

Author in town to plead Pluto's case

By S. Derrickson Moore

Sun-News reporter

LAS CRUCES — The future could still be bright for Pluto, the recently reclassified heavenly body discovered by the late, great, long-time Las Cruces resident Clyde Tombaugh.

That's the verdict of MSNBC science editor Alan Boyle, author of the new book "The Case For Pluto," who is town to meet with

Tombaugh's family, speak with New Mexico State University students and host the first signing for his book about "the cutest and most unfairly treated planet" from 6 to 7:30 today at Barnes & Noble in the Mesilla Valley Mall.

"When the International Astronomical Union voted in 2006 to evict Pluto from the roster of planets in our solar system, little did they expect the public outcry that would arise. Boyle, an award-winning science writer and the science editor at MSNBC.com, presents the issues regarding Pluto's status, both popular and scientific, in a winning fashion," notes Discovery Magazine.

"It's a fascinating, complex case," said Boyle, as he took a break Thursday at the New Mexico Farm & Ranch Museum, where he was attending the International Symposium for Personal and Commercial Spaceflight.

"I saw myself as trying to prepare a legal brief for Pluto's defense in the court of public opinion. We can't turn back to the way things were in 2004. We've learned so much about the solar sys-



Alan Boyle

If you go

- ▶ **What:** "The Case For Pluto" book signing
- ▶ **Who:** Author and MSNBC science editor Alan Boyle
- ▶ **When:** 6 to 7:30 today
- ▶ **Where:** Barnes & Noble at Mesilla Valley Mall

tem," said Boyle, who added he would like to see Pluto considered as "representative of a whole new class of planets, worlds on the edge that tell us where the frontiers of the universe really are."

Especially in classroom situations, he said, "I would like to see those little guys get their due. The way I think of Clyde Tombaugh's legacy is that he discovered this first citizen of a whole zone of fascinating planetary objects out there. The IAU may try to take away planetary status and downplay the role (of Pluto)," Boyle said, but he feels Tombaugh's legacy as a pioneering astronomer is secure.

Tombaugh's daughter, Annette Tombaugh of Las Cruces, said Pluto continues to attract a lot of public attention.

"They've just completed filming a 'NOVA' show with Neil Tyson which I understand will be on PBS sometime in February," she said.

She said the family enjoyed Boyle's book and were looking forward to meetings with him during his visit that will include Annette's husband, Wilburt Sitze, followed by a meeting with Clyde Tombaugh's widow, Patricia, and the couple's son and daughter-in-law, Alben and Cherylee

Tombaugh.

Patricia Tombaugh said Thursday that she is following the developments surrounding the Pluto controversy and was looking forward to a gathering with Boyle in the family home she shared with Clyde.

"Mom will turn 97 in a couple of weeks and is doing well," Annette Tombaugh said.

Patricia Tombaugh was present for the Jan. 19, 2006, launch of the \$700 million New Horizons Pluto probe, which carries the ashes of Tombaugh, who died in Las Cruces on Jan. 17, 1997. The probe is scheduled to arrive at Pluto on July 14, 2015, then continue into the Kuiper belt.

Tombaugh was a Kansas farm boy whose passion for astronomy led him to build his own telescopes and make observations that won him a job at Lowell Observatory in Flagstaff, Ariz., where he discovered Pluto in 1930 at age 24, after spending thousands of hours examining millions of star images in the days before computers. He then went on to attend college, worked at White Sands Missile Range and was on the faculty at New Mexico State University from 1955 until his retirement in 1973. He continued to lecture throughout the world about a career that included discovery of "hundreds of new variable stars, hundreds of new asteroids and two comets. He found new star clusters and clusters of galaxies, including one super cluster of galaxies. In all, he counted over 29,000 galaxies," according to the Academy of Achievement museum in Washington, D.C.

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Courtesy photo

Clyde Tombaugh, shown here in his Las Cruces back yard, discovered Pluto in 1930. He later worked at White Sands Missile Range and was on he faculty at New Mexico State University from 1955 until his retirement in 1973, when he went on to lecture throughout the world. He died in Las Cruces in 1997.

