



黃柏榮

功能性材料實驗室

(Multifunctional Materials Lab)

學經歷

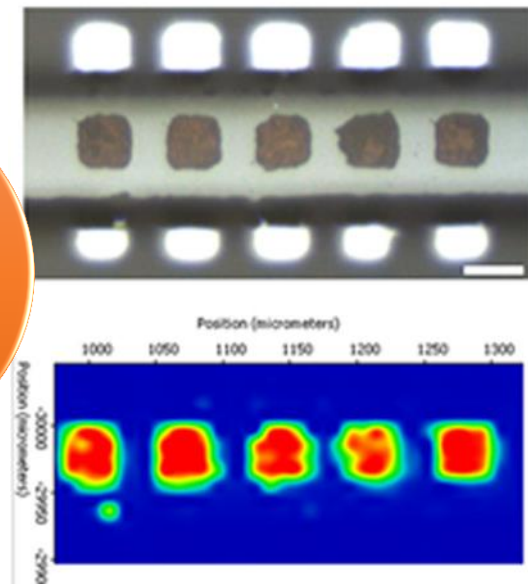
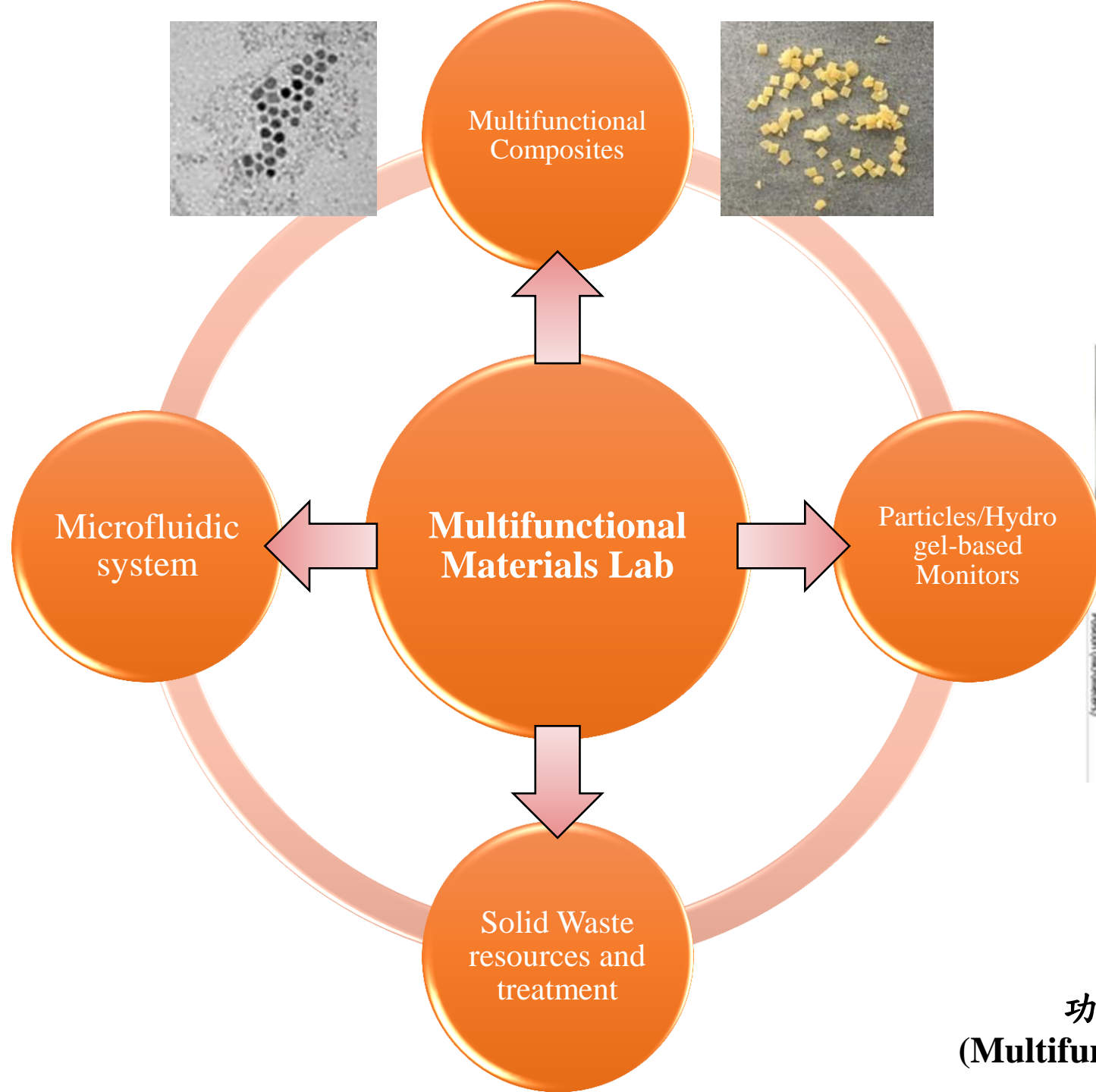
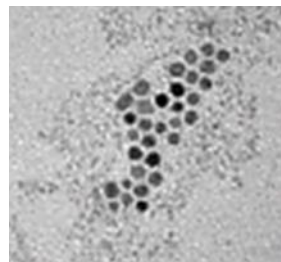
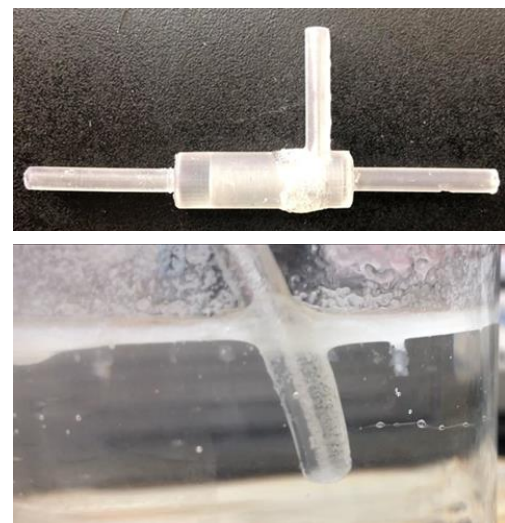
- 德州農工大學材料工程系 博士 (2012-2017)
- 中央研究院生化所研究助理 (2009-2012)
- 國立台灣大學化學工程系 碩士 (2007-2009)
- 長庚大學化工暨材料工程系 學士 (2003-2007)

