



# IMS EXPLORER

Institute of Maya Studies

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May 15, 2013 • Maya Ceremonial Era Long Count: 0.0.0.7.5 • 6 Chik'chan 3 Sip G1

## A Maya Scribe from San Clemente, Petén

by **Karl Herbert Mayer**, Mexican, Austrian Bureau

The ancient Maya settlement of San Clemente is located in the northeastern section of the Guatemalan Department of Petén and was discovered in 1895 by the German scientist Karl Sapper (1895, 1896). Sylvanus Morley (1937-38) visited the site in 1922; the Danish archaeologist Frans Blom in 1924 and 1925; and Percy Madeira spent two days at the site in 1930. In 1958, William Bullard investigated the ruins, but in the decades since then, it's only been chicle collectors and looters who have frequented the site.

After many fruitless attempts, the author was finally able to locate Sapper's discovery again in 1992. In that year, I accompanied a group of researchers from "Programa de Rescate", led by Oscar Quintana of the Guatemalan Instituto de Antropología e Historia (IDAEH), on a survey in the northeastern part of the Petén. We found the lost San Clemente near the small modern settlement of Aguadas Nuevas (Mayer 1993). The site was then known in the region as La Presumida. San Clemente



**Fig. 2:** The San Clemente tripod plate. Photo: Karl Herbert Mayer, 2012.

was confusingly also named El Tigre, Chichantun, El Gallo, and Los Altos (Quintana 1996: 242; Quintana and Wurster 2001: 118-119). Archaeological projects of the IDAEH focused on excavations, consolidations and restorations in 2006 (Quintana 2007), 111 years after the initial discovery, in the northern sector of the site, where six structures were explored. A major find was the discovery of a carved stairway depicting in low relief prisoners and hieroglyphs. In 2007, restorations were made to two major structures (Quintana 2008: 291).

When visiting the new "Museo Parque Nacional Yaxhá, Nakum, Naranjo" in 2012, I took photographs of several archaeological objects on display (Mayer 2012), including an interesting and remarkable polychrome ceramic dish, portraying a zoomorphic-anthropomorphic figure, obviously writing on a bark-paper strip (**Figs. 1, 2**). The dish is labeled as originating from San Clemente and is hitherto unpublished.



**Fig. 1:** Detail of the interior depicting a scribe. Photo: Karl Herbert Mayer, 2012.

### IMS Presentation:

May 15, 8 pm



Lake Punta Laguna, site of lakebed sediment analysis by Mark Brenner

**"Climate, Environment and the Ancient Maya: The Story from Lake Sediment Archives"**

with **Mark Brenner**

The IDAEH archaeologist Miriam Salas kindly provided detailed data on the artifact that is part of a report to IDAEH and the German Kreditanstalt für Wiederaufbau *continued on page 3*



**Jim Reed,**  
Editor

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# Drought and the Collapse of the Maya Civilization

The ancient civilizations of Mexico, Central and South America are still largely surrounded with an air of mystery.

Much of this resulted from the discovery of cities, many with gigantic pyramids, that appeared to have been simply abandoned.

These abandoned cities were an enigma. The fascination these abandoned cities hold arises because it became clear that many great cities, over a very wide area, had been abandoned before the arrival of the Spanish conquistadors. These cities and their magnificent buildings had clearly been centers of major states, supported by a vast complex of productive farms.

Any explanation had to account for the nature of abandonment of almost all cities and states in particular areas at particular times, including:

- The cessation of metropolitan activity for nearly 300 years. (After 909 CE, only a few Maya cities show evidence of continued inhabitation – e.g. Cobá, Lamanai, Mayapán, Copan, Chichén Itzá, Tulum – but with much reduced populations and activity.)
- The disappearance of millions of peoples.
- The failure of the population to rebound.
- Also had to plausibly explain – and evidence – the events and processes that led to this outcome.

On May 15, the IMS is proud to present a scientist who has been at the forefront of investigations into the evidence of drought in the Mayalands.

## Mark Brenner to the rescue

Mark Brenner is a professor in the department of geological sciences at the University of Florida (UF).