NMSU faculty work to improve aging electrical grid technology

By M. Therese Shakra

New Mexico State University

LAS CRUCES — New Mexico State University faculty from the Institute for Energy and the Environment and the College of Engineering were awarded a \$1 million Department of Energy grant to demonstrate a renewable energy-based microgrid in partnership with an electric utility company. Algae-based biofuel will be tested and evaluated to facilitate the microgrid electricity generation and transmission.

There is a critical need to renew our nation's electrical infrastructure, the physical electricity network known as the grid. U.S. Secretary of Energy Dr. Steven Chu referred to this need through a popular comparison at the recent "Re-Energize America" conference at NMSU.

"If Alexander Graham Bell were somehow transported to the 21st century, he would not begin to recognize the components of modern telephony — cell phones, texting, cell towers, PDAs, etc. — while Thomas Edison, one of the (electric) grid's key early architects, would be totally familiar with the grid," he said. Chu also described how the National Academy of Engineering identified the single most important engineering achievement of the 20th century as electrification because of the grid, surpassing the Internet and the interstate highway system.

Addressing the advancement of this transformative but aging technology are engineering professors Abbas Ghassemi and Satish Ranade, and environmental engineer Luz-Elena Mim-bela. They are spearheading the microgrid project with a secondary objective of developing energy-related technologies that can be used to reduce dependence on fossil fuel energy.

The Energy Technologies Research and Education

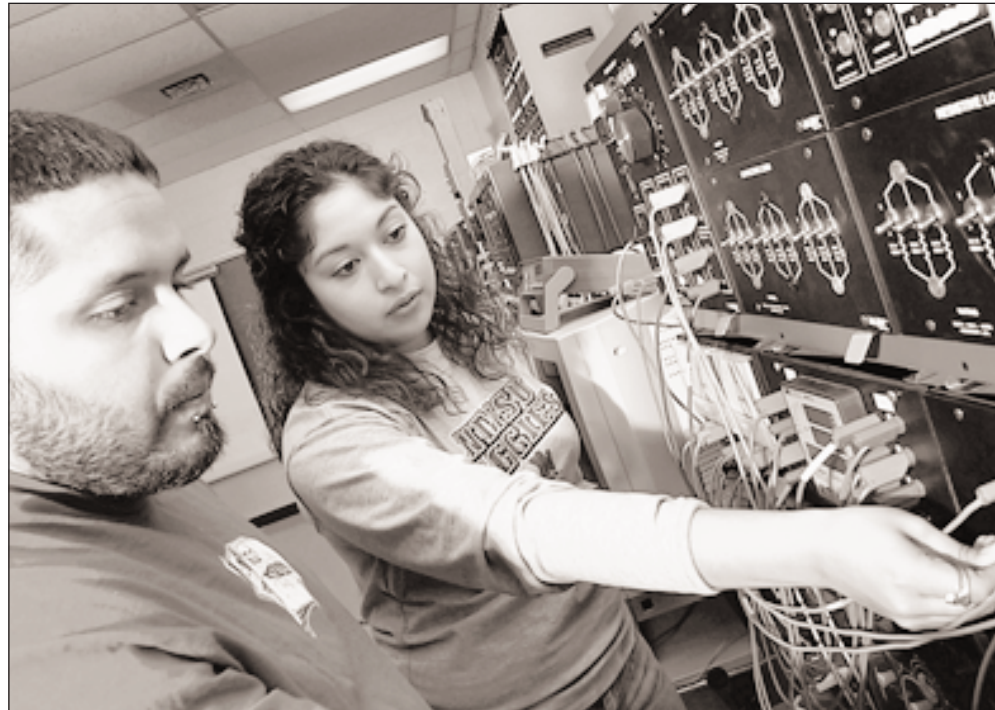


Photo for the Sun-News by Darren Phillips/NMSU

Electrical engineering students David Valencia and EvaMarie King work in the El Paso Electric Power Systems Laboratory at New Mexico State University. The laboratory, housed in the Klipsch School, was developed with a grant from El Paso Electric Company and the Air Force Office of Scientific Research.

Initiative includes defining the economic, public policy and physical concept to grow a microgrid subdivision in Las Cruces. The investigators can determine hardware solutions for distribution feeders in the existing nine residential-style buildings equipped with grid-tied photovoltaic (solar panel) systems ranging from 3-5 kilowatts.

