## Optical sensor for remote estimation of Glucose concentration in Blood (Ramot)

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A system and method are presented for use in monitoring one or more conditions of a subject's body. The system comprises a control unit which comprises an input port for receiving image data, a memory utility, and a processor utility. The image data is indicative of data measured by a pixel detector array and is in the form of a sequence of speckle patterns generated by a portion of the subject's body in response to illumination thereof by coherent light according to a certain sampling time pattern. The memory utility stores one or more predetermined models, the model comprising data indicative of a relation between one or more measurable parameters and one or more conditions of the subject's body. The processor utility is configured and operable for carrying out the following: processing the image data and determining a spatial correlation function between successive speckle patterns in the sequence, and determining a time varying spatial correlation function in the form of a time-varying function of at least one feature of the correlation function, the time-varying spatial correlation function being indicative of a change of the speckle pattern over time; selecting at least one parameter of the time-varying spatial correlation function, and applying to said at least one parameter one or more of the models to determine one or more corresponding body conditions; and generating output data indicative of said one or more corresponding body conditions.

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