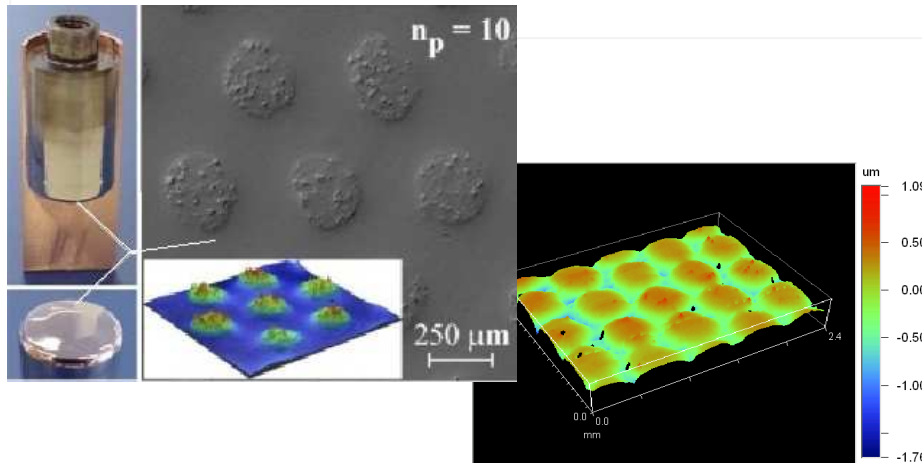
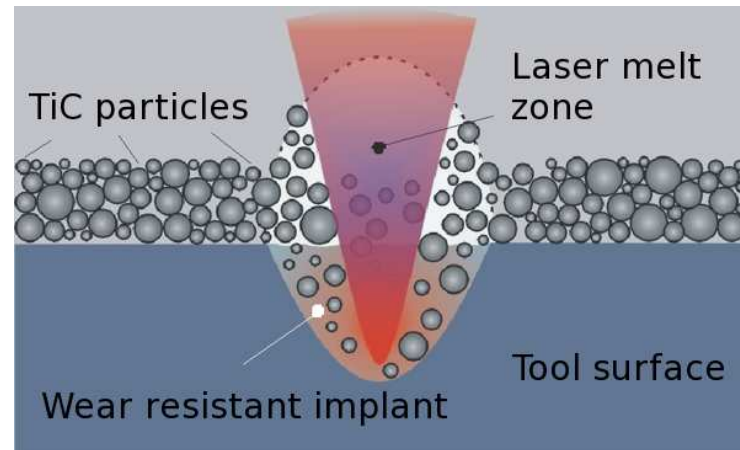


Forming Tool Design

Poor Lubrication Leads to Tool Wear

- In forming there are necessarily high pressures between tool and workpiece
- High pressures at low sliding speed exclude lubricants
- A surface texture (roughness) can trap pockets of lubricant, reducing wear
- But, careful design is needed so the texture does not wear off



Maintaining a Surface Texture

- Steel and TiC wear at different rates
- Wear of a bi-material tool surface produces rather than removes a texture
- The surface becomes covered by pockets which can retain lubricant, reducing friction and excessive wear