科技部計畫

利用3D列印技術開發多功能型水凝膠及模組化應用於水處理技術 (MOST 107-2218-E-110 -018 -MY3)

專長與研究興趣

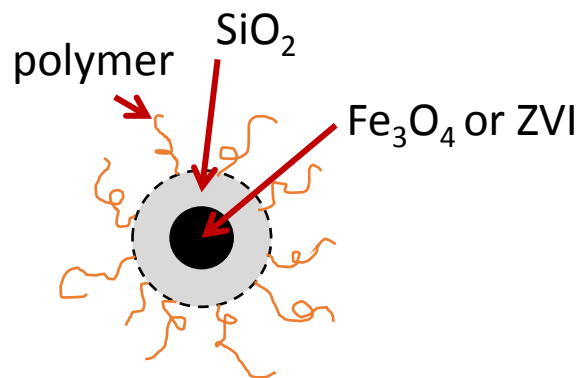
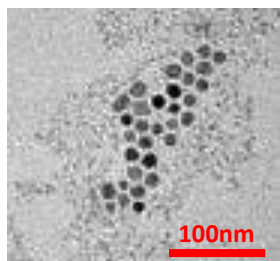
- 多功能複合材料
- 環境感測器
- 固態廢棄物處理及資源化
- 微流道系統設計及應用



