

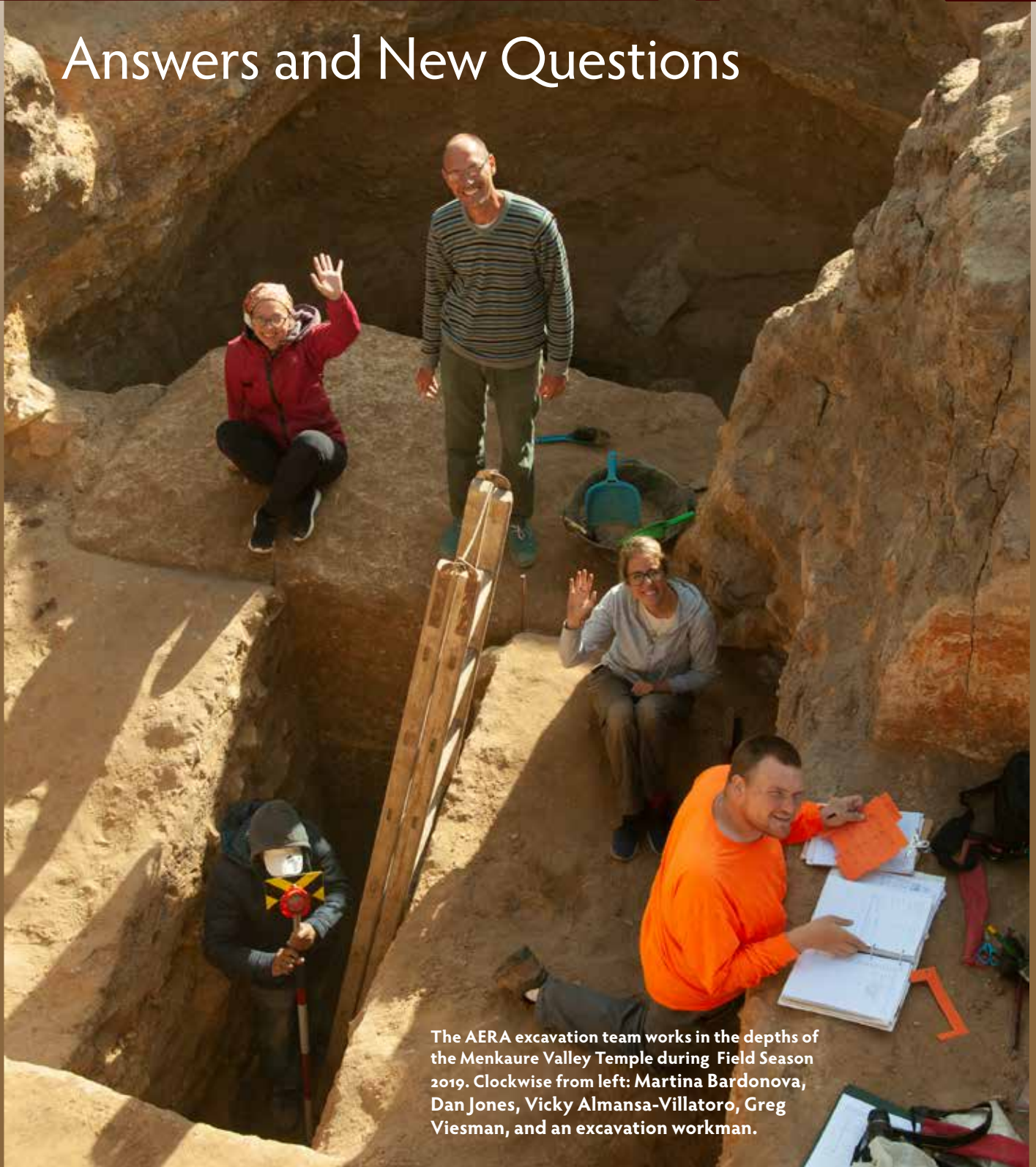


# AERA

Ancient Egypt Research Associates

## Annual Report 2018–2019

# Answers and New Questions



The AERA excavation team works in the depths of the Menkaure Valley Temple during Field Season 2019. Clockwise from left: Martina Bardonova, Dan Jones, Vicky Almansa-Villatoro, Greg Viesman, and an excavation workman.



# AERA: WHO WE ARE

For 30 years Ancient Egypt Research Associates (AERA) has brought together archaeologists and specialists from around the world to address questions regarding the origin, nature, and development of the Egyptian state—one of the earliest states of the ancient world.