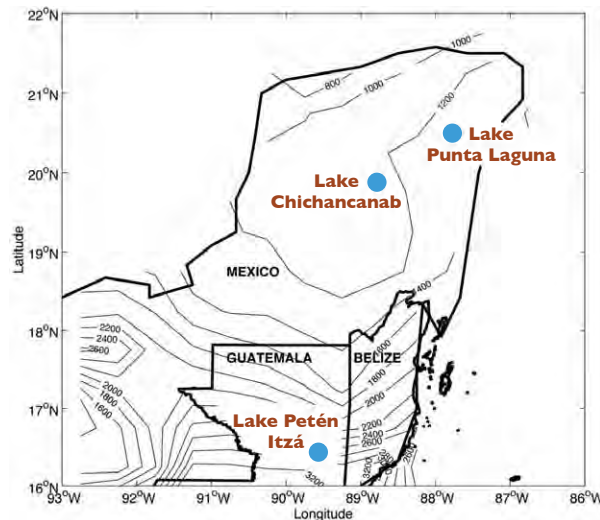


The drilling platform was working 24-hours-a-day while sediment core sampling on Lake Petén-Itzá.

Photo: Mark Brenner.



At home in the lab in UF, Mark Brenner examines a sediment core from Lake Punta Laguna, Quintana Roo.



Locations of lakes that Mark Brenner helped to investigate: Lake Chichancanab, Yucatán, Mexico; Lake Punta Laguna, Quintana Roo, Mexico; Lake Petén-Itzá, Guatemala. Based on: David Hodell, 1995.

On the UF website, Mark describes himself: “I am a limnologist/paleolimnologist with special interests in tropical and subtropical lakes and watersheds. My research and teaching address interactions among climate, environment, and humans. I’ve done fieldwork in Mexico, Guatemala, Panama, Venezuela, Bolivia, Ecuador and the Galapagos Islands, Haiti, Dominican Republic, China, Cambodia, and Florida. I serve as Director of the Land Use and Environmental Change Institute (LUECI). I am also Co-Editor-in-Chief of the *Journal of Paleolimnology*.”

Brenner is a specialist in lake core sampling and analysis. He has been a part of teams that have conducted examinations of the lakebed sediments in Lake Punta Laguna, Lake Chichancanab, and most recently in Lake Petén-Itzá.

## May 15 Program Abstract

Lake sediments accumulate in an orderly fashion and preserve abundant information

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about past climate and environmental conditions. Since the middle 20th century, scientists have used sediment cores from lakes in the Maya Lowlands to investigate the relations among climate, environment and ancient Maya culture.

Early studies in Petén, Guatemala, stimulated by  
*continued on page 6*



# A Maya Scribe from San Clemente, Petén

by Karl Herbert Mayer

continued from page 1

(KfW), which supported the 2006 investigations (Salas 2006: 49-50).

The decorated plate was found in Room 4 of Structure IV in San Clemente, together with many other Late Classic and Terminal Classic ceramic specimens in 2006 (Quintana 2007:19). The plate with the catalog number SCMC-01 rests on three hollow, 4.8 cm high supports. The height of the plate is 10.6 cm, the diameter at the base is 19 cm and on top 27.8 cm.

On an orange colored background decorations are painted in red, black, and dark-brown colors. The exterior paintings show geometric red bands and designs. On the interior, the rim has a red horizontal band with a fine black line below it. The slant interior wall is decorated with bands in red and black, as well as alternating pseudo-glyphic symbols in the same colors. The central design is encircled with red elements and black lines.

The imagery depicts a scene of an apparently mythical creature, which Salas describes as resembling a “deer in a position like a scribe”. The vessel, which was found mainly intact aside from only a few fissures, had been deposited in a cist as part of an offering, in Tomb 1, within



**Fig. 5:** Unprovenanced codex style cylindrical vase. Two scribes, one with “print-out” under arm. 13.4 cm high, 9.8 cm dia. Photo: © Justin Kerr, K5721.



**Fig. 6:** Unprovenanced codex style vase. Two “monkey scribes”. 11.0 cm high, 12.2 cm dia. New Orleans Museum of Art. Photo: © Justin Kerr, K1225.

**Fig. 3:** Unprovenanced codex style dish. Scribe with opened codex. 37.5 cm dia. Photo: © Justin Kerr, K5824.



Explore Kerr’s Maya Vase Data Base at: <http://research.mayavase.com>



**Fig. 4:** Unprovenanced dish. Individual writing with “print-out” under arm. 27.5 cm dia. Photo: © Justin Kerr, K8802.

Structure IV. Chronologically, it dates to the Late Classic period and the ceramic type was identified by Salas as “Palmar Naranja Policromo”.

