



**UNSW**  
SYDNEY

## Nuclear Engineering and Materials

**Specialists in nuclear engineering and nuclear materials and their application to protection against nuclear and radiological threats.**

### Competitive advantage

As Australia's leading research group in nuclear engineering, we offer vital expertise to government and industry sectors, including:

- Radiation-hard materials
- Radiation safety response
- Radiation impact modelling
- Uranium metallurgy and uranium chemistry
- Virtual reality, human-machine interfaces and remote handling

### Impact

- Safer materials and systems for protection against radiation threats

### Successful applications

- The highest possible melting-point refractory high-entropy alloy (CrMoVW), containing chromium for oxidation protection
- Tungsten-vanadium carbide alloys for hard facing, Broco/Rankin Vanotung™
- Nuclear engineering of components and systems in the OPAL reactor

### Capabilities and facilities

- UNSW radioactive material research facilities
- Discretionary access to Australian nuclear infrastructure
- Experience in accessing international facilities, with demonstrated outcomes

### Our partners

- Westinghouse Electric
- ANSTO
- Broco/Rankin

### More Information

Dr Edward Obbard

School of Mechanical and  
Manufacturing Engineering

T: +61 (0) 2 9385 7625

E: [e.obbard@unsw.edu.au](mailto:e.obbard@unsw.edu.au)

UNSW Knowledge Exchange

[knowledge.exchange@unsw.edu.au](mailto:knowledge.exchange@unsw.edu.au)

[www.capabilities.unsw.edu.au](http://www.capabilities.unsw.edu.au)

+61 (2) 9385 5008