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How to determine tissue oxygenation by optoacoustics

Where? University Hospital Zurich, Hörsaal West U, Rämistr. 100, 8091 Zürich

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Summary

In optoacoustic imaging light pulses are sent into tissue. When they are absorbed they create an ultrasound wave. The time the sound wave needs to travel to the surface of the tissue is measured and employed to create a high resolution tomographic image of the tissue as in ultrasound scanning. In contrast to ultrasound scanning, the image displays the absorption properties of tissue, i.e. mainly the concentration of oxy- and deoxyhemoglobin. Since hemoglobin is the main oxygen transporter in tissue, optoacoustics constitutes a novel method to image tissue oxygenation.