The seated scribe is a supernatural being composed of more zoomorphic and less human features, represented in side view and facing left. He wears a simple loincloth and a wide belt embellished with circular white designs. The open mouth shows four teeth in the upper jaw. The large ear is red, and the short tail is red with a white tip.

The character holds a horizontal tablet of paper in the left arm and hand, while with the right hand he is painting with his thin brush pen. The scribe is obviously painting black dots on a sheet of paper. The bark paper strip is similar to the so-called “print-outs” or “math

print-outs” associated with scribes on Late Classic pictorial ceramics (Figs. 4, 5), and reminds one of the Postclassic scene on page 73 of the Codex Madrid, where God B holds a paper strip with bars and dots in his mouth (Reents 1994: 57, Fig. 2.25,b). A zoological identification of the Clemente personage is impossible, but it could represent a deer, tapir or a rabbit.

Maya artists frequently painted the images of scribes on ceramic plates (Figs. 3, 4) and cylindrical vessels (Figs. 5-7). The



**Fig. 7:** Detail of unprovenanced vessel showing two mythological scribes. Photo: Nicholas M. Hellmuth, from Hellmuth 1987: 322, Plate LIV, Fig. 720.

scribes can be human individuals (Coe and Kerr 1997: 102-108; Hansen 2004: 30), anthropomorphic or zoomorphic deities or supernaturals, accompanied by codices and ink pots or in the act of writing.

A beautiful supernatural rabbit scribe, painting in an opened codex, is represented on the famous and much publicized so-called “Princeton Vase” (Reents-Budet 1994: 39, 57, 356, 357). In some instances, animals other than rabbits and deer, have been depicted as scribes, such as monkeys or “Monkey-man Gods”, also foxes, dogs, or even vultures (Coe and Kerr 1997: 106-110).

The exceptional San Clemente tripod vessel was created in a rather simple, crude, and regional pictorial style, and executed in a fluid and swift manner. After more than a millennium in the obscurity of a hidden Maya burial it is finally on view for the visitors to the local museum at the ruins of Yaxhá.

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## Researchers in Peru Find Ancient Temple Within the Archaeological Complex of El Paraíso

El Paraíso is the modern name of a Late Preceramic (2,500–1,800 BCE) archaeological site located in the Chillón Valley on the central coast of Peru. The site is situated several kilometers north of Lima, the capital of Peru, in the Ventanilla District, in the Province of El Callao.

Located approximately two kilometers inland on the Rio Chillón flood plain, El Paraíso is surrounded by over 90 hectares of arable land and 150 hectares of lowlands capable of sustaining irrigation supported agriculture.

El Paraíso was one of the first big settlements and ceremonial centers in the region. The complex dates back to around 2,200 BCE. The main building is a big pyramid that was probably used as a temple or an administrative center. An estimate of around 1,500 to 3,000 people lived in the site.

In December 2012, a new investigation and excavation project led by Mark Guillen was initiated at El Paraíso. In January 2013, what was termed a “ground-breaking discovery” was announced.

### A Temple Lies Within

Archaeologists found the ancient temple off to one side of the main pyramid complex of El Paraíso. Initial excavations uncovered an underground ceremonial center



These are scenes of excavation activity from a short Youtube video that was released after the initial discovery was announced. The ancient temple remains are above. Watch the video

at: [www.youtube.com/watch?v=S96EHGGI\\_oU&feature=player\\_embedded](http://www.youtube.com/watch?v=S96EHGGI_oU&feature=player_embedded)

