Journal of Fluorescence, Vol. 7, No. 1, 1997

Introduction

Second International Lifetime Imaging Meeting, Utrecht, The Netherlands, June 14, 1996

This issue of the *Journal of Fluorescence* comprises a number of papers from both plenary lectures and posters presented at the Second International Fluorescence Lifetime Imaging Meeting. This series of meetings originally started as a 1-day workshop in The Netherlands in Spring 1993, with the aim of bringing together the Dutch scientists involved in fluorescence lifetime imaging and giving them a forum for exchanging ideas and presenting their latest results. The emphasis of that meeting was on new technical developments and applications in the field of fluorescence lifetime imaging. The enthusiastic reactions of the attendants of the workshop encouraged us to organize the First International Fluorescence Lifetime Imaging Meeting in Delft, which was held on November 10, 1994. The meeting was attended by over 70 scientists from different European countries and its success in terms of participants and presentations indicated the need for a periodic forum experienced by researchers in this fast developing field.

Fluorescence lifetime imaging is a fast-developing interdisciplinary area of research, whereby microscopes have been adapted to use fluorescence lifetime as a contrast mechanism. This has many advantages over intensity imaging. The images obtained are independent of the variations in the fluorophore concentration in the sample. Fluorophores with overlapping emission bands can be discriminated by their different lifetimes as well as the sensitivity of the lifetime to the immediate chemical environment of the fluorophore. The technique can be implemented either in the frequency domain or using time-gating techniques, though it requires the specialization of equipment in dealing with measurements on microvolumes in the sample.

A fluorescence lifetime imaging system is a synthesis of a microscope and spectroscopic measuring techniques. The main objective of the meeting was to bring together instrument developers, synthetic chemists, and fluorescence spectroscopists to interchange ideas and to stimulate the growth of this young field. The technical developments must surely be matched with the production of new fluorescent molecules which afford the selective imaging of samples of interest to physicists, chemists, and biologists.

In view of the fact that all presentations contained new results, it was decided to publish them in the *Journal of Fluorescence* so that they will come to the attention of the wider fluorescence spectroscopy community. All papers have been peer-reviewed. We hope that in this way we will stimulate colleagues in this wide field to use the fluorescence lifetime technique for their particular applications. The editors offer their thanks to Ms. Suzy Rhinehart, Editorial Assistant to the *Journal of Fluorescence*, and Ms. Mary Rosenfeld, for their efforts on our behalf.

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1053-0509/97/0300-0001$12.50/0