



Russ Osterhout demonstrates the fine art of lapidary at the October 15 Family Day at the Museum. Over 500 attendees enjoyed the festivities.

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Mineral Resource

ADMMR Welcomes New Director

Dr. Madan M. Singh was appointed Director of the Department of Mines and Mineral Resources by the Board of Governors on July 18. Governor Napolitano approved his appointment August 1.

Singh has a Ph.D. in mining engineering and is a registered Professional Engineer in Arizona. His research interests and areas of expertise encompass aspects of mining, geotechnical engineering, tunneling, subsidence, environmental studies, and other related fields.

In 1975 Singh founded Engineers International and developed it from a one-man operation to a company with a staff of over 50.

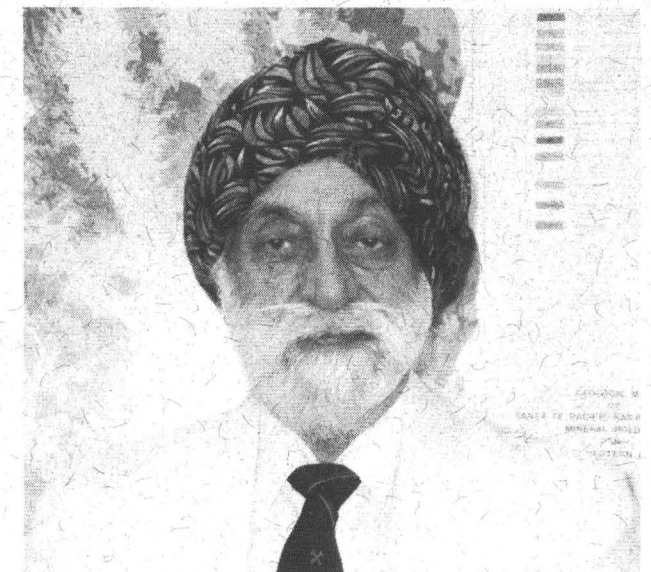
He has authored over 100 technical papers, in addition to serving as chapter author on mine subsidence in the SME Mining Engineering Handbook and Mining Environmental Handbook. He has chaired several symposia and lectured extensively.

Singh has been involved with a variety of professional organizations, including National Director of the American Consulting Engineers Council, President of the Consulting Engineers Council of Illinois, member of the Board of Directors of the Society for Mining, Metallurgy, and Exploration, Inc., (SME), Chair of the SME Coal Division, and Chair of the American Society for Testing and Materials subcommittee on rock strength.

"I am honored to be selected as Director of the Department," Singh said of his appointment, "We hope to serve as a catalyst to enhance the contribution of the minerals industry to the State."

In 1996 Singh was named a Centennial Fellow by the College of Earth and Mineral Sciences at Penn State and was honored with the Robert Stefanko Distinguished Achievement Award by the Department of Energy and Geoenvironmental Engineering in 1999. He won the Howard N. Eavenson Award of SME in 2000 and was selected as a Distinguished Member in 2004.

Singh has served on two committees related to coal for the National Research Council of the National Academies, in addition to the U.S. National Committee for Rock Mechanics, and the U.S. National Committee on Tunneling Technology.



Dr. Madan M. Singh

The Department is fortunate to have such a respected member of the mining community become Director. Dr. Singh's academic credentials, prestigious standing, and administrative abilities make him a valued asset for ADMMR.

Copper Price - Out of Sight!

Copper prices, which 1 year ago were below \$1.30 per pound, reached an all-time-record level of \$1.87 this month!

Copper has gained partly as smelter shutdowns and declining inventories added to concerns that demand would outpace supply. Growth in China and elsewhere continues to be strong.

Recent Arizona copper activity:

- Phelps Dodge Inc., the largest publicly traded copper producer, reported a significant increase in earnings on similar year-to-date production.
- Augusta Resource Company acquired the Rosemont deposit formerly held by Asarco. The drilling program recently was extended to 10,000 meters.



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Copper From page 1

- Quadra Mining, Ltd. purchased the Carlota mine in Gila County for \$37.5 million. Cambior USA Inc., will receive \$15 million in cash plus 50,000 ounces of gold worth \$22.5 million, based on a gold price of \$450 per ounce. Quadra expects construction to start in 2006.
- Mercator spent \$6 million to acquire a flotation mill for future molybdenum and copper concentration at Mineral Park.
- Redhawk Resources acquired Copper Creek project consisting of about 7 square miles of patented and unpatented mineral

Chief Engineer

Nyal Niemuth accepted the position of ADMMR's Chief Engineer effective on October 1, 2005.

As a fresh graduate of the University of Wisconsin, Madison, with a B.S. in geology, Nyal first was employed at the Department as a Museum Tour Guide under Curator, Art Bloyd. After working as an exploration geologist for Coe and Van Loo in the early 1980s, Nyal was again lured back to the Department as a Mineral Resource Specialist, and was promoted to Mining Engineer in 1987. Nyal obtained his professional registration in 1994.

Nyal was quick to recognize the value of computers to the mining industry. In 1985 he brought the Department into the computer age when he installed the agency's first server, and then set about teaching the staff how to use PCs. Under Nyal's guidance the Department moved quickly into the digital age with the database of mineral locations (AzMILS), digitizing of the photograph archive, and the Museum mineral collection. Nyal has never abandoned his role of "Department computer geek," becoming the agency's Network System Administrator in 1985 and adding those duties to his many others.

