

EDUCATION

Ph. D. (Metallurgy) University of Connecticut 1980

M. S. (Metallurgy) University of Connecticut 1977

S. B. (Materials Science) M.I.T. 1973

EXPERIENCE

1987 - present Distinguished.Development Staff, Materials Processing Group, Metals and Ceramics Division, Oak Ridge National Laboratory, Oak Ridge TN

1985 - 1987 Research Metallurgist, Pfizer Specialty Metals, Wallingford CT

1980 - 1985 Senior Research Metallurgist, AMAX Materials Research Center, Ann Arbor, MI

AREAS OF INTEREST

Processing of refractory metals and alloys and high temperature and wear-resistant alloys

Chair of the Refractory Metals and Materials Committee of TMS 2000-2002.

ACCOMPLISHMENTS

Successfully led the iridium alloy processing effort at Oak Ridge National Laboratory for 15 years with substantial improvement in process yields. Iridium alloys are used as primary fuel containment for power generation in all NASA deep space probes. These have included the Galileo mission to Jupiter and its moons and the Cassini mission to the Saturn system. Dr. Ohriner has supervised the acquisition, installation, and qualification for production use of electron beam, vacuum arc melting furnaces, and other equipment. Dr. Ohriner has also assisted and commercial iridium material producers in the area of iridium processing. This includes the award of a patent for processing of small quantities of stable iridium isotope powder into wire for medical applications. Dr. Ohriner has participated in research on iridium alloys was also the primary editor of the symposium proceedings of the first and only international symposium on Iridium.

Developed a tungsten alloy tool material for friction stir welding of ferrous and high temperature materials

Primary inventor of NOREM™ alloy hardfacing alloy, now widely used in nuclear valve applications (U. S. Patent 4,803,045). The alloy, trademarked by Electric Power Research Institute, has very high resistance to galling and wear and is cobalt-free. Valves with NOREM hardfacing have been purchased or installed by some 25 nuclear utilities.

Contributed to Development of Improved Conductor Cable for Electric Transmission Lines. Collaborated on the alloy development and led the effort in process development for the refractory metal alloy fabrication. Outdoor high voltage transmission line field-testing of the composite conductor was conducted in Oak Ridge.

Developed processing and provided arc-melted molybdenum-rhenium alloy for use in AMTEC energy conversion cells. The use of these cells offers up to a three-fold improvement in efficiency of thermal to electric energy conversion as compared to the existing thermocouple technology employed for space exploration.

Contributed to the development of weldable molybdenum alloy with improved ductility in the recrystallized condition at room temperature. This work, which is in progress, has the potential to be very beneficial to efforts for space-based reactor development.

Performed evaluation of rhenium metal processing for Navy SM-3 program.

AWARDS

Fellow ASM International – 2005

R&D 100 Award “Advanced Heating System for High Performance Aluminum Forgings”, October 14, 2004.

Inventors Clubs of America's Hall of Fame Award presented May 2, 1998 - honored for the Fast Flux Materials Processor, an innovative new material processor for faster heat-treating of metals, plastics and ceramics.

IR 100 Award for "Cobalt-Free Hardfacing Alloy" (1985)

PATENTS

9 US Patents