ASM INTERNATIONAL

Milwaukee Chapter

UPCOMING PRESENTATION

LOCATION :
Thunder Bay Grille
N14W24130 Tower Place
Pewaukee, WI 53072

TUESDAY, MAY 13 2025

TIME
5:30 - SOCIAL
6:00 - DINNER
7:00 - PROGRAM

COST
$ 30 - MEMBER
$ 35 - NONMEMBER
$ 15 - LIFE MEMBER
FREE - STUDENT/MEMBER BETWEEN JOBS*
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ABSTRACT

The Microstructure of Historic As-Cast Cu Alloys from Ancient Persia

The presentation begins with examples of the macrostructures and microstructure of as-cast Cu - 10% Sn. The ore came from Tell Leilan, Syria, starting at 4000 BC. The images can be viewed without etching as the constituents have natural color differences. B & W images can also be used. Several different etchants were used as well as different illumination modes. Several color tint etchants for Cu alloys were also used and they reveal the structures better than any B&W etchant. Specimen preparation must be done perfectly to see the true microstructures. A few annealing twin boundaries can be seen. Specimens found in War Kabud (Luristan), Iran were discovered in 1965 and 1966. They were from the 8th and 7th C BC.

The composition of the as-cast items varied a bit, but all contained Sn (3.1 to 18.2 %). Most contained a small amount of arsenic (one contained <0.01% As and another contained 0.06% As). Most of the others contained 0.25 to 7.1% As.).

SPECIAL THANKS TO ALLIED FOR SPONSORING THIS MEETING

ALLIED HIGH TECH PRODUCTS, INC.

PRESENTER:
Mr. George F. Vander Voort,
Vander Voort Consulting

George received his BS in Metallurgical Engineering from Drexel in 1967 and an MS from Lehigh University in 1974. He worked at Bethlehem Steel, Carpenter Technology, and Buehler Ltd., focusing on metallurgy, microscopy, and failure analysis. George has authored over 280 publications, including books and standards, and holds six patents. He has taught numerous courses and received multiple awards, including the IMS President's Award and ASTM Award of Merit. George has been active in professional societies like ASM International and ASTM, contributing significantly to the field of metallography and materials science.