Nyal has authored or co-authored numerous Department publications, including *The Primary Copper Indus-*



Nyal Niemuth officially takes over as Chief Engineer

try of Arizona, multiple years, *Directory of Active Mines*, multiple years, *Mining Consultants*, multiple years, *Arizona Mineral Development*, *Exploration Offices*, and *Metallogenic Provinces of Arizona*.

Nyal has always been active in professional organizations including: the Arizona Board of Technical Registrations' Enforcement Advisory Committee; Keynote Speaker and Field Trip Committee Chairman, Society for Mining, Metallurgy and Exploration (SME); Secretary, Treasurer, Program Chairman, and President, Maricopa Section SME and Central Arizona Geological Society; Geological Society of America; Arizona Geological Society; and University of Wisconsin Mentor Program for Geology and Geophysics Department.

In an age of increased specialization, Nyal continues to "wear many hats," as he puts it. With equal ease he can identify a mineral specimen for a museum visitor, evaluate ore samples in the field, provide economic mineral and Arizona geologic information, suggest exploration ideas, properties, markets, and finance sources, supply information on federal and state mining laws and environmental rules and regulations, provide mining engineering and metallurgical extraction analysis and assistance, visit and report on active and undeveloped mining properties, and write articles on geology and the mining industry.

ADMMR is confident that Nyal's infectious enthusiasm for people and for his job will continue to be a tremendous bonus for the Department as he moves into a more administrative role.

From the Director's Desk

by Dr. Madan M. Singh

As a number of you know by now, I joined the Department of Mines and Mineral Resources on August 15, 2005. This was the same day that the Annual Report from the Department was due at the Governor's office. Soon after that I learned that the Department's Sunset Review was scheduled for September 21, with responses to questions from the Reference Committee due by September 1. A preliminary meeting with the chair of the committee, Representative Russell Jones, was to be held on August 24.

They say there is nothing like baptism by fire.

The Sunset Review is a procedure that provides a mechanism for the Legislature to evaluate the need to continue the existence of state agencies. This assessment permits the legislative branch to review the mission and performance of an agency, and is a 10-year event that every agency in the State undergoes. At the completion of the evaluation, the Committee recommends to continue, revise, consolidate, or terminate the agency. This year it was ADMMR's turn! The Legislature makes the final decision when they meet for the next session, in January 2006.

Fortunately, the Department is staffed by a core of diligent and dedicated personnel. We also have exceptional friends in the Industry and fine Museum supporters. With their help we were able to get the Annual Report polished and in on time, respond to the Review questions, and present a solid case for the continuation of the Department at the Reference Committee meeting. I am grateful to those who responded, at short notice, by writing letters, sending e-mails, and appearing and speaking in our behalf at the meeting. With the unanimous vote for continuance by the Reference Committee, although we have a few meetings scheduled to go over the statutes, we feel confident about the outcome of our Sunset Review.

With these activities behind us, I look forward to meeting with you either at the Department, should you visit here, or at technical meetings or Museum functions. We will continue to serve the minerals community as we have in the past and, also, work towards making improvements and progress. It is part of our mission to promote mining and exploration in Arizona and to educate the public about the role of minerals in our society. We, as a team, intend to perform those tasks capably and thereby enhance the economy of Arizona!

Museum News

by Susan Celestian, Curator

Some exciting highlights punctuated a relatively quiet summer!

It has been a couple of years since we offered summer workshops to teachers and home schooling parents, and this summer we offered two. One on mineral identification and one on rock identification. Stan Celestian was the lead instructor, and he had written PowerPoint presentations on crystal forms, mineral identification, and rock identification – all three of which we put on a CD, which was presented to each attendee.

Laurette Kennedy (tour guide) led a summer reading program on Tuesday's and Thursday's. She called it "Books on the Rocks," and she had an average audience of 16 children. Local resident, Larry James, author of *September Rose* (on sale in the Museum gift shop) made a presentation at one session. Mr. James spoke about his inspiration and read excerpts from *September Rose*.

I am very pleased to announce that we have three beautiful postcards depicting Museum specimens – photographs by Stan Celestian. We will be adding to the selection as time goes by.

Silversmithing, casting, and Joanne Hesterman's wire wrapping classes continue to draw a crowd. We purchased some new equipment this summer, and Doug Duffy has managed to use space so creatively that more saws, a centrifugal casting machine, and safer soldering stations were added to the lapidary shop.

During the summer, part time staffers and I revamped the long-defunct Teacher Pac. It is a CD, with grade-appropriate classroom activities, plus general geological and mining information. The creative juices were really flowing and the result is impressive. The CD format means that each recipient will get activities for all grade levels, and they will be more durable than the old paper version. The work and printing were paid for by a grant from Qwest.

The halls are once again vibrating with the exuberance of excited children and our education program is off and running! Thanks to the grant from APS, schools without money for field trips or speakers can apply for funding. Responses to our first information mailing are already coming in. And Resolution Copper is underwriting three Outreach trips to schools in Superior.

It looks like it will be a great year!



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