



Wakai-Nishiyama Lab

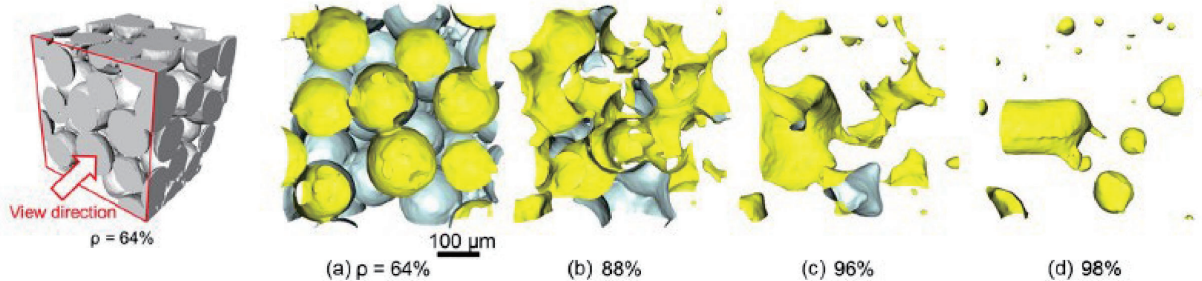
Engineering Ceramics:

Sintering, Micro-texture, Hardness, Toughness, Transparency

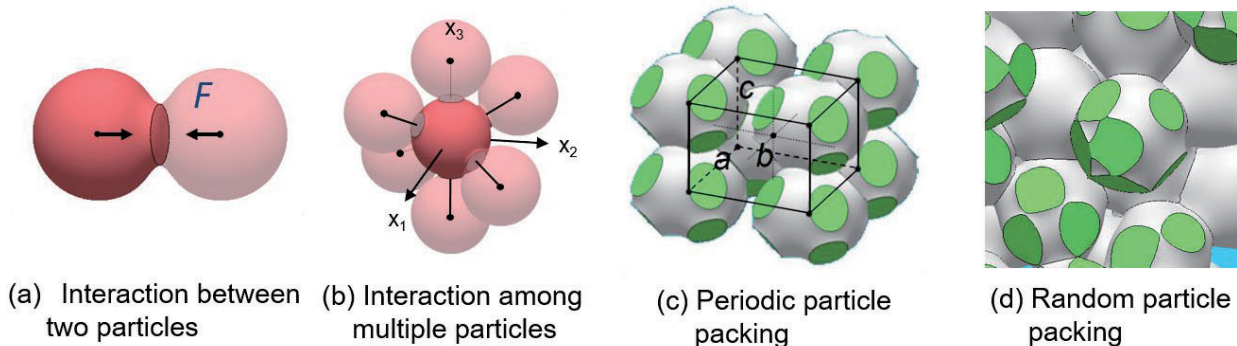
Laboratory for Materials and Structures

<http://www.msl.titech.ac.jp/~dfc/>

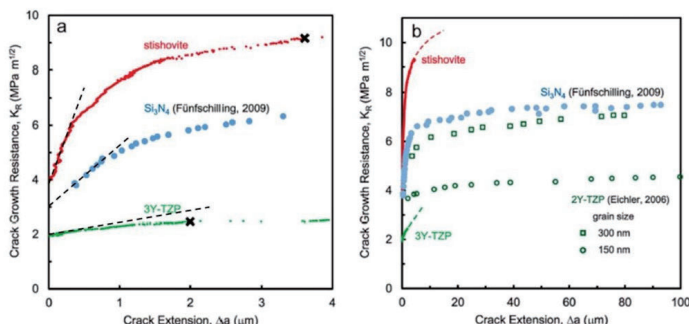
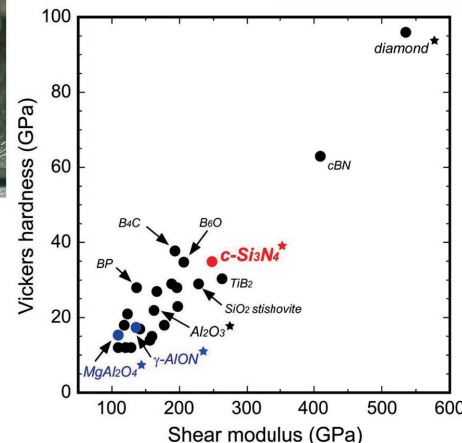
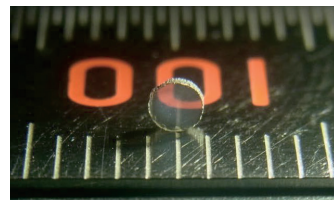
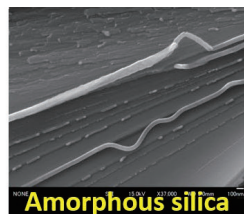
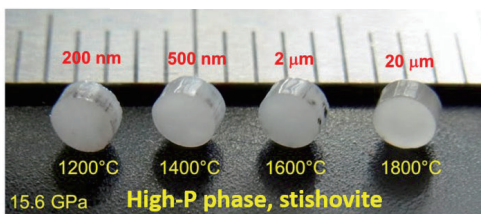
- Sintering behavior: X-ray micro- and nano-tomography
- Multiscale modeling of sintering
- Hard and transparent ceramics: cubic silicon nitride
- Hard and tough ceramics: SiO₂ stishovite



Microstructural evolution in viscous sintering of spherical glass particles.



Multi-Scale Modeling of sintering



Nanopolycrystalline SiO₂ stishovite:
Very tough & hardest oxide

Nanopolycrystalline cubic-Si₃N₄:
The third hardest and transparent