

Abstract:

**Hand held bio-sensor: From idea to reality**

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I intend to describe the process of inventing, researching, experimentally validating and then commercializing and engineering wise maturing a technology that was originally invented at Bar Ilan University in collaboration with the University of Valencia in Spain. Now this technology is about to be launched as a product by ContinUse Biometrics- a startup company to which the technology was commercialized. The technology is a remote photonic bio-sensor capable of detecting nano vibrations and associating them with large plurality of bio-medical parameters. The sensor includes a laser and a fast camera with special optics that analyzes the change in the spatial-temporal statistics of the back scattered speckle patterns scattered from tissue or the cloths of the subject facing the remote-biosensor. The capability of performing real time, continuous bio sensing being agnostic to environmental conditions, suitable for home use and capable of simultaneous extraction of large number of bio-parameters with the same sensor can significantly impact the growing IOT market and revolutionize the smart home/car sectors in the near future.