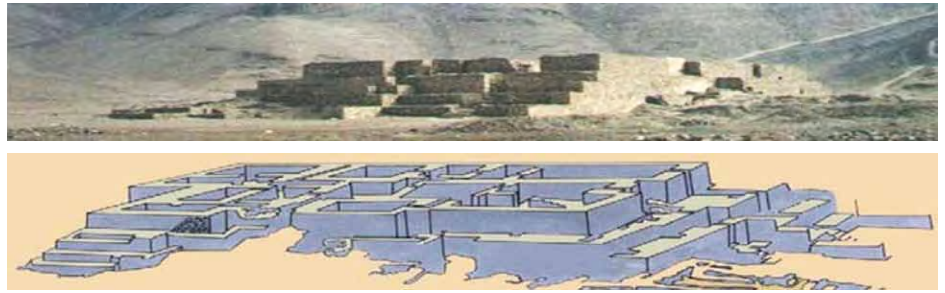
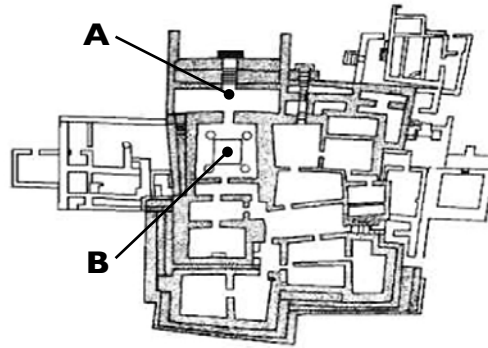


Photo and artistic rendering of the main pyramid at El Paraíso (The Paradise). The newly discovered ancient temple lies outside the main structure, in one of the “wings” of the complex.



Site plan of El Paraíso. (A) The doorway in the photo above, is actually the main entrance into the complex. (B) (below, right), is designated by the researchers as a “clearly recognizable foundation”



comprised of four levels, each older than the other. The construction is believed to have been built around 3,000 BCE. At the heart of the remains, researchers identified a hearth where presumably offerings were burnt. Because of this, the ancient ceremonial temple has earned the name “Templo el Fuego” (Fire Temple).

The conservation work had been carried out on the site on behalf of Peru’s Ministry of Culture when they came across the remains, which had been obscured by sand and rocks. Researchers said the temple walls were made of stone and covered in fine yellow clay that also contained some traces of red paint. The walls would have been 2.5m (8ft) high, but only about 70cm remain with the hearth at the center.



If the date is confirmed, this would place El Paraíso among the oldest sites in the Western Hemisphere, comparable to the ancient city of Caral, a coastal city some 200 kilometers (125 miles) to the north.

“The smoke allowed the priests to connect with the gods,” said Marco Guillen, who led the team of researchers who made the find. The discovery shows “that the Lima region was a focus of the rise of civilizations in the Andean territory. The main characteristic of their religion was the use of fire, which burnt in the center.”

The project is financed through 2017, and site archaeologists are hoping for even more interesting and revealing discoveries yet to come.

Original source: Sapa-AFP. Article condensed from various online articles released 2/12/2013 at: [www.limaeasy.com](http://www.limaeasy.com), <http://phys.org/news> and [www.bbc.co.uk](http://www.bbc.co.uk). Submitted by M. Ruggeri and S. Allen. 🌱





# The Cornerstone of a Culture: Nixtamalization

by Mark F. Cheney

When early American settlers and Europeans first

began consuming corn and cornmeal grown from seed imported from the recently subdued and colonized Americas, they suffered from nutrition deficiency diseases such as pellagra that they barely understood. How was this possible considering that corn or 'maize' was to a great extent "the staff of life" to indigenous Americans?

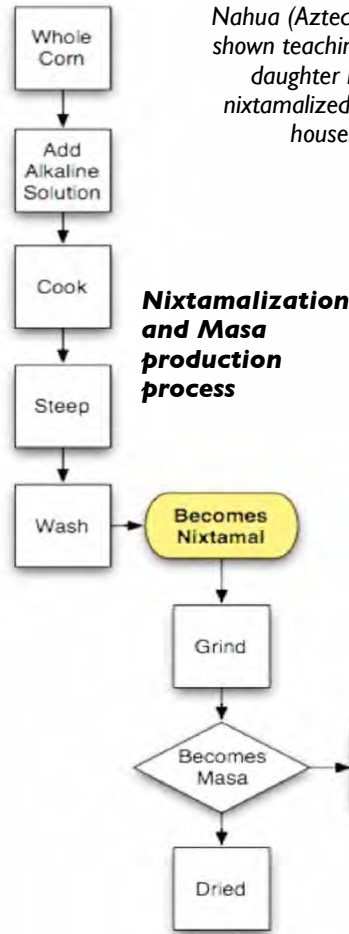
Before answering this question, let's examine the etymology of the word "nixtamalization", or in Mexican Spanish *nixtamalización*. In the Aztec language Nahuatl, the word *nextli* or "ashes" is combined with the word *tamalli*, meaning "wrapped" or "unformed maize dough". To make *nixtamal* or *nixtamalli*, which describes the process of preparing the grain through boiling it in an alkaline solution, such as crushed limestone or wood ashes.

