

# Chapter 1

## Optoacoustics as a Bioengineering Model for Neuroscience Discovery

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We present the development of novel biomedical imaging methods based on optoacoustics. These novel tools can revolutionize biomedical discovery and clinical healthcare. We focus in particular in multispectral optoacoustic tomography (MSOT). This technology, now recipient of numerous awards and acclaim, shows two important developments: on one hand on how it can break through the limits of conventional optical imaging to shift the paradigm of biomedical observation and on the other how biomedical technology offers a necessary leverage point in scientific discovery but also economic growth, even at moderate investments.

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