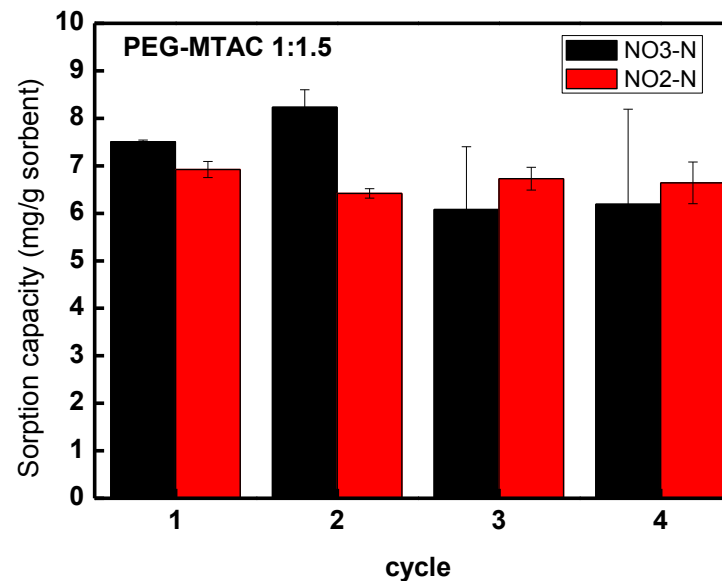
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Multifunctional Materials

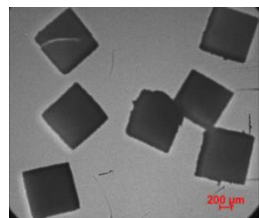
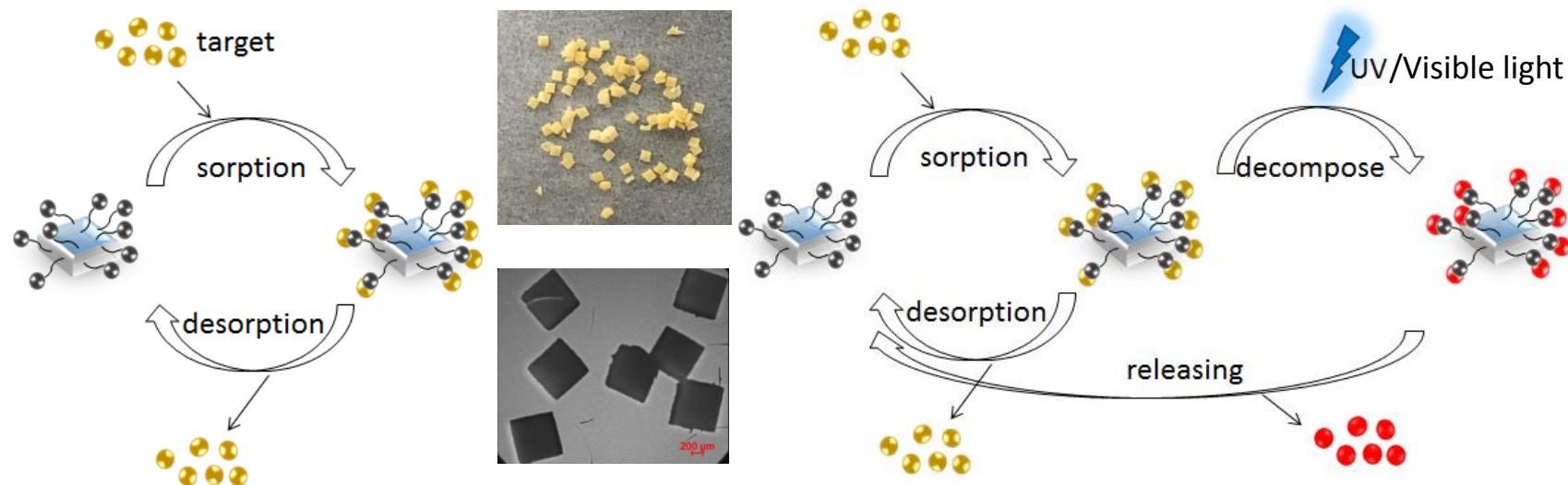
Reusable and Recycled Nano-particles Based Sorbents



