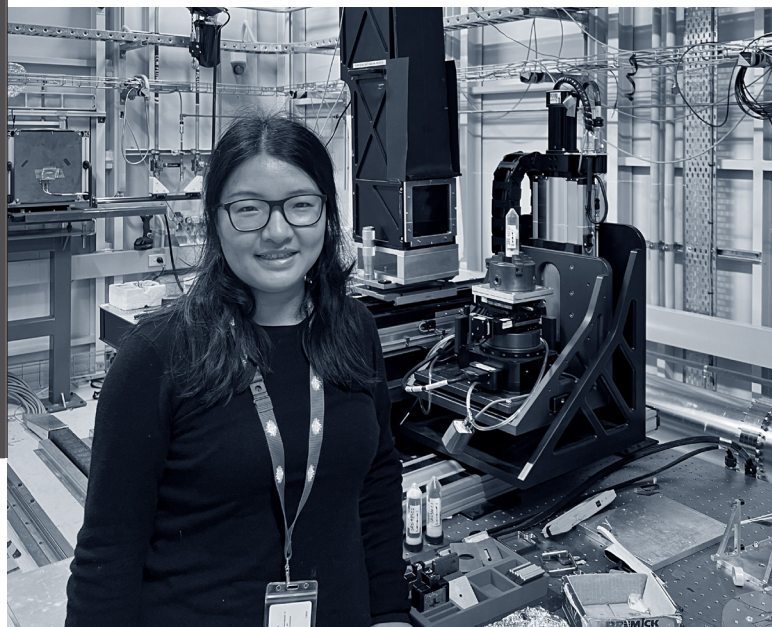


AI WANG

Research Associate

Centre for Ironmaking
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RESEARCH FOCUS

The development of image processing algorithms, theoretical and numerical modelling for investigating coke structure and gasification behaviors.

Ai is working towards building her international reputation in the field of image processing and modelling of coke microstructure evolution and reactivity in low carbon cokemaking and ironmaking including hydrogen enriched BF operations. She sees the value of working on industry aligned projects to solve real-world issues.

Ai was involved in an Australian Coal Association Research Program (ACARP) project, where they developed a state-of-art image processing technique to quantify the bonding quality between two carbon phase in the coke: reactive maceral derived components (RMDC) and inert derived maceral components (IMDC). This technique improves the prediction of coke strength and is also beneficial in providing technical support for coal blending.

RESEARCH VISION

“Researchers are actively engaged in low carbon cokemaking and steelmaking field, with research outcomes already in application within the industry. For example, advanced image processing software has been used by some steelmaking plants in automatic identification of vitrinite component of coal.

In Europe, the reduction of CO₂ emissions has become an imperative which already affects how the cokemaking and steelmaking plants design their operation procedures. Industrial personnel are actively engaged in low-carbon green steelmaking. Reducing the cost of green steelmaking is equally important in ensuring the financial survival of coke and steelmaking plants, so collaboration between researchers and industry is more important than ever.”

“This two-way collaboration between academia and industry serves as booster to accelerate decarbonisation.” Ai Wang