

# **Toward US-China Collaboration in Education and Academic Research**

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**Dept. of Materials Science and Engineering**  
**The Ohio State University**



# OSU Delegation Visit of China, 8/04

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## Faculty from MSE Dept.:

Yunzhi Wang, modeling

Hamish Fraser, characterization  
and modeling, director of  
CAMM

Mike Mills, characterization

Jerry Frankel, corrosion, director  
of FCC

Visited: Institute for Material Research, Shenyang

Beijing Inst. of Aeronautical Materials

University of Science and Technology Beijing

# IMR - OSU

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**Many areas of common interest and friendly contacts:**

- **Prof. Han En-Hou - corrosion**
- **Prof Yang Rui - characterization**
- **Dr. Xu Dongsheng - modeling**

# Letter of Intent Between IMR and OSU

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- Signed by Ke Lu, the director of IMR, Hamish Fraser director of CAMM, and Jerry Frankel director of the FCC
- *“IMR and OSU will:*
  - *pursue research opportunities in areas of mutual interest and benefit,*
  - *apply individually and jointly for funding to cover both travel and research expenses,*
  - *develop detailed plans for technical interactions among individual research groups including bilateral annual meetings and exchange of faculty, graduate students and postdocs,*
  - *develop plans for collaboration in education and training including the offering of courses by MSE faculty during the summer or through distance learning.”*

# Interaction Between IMR and OSU

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## Problems:

- **Money to support activities**
- **Activation energy to organize program**
- **Visas for Chinese scholars to visit US**

# NSF program on "Partnerships for International Research and Education"

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“Partnerships for International Research and Education will enable U.S. institutions to establish collaborative relationships with foreign groups or institutions in order to advance specific research and education objectives and to make possible a research effort that neither side could accomplish on its own. As science and engineering become increasingly global, U.S. scientists and engineers must be able to operate in teams comprised of partners from different nations and cultural backgrounds. International partnerships are, and will be, increasingly indispensable in addressing many critical global scientific problems. The program is intended to catalyze a cultural change in U.S. institutions by establishing innovative new models for international collaborative research and education. It is also intended to facilitate greater variety in student participation and preparation, and to contribute to the development of a diverse, globally-engaged, science and engineering workforce.”

# Partnerships for International Research and Education Proposal

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- Maximum of 1 submission from each university
- Our team won internal OSU competition out of 17 preproposals
- Proposal submitted to NSF on March 10
- \$2.5M over 5 years
- Three institutions:
  - OSU (Fraser, Frankel, Wang, Li, Mills, Williams)
  - IMR (Lu, Han, Yang, Xu)
  - Hong Kong Univ. (Ngan)

# Partnerships for International Research and Education Proposal

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- Technical collaboration:
  - **Creep and Concurrent Microstructure Evolution in Ni-Base Superalloys**
  - **Synthesis, Characterization and Modeling of Nanostructured Materials**
  - **Development of Ti Alloys for Biomedical Applications**
  - **Corrosion of Al alloys**
- Education plans
  - **Detailed plan for exchange of faculty and students**