Reusability



Visible Light Activated Photocatalyst-based Polymeric Microreactors

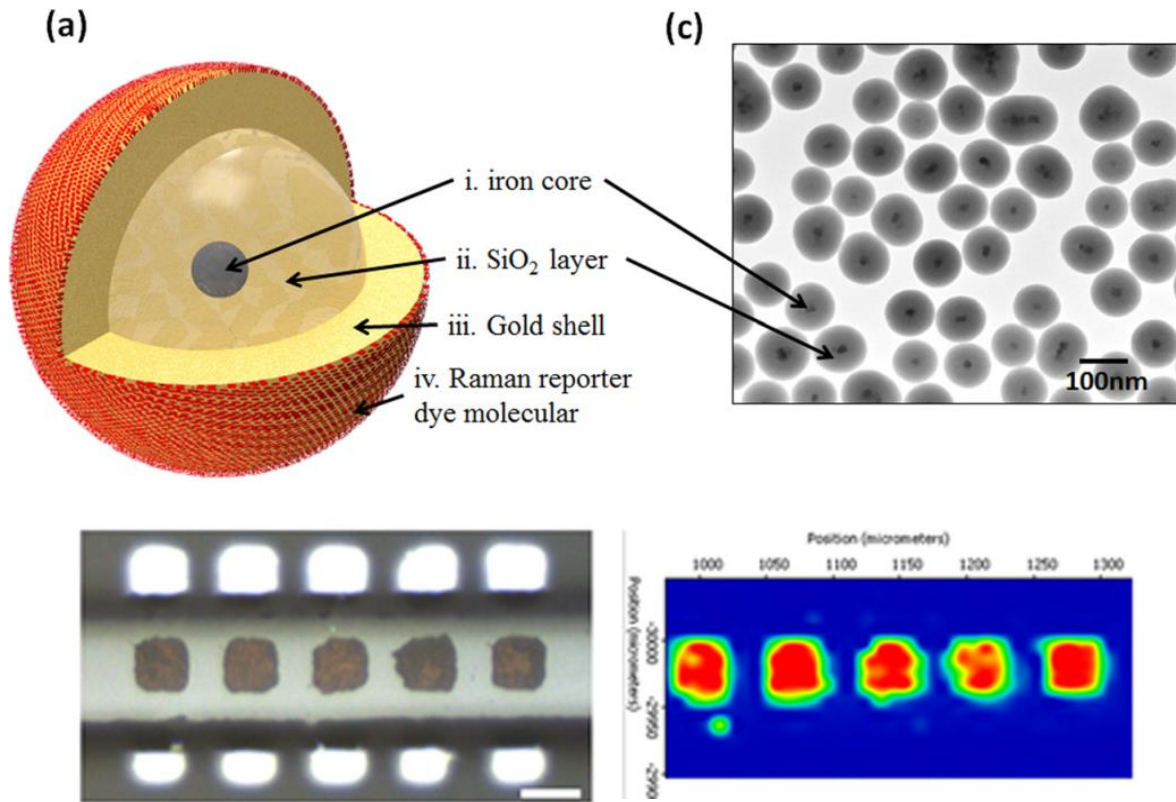


photoreactor



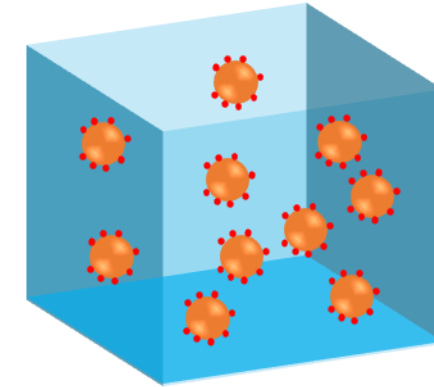
➤ Particles/Hydrogels-based Monitors

Particles-based Monitors



Hydrogels-based Monitors

Functionalized hydrogel



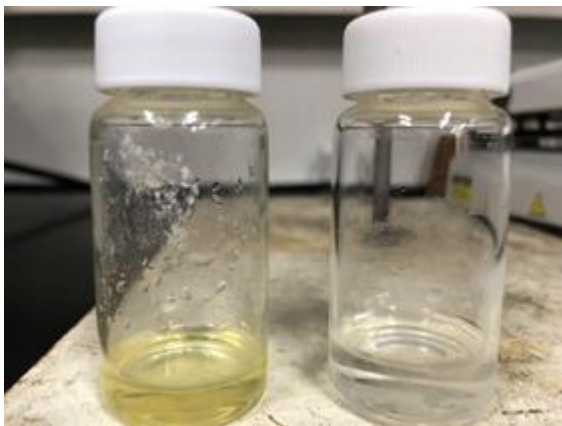
532nm Laser (Ag NPs)/780nm Laser (Au NPs)

Raman signal

➤ Solid Waste Treatment and Resources



Deep eutectic solvents



Waste capacitor



Al, Fe
terephthalate

Waste PET

