

# *The 12th JUACEP Seminar*

第12回 名古屋大学日米協働教育プログラムセミナー

## **Optofluidic Detection for Cellular Phenotyping**

**Lecturer: Professor Katsuo Kurabayashi**

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略歴: 1992年に東京大学工学部精密工学科を卒業後、1998年に米国スタンフォード大学材料科学部において博士号を取得。その後スタンフォード大学工学部助手を経て、現職。現在の研究テーマは、細胞バイオセンシング、オプト・フルイディクス、マイクロ・ガスクロマトグラフィー技術、そして生体分子MEMSデバイスに渡る。Semiconductor Research Corporation最優秀論文賞(1998年)、VLSI Multilevel Interconnection国際学会論文賞(1998年)、全米科学財団(NSF)研究奨励賞(2001年)、ミシガン大学Robert Caddell記念賞(2004年)、Pi Tau Sigma Outstanding Professor Award (2007年)を受賞。

**Date            December 12, 2012 (Wed)    13:30~15:00**

**Venue          Lecture Room IB 014**

**Abstract:** Quantitative analysis of the output of processes and molecular interactions within a single cell is highly critical to the advancement of accurate disease screening and personalized medicine. Optical detection is one of the most broadly adapted measurement methods in biological and clinical assays and serves cellular phenotyping. Recently, microfluidics has obtained increasing attention due to several advantages, such as small sample and reagent volumes, very high throughput, and accurate flow control in the spatial and temporal domains. Optofluidics, which is the attempt to integrate optics with microfluidic, shows great promise to enable on-chip phenotypic measurements with high precision, sensitivity, specificity, and simplicity. This talk discusses our recent research on the development of new optofluidic biosensing platforms towards enabling bedside human disease diagnostics and clinical strategy management.

**Inquiry: JUACEP Office, Mech. Sci. Eng. (Ext. 2799)**