

VIII International Conference on Flow Analysis, 25-29 June 2000, Warsaw, Poland

Flow analysis since many years has a well established position in modern chemical analysis. It is evident from numerous papers currently published in scientific and technical literature, numerous monographs and presence of flow methods among analytical procedures recognized as standard ones, as well as by increasing market of commercial instruments that can be used in routine laboratories. It is already very common opinion among analysts, that carrying many determinations with complex sample pretreatment can be considerably mechanized, i.e. simplified, in flow analytical system. Such determinations can be performed practically with all known methods of detection which are used in contemporary chemical analysis.

Beginning of laboratory flow analysis can be dated back to late fifties and sixties, when methods based on segmentation with air of flowing stream made a great carrier in clinical analysis as outstanding concept of mechanization and automation of analytical determinations. The last two decades were dominated in clinical analysis by development of discrete instrumentation, while the main area of application of flow methods is nowadays environmental analysis and quality control of various materials in industrial and agriculture analytical laboratories.

Since 1979 the world-wide recognized forum

of evaluation of current status of flow analysis methods are organized every 3 years International Conferences on Flow Analysis. The last one, 8th International Conference on Flow Analysis has been organized in June 25-29, 2000 in Warsaw, by Department of Chemistry of Warsaw University, Committee on Analytical Chemistry of Polish Academy of Sciences and Polish Chemical Society. The conference has been granted auspices of International Union of Pure and Applied Chemistry and European Federation of Chemical Societies. Among various sponsors the most substantial financial help was obtained from the Polish State Committee for Scientific Research (KBN) and European Commission from Brussels.

The conference was held in Victoria Intercontinental hotel in Warsaw with 250 participants from 35 countries of all over the world. Seven plenary and seven keynote lectures were given, together with 45 oral and 185 poster communications. Particular sessions were focused on on-line sample Pretreatment, development of various detection methods, design of miniaturized instrumentation, biochemical methods in flow analysis, flow speciation and multicomponent determinations and applications in various areas. There was also organized a multimedia session with presentation of computer software, data-bases, computer simulation of flow measurements, video



movies and educational software.

Plenary lectures were inaugurated during opening session by co-inventor of flow-injection analytical methodologies, Professor Jaromir Ruzicka of University of Washington (Seattle, USA). Presented system with a precise microfluidic manipulation, called "lab-on-a-chip" can accommodate a wide variety of reagent based assays, based on UV-VIS, reflectance or fluorescence spectroscopies. Two types of flow systems for sample screening have been presented by Professor Miguel Valcarcel of University of Cordoba (Cordoba, Spain). Stand alone systems can be mainly designed for the determination of global indexes. Whereas flow systems hyphenated with high performance separation systems can be used sequentially for screening and reaction-detection purposes.

The main flow techniques for the analysis and monitoring of environmental samples have been reviewed by Professor Victor Cerda of University of Balearic Islands (Palma de Mallorca, Spain), together with presentation a new multi-syringe flow injection device. Professor Pernendu K. Dasgupta of Texas Tech University (Lubbock, USA) has presented the concept of a simple luminescence detector based on liquid core wave-guides for miniaturized flow analysis systems. The calibration techniques used in FIA together with own results obtained in FIA-AAS have been critically reviewed by Professor Paweł Kościelniak of Jagiellonian University (Cracow, Poland). Plenary lecture of Professor Bernd Hitzmann of University of Hannover (Hannover, Germany) was devoted to the role of advanced chemometric methods in flow analysis. Using multivariate evaluation techniques the selectivity of flow analysis systems can be improved effectively. The potential use of expert systems for the evaluation of flow analysis signals has been also discussed.

Professor Bo Karlberg of Stockholm University (Stockholm, Sweden) presented advantages of coupling of flow injection systems to capillary electrophoresis setup. The hyphenation of two techniques offers unique possibility of on-line pretreatment of samples of complex matrices prior to introduction them to the capillary of CE system.

The Conference program consisted also of several invited keynote lectures by leading scientists in the field of flow analysis. Dr Charles J. Patton of U. S. Geological Survey (Denver, USA) has presented lesser-known hybrid techniques, which have been developed in the field of air-segmented continuous flow analysis. The applications of flow analysis methods in industrial process control have

been reviewed by Professor Jacobus F. van Staden of University of Pretoria (Pretoria, South Africa), while Flow Injection Liposome ImmunoAnalysis for the determination of toxic substances and pathogenic microorganism in food and the environment was presented by Professor Richard A. Durst of Cornell University (Geneva, USA). Dr Victor P. Andreev of Russian Academy of Sciences (St. Petersburg, Russia) has discussed his concept of electro injection analysis that is based on electrokinetic injection of sample and reagent from the opposite ends of the capillary with some development applications. The strategy of development of advanced chemical analyses with zero emission concept by spectroscopic methods was presented by Professor Shoji Motomizu of Okayama University (Okayama, Japan). It resulted in development of several so called intelligent devices, micro flow-injection system and a portable FIA system for on-site analysis. Professor Willy R. G. Baeyens of University of Ghent (Ghent, Belgium) presented a luminescence-based analysis in mechanically and electrically driven flowing streams, while tandem flow analysis applied to food and agricultural samples were presented by Professor Elias A. G. Zagatto of CENA, University of Sao Paulo (Piracicaba, Brazil).

Among above 200 posters submitted for presentation two students authors were awarded with waiving the registration fee based on submitted abstracts for their contract. Claire E. Lenehan of Deakin University (Geelong, Australia) for poster entitled "Simultaneous determination of two or more analytes using sequential injection analysis with combined a chemiluminescence reagent" and Adriana De Donato of University of Sao Paulo (Sao Paulo, Brazil) for poster entitled "Development of a batch injection system for anodic stripping voltammetry of lead at HMDE and its forensic application"

The award of the Polish Chemical Society for the best poster based on anonymous vote by the members of the International Scientific Committee was granted to presentation by H. Hisamoto, M. Tokeshi, T. Minagawa, T. Horiuchi and T. Kitamori of the University of Tokyo and Kanagawa Academy of Science and Technology entitled: "On-chip integration of ion-extraction system for flow analysis".

Based on decision of International Scientific Committee the next 9th International Conference on Flow Analysis will be held in 2003 in Geelong, Australia.

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