

# Fifth Forbes Symposium at the Freer Gallery of Art

## *Studies of Ancient Asian Metallurgy using Scientific Methods*

Eugene and Agnes E. Meyer Auditorium, Freer Gallery of Art

October 28 and October 29, 2010

### THURSDAY OCTOBER 28, 2010

8:30–9:00am **Coffee Reception/Registration**

9:00–9:15am **Introduction** (Eugene and Agnes E. Meyer Auditorium)

#### **Southeast Asian Bronzes**

9:15 am **Session Introduction: Questions about Southeast Asian Bronze Metallurgy**  
*Paul JETT, Arthur M. Sackler Gallery & the Freer Gallery of Art, Smithsonian Institution*

9:30 am **Tin-bronze – a Pan-Asian Technological Phenomenon – and the Development of Metallurgy in Southeast Asia**  
*Vincent C. PIGOTT, Institute of Archaeology, University College, London*

10:05 am **Khmer Bronze Metallurgy during the Angkorian Period (12th-13th Century): Technical Investigation of a New Selected Corpus of Bronze Artifacts from the Phnom Penh National Museum**  
*Brice VINCENT, University of Paris III - Sorbonne Nouvelle; David BOURGARIT, Center for Research and Restoration of the French Museums(C2RMF), Paris, France*

10:40 am **The Southeast Asian Lead Isotope Project at One Year: Studies in Regional Base Metal Production and Exchange**  
*Thomas Oliver PRYCE, RLAHA, Oxford University*

11:15–11:45 am **Break**

11:45 am **The High-tin Bronzes of Thailand and their Relationships to those of India and East Asia**  
*Ian GLOVER, Institute of Archaeology, University College, London; Anna BENNETT, Analyseart, Brussels, Belgium*

12:20 pm **Casting of Ancient Drums in North Vietnam**  
*TRINH Sinh, Institute Archaeology of Vietnam*

1:00–2:30 pm **Lunch**

#### **Chinese Bronzes**

2:30 pm **Session Introduction: A Chemist Under a Spell: R. J. Gettens and Chinese Bronzes**  
*Francesca BEWER, Straus Center for Conservation, Harvard Art Museum, Cambridge, MA*

2:50 pm **The Making of the Freer Chinese Bronze Book Volume Two**  
*W.T. CHASE, Chase Art Services, Woodstock, CT*

3:25 pm **Theories and Observations: Still Looking at the Freer Bronzes**  
*Robert BAGLEY, Princeton University*

4:00–4:30 pm **Break**

4:30 pm **Technical Studies of Chinese Bronze Vessels in the British Museum Collection**  
*Quanyu WANG, The British Museum*

5:05 pm **Recent Research on Early Bronze Metallurgy in Northwest China**  
*Jianjun MEI, Lu SHEN, and Jianwei XU, University of Science and Technology, Beijing, China; Hui WANG, Gansu Institute of Archaeology and Cultural Relics, China*

5:40–6:00 pm **Questions and discussion**

6:00–8:00 pm **Reception**

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#### Chinese Bronzes (continued)

- 9:00 am        **An Enlightened Journey: Transitions in Casting of Chinese Buddhist Images**  
*Donna STRAHAN, The Metropolitan Museum of Art*
- 9:35 am        **Decorated Chinese Bronze Mirrors in the Cotsen Collection**  
*David SCOTT, UCLA/Getty Program in Archaeological and Ethnographic Conservation*
- 10:10 am      **Recent Discoveries Concerning Metallurgy in Bronze Age Yunnan**  
*Zhengyao JIN, Gong LI, Lifeng YAN, University of Science and Technology, Hefei, China; Zhilong JIANG, Yunnan Provincial Institute of Culture Relics and Archaeology, Kunming, China*
- 10:45-11:15 am   **Break**

#### West Asian Copper Alloys

- 11:15        **Session Introduction: Ten millennia of Copper Alloy Metallurgy in Western Asia: Influences and Interactions**  
*Paul CRADDOCK, The British Museum*
- 11:35 am      **The Bazgir Hoard from Golestan Province in Northeastern Iran**  
*David MEIER, Free University of Berlin*
- 12:10 pm     **Chalcolithic Crucible Smelting at Tal-i Iblis, Iran**  
*Lesley D. FRAME, Department of Materials Science and Engineering, University of Arizona*
- 12:45-2:30 pm   **Lunch**
- 2:30 pm       **Metallurgy During the Middle Chalcolithic (last third of the 5th millennium B.C.) in South Caucasus : an Insight through Recent Discoveries at Mentesh-Tepe (Azerbaijan)**  
*Antoine COURCIER, National Center of Scientific Research (CNRS), Paris, France*
- 3:05 pm       **Zinc Alloys at Nuzi?: Dilemmas from an Early Collection**  
*Katherine EREMIN, Harvard Art Museums, Cambridge, MA; Andrew SHORTLAND, Centre for Archaeological and Forensic Analysis, Cranfield University, UK; Susanna KIRK, National Museums Scotland, UK; Megan RICHTERS, Centre for Archaeological and Forensic Analysis, Cranfield University, UK; Patrick DEGRYSE, Centre for Archaeological Sciences, Catholic University of Leuven, Belgium; Marc WALTON, The Getty Conservation Institute*
- 3:40-4:00 pm   **Break**
- 4:00 pm       **Techniques of Antique South Arabian Large Bronze Statues**  
*Benoit MILLE, Center for Research and Restoration of the French Museums (C2RMF), Paris, France*
- 4:35 pm       **Medieval Islamic Copper Alloys**  
*Susan LA NIECE, The British Museum; Rachel WARD, formerly the Department of Oriental Antiquities, The British Museum, Duncan HOOK, Paul CRADDOCK, The British Museum*
- 5:10-5:20 pm   **Closing Remarks**

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