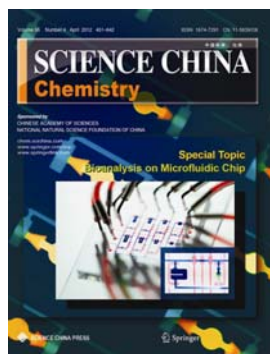


## Congratulation for the Publication of the Special Topic on “Bioanalysis on Micorfluidic Chip” in *Science China Chemistry*!

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Since the idea of microfluidic technology was proposed by Manz *et al.* in 1989, it has attracted great attention over the past two decades due to the many advantages over conventional laboratory-scale assays, such as small sample volumes, low production costs per microfluidic device, high throughput synthesis and screening of biological species and drug targets, parallel processing of samples, fast sampling time, accurate and precise control of sample reagents, low power consumption and versatile format for integration of various detection schemes. Microfluidic technology has led to multidisciplinary research across such disciplines as chemistry, biology, engineering and physics. Particularly in bioanalytical chemistry, no longer is fluidic technology just about the quantitation of certain anions and cations in clinical chemistry and the increasing of sample throughput and analysis speed in immunoassays, it is also involved in the cell growth, sequencing genes, labeling single molecules, cell sorting, treating single cells, and establishing a point-of-care diagnostics device. When “microfluidics” and the flood of molecular biology terminologies appear in the groundbreaking publications, we should be reminded that the bioanalysis on microfluidic chip has already been holding the helm for the microfluidics research field.

*Science China Chemistry* is the peer-reviewed international academic journal, and it is devoted to the publication of fundamental and innovative research in all fields of chemistry. Since 2010, the journal had dedicated several issues to bioanalytical chemistry, including special topics on “Protein Analysis” in April, 2010 and “Cancer Nanotechnology” in November, 2010, and a special issue on “Nanotechnology for Biosensing” in August, 2011. To showcase the ongoing progress and achievements in microfluidic field from both Chinese and foreign scientists, Prof. Hong-Yuan Chen, an Associate Editor of *Science China Chemistry*, proposed the

organization of a special topic featuring “Bioanalysis on Microfluidic Chip” in 2012. This special topic consists of three Reviews, seven research Articles and one News & Comments, covering a wide spectrum of topics ranging from the culture and isolation of single cells and single molecules to the organism analysis, from the technology based on large arrays of detectors to the system based on the integration of valves, microreactors and detectors, and from functional materials for the microfluidic fabrication to simple, inexpensive microfluidic diagnostic devices. The three Reviews focus on: (1) the latest advances and different approaches of surface imprinting and their applications in microfluidic devices; (2) mass transport in nanofluidic devices which make possible the exploration of the properties of near-surface water and of ion and electrolyte transport at this interface; (3) the analysis of worms ranging from behavioral studies to neurobiology. Seven Articles present significant achievements related to what has been mentioned above. The News & Comments provides a timely report of the 15th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2011) in Seattle from October 2 to 6, 2011, a veritable feast for the microfluidics researchers.

Of course, it is by no means possible to cover in this single special topic all of the exciting developments in the field of bioanalysis on microfluidics. It is my sincere hope that this special topic will not only present a good review of ongoing research, but also help open new doors for more creative microfluidics research.

It has been an honor to work with so many excellent authors and reviewers and we would like to thank them for their dedication. We also greatly appreciate the help of Prof. Zi-Ling Xue, an Associate Editor of *Science China Chemistry*, in organizing this special topic.

*Guangun Song*

Managing Editor, *Science China Chemistry*  
February 29, 2012