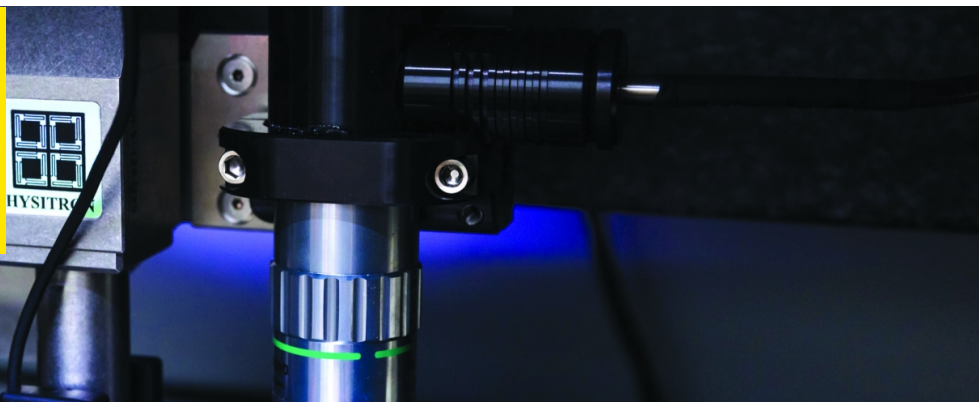




**UNSW**  
SYDNEY



## Wear and Corrosion Resistant Coatings for Tooling Applications

**Medium- and high-entropy coatings enhance the toughness, wear resistance and corrosion resistance of tooling, extending its operating life and reducing costs.**

### Competitive advantage

- Expertise in the study of microstructure-property relationships in thin film coatings, including nitrides, carbides and diamond-like carbon coatings.
- Delivering medium- and high-entropy coatings that exhibit both high hardness and remarkable toughness combined with excellent structural stability and wear resistance.

### Impact

- Longer lasting tooling to reduce costs

### Successful applications

- Tantalum nitride coatings for biomedical applications
- Analysis, characterisation and understanding of medium- and high-entropy alloy coatings for tooling applications
- Investigations into the structure and properties of zirconium nitride coating for applications in fuel cells

### Capabilities and facilities

- Extensive facilities for measuring mechanical properties of thin film materials, including nanoindentation, scratch and wear testing
- Access, through UNSW Analytical Centre, to a wide range of instruments including electron microscopy, x-ray diffraction and surface chemistry instrumentation

### More Information

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