This process was originally used as early as Olmec times (around 1200-1500 BCE) in order to soften the grain for grinding and to remove the clear husk or *pericarp*, and in so doing, they found that it improved the flavor as well. What the original chefs could not have known was that the process also enhanced the availability of amino acids and niacin, and made the resulting foods, such as tortillas and gruels, much more nutritious.

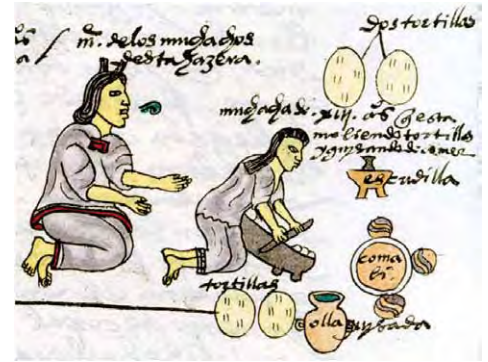
In fact, maize prepared this way provides most of the proteins needed by the average adult, and when combined with beans, provides a



Shucking corn in Quetzaltenango, Guatemala. Courtesy of [www.transitionsabroad.com](http://www.transitionsabroad.com)



In the Codex Mendoza, a Nahua (Azteca) mother is shown teaching her young daughter how to grind nixtamalized corn on the household metate.



We use nixtamalized corn in products such as these today – hominy and hominy grits. Hominy is a form of dried whole corn kernels that have been soaked in lye. Pozole (also commonly spelled posole) is



a traditional pre-Columbian Mexican soup made with hominy and meat, such as chicken or pork.

It is interesting to note here that the indigenous peoples of much of South America also use lime, baking soda or ash to increase the stimulant properties in fresh coca leaves, which they chew to increase stamina and overcome the negative effects of high altitude in their environment. Is there any connection other than that they used these alkaline substances to enhance flavor in many of their foods, much as we use salt and pepper?

Were they somehow more knowledgeable about the valuable chemistry of these substances than we give them credit for? Perhaps we shall never know for sure.

Although many of us love fresh corn on the cob, it would be better to consider it a vegetable than a protein rich grain. Fortunately, we have many nixtamalized corn products available to us, including hominy and hominy grits, masa flour, tortillas and *tamales* (note the root of this last word which we use quite often), all thanks to the Ancient Americans! 🍌

Sources: [Wikipedia.org](http://Wikipedia.org), [WiseGeek.com](http://WiseGeek.com), and *The True Story of Chocolate* by Sophie D. Coe and Michael Coe (Thames & Hudson, 2000).

balanced protein-rich diet. This process, in fact, allowed maize to become the dietary staple necessary to sustain and develop large populations in the cultures of ancient America.

Along with the spread of maize seed and cultivation practices, the nixtamalization process was passed on to North American and South American native peoples along with the spread of religious creation myths which included the maize god. Even our own Hopi have stories related to the corn god.

The Maya and Aztec mostly used naturally occurring lime deposits (calcium hydroxide or CAL), and wood or snail shell ashes (potassium hydroxide) to make their alkaline solutions. The ancient people north of the Inka, the Chibcha, also used calcium hydroxide, and tribes in North America used sodium carbonate, mined from natural deposits, or wood ash.

## Drought and the Collapse of the Maya Civilization continued from page 2

an increasing awareness of human impacts on the modern environment, were designed to evaluate how the ancient Maya transformed regional landscapes.

Palynological (pollen) and sedimentological studies revealed widespread deforestation and soil erosion, which only abated after the cultural and demographic decline (“collapse”) of the 9th century CE.

By the early 1990s, perhaps motivated by modern evidence for recent anthropogenic climate change, investigators began to explore the possibility of climate instability during the period of ancient Maya occupation.

Gypsum (calcium sulfate) concentrations and stable isotope values in small snails and ostracod shells in a sediment core from Lake Chichancanab, Yucatán, provided evidence for climate variability in the



L) Lake Petén-Itzá is the deepest lake in the lowland neotropics (160 m deep). Towns around the lake suffer periodic flooding due to rises in water level. R) Cenote Xlacah was the primary water source for the ancient Maya site of Dzibilchaltún and illustrates how close the water table lies to the land surface on the northern Yucatán Peninsula. Both photos courtesy of Mark Brenner.

