

Our research on titanium alloys spans crystalline to amorphous alloys, processed by casting and thermomechanical processing through to net-shape processing (3D Printing / Additive Manufacturing).



Forged and swaged gum-metal alloy

More information

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Advanced titanium alloys and processes

Physical Metallurgy Group – School of Materials Science and Engineering

Competitive advantage

- Our research involves the development of new types Ti-base alloys, produced by casting and powder processing (additive manufacturing).
- Our extensive expertise in physical metallurgy and metals processing enables us to carry out world class research on most alloys.

Recent research projects

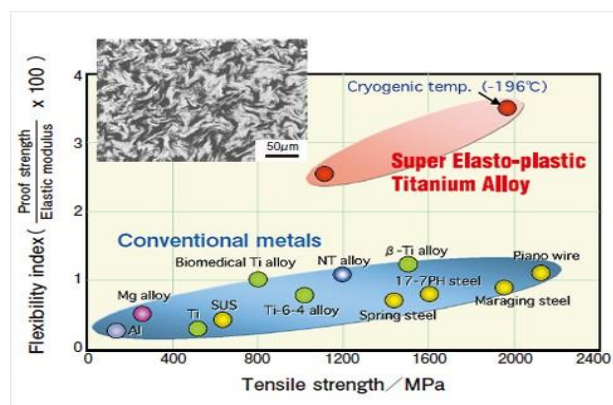
- Development of beta titanium alloys
- Development of Ti-base high entropy alloys
- Development of Ti-base bulk metallic glasses
- Additive manufacturing of commercial titanium alloys

Successful applications

- Our work on crystalline alloys includes superelastic gum-metal alloys and high entropy alloys for use in biomedical and structural applications.
- We are also developing new classes of Ti-based bulk metallic glasses, exhibiting exceptional mechanical properties and biocompatibility.

Facilities and infrastructure

- Gleeble thermomechanical simulator
- Additive manufacturing capabilities (3D printing)
- Wide range of melting, casting, processing and characterisation facilities



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Our experts

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- Dr Xiaopeng Li

