

## Medical Mission at Vuelta Grande

A year ago the medical mission at Vuelta Grande started to take shape when ACEER received a grant from the AMB Foundation. This mission was the idea of Dr. Roger Mustalish, President of ACEER and faculty member at West Chester University of Pennsylvania. Roger had visited the village with university students, on the journey to ACEER-Los Amigos.



*The dentist is in at Vuelta Grande!*

The idea originated because they noted a lack of basic health care and emergency services for the inhabitants of the community of Vuelta Grande - the closest health care facility being almost 2 hours away in Laberinto. There are many isolated indigenous communities in the Madre de Dios region where ACEER operates.

Coordination to bring about this medical mission occurred between the local health authorities (DISA) in Puerto Maldonado and ACEER. DISA, at ACEER's request, organized a group of four health professionals including a general doctor, nurse, dentist and lab technician. Medical supplies, equipment and basic medicines were acquired in Lima and Cusco and sent to Puerto Maldonado for the trip to Vuelta Grande. It took several months to pull all the pieces together, including assembling the team, getting work permits for the medical team and purchasing the supplies necessary to conduct the mission.

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## ACEER and ACA Sponsor Workshops to Explore New Gold Mining Technologies Along the Madre de Dios

**By: Joseph Bishop, Ph.D. ACEER Foundation**  
(Chair, Science and Education Advisory Committee)

Soon after boarding the boat for the 4-5 hour boat trip to the Los Amigos Biological Station every researcher and student comes face-to-face with one of the most important livelihoods in the Madre de Dios region - Gold Mining. Regional maps reveal that the Peruvian Government has designated a continuum of mining concessions along the Madre de Dios River. Due to gold mining's economic and social importance, as well as its environmental and public health impacts, ACA and the ACEER started to offer visits to mining dredges among their educational activities.



*Typical gold mining barge found along the Madre de Dios River. (Photo: Fred Gage)*

Promoting new gold mining technologies the ACEER Foundation and the Amazon Conservation Association (ACA) with several partners hosted two CleanGold® demonstrations in March 2008. The partnership included Kristina Shafer of Artminers.org: Institute for Sustainable Mining, David Plath of CleanGold® LLC, Nigel Pitman of ACA, Manuel Reinoso, Asociación de Mineros Artesanales del Sur Medio y Centro del Perú, Miguel Herrera, Asociación de Pequeños Mineros Auríferos de Madre de Dios, Hugo Miranda, Asociación de Pequeños Mineros Auríferos de Boca Amigos,

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Rocío Martínez, biologist and community education specialist, and Joe Bishop ACEER Foundation.

The CleanGold® process involves two parts. The first is to insert an array of panels into the sluice of each mining dredge. The panels are a material patented by David Plath that attracts and collects mineral concentrates containing gold as they pass over the panels. The second part relies on a modified version of panning techniques used by gold miners for more than 100 years. One benefit of this technology is that it requires very few changes to how miners already mine gold.

David Plath led two CleanGold® demonstrations - one near Puerto Maldonado at the community of Tres Islas and the second near the Los Amigos Biological Station at the community of Boca Amigos. Each demonstration included 3-4 days at each location installing the CleanGold® panels, training the owner and workers, and testing the installation and mineral concentrates. This was followed by a one day public demonstration at each location where local miners and public officials were invited to learn about the new technology. There were 40 participants among the two demonstrations. These were followed by a public presentation at the regional government in Puerto Maldonado that was attended by 45 people.

The goal was to introduce technologies that eliminate the need for mercury (Hg) during the mining process. Gold in the Madre de Dios is no bigger than very fine sand. During gold extraction mercury is added to the mineral concentrate and, acting like a magnet, it binds with the gold forming an amalgam. Finally, before the gold goes to market, the amalgam is heated to burn off the mercury concentrating the gold. When heated mercury volatilizes, it forms a toxic gas just as it is released into the air and water around the mining sites.

Mercury's toxicity has been shown to cause both neurological and developmental problems and it bioaccumulates in the ecosystem. Thus, the vaporized mercury initially affects the miners and their families, then continues to build up along the food chain concentrating in the larger fish and birds. Then the mercury finds its way back to the people of Madre de Dios in the larger fish sold in the local markets.

Each gold mining operation vaporizes between 1-2 kilograms of mercury each week. This is about the size of one 16 oz. soda. Based on a 2002 report, the World Wildlife Fund estimated that between 10-30 tons of mercury are released in the Madre de Dios region each year.

By eliminating mercury from the mining process everyone wins. The miners no longer purchase mercury, saving

them money the first day. Also, miners are no longer breathing the mercury vapor eliminating the health threats along with reducing mercury's cumulative impact on the environment.