Maya region during the last ~8,000 years. The sediment record revealed that the period of Maya occupation (~3,000–1,000 BCE) was drier than any time before or after, and that the “collapse” period was characterized by a series of extreme droughts.

Evidence for the Terminal Classic droughts is found in other lake cores and was recently documented in studies of cave stalagmites. Long

*One of the classes that Mark teaches as part of the University of Florida’s Overseas Study Program is: Tropical Ecology of the Yucatán. Posing in front of the “House of Diamonds” at the Maya site of Kaxil-Kiuk are the participants from the June 2006 session. Students live in Mérida with local families and study Spanish at the Autonomous University of Yucatán.*



cores retrieved from Lake Petén-Itzá, Guatemala in 2006, have extended our knowledge of climate and environmental change on the Yucatán Peninsula back >85,000 years.

Pollen in these cores revealed that the tropical forests first inhabited by the Maya only arose about 10,000 years ago.

The research is collaborative and multidisciplinary, involving pollen analysis, sediment geochemistry, microfossil analysis, stable isotopes, and radiometric dating. Mark Brenner frequently collaborates with archaeologists, biologists, and researchers from other disciplines.

Come to the IMS on Wednesday, May 15, and meet Mark Brenner in person – ask him a few questions! 🏠

## A Maya Scribe from San Clemente, Petén

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**Institute of Maya Studies Line-up of Presentations!**

**May 8, 2013 • 8 pm: IMS Explorer Session:**

**“Archaeology 101”**

**with Janet Miess**



Early Byzantine excavations at Çadır Höyük in Turkey. Photo courtesy of Janet Miess.

Have you ever wondered how archaeologists uncover secrets from the past? In Archaeology 101, we will discuss the types of excavations that are currently taking place in the United States, and the differences between archaeology in the U.S. and other countries. We will look at a typical day in the field and learn about setting up an excavation, tools that are used, note taking, drawing, lab work and some of the hazards of fieldwork. *Join in the exploration!*



There are 4,400 documented Maya sites to dig; a well-equipped archaeologist's field kit is a must.

**May 15 • 8 pm: IMS Program**

**Ecology**

**“Climate, Environment and the Ancient Maya: The Story from Lake Sediment Archives”**

with **Mark Brenner**, of the University of Florida (UF)

Mark Brenner is a professor in the Department of Geological Sciences. He is also director of the Land Use and Environmental Change Institute (LUECI). He received his Ph.D. in Zoology at UF and is a limnologist/paleolimnologist interested in tropical and subtropical lakes. Brenner is a specialist in lake core sampling and analysis.

He has been a part of teams that have conducted examinations of the lakebed sediments in Lake Punta Laguna, Lake Chichancanab, and most recently, in Lake Petén-Itzá. Check out Mark's page on the UF Department of Geological Sciences' website, at: [http://web.geology.ufl.edu/m\\_brenner.html](http://web.geology.ufl.edu/m_brenner.html)



The Mayan glyph for “drought.”

**All meetings are 8 pm • Institute of Maya Studies • Miami Science Museum • Maya Hotline: 305-279-8110**

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## Tlaloc II Discovers Three Chambers Under Teotihuacan's Temple of Quetzalcoatl

In 2010, INAH researchers used a roving robot nicknamed Tlaloc I to investigate the tunnel that is located deep under the Temple of the Feathered Serpent. The tunnel was discovered after heavy rain uncovered a hole in the ground in 2003. Since the beginning of 2013, INAH has employed a new mini-robot-rover named Tlaloc II-TC. Both of the robots are named in honor of the Aztec god of rain.

"A few months ago, we found two side chambers at 72 and 74 meters (236 and 242 feet) from the entrance. We called them North Chamber and South Chamber," said archaeologist Sergio Gómez Chávez, director of the Tlalocan Project.

There are a few preliminary reports of what's actually inside the tunnel and the chambers. Images show a series of stone



Tlaloc II-TC sits poised to enter the tunnel.

symbols lining the tunnel, which scientists believe was "subsequently collapsed in order to deposit something very important at the end of the duct in the main chamber."

