

## Machine learning in optical metrology

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Optical metrology is a technology for high-precision and high-accuracy characterization of samples through the measurement of optical images and signals. An important ingredient in this characterization is the optical modeling of the data which often involves the solution of the corresponding Maxwell equations or approximations thereof. Another technique for modeling optical signals is machine/deep learning based, and in this talk I will describe when such data-driven modeling is appropriate. In particular, I will describe the use-case of blood diagnostics through optical metrology which we implement at Sight Diagnostics<sup>®</sup>, and discuss how we overcame few of the challenges we faced in our R&D.

**Presenter:** Dr BRINGLOTZ, Barak (Sight Diagnostics, Israel)

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