

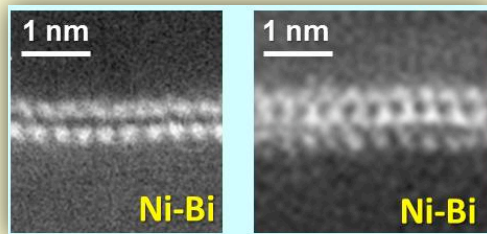
MURI Clemson Tasks

(Jian Luo, co-PI)

Postdoc: Matthew Williams (US citizen)
PhD student: Yuanyao Zhang
1 MS in the 2nd half project

Collaboration on characterization (e.g., HAADF-STEM/Lehigh, 3D microstructure/CMU & diffusion measurements/UIUC) & multiscale modeling

Experimental Task I: Embrittlement of Ni & Cu Alloys

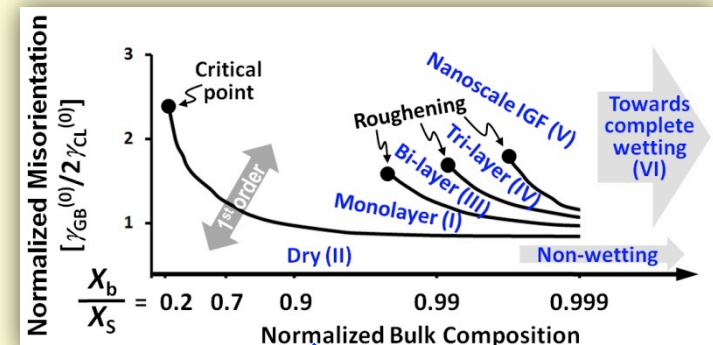
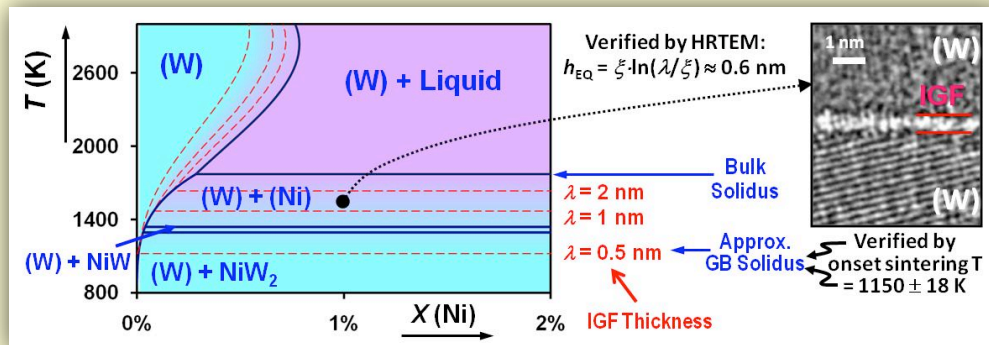


Co-dope to
control (design);
Synthesis;
Characterization

Experimental Task II: Ionic Conductivity of Oxides

- Model System: $\text{ZrO}_2\text{-Y}_2\text{O}_3\text{-(SiO}_2\text{)-M}_x\text{O}_y$
- Co-dope to control GB resistance
- Synthesis of specimens
- High-T impedance measurements
- HRTEM, HAADF-STEM (Lehigh)...

Task III: Thermodynamic Modeling → “Grain Boundary (GB) Diagrams”



Support other MURI members on various experimental & modeling tasks...