In both the North and South Chambers, scientists can see hundreds of deteriorating spheres. Ranging from 1.5 to 5 inches in circumference, the objects have a core of clay and are covered with a yellow material called jarosite. "This material is formed by the oxidation of pyrite, which is a metallic ore," noted Gómez Chávez. "It means that in pre-hispanic times



"Originally the spheres would have shown brilliantly. They are indeed unique, but I have no idea what they mean," said Gómez Chávez.

they appeared as if they were metallic spheres; quite interesting."

Since the beginning of this discovery, INAH speculated that the tunnel was a processional walkway leading to a warren of royal burial chambers, but they couldn't say for sure. The next step in the research will be to remove rubble blocking the final 30 meters of the 120-meter-long tunnel (98 and 394 feet).

Sources: [news.discovery.com](http://news.discovery.com) and [artdaily.com](http://artdaily.com)

### Upcoming Events at the IMS:

May 8 • 8 pm: *IMS Explorer Session*  
**"Archaeology 101"** – The types of excavations going on now in the U.S. and around the planet, with **Janet Miess**.

May 15 • 8 pm: *IMS Program*  
**"Climate, Environment and the Ancient Maya: The Story from Lake Sediment Archives"** – Earth scientists increasingly collaborate with archaeologists to provide new insights into ancient cultures, with **Mark Brenner** of the University of Florida.

June 12 • 8 pm: *IMS Explorer Session*  
**"Understanding the Maya Calendars"** – **Dr. Anne Stewart** will decode the components of the various calendars, and introduce a conversion software program designed by Sid Hollander.

June 19 • 8 pm: *IMS Program*  
**"An Architect's Comparison of the Ancient Buildings of Mesoamerica"** – IMS President **Rick Slazyk** will compare the architecture seen at recently visited sites to that of the Maya.

### Upcoming Events and Announcements:

May 13 • 6 pm: *Lecture*  
**"Ritual of Chicha: Maize Beer Production in the Andes"** – Theme of a Southwest Seminars Lecture, with Dr. Frances Mariko Hayashida, Assistant Professor of Anthropology, University of New Mexico. At the Santa Fe Hotel, Santa Fe, NM. Additional info at: [http://www.southwestseminars.org/SWS/Ancient\\_Sites\\_2013.html](http://www.southwestseminars.org/SWS/Ancient_Sites_2013.html)

May 18: *Presentations and Tour*  
**"Digging and Diving into the Past"** – Day-long spring meeting of the Society of Georgia Archaeology to celebrate 20 years of Georgia archaeology awareness. Will feature a visit with archaeologists to the Ocmulgee National Monument, in Macon, GA. Get more info at: <http://thesga.org>

Through May 19: *Museum Exhibit*  
**"Wari: Pre-Inka Lords of Peru"** – At the Museum of Art, in Fort Lauderdale, FL. (This exhibit was previously shown at the Cleveland

Museum and will later travel to the Kimbell Art Museum in Fort Worth, TX.) See it while you can. [www.moafll.org](http://www.moafll.org)

Through June 30: *Exhibit*  
**"Aztec to Zapotec: Selections from the Ancient Americas Collection"** – See more than 180 artifacts from the Aztec, Maya, Moche, Nasca, Inka and Zapotec cultures. At the Orlando Museum of Art (OMA) in Orlando, FL. For additional info visit: [www.omart.org/exhibitions/aztec-zapotec-ii](http://www.omart.org/exhibitions/aztec-zapotec-ii)

Oct. 28–Nov. 2: *Wayeb Conference*  
**"Post-Apocalypto: Crisis and Resilience in the Maya World"** – Theme of the 18th European Maya Conference, in Brussels, Belgium. A three-and-a-half-day workshop (Oct. 28-31) will precede a two-day symposium (Nov. 1-2). With Nikolai Grube (Univ. of Bonn) and Takeshi Inomata (Univ. of Arizona). Details at: [www.wayeb.org/conferencesevents/emc\\_now.php](http://www.wayeb.org/conferencesevents/emc_now.php)



# IMS EXPLORER

Join in the **Explorer-ation!** Scholar or not, we welcome submissions from IMS members. Share what interests you with others. All articles and news items for the **IMS Explorer** should be forwarded to the newsletter editor at: [mayaman@bellsouth.net](mailto:mayaman@bellsouth.net)