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Advancers in Optical Imaging in Cancer Research – Part 2

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Editorial

Advancers in Optical Imaging in Cancer Research – Part 2

www.tcr.org

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TCRT special section focusing on four articles to advance optical imaging which focuses on the prostate, breast, and fluorescence tumor markers for less invasive cancer diagnosis using light. Some of the articles touch upon the use of hypoxia in cancer tumors are discussed as a native bio marker advancing the ideas of Nobel Laureate Otto Warburg postulated in 1924, commonly called the Warburg effect.

The articles are:

Photonic Finger Near Infrared Imager for Screening Prostate Cancer focus on a portable rectal NIR imaging optical fiber based unit to detect prostate tumors using 3D optical tomography reconstructive algorithm called OPTICA.

Transrectal ultrasound-integrated spectral optical tomography of hypoxia progression of a regressing tumor in canine prostate focus a NIR optical tomography combined with ultrasound to monitor changes of oxi-hemoglobin and deoxi-hemoglobin in canine prostate.

Monitoring the response to primary therapy for Breast Cancer using Three Dimensional Time-Resolved Optical Mammography focus on hypoxia in tumors as a marker of cancer using hemoglobin absorption changes in NIR.

Using *In Vivo* Fluorescence imaging to Personalize Image and Treat Paradigm in Cancer Diagnostics and Therapy focus on drugs targeting specific tumors receptors as smart tumor markers for noninvasive fluorescence imaging modalities.

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