



**Dr. Lars J. Brandén**  
**Head of High Throughput Biology, Yale University- US**

**Abstract**

**Yale Laboratory for High Throughput Biology**

Yale has successfully implemented a high through-put suite with the capacity to run biochemical assays as well as complex cell based assays. Our automation suite includes imaging platforms of two kinds, a high content confocal microscopy unit (Opera as well as Ultraview) and integrated plate readers with a broad spectrum of detection capabilities. The flexibility and capacity of the Yale automation platforms combined with a BSL2+ environment enables us not only to screen assays of many different types at a high pace but also accommodate assays incorporating toxins and pathogens up to BSL2+. Our extensive suite of over 180 cell based assays are all compatible with our automation platform and detection systems. This enables us to implement a high through-put approach to extensive secondary assay analysis of compounds identified both in our own screens and referred to us from other centers. The combined strength of phenotypic assays describing complex biological processes and extensive annotation of the assays, enables a deep understanding of mechanism of action of compounds analyzed against our set of assays. We are now in the process of constructing an expert system/database/pointer tree hybrid for both the analysis of the biological profiling data as well as to enable dynamic population/retraction/re-population of the complex data sets necessary to extract biologically significant data from extensive high content cell based assay profiling.

**Biography**

Lars J. Brandén, Ph.D., has recently moved to Yale University in New Haven, CT where he is establishing the Yale Laboratory for High Throughput Biology which he will be Director of. Prior to this move, Dr. Brandén was Associate Director for Chemical Genetics at the Judith P. Sulzberger Genome Center, Columbia University, in New York City, as well as Director of Automation for the Columbia Molecular Library Screening Center Network, in the Department of Biophysics and Cell Biology. Dr. Brandén received his undergraduate degree in molecular genetics from the University of Lund, Sweden, and completed his doctoral studies in cell and molecular biology at the Karolinska Institute, Stockholm, Sweden, under the guidance of Professor C.I. Edvard Smith. He pursued a postdoctoral research fellowship in the Laboratory of Cellular Biochemistry & Biophysics at the Sloan-Kettering Institute, Memorial Sloan-Kettering Cancer Center, New York City, under the direction of James E. Rothman, Ph.D.