

A NEW AND ADVANCED CURATION FACILITY FOR EXTRATERRESTRIAL MATERIALS AT ARIZONA STATE UNIVERSITY.

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With representatives of over 2,000 individual falls and finds, and more than 30,000 individual specimens, the Center for Meteorite Studies (CMS) at Arizona State University (ASU) is home to the world's largest university-based meteorite collection. As a world-class research and educational institute, the CMS is committed to its objectives of curation and distribution of meteorite material for scientific research, education, and public outreach. In support of these objectives, the Center employs cutting-edge meteorite conservation techniques, while also seeking new, significant meteorite samples. The collection is actively used for planetary, geological, and space-oriented research by scientists at ASU and around the world, contributing to our knowledge of the origin and evolution of our Solar System and the formation of habitable worlds.

In May 2012, the Center moved from the location it had occupied for more than 50 years, since its founding in 1961, to a modern facility in the newly constructed Interdisciplinary Science and Technology Building 4. Design of the curation facility for the Center's meteorite collection began in 2007, and building construction was completed in 2012. The resulting climate-controlled meteorite vault provides over 4000 square feet of storage area and is currently among the most state-of-the-art facilities of its kind. Features include:

- 46 gasketed and Teflon powder-coated specimen cabinets containing over 650 specialty drawers.
- 12 gasketed and Teflon powder-coated cabinets with 60 heavy-duty shelves rated to 500 pounds each at full extension.
- 18 custom-built, illuminated, gasketed display units convertible from glass-shelved exhibit cases to high-density steel-shelved storage.
- Dedicated dry-environment (capable of being nitrogen-vented) cabinets to minimize contamination of sensitive specimens.
- Fully UV-shielded or non UV-transmitting lights, including lights within cases.
- Polypropylene and lignin-free chipboard specimen trays lined with inert-blown polyethylene foam.
- Dedicated dehumidification system providing filtered, dry air to the collection.
- Environmental data logging for remote and local monitoring.
- Physical infrastructure specifically designed to house the considerable mass of a growing meteorite collection.

The new facility also includes a sample processing and weighing area, specimen photography station, and optical and petrological microscopy station. The location of these within the collection minimizes the exposure of sensitive meteorites to potential contamination from outside sources. Wet and dry laboratories dedicated for cutting and preparing meteorites are additionally located in the immediate vicinity of the meteorite vault.

With a rapidly growing meteorite collection, and high levels of activity in research as well as education and public outreach endeavours, this new venue will serve as a launching pad for the next 50 years and more for the ASU Center for Meteorite Studies.