

AJK2011-LL001

BLUE OCEAN STRATEGY IN FLUID ENGINEERING

SANG JOON LEE

Director, Center for Biofluid and Biomimic Research
Director, Advanced Fluid Engineering Research Center
Prof., Dept. of Mechanical Engineering
Prof., School of Integrative Biosciences and Biotechnology
Pohang Univ. of Science and Tech. (POSTECH)
POHANG.GYUNGBUK.KOREA

ABSTRACT

The most important problems facing human over the next 50 years include energy, water, food, environment and diseases, etc. These are closely related with nano-and-bio flow phenomena which cannot be resolved easily by conventional flow measurement methods. Research and development on these unveiled flow phenomena would be a blue ocean in fluid engineering. Recently, several advanced quantitative flow visualization techniques such as holographic PIV, echo-PIV, micro/nano-PIV, and X-ray PIV have been introduced. These advanced measurement techniques have a great potential in the analysis of the nano-and-bio flow phenomena. In this presentation, several practical applications of these advanced flow visualization techniques on some biofluid flows will be introduced as a blue ocean strategy.