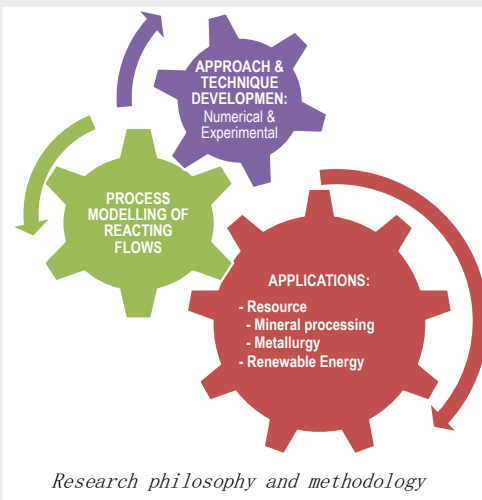


ProMO Lab works on Process Modelling and Optimisation and develops customised, clean and energy-efficient technology and simulators for a range of mineral processing and metallurgy industries with measurable benefits, powered by advanced numerical & experimental approaches.



More information

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Advanced and Customized Mineral Processing and Metallurgy Technology

ProMo Group - School of Chemical Engineering

Competitive advantage

- ProMO Lab is equipped with world-leading unique numerical and experimental techniques for understanding and optimising complex process.
- Comprehensive and solid industry background/practice experience.
- Long-term industry engagements with Australian/overseas industries.
- Customized technology and simulators designed and practised in leading mineral and metallurgy industries for process optimization and product marketing with measurable benefits.

Recent research projects

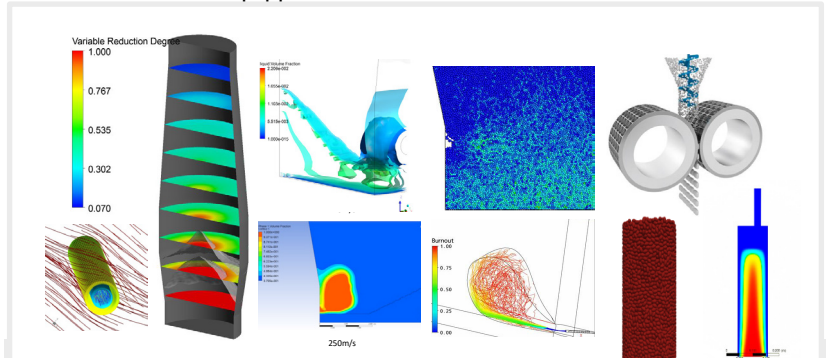
- "Preparation and use of lignite-iron ore composite briquettes", ARC-CEA.
- "Multiscale study of raceway operations for low-cost and stable ironmaking", ARC-Baosteel-CEA.
- "Model studies of new ironmaking processes", ARC-Rio Tinto-Baosteel.
- Modelling of particle-fluid reactive flows coupled with phase changes", ARC.
- "Enabling synergistic coal combustion", ACARP.

Successful applications

- New PCI device at Bluescope Steel, Australia, saving ~A\$15M pa.
- New blast furnace operation strategies practised at Baosteel, China.
- Lignite-derived products at CEA, open new markets in China and Japan.
- Customized operation strategy for Rio Tinto iron ore, promoting its market.

Facilities and infrastructure

- Advanced GPU-equipped HPCs and free access to national-level HPCs.



Our experts

- Dr Yansong Shen is a world-leading scientist in the field of process minerals and metallurgy. He initiates and leads ProMO research lab at UNSW. He is also the manager of ACJRC 3M centre. One key collaborator of ProMO is Prof. Jie Bao. He is a world-leading process control scientist and leads process control group at UNSW.