State Key Laboratory for Corrosion and Protection (SKLCP)

The laboratory aims to: establish a basic understanding of the various aspects of corrosion phenomena; develop corrosion resistant alloys, coating as well as painting; develop corrosion monitoring, corrosion control technology and the relevant theory; conduct corrosion case study and failure analysis; and develop the relevant lifetime prediction technology. The laboratory also focuses on the practical aspects of corrosion relevant to important industry sectors such as chemical and petrochemical, energy, ocean exploration, aerospace, communication, and special environmental protection.

Environmental Corrosion Center (ECC)

The main research areas of the center are the following: mechanochemical interaction, development of novel Mg alloys and surface treatment techniques, corrosion behavior in high-temperature and high-pressure environments, nano-composite coatings and other films, erosion corrosion & cavitation, erosion in multiphase flow, natural environment corrosion, electrochemical design of corrosion-resistant materials, and corrosion monitoring.

National Engineering Research Center for Corrosion Control of Metals

The main tasks of the center are the exploration of various corrosion and protection technologies, such as corrosion resistance alloys, surface treatment, coatings, electro plating and electroless plating, cathodic protection, inhibitors, corrosion sensors and monitoring technology. Special attention is also devoted to possible technological applications in industrial processes, such as oil and gas, ocean, power plant, transportation and infrastructures. Other important activities of the center include the training of specialized technical staff, the issuing of certificates on corrosion prevention, and consulting on corrosion protection methodologies.

Graduate Education

http://www.gs.imr.ac.cn

IMR was one of the first organizations authorized to confer doctoral degrees in materials science and engineering in China. As of 2012, IMR has an enrollment of 668 graduate students, including 377 doctoral students and 291 master students. Nowadays, graduate students at IMR have opportunities to take part in various research subjects ranging from atomic scale modeling, characterization and fabrication to complex manufacturing technologies in modern aerospace engineering.

International Academic Exchange and Cooperation

IMR emphasizes the establishment of cooperative relationships and partnerships with scientific research institutes and organizations in materials science and engineering both at home and abroad. More than 300 scientists and scholars visit IMR for academic activities annually. As a sponsor and host, IMR frequently organizes international academic conferences and bilateral seminars.

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IMR
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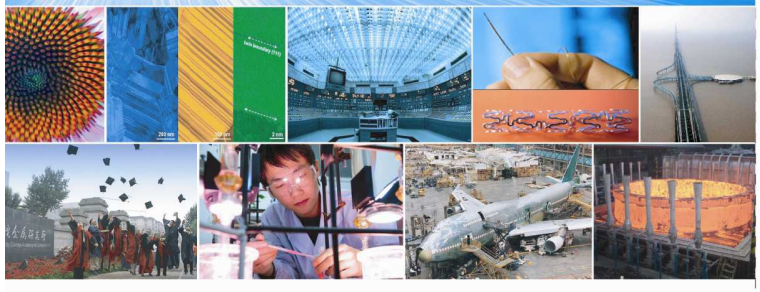
INSTITUTE OF METAL RESEARCH,CHINESE ACADEMY OF SCIENCES

INSTITUTE OF
METAL RESEARCH
CHINESE ACADEMY OF SCIENCES

Mission:

The mission of IMR is to excel in materials research, develop advanced materials technology and foster exceptional talents, serving the nation, society and mankind.



BRIEF INTRODUCTION

The Institute of Metal Research (IMR), Chinese Academy of Sciences (CAS) was founded in 1953. With over half a century's development, the IMR has firmly established itself as an indispensable base for materials science and engineering research in China. It currently consists of the Shenyang National Laboratory for Materials Science (SYNL), the State Key Laboratory for Corrosion and Protection (SKLCP), the Shenyang R&D Center for Advanced Materials, the Environmental Corrosion Center (ECC), the National Engineering Research Center for Corrosion Control of Metals and the National Engineering Research Center for High Performance Homogenized Alloys. Research at the IMR focuses mainly on high performance metallic materials, new types of inorganic nonmetallic materials, and advanced composite materials. The research is directed towards the understanding and characterization of materials properties, structure and performance, as well as materials synthesis and fabrication, processing, and application.

IMR gathers together outstanding scientists and technical experts in the field of materials research. As of 2012, IMR has a staff of 890, including 537 researcher and 184 support members for technical service and management. Among the IMR scientists are 129 research professors, including 5 members of Chinese Academy of Sciences (CAS), 3 members of Chinese Academy of Engineering (CAE), and 2 members of the Third World Academy of Sciences (TWAS).

The first 60 years of IMR witnessed strategic contributions to the Chinese economic growth and many landmark technological achievements. IMR has received more than 400 awards, including 90 National awards. Many important research results have been published in top scientific journals in the field of materials science and engineering.

Shenyang National Laboratory for Materials Science (SYNL)

The Shenyang National Laboratory for Materials Science (SYNL) was officially founded in October 2000 based on three laboratories at the IMR: State Key Lab for Rapidly Solidified Non-equilibrium Alloys, State Key Lab for Fatigue and Fracture of Materials, and Lab for Atomic Imaging of Solids.
SYNL's goal is to become a world leading materials research laboratory, conducting fundamental research of materials in various aspects including synthesis and processing, characterization, modeling, properties, and performance of materials.

Research Divisions
- Non-equilibrium Metallic Materials Division
- High-performance Ceramics Division
- Advanced Carbon Division
- Magnetism and Magnetic Materials Division
- Environment Functional Materials Division
- Solid Atomic Imaging Division
- Materials Fatigue and Fracture Division
- Engineering Alloys Division
- Materials Process Modeling Division
- Catalysis and Materials Division
- Functional Films and Interfaces Division
- Technical Service Division

Research Center
- Research Center for Materials Development Strategy
- Materials Basic Data Center
- Materials Failure Analysis Center

Shenyang R & D Center for Advanced Materials

As a platform for the integration of high-technology materials research, the R&D Center is committed to developing key engineering materials, exploring advanced processing, and fabricating critical components.
Over the past decade, the R&D Center has considerably expanded and it currently consists of eight research divisions, conducting application-oriented materials research in various aspects, serving the aerospace, ship building, transportation, energy, petro-chemical and biomedical industries.

Research Divisions
- Superalloys Division
- Titanium Alloys Division
- Materials for Special Environments Division
- Precise Tubing of Metals Division
- Materials Fabrication & Processing Division
- Surface Engineering of Materials Division
- Specialized Materials and Devices Division
- Technical Support Division