

Prof. Ai Serizawa

Laboratory name

Materials Design Laboratory

Keyword

Metals and Alloys, Microstructural Control, Surface Treatment, Multifunctionalization

Tasks in the laboratory

Our research interests are the kinetics of phase transformations and microstructural changes at the atomic level, and the multifunctionalization by microstructural control for structural materials, especially aluminum and magnesium alloys. In addition, our research includes the development of an eco-friendly surface treatment process, for example, novel coating technologies for metallic materials using steam.

Eligibility-school year

- Third year undergraduate
- Fourth year or higher undergraduate
- First year master degree
- Second year or higher master degree
- First year doctoral degree
- Second year doctoral degree
- Third year or higher doctoral degree

Eligibility-student's major/fields

- Mechanical
- Chemistry
- Material
- Electrical
- Electronic
- Computer Science
- Lifescience
- Mathematical
- Civil Engineering
- Architecture
- Engineering and design

Required skills

- Basic understanding for microstructure of metallic materials including diffusion, nucleation and growth of precipitation
- Fundamental knowledge for surface engineering and surface modification
- Operation for SEM, TEM, XRD, FT-IR, Raman, DSC

Desired skills (Preferred skills)

Operation for TEM, XPS

URL: [https://www.shibaura-it.ac.jp/en/research/lab/engineering/materials/ai\\_serizawa.html](https://www.shibaura-it.ac.jp/en/research/lab/engineering/materials/ai_serizawa.html)

Email: [serizawa@sic.shibaura-it.ac.jp](mailto:serizawa@sic.shibaura-it.ac.jp)