A NEW ISO NORM ABOUT PERFORMANCE ASSESSMENT OF FLUORESCENCE CONFOCAL LASER-SCANNING MICROSCOPES

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It is nowadays recognized by the microscopists community and the microscopes manufacturers that controlling the quality and assessing the performance of fluorescence microscopes is an important issue that needs to be addressed. On the academic side, this topic has been in the program of the Core Facility Satellite Meeting of the ELMI meetings every two years since 2015. On the industry side, at the initiative of the main microscopes manufacturers, a new ISO norm was recently published, entitled “Optical data of fluorescence confocal microscopes for biological imaging” [1].

The norm contains definitions and measurement guidelines for six parameters: resolution and strength of optical sectioning, field uniformity, co-registration accuracy, illumination power, XY distances and scanning frequency (cf. Fig. 1). In this presentation, we will present the content of the norm, describe the measurement guidelines and suggest, in an exhaustive way, the different tools that can be used for such purposes.