We seek answers on the Giza Plateau, at our flagship site, “Lost City of the Pyramids” (also called Heit el-Ghurab, HeG) and the Kromer Dump site, where debris from HeG was deposited, as well as the Great Pyramid, Sphinx, and communities associated with the tombs of Pharaoh Menkaure and Queen Khentkawes. After three decades of field and laboratory work, we have constructed a nuanced interpretation of how the Egyptians supplied and transported raw goods and materials to build the pyramids and maintain the HeG settlement, a large urban center dating to the reigns of Menkaure,

Khafre, and probably Khufu, builders of the third, second and first Giza pyramids, respectively.

Excavation, analysis, publication, and educational outreach stand as pillars of our mission in Egypt. Through multi-disciplinary analysis, rigorous archaeological fieldwork, and laboratory science we open windows on the everyday lives of Egyptians who built and administered the Giza Pyramids and Sphinx during the 4<sup>th</sup> and 5<sup>th</sup> Dynasties (c. 2543–2306 BC) of the Old Kingdom. In 2005, with the sponsorship of the American Research Center in Egypt (ARCE), we began an archaeological training program for Inspectors in Egypt’s Ministry of Antiquities. After completing 17 field schools and graduating more than 300 inspectors, AERA continues to embed this important outreach program within our core research.

Founded in 1985, AERA is a 501(c)(3) tax-exempt, non-profit research organization located in Boston and Giza, registered in Egypt as a foreign NGO. AERA-Egypt maintains the AERA-Egypt Center in Giza—a year-round base for our team, with library, archives, and meeting facilities. Our scientific and educational missions are supported by philanthropic individuals, foundations, and USAID government funding, as well as USAID in collaboration with the American Research Center in Egypt (ARCE).

Photos in the 2018–2019 annual report were taken by Mark Lehner, Dan Jones, Sayed Salah Abd el-Hakim, and Claire Malleson. Maps by Rebekah Miracle, AERA GIS.

Ancient Egypt Research Associates, Inc.  
26 Lincoln Street, Suite 5  
Boston, MA 02135-2608 USA

E-mail: [info@aeraweb.org](mailto:info@aeraweb.org)  
Website: <http://www.aeraweb.org>



# PRESIDENT'S MESSAGE



After a very successful prior year, AERA ended our fiscal year July 2018–June 2019 with answers and new questions. We returned to the Menkaure Valley Temple (MVT), a site George Reisner excavated in 1908 and 1910. In past seasons we worked in the eastern end; this year we focused on the southwestern quadrant. Here Reisner found the famous dyad of Menkaure and a queen (possibly the queen mother), “thrown,” he believed, by “Arab treasure-hunters” in a deep pit he called “Thieves’ Hole.” This explanation seemed dubious. (How could such a heavy statue be “thrown,” and why set it aside for later?). This account became increasingly suspect as we probed the MVT. After excavating the hole we found evidence to suggest that in ancient times someone had very purposefully placed the dyad in a deeper, older hole dug into the temple foundations. This important discovery answered questions about where and when the dyad was buried. But now new questions remain to be answered in Season 2020, such as why it was placed in the foundation and by whom.

Dr. Florence Friedman, who has written more than anyone else on the Menkaure statuary, joined us in the field and offered valuable insights as we pondered the dyad mysteries. Dr. Walter Gilbert, Nobel laureate and active member of the Boston Museum of Fine Arts Board of Advisors and Visiting Committee for Art of the Ancient World, funded the MVT operation and also joined us as we dug deep down into the temple.

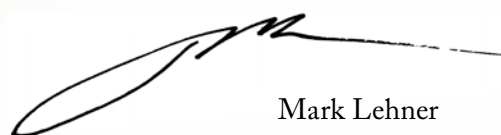
Before reaching the depths of the MVT, we spent weeks removing Reisner’s spoil layers that he had dumped in the southwest quadrant of the temple. These layers of occupational debris came from Reisner’s

excavations in the MVT central court, where a village of small mudbrick houses had once flourished. By sieving these deposits, rich in material culture, we recovered some of our most important finds of the season. They reflect a vibrant, living community. The predominant remains—flint knives, flint fragments, and cattle forelimb knuckle bones—are the physical remains of offerings once presented to the deceased Menkaure and subsequently butchered in the court. They shed light on the royal decrees that endowed the temple.

We decided to work in the west end of the MVT partly because we thought it would yield little material culture, allowing the lab team to catch up on the backlog from our 2018 excavation in the Kromer Dump (KRO), a massive, ancient trash mound west of our flagship Heit el-Ghurab (HeG) site. But the deluge of material from the MVT co-opted some of the specialists, who shed light on life in the courtyard village. Other specialists continued their focus on the KRO material, some of which we believe came originally from the oldest phase of HeG, perhaps Khufu’s palace and base for his pyramid-builders.

