Unique Design of Solar Oven Leads to Copyright

Saving money and energy are good reasons to invest in a solar oven, but for Jean Martinez Welles, the crusade to promote solar cookery has much deeper significance. A professor in Health Careers at UNM-Gallup, Martinez-Welles is the co-inventor, along with Gallup High School wood shop instructor John Welles, of a solar oven developed with a grant from the Center for Disease Control as a component of the college’s Diabetes Prevention program. And, she’s also a strong advocate of alternative ways of cooking to help promote better health in our area.

The solar oven invented by Martinez-Welles and Welles was funded by a Center for Disease Control grant awarded to UNM-Gallup to develop a program to combat diabetes in this region. The ovens were distributed to various persons in the Pueblo of Zuni.

Four Faculty Members Awarded Tenure

Four University of New Mexico-Gallup faculty members were recently awarded tenure and promoted to the rank of associate professor. They are: Carol Frick, chair of the Zollinger Library; Kathy Larason, Business Management and Technology; Kamala Sharma, Mathematics and Science; and Elvira Stahn, Business Management and Technology.

Frick has a Master of Library Science from Emporia State University and a Bachelor of Science degree in Education from Slippery Rock University. She also has her New Mexico Professional Librarians Certification and her School Library Media Endorsement.

Larason has a Bachelor of Science degree in Mathematics and a Master’s of Library Science from the University of Oklahoma. She participated in a Ph.D. program in Computer Science at the University of Louisiana at Lafayette and completed all the coursework except the dissertation. She started working at UNM-Gallup in 1996 as a librarian, and transferred to the Business Management Tech program in 2000. Most recently, she has been researching bioinformatics.

UNM-Gallup 3rd for Awarding Indians Associate Degrees

The University of New Mexico-Gallup Campus was ranked third nationally in Community College Week for graduating American Indian students with Associate’s degrees for 2003-2004. UNM-Gallup graduated 122 American Indian students with Associate’s degrees, behind Diné College in Arizona with 208 graduates, and Tulsa Community College in Oklahoma with 131 graduates. UNM-Gallup was up 9 percent from the 2002-2003 total of 112 Native American graduates with Associate’s degrees.

Twenty men and 102 women graduated with Associate’s degrees from UNM-Gallup for the 2003-2004 period. The figures for this period were listed as preliminary.

The data used by Community College Week was gathered from the United States Department of Education.

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We all know UNM Gallup is a great place for students to get started on a college career, complete a degree or get specialized education that will help them move into the workplace. But sometimes I think we lose sight of the many other facets of UNM Gallup activities. Our school is deeply involved in a wide range of community activities and works in close partnership with many organizations, companies and agencies to help build a better life for all McKinley County residents.

In the past year alone our campus has formed active partnerships with the Inter-tribal Indian Ceremonial, with local employers such as Giant, Conoco, El Paso Natural Gas, Indian Health Services, Rehoboth McKinley Christian Health Care Services, with agencies such as the Navajo Department of Workforce Development, Navajo TANF, Zuni Education and Career Development Center, Gallup McKinley County Schools, Zuni Schools, and with numerous Navajo Chapters.

Some exciting service learning activities we’ve embarked on that include faculty and students include: our Medical Lab Tech students doing blood draws for the annual Health Fair; Linda Burson, a lecturer at our Zuni campus, planted 10,000 trees in the Ramah area; our Construction Tech students helped build a Habitat for Humanity house; and Loren Leekela, a Construction Tech instructor in Zuni, had his students help with various construction and housing projects in Zuni. UNM Gallup is fully committed to being a good neighbor and partner in efforts to improve the quality of life for not only our students but all of the residents of McKinley County.

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Sharma has a Ph.D. in Biochemistry from the Oregon Graduate Institute of Science and Technology in Portland, Oregon. She previously received a Master’s degree in chemistry from University of Oregon in Eugene. She joined UNM-G in 2000. Sharma is the Project Director for the Office of Research Initiative at UNM-G. The Office of Research Initiative (ORI) at UNMG receives funding from the National Institute of Child Health and Human Development at the National Institutes of Health. The ORI provides money for faculty members to work on their pilot projects. She is also the UNM-G coordinator for the Bridge Program as well as the Idea Networks of Biomedical Research Excellence at the New Mexico State University.

Stahn was recently elected chair of the Business Technology and Management Department. A high school dropout who got her GED in 1973 from Window Rock High School, she went on to earn an Associate of Science Degree in Business from AAA Business College in Albuquerque in 1976, and a Bachelor of Science Degree

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Around the Campus

New chairs for the instructional departments of UNM-Gallup have been named: Elvira Stahn, Business Technology; Bruce Gjeltema, Social Science; and LaVerne Chischilly, Health Careers. Jim Sayers resigned as chair of Transitional Studies, and has been succeeded on an interim basis by Mary Snaden. Returning chairs are Robert Hoffman, Arts and Letters; Carol Frick, Zollinger Library, Samir Wahid, Math and Sciences; Kathy Head, Nursing; Ann Jarvis, Education; and Chris Chavez, Applied Technology.