David Plath reported that, based on preliminary testing, the CleanGold® process was also more efficient recovering a

higher percentage of the finer gold particles, gold that is missed using current mining

methods. David also estimates that each miner's initial investment from their purchase of CleanGold® equipment will be paid for in less than three months. Kristina Shafer also reported that "Artminers" has been organizing an international market for gold that is mined using mercury free methods. Buyers and consumers are willing to pay top prices for clean gold. So as the number of clean gold miners grows, so does their capacity to earn more money from their work.

All of the partners felt that these first demonstrations were very successful and were encouraged by preliminary results and comments from participants. Funding for this project was provided by Artminers, ACA, and the ACEER.

#### *Medical Mission- continued from page one*

Finally, on May 10th and 11th, 2008, the team traveled to Vuelta Grande and conducted its medical mission. A total of 77 people attended, with 66 people actually being treated. The team was able to diagnose the current health situation of the community, identify the main causes of illness, including deficiencies in the environmental treatment system and finally, identify possible solutions to these problems. In addition, the team created an awareness of healthy lifestyles and prevention of illness within the community.

All of the inhabitants of the community were very excited and anxious about the visit of the medical mission. They were very grateful for this important health initiative and expressed their gratitude in a letter of thanks to Dr. Roger Mustalish.



*Participants of the Boca Amigos demonstration learn about CleanGold®. (Photo: Joe Bishop)*



*Panning for gold in the Madre de Dios River. (Photo: Fred Gage)*



*Blood pressure screening at Vuelta Grande.*

# Olivia: Voices for the Rainforest Event a Huge Success!

On Wednesday, May 7th friends and supporters of ACEER descended on the National Geographic Society in Washington, DC for a benefit event which included a reception in the National Geographic museum, dinner for over 200 people and the highlight of the evening, a benefit concert for almost 400 people by Olivia Newton-John in the NGS Grosvenor Auditorium. The evening was a huge success! Thanks to the generosity of many, ACEER raised over \$340,000 and met the second challenge grant of \$100,000 from the Windhover Foundation.

Returning just a few days earlier from her walk on the Great Wall of China to support breast cancer research, Olivia delighted all in attendance with a very personal concert that highlighted the purpose of the evening - a need to care for ourselves and our planet and in particular, the Amazon Rainforest. Olivia's song choice included the title track from her Grace and Gratitude CD as well as "Instrument of Peace" from the same CD. She also sang "Gaia" for the first time in public, a song reflecting on Olivia's own experiences with cancer. We are especially thankful to Olivia Newton-John for her generous gift of the gala concert.



John Easterling, CEO of Amazon Herb Company, Olivia Newton-John, Caran Quadracci, Joel Quadracci, Vice President of ACEER, President and CEO of Quad/Graphics. (Photo: Gregg Woodward)

**Go Green!! Sign up for the ACEER newsletter via e-mail - contact Mary Ann Robinson at [mrobinson@wcupa.edu](mailto:mrobinson@wcupa.edu)**

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**THANK YOU!**

## Future workshops

### **Orchids of Peru**

November 1 - 10th, 2008

Explore the Cloud Forests of the Andes and see the Sacred City of Machu Picchu. Also visit Alfredo Manrique's Nurseries in Lima.

### **Environmental Issues Across the Americas**

Penn State University - **Rescheduled**

December 27 - January 9, 2009

An interdisciplinary study of the interconnectedness between environmental issues in North and South America.

### **Geology and Ecology of the Amazon Rainforest and Andes**

Feb. 28 – March 8, 2009

A comprehensive field study of the geology, ecology and culture of the lowland tropical rainforest and the highland sub-tropical cloud forest. Visit Machu Picchu.

### **Botanical Medicines from the Amazon and the Andes**

August/September, 2009

An exploration of traditional and modern uses of plant based medicines from the Amazon and Andes for health promotion, symptom management and disease treatments.

For details contact Mary Ann Robinson at [mrobinson@wcupa.edu](mailto:mrobinson@wcupa.edu) or 610-738-0477.

## Comments from workshop attendees:

“As strange as this may sound, there was something sensual about the rainforest. It was almost like it stripped a person down to their core, exposing a naturalness that one could only find in such a place.” ~ **Allison Shepherd WCU March '08**

“All in all, the students and professors had an incredible time in Peru thanks to the ACEER Foundation and many of the students are already excited to return for their next adventure!”

~ **David Bercaw WCU March '08**

“We spent a day at Machu Picchu. Our guide was the same one who had guided the Dalai Lama through the site. We stood in awe at the skill and audacity of the ancients. We touched history and mystery.”

~ **Sheri Russell Orchids April '08**

“Meeting Alfredo Manrique, the orchid grower in Lima was a delight. *Phragmepedium Kovackii* was blooming - a sight I will never forget.” ~ **Penny Rickenbach Orchids April '08**

“It was really amazing to be able to go from the jungle to the Andes to the coast in one trip.” ~ **Scott Rawhouser March '08**

“All I can say is that Peru was fascinating – I loved it!”

~ **Donna Woods March '08**

Please visit the ACEER website - [www.aceer.org](http://www.aceer.org) - for their complete insights!

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