Abstract

Recent scientific advances in light control methods, such as holographic optical tweezers (HOT) or generalized phase contrast (GPC), have promise in many commercial applications, including cell sorting and materials processing. The science of the different optical workstation systems and the experimental results will be discussed. Results of a SBIR funded research project using optical traps for the development of genetically modified yeast cells for ethanol production will be presented. The path from academic labs to a broader market has proven challenging. The case history of one start-up, Arryx, Inc., that developed commercial optical trapping instruments and applications of the technology, will be reviewed. Experience working at small startups and lessons learned about the importance of early incubation for technology-based startups will be discussed.