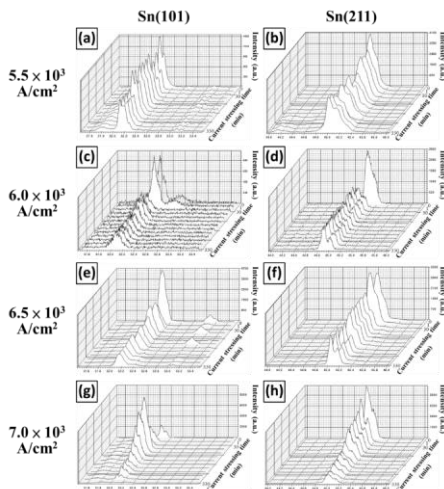


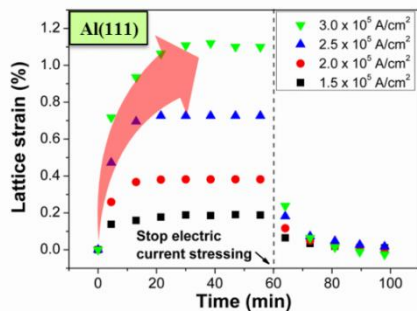
梁鍵隴教授-微結構及冶金實驗室
(國立台灣科技大學材料科學與工程系)

梁鍵隴教授主要從事**新穎金屬材料電處理技術(Electro-treatment)**研究(請參考相關 Review paper: [Materials Characterization \(2018\)](#))，研究內容專注於不同種類的金屬材料在非熱電子風力(Athermal electron wind force)效應的作用下對其**微結構**影響及背後的**冶金機制**探討，金屬材料則包括結構材料、電子材料與半導體封裝相關材料之應用，對於(1)**新穎金屬材料電處理技術**、(2)**材料界面反應與表面工程**以及(3)**先進電子構裝材料與技術開發**感興趣者可以於[微結構及冶金實驗室](#)網頁中獲取更多訊息。



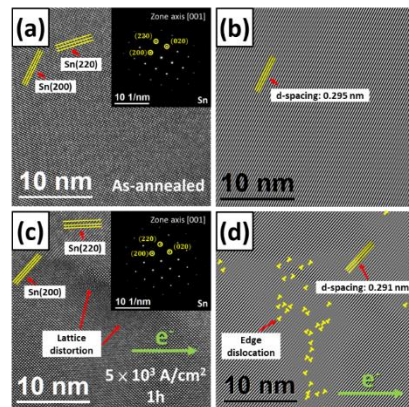
(1)結晶性分析：透過 **in situ XRD** 技術分析材料電處理致結晶性衰退行為。

(Ref. [Acta Materialia \(2020\)](#))



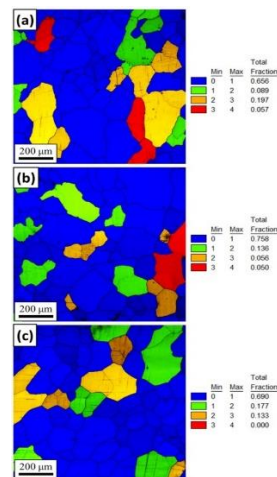
(2)應變分析：透過 **in situ XRD** 技術分析材料電處理致應變累積行為。

(Ref. [Thin Solid Films \(2017\)](#))



(3)差排分析：透過 **HRTEM** 技術分析電處理致材料差排生成行為。

(Ref. [Materials Science and Engineering: A \(2020\)](#))

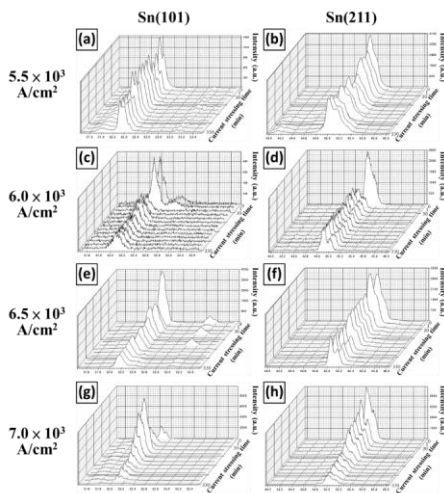


(4)微結構分析：透過 **EBSD** 技術分析材料電處理致再結晶行為。

(Ref. [Materials Characterization \(2021\)](#))

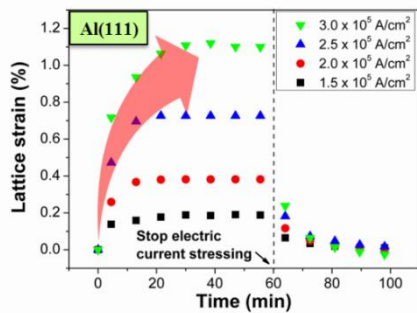
Prof. Chien-Lung Liang - Microstructures and Metallurgy Lab (MM Lab)
(MSE, NTUST)

Prof. Liang mainly studies *the novel electro-treatment of metallic materials* (please see the related review paper: [Materials Characterization \(2018\)](#)). The investigations focus on the effects of athermal electron wind force on the *microstructures* and *metallurgy* for different types of metallic materials. The metallic materials include structural materials, electronic materials, and electronic packaging related materials. Those who have particular interests in (1) *Novel Electro-treatment of Metallic Materials*, (2) *Interfacial Reaction and Surface Engineering of Materials*, and (3) *Advanced Electronic Packaging Materials and Technology Development* are quite welcome for visiting our [Microstructures and Metallurgy Lab](#) website for more information.



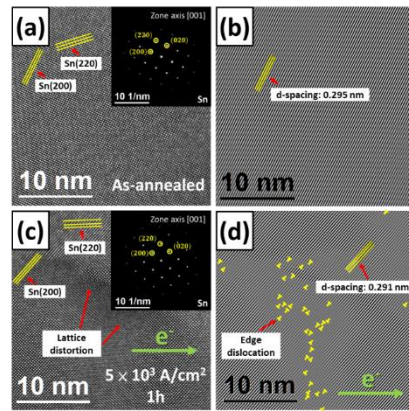
(1) Crystallinity analyses: Electro-treatment induced crystallinity decline by *in situ* XRD.

(Ref. [Acta Materialia \(2020\)](#))



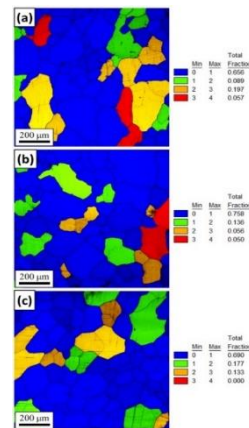
(2) Strain analyses: Electro-treatment induced strain accumulation by *in situ* XRD.

(Ref. [Thin Solid Films \(2017\)](#))



(3) Dislocation analyses: Electro-treatment induced dislocation generation by HRTEM.

(Ref. [Materials Science and Engineering: A \(2020\)](#))



(4) Microstructure analyses: Electro-treatment induced recrystallization by EBSD.

(Ref. [Materials Characterization \(2021\)](#))