

Laser applications to chemical and environmental analysis: introduction

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In 1987 the Optical Society of America initiated a topical meeting series devoted to Laser Applications to Chemical Analysis (LACA). The initial topical meeting, held in Lake Tahoe, Nevada, USA, had the objective of bringing together scientists, spectroscopists, and optical engineers, in an informal atmosphere, to discuss the development and application of laser-based techniques to chemical analysis. Following the success of the initial meeting, the topical meeting subject area was expanded to include environmental analysis, and was renamed Laser Applications to Chemical and Environmental Analysis (LACEA). The meetings are held every two years. The ninth meeting (LACEA IX) was held from 7–9 February, 2004, in Annapolis, Maryland, USA. The meeting included 54 oral presentations (14 invited) and 21 poster presentations, with over 120 participants. A separate vendor/sponsor area featured products and services offered by corporate and government entities. Meeting session topic areas included novel optical technologies, combustion, bio-optical applications, environmental applications,

diode laser development and applications, and laser induced breakdown spectroscopy (LIBS) and applications of Raman spectroscopy.

A sample of papers featured at the most recent meeting (LACEA IX) is presented in this issue of *Applied Optics*. Several papers deal with predicting the output behavior of semiconductor light sources and modeling light interaction with gases. Studies of laser-induced plasmas are presented in several papers, illustrating the growing use and popularity of this emerging technique for chemical analysis.

In keeping with the dynamic nature of the meeting series, the scope of the tenth meeting has been broadened, and the name expanded to Laser Applications to Chemical, Security, and Environmental Analysis (LACSEA). The next meeting, LACSEA X, is scheduled to take place on 5–9 February 2006, in Lake Tahoe, Nevada, USA. The 2006 LACSEA X meeting will continue the LACEA tradition of presenting state-of-the-art research and applications in an informal atmosphere designed to foster communication among researchers and practitioners. In addition to the topics traditionally presented, LACSEA X will add emphasis on homeland security as a field of scientific activity to which optical methods and spectroscopic techniques can significantly contribute.

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