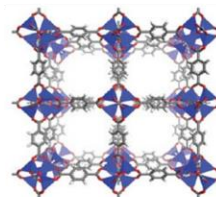


Waste glass



NaSiO₃

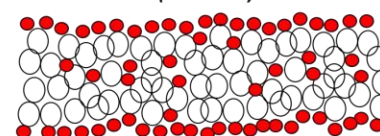
Metal Organic Framework (MOFs)



Aerogel



Metal Organic Gels (MOGs)



● MOF 1
○ SiO₂

Visible light

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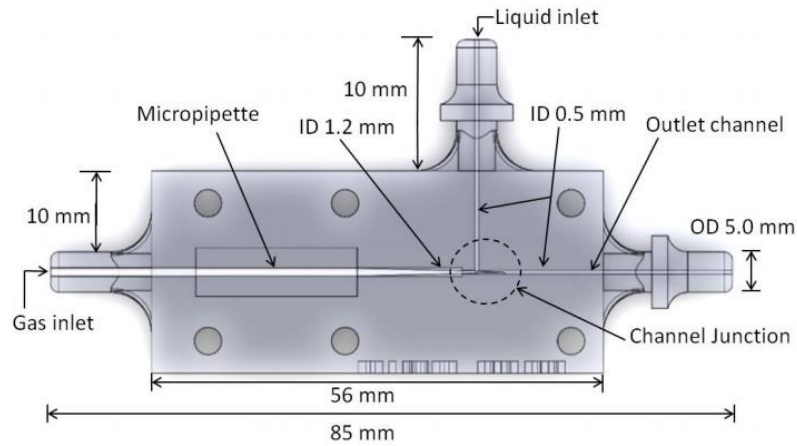
Material extraction

Gelation/
Growth

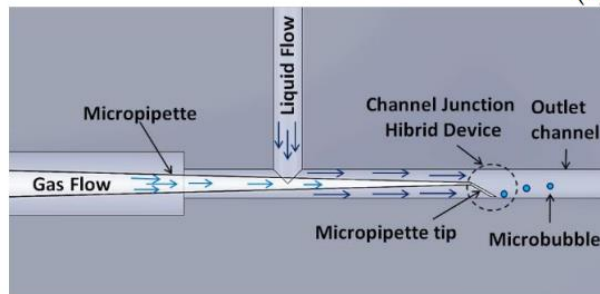
Integration

Solid Waste Resources

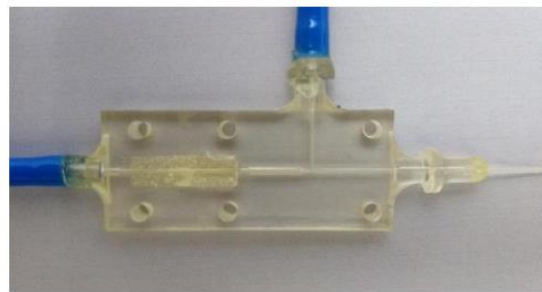
➤ Microfluidic system – microbubble generation



(a)



(b)



(c)

