA). She has published more than 40 papers in scientific journals.

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