

智慧自動化工程科 Intelligent Automation Engineering

先進感測與微機電系統 Advanced Sensing and MEMS

先進微系統元件實驗室 Advanced Microsystem and Device Lab.



O: 綜科 617-1
#2067

L: 綜科 614-4
#2079, 4813

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研究領域

微奈米機電系統、CMOS-MEMS
智慧型感測器/致動器、生醫感測
技術、藥物傳遞技術、非病毒載
體之超音波基因轉殖、無線射頻
辨識應用、自動化系統與工程

近期研究主題

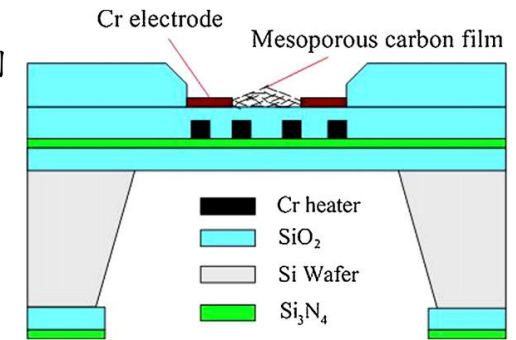
- CMOS-MEMS氣體感測器
- CMOS-MEMS磁場感測晶片
- 具備生醫感測與藥物傳遞功能之牙植體技術平臺
- 超音波-微氣泡輔助之基因轉殖
- 渦電流快速辨識/檢測

Research Area

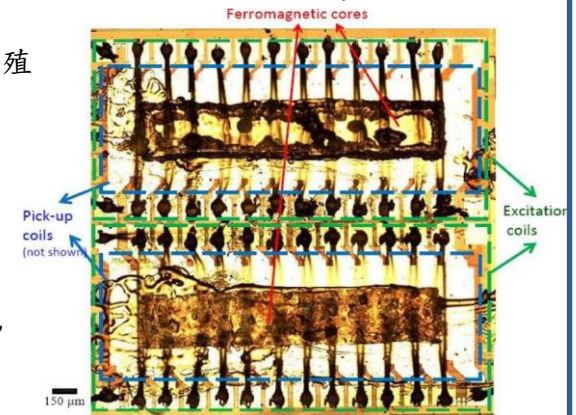
MEMS/NEMS, CMOS-MEMS smart sensors/actuators, Bio-medical sensors, Drug delivery, Non-viral technologies for gene transfection, RFID applications, Automation engineering and systems.

Recent Topics

- CMOS-MEMS chemical sensors
- CMOS-MEMS magnetic sensors
- Novel dental implant platforms for bio-medical sensing and drug delivery
- Ultrasound- and microbubble-mediated gene transfection
- Eddy current based validation and recognition systems



CMOS-MEMS氣體感測器
Schematic of the mesoporous carbon gas sensor with a microhotplate membrane



CMOS微通量閘磁場感測晶片
Micrograph of the fabricated
CMOS microfluxgate sensor chip



應用於生醫感測(左)與藥物傳遞(右)
之新型牙植體設計
Novel dental implant platform design