Chris Chavez, Applied Technology. Florentin Smarandache, associate professor of mathematics at UNM-Gallup, is a co-publisher of an international journal of physics with two Russian scientists affiliated with the Institute of Theoretical and Experimental Biophysics from Pushchino (Moscow region, Russia), Dmitri Rabounski and Dr. Larissa Borissova, and with a researcher from Sydney, Australia, Stephen Cot roasthe. The journal is called Progress in Physics. It can be found and downloaded at www.gallup.unm.edu/~smarandache/physics.htm. The journal attracts an international audience with contributors from many countries and high research institutions. He is also the editor-in-chief of the International Journal of Applied Mathematics and Statistics. A Fall Recital Series will get under way starting with a Harp Duet on September 1 with Anne Eisfeller and Lynn Gorman-DeVelder of UNM. All concerts will be in Calvin Hall Auditorium at 7 p.m.

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and on the Navajo Reservation for testing.

As Martinez-Welles explains, people of our region often favor the frying of food, not only as a matter of taste but also because of the high cost of fuel needed for baking. The solar oven project was developed to acquaint rural people with alternative and more healthful ways of cooking.

After introducing their solar oven during the diabetes initiative, the co-inventors were besieged by people asking for plans. It was at that point that Martinez-Welles began to wonder if their invention was patentable.

“There are a lot of different solar ovens out there,” Martinez-Welles said. “I wasn’t sure if ours was different enough to patent.”

Over the last year, however, Martinez-Welles came to realize she and her co-inventor might have something unique. They were encouraged by Arizona Barbara Kerr, a leading researcher in solar cooking, who praised the oven’s beehive door. The unique design of the door allows less air to escape than other designs, and allows the cook to set a stockpot inside. Paul Funk, an engineer with the U.S.D.A. Agricultural Research Service and an expert in solar cooking, also applauded the design, which is well adapted to the rigors of the Southwestern region. A large base and the absence of solar “wings” that some designs have are both features that contribute to the stability of the oven in our windy region.

The inventors also tout the oven’s sturdy design as being “rez dog-proof,” a must in a region where roaming canines would be likely to tear apart flimsier construction in search of a chance meal.

Although the inventors didn’t apply for a patent within the required year’s time of introducing the oven, they were still eligible for a copyright. The unique features of the oven helped convince the Science and Technology Corporation@UNM that the inventors did indeed have something that could be copyrighted and the process began. STC helped the inventors create downloadable plans to be sold on www.foliodirect.net – a site where the public can purchase technology, courseware, training materials and like developed by personnel from UNM and other universities—a kind of eBay for universities, as it has been described. The plans were recently made available on this site for $30.

Martinez-Welles said that she and her co-inventor were mindful, as they developed the plans, to keep them simple.

“We wanted the plans to work for people with only basic skills and tools,” Martinez-Welles said. Some of the tools needed: power saw, hammer, caulking gun and a drill. Basic materials, which include plywood and either regular or tempered glass, she said, could be purchased for around $100.

“The plans are very tight—and anyone can do this,” Martinez-Welles said.

Some of the dishes that Martinez-Welles and other faculty and staff at UNM-Gallup have prepared: roasts, muttons, shrimp, breads, baked eggs, quiche, meringue and rice, as well as turkey breasts and spare ribs.

“It’s not hard to clean, everything is covered and nothing will boil over,” Martinez-Welles said.

The oven bakes at a temperature of approximately 250 degrees, a little lower than a commercial oven, but more than adequate for a well-done repast. The inventors have tested the solar oven in various sites across the region, and have found that the intense sunlight at this elevation appears to compensate for the cooling effects of the persistent winds that blow across the Colorado desert plateau.

So what are the drawbacks? Well, on a rainy day, you might have to make alternative plans for cooking – but as folks in Dinetah and Zuniland know, that’s usually not an issue after monsoon season finishes.

For more information on how to obtain plans for this solar oven, go to http://stc.unm.edu/portfolio/solaroven or contact Jean Martinez-Welles at 863-7515.

in Business Administration from the University of Albuquerque in 1980. She received a post-Bachelor of Arts Degree in Elementary Education at UNM-Gallup in 2000, and has a New Mexico licensure to teach K-12 with endorsements in Information Tech Coordinator and Business. She is now working on a Ph.D. in Organizational Learning Instructional Technologies, School of Education, UNM. She maintains a 3.45 grade point average. She is also a volunteer educational assistant in a first grade class at Roosevelt Elementary School. For the past couple of years, she has had her college students participate in service-learning activities with Battered Family Services and My Sister’s Resale Shop.

Tenure-track faculty receive a mid-probationary review after three years of employment, and if successful, they are reviewed again for tenure and promotion at the beginning of the sixth year, said Chris Marlow, Dean of Instruction. “Faculty are reviewed on the basis of service, professional development (scholarly work, research, creative work and disciplinary growth), teaching, and personal characteristics” Marlow said. “Teaching is of course the most important at UNM-Gallup. Once they have applied for tenure and promotion, the rank and tenure committee makes recommendations, and the dean makes recommendations to the executive director, with the Provost making the final decision. Tenure results in a continuous contract.

Some faculty are employed as non-tenure track faculty, and they go through a different review process, Marlow said, if their performance is satisfactory their contracts are renewed annually.