We resumed the Return to the Sphinx Viewing Project to document information stemming from work carried on here over the last 30 years. At the Sphinx Temple, our surveyors recorded features previously not documented, and the Glen Dash Foundation Survey team conducted a ground penetrating radar survey. A Japanese team directed by Dr. Yukinori Kawae carried out a 3D survey of the Sphinx and Sphinx and Khafre Temples.

Season 2020 promises to be very busy. We will be excavating an area where we hope to uncover the oldest phase of HeG and possibly part of a palace of Khufu. With Dr. Walter Gilbert’s support we will return to the Menkaure Valley Temple. Please stay with us on this adventure of discovery.



Mark Lehner

# FIELD SEASON 2019: Return to MVT

This season we returned to the Menkaure Valley Temple (MVT), where in 2009, 2011, and 2012 we worked in the eastern end. In 2019 we focused on the southwestern quarter, which includes the magazines for the king's statues. We follow in the footsteps of George Reisner, a pioneer of scientific archaeology. He excavated the valley temple in 1908 and 1910 and published it in 1931. Our goal was to build upon his work and learn more about the temple by examining the structure through a modern archaeological lens.

Using our 21<sup>st</sup>-century methods and resources, we recovered information that Reisner missed, while also resolving some of the mysteries surrounding the world-famous dyad of Menkaure and his queen (or queen mother) that Reisner discovered in 1910.

We began just west of the MVT by following the causeway corridor, which once ran straight from the upper pyramid temple, to where it meets the back of the valley temple, then turns and runs south along the back western wall. Here, we exposed the western walls of the temple's two phases, which Reisner had identified. The walls of the later phase were built during the 6<sup>th</sup> Dynasty on top of the truncated walls of the First Temple. Reisner believed that people abandoned the First Temple after a flash flood destroyed much of the mudbrick architecture. The temple was to have been made of stone, but Menkaure died after having completed only a course or two of the massive limestone blocks intended to form the core. His successor, Shepseskaf, completed the temple in mudbrick.

## A Busy Court Village

Next, we began removing dirt inside the southwestern corner. We dug for weeks before finally encountering First Temple walls. But the time was not wasted. The fill we excavated was Reisner's spoil layers that he had removed from the central court, where he found apartments, bins, and granaries of a temple village. We sent many basket loads of these spoil sediments for dry sieving, and caught a rich trove of material culture from the everyday lives of those who occupied the temple. We picked out larger items, and sent the rest for water sieving.

In Reisner's day, archaeologists did not sieve so intensively, and so they missed much information conveyed by material like the cattle bone, flint tools and flakes, pot sherds, small bits of metal, and charcoal we recovered. We even found statue fragments and clay sealings.

This settlement waste contains the material culture correlates of offerings awarded to temple staff by royal decrees issued by pharaohs Shepseskaf, Merenre, and finally Pepi II during the temple's lifetime. These documents, carved on stelae that Reisner recovered as fragments in Menkaure's upper temple and valley temple, declared that reigning kings must provision the temple with offerings to sustain the deceased king and that these goods would in turn be passed on to the staff that maintained the temple. The trash from the court spoils confirms that people did in fact live in the village.

Quantities of bone fragments and bits of flint knives that we recovered indicate that people did a lot of butchering. But not of whole animals. The fragments were mostly the ends of long bones from limbs, nearly all of which were forelimbs, the element most often shown in offerings for royalty. After presenting the forelimbs to the deceased Menkaure, temple residents butchered them in the court, and sent the long bone meat to their superiors—high officials—while keeping the knuckle bones for themselves, which they consumed in their temple apartments.

## The Dyad Hole

In 1910 Reisner found the famous dyad—now on display in the Museum of Fine Arts, Boston—buried in a hole at the back of the temple. In his 1931 publication, he reported that it was thrown in what he called "Thieves' Hole" by "Muslim treasure-hunters," apparently intending to return for it later. This did not make sense to us. Reisner's photo taken right after the dyad was exposed shows a statue standing upright in front of a limestone core block, facing east—carefully and precisely placed—not thrown in a hole. After we cleared out the very deep hole where Reisner found the statue, we were able to pinpoint where it stood.



Reisner's photo showed features of the core block, including what we called the "tethering hole," that were still visible, and these served as landmarks for locating the dyad findspot.

