Basic confocal microscopy
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Springer Verlag Heidelberg, 2011
ISBN: 978-0-387-78174-7
313 pp – 139 figs – 139,95€

This is an eleven chapter's effort done by a bunch of Authors coordinated by Prof. R.L. Price and W.G. Jerome (who have personally written almost half of the book) that with great skills are revealing us the secrets of confocal microscopy. Considering the significant progresses in different fields of biology, confocal microscopy is extremely important to dynamically see all the different molecules involved in the controlling networks build up by gene expressions in time and space. Necessary prerequisites to accomplish such goals are some fundamental microscopic technologies well and clearly presented in the first chapters. Among these fundamental bases both editors wrote few chapters dealing with the theory of fluorescence microscopy (chapter 2 and 3) together with specimen preparation (chapter 4) and the labelling considerations for confocal microscopy (chapter 5, contributed by R.M. Albrecht and J.A. Oliver) to get fully profit of the present day confocal microscopes, together with an historical perspective (chapter 1).

Usually few days are necessary to learn the fundamentals of the confocal microscopy; this type of training course is designed to let the operator know the basic setting parameters needed to obtain the wished images. This book is structured in this way: in fact, the sequence of chapters follows this logic, ending with a final part explaining the setting of the operating parameters (chapter 9) and the 3D reconstruction of confocal image data (chapter 10). The chapters devoted to the conversion of analogic into digital data make the book particularly valuable.

It is mandatory that a confocal microscope operator has a fully understanding of how digital images are created by the analogic to digital conversion (chapters 6 and 7, contributed by both editors). Critical assessments (*i.e.*, advantages vs disadvantages) of the particular features characterizing the different types of confocal microscopes are presented in chapter 8. In this part of the book, single-photon point-scanning confocal microscopes (Zeiss LSM 510 META, LEICA SPE line, Nikon Eclipse CSI, Olympus FV1000), multiphoton CSLM point-scanning confocal systems and spinning disk systems are presented and compared in a very detailed manner allowing the reader to decide which is the best system suitable for the kind of experiment that needs to be done.

Quite relevant is the final chapter dedicated to the ethics of the confocal microscopy: in other words, to the ethical principles strictly related to the acquisition and elaboration of the confocal images. In this way the authors conclude the book with an ideal logic circle started with the historical perspective of chapter 1 and enriched by the list of the *ten commandments of confocal imaging.* Some of them are listed as enjoyable notice to mariners (the perfect microscope and the perfect microscopist does not exist; photons are your friends and signal-to-noise ratio is king; etc) while some others like the *your image is your data. Garbage in will result in garbage out* have to be deeply considered and internalized by any of us using digital imaging. In fact, quite frequently, we are witnesses of fraudulent use of images that can be acquired and photoshopped in a nice and, unfortunately, easy way. This commandment is linked to the ethical principles discussed in chapter 11.

Definitely an excellent book, a must for the microscopists and anyone who is using a microscope and/or is studying biology.

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