

## **Microfabricated Devices for the Acquisition of Chemical and Biochemical Information**

J. Michael Ramsey  
Oak Ridge National Laboratory  
Oak Ridge, Tennessee 37831-6142

Much of the recent effort on microfabricated devices has been devoted to fluidic structures. These devices have been referred to as Lab-on-a-Chip technologies. The long-term goal of the Lab-on-a-Chip is to produce devices that integrate the various laboratory operations normally associated with an assay into a single microfabricated structure. The potential advantages of the Lab-on-a-Chip include automated procedures, nanoliter scale chemical and biochemical assays, and high throughput processing while increasing the precision and accuracy of the information gathered. Several examples of monolithically integrated Lab-on-a-Chip devices will be discussed.

Research sponsored by Office of Research and Development, U.S. Department of Energy, under Contract DE-AC05-00OR22725 with Oak Ridge National Laboratory, managed by operated by UT-Battelle, LLC.

"The submitted manuscript has been authored by a contractor of the U.S. Government under contract No. DE-AC05-00OR22725. Accordingly, the U.S. Government retains a nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or allow others to do so, for U.S. Government purposes."