A prototype subsystem at NMSU would allow developers and builders to successfully evolve projects wherein solar, wind and other renewable energy resources are integrated into a single package to the customer, residential or commercial. The approach includes working with the regional utility El Paso Electric, and must provide benefits, or at least be cost/revenue neutral for the developer and the electric company. Design studies with EPE will include power flow, fault and protection, and dynamic analysis.

The biofuels segment of the project includes the installation of equipment to demonstrate the produc-

tion, harvest, dewatering and extraction of algal biomass feedstock to produce algal oil or "biocrude." The integrated biorefinery development will evaluate the viability of biomass feedstocks to substitute fossil-based transportation fuels. This could become an additional renewable energy option (other than solar and wind) to facilitate microgrid evolution, including the ability to disconnect from the national grid when there is a general utility failure, build a local market for power production, and add smart features that will only get nominal deployment on the national grid.

Education and workforce development efforts will also be advanced through integration with the Electric Utility Management Program and the Renewable Energy minor on campus. The university's historical EUMP provides a competitive advantage in such technology transfer projects. The highly acclaimed program is designed to educate power system engineers who understand the

engineering aspects of electric power systems, as well as the economics, management, and societal aspects of the power engineering profession. Upcoming short courses in the program include Electrical Substations: Living with the Old While Creating the New, and Wind Energy Boot Camp.

IEE is comprised of WERC, a consortium for environmental education and technology development; SWTDL, a renewable energy resource development group; and CEMRC, a nuclear waste management and monitoring center. The Institute is a multidisciplinary Center of Excellence, focusing on energy, the environment and water. For more information on IEE, visit <http://iee.nmsu.edu> or call Abbas Ghassemi at (575) 646-2038.

"Eye on Research" is provided by New Mexico State University. This week's feature was written by M. Therese Shakra of the Institute for Energy and the Environment at NMSU.

WSMR

Program helps military kids make school transition

By White Sands Missile Range staff

WHITE SANDS MISSILE RANGE — Six students from White Sands Middle School were selected to participate in the Junior Student-to-Student program to help make the transition process for incoming and outgoing students a lot easier.

The JS2S program, run by the Military Child Education Coalition, is designed to help change a transitioning student's focal point from what has been or will be lost, to what the student will gain through the relocation. JS2S guides students through their uncertain surroundings, offering valued information from a peer's point of view, friendship and assistance in the areas that matter most.

Marcus Artino, Katarina Churchman, Treasure Clay, Tamera Mason, Ray Smith and Christine Wickler attended the two-day training Sept. 17 and 18 in El Paso along with their advisors, Kathy Vigil, Mrs. Ganuelas and Damon McGibboney.

During their training, these middle-schoolers learned how to meet the needs of transitioning students, as well as relevant information they need to share, and how to establish an immediate relationship to help the new student feel more comfortable while adjusting to a new school. They participated in group activities, met other students from different schools, and developed a plan to implement JS2S at White Sands.

The middle level, grades five through eight, can be a very challenging time in a young person's life. Students are trying to figure out who they are and where they fit in with their

friends, in school and in their community. They are trying to find where their interests lie, and what their likes and dislikes are. They are also preparing for their future. It can be a very uncertain time.

Now, imagine moving to a new school in a new town. Imagine walking into a school for the first time. You don't know anyone, you don't know your way around the school and things at your new school are very different from your old school. How will you ever figure things out and find a place to fit in?

JS2S is rooted in the belief that transitioning, moving from school to school or city to city, does not have to be difficult, just different. A team of students and adults train incoming and exiting students in three areas: finding the way, academics and relationships. Incoming students are provided a forum in which to quickly feel welcomed, comfortable, included and accepted into their new school community. For the student who is exiting, the team assists preparing them for the transitioning to another school.

Since the training, these JS2S representatives have begun creating a DVD for new students to orient them to White Sands Middle School, which will be coming to the school's Web site soon. They also wrote two songs to include on the DVD, and are prepared to begin training other students to become part of this program. When asked what they learned from the training, Ray, Tamera, Kat and Christine all said "100 percent acceptance!" the motto for the two day training.

"What's Up at White Sands" is a regular column written by White Sands Missile Range staff.