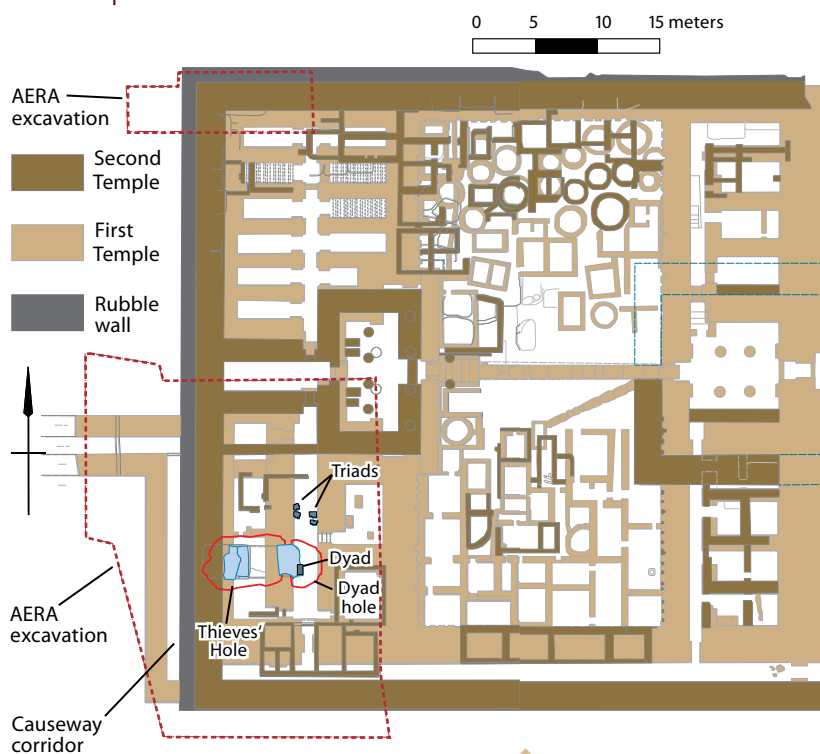
It also seemed very odd that Reisner failed to discover the dyad in 1908 when he excavated Thieves' Hole. How did he miss the dyad? We found the answer in Reisner's records, which we poured over every day after we returned from the field—diary, field notes, register, and especially photos. Reisner did not discover the dyad in Thieves' Hole, but in an older, deeper pit just to the east. Reisner only came upon it in 1910 after he removed a rubble retaining wall that the "treasure-hunters" had constructed around their hole. As Reisner's men dug down deeper and to the east, they exposed the dyad standing in front of a core block. By the time Reisner published the MVT in 1931, he had conflated the two pits.

Someone must have buried the dyad much earlier than the Islamic era. They dug the hole into the ruins of the First Temple, perhaps for safe keeping after a flash flood forced people to abandon the temple. If so, who buried it and why? These are some of the questions that we aim to answer during our 2020 field season.



Above: Excavation photo of the dyad in situ shortly after it was discovered. The tethering hole can be seen on the right partially exposed. Photo B484\_NS, Courtesy, Museum of Fine Arts, Boston.

Below: Map of the MVT.



# FIELD LAB 2019

In AERA's field laboratory at Giza, the AERA team focused on completing the material we excavated in 2018 at the Kromer (KRO) dump site\* and examining and registering new material from the 2019 excavations in the Menkaure Valley Temple (MVT).

**Mahmoud el-Shafey and Aisha Montaser** finished processing the huge pile of KRO ceramic material and found a slightly greater diversity in some of the less-common types than we usually see, as well as a lot of incised and painted marks on the pots.

**Emmy Malek**, head of our objects team, had her hands full with large gunny sacks full of small fragments of Egyptian travertine (alabaster) statues from MVT—toes, a beard fragment, and elbow or shoulder fragments. Other fragments were inscribed/incised, or painted, or bore curved or flat surfaces. An additional 90+ kilograms of travertine stones showed no traces of having been worked

**Manami Yahata**, AERA archivist and resident roofing expert, continued her study of the roofing and plaster fragments from KRO and started work on

---

\* This 4<sup>th</sup> Dynasty mound west of the Heit el-Ghurab (HeG) settlement up on the Giza Plateau is filled with trash from a site to the east, probably HeG, and a site to the northwest probably located where the Menkaure Valley Temple was later built.

2019 Lab Team: Back row, from left: Sarah Hitchens, Aisha Mohamed Montaser Ahmed, Samar Mahmoud, Manami Yahata, Ahmed Ezz, Claire Malleson; Front row, from left: Mahmoud el-Shafey, Ibrahim el-Gamel, Richard Redding, Mohamed Hassan, Sawsan Ibrahim Fahmy, Philip La Porta, David Jeřábek. Not shown: Emmy Malek, Ania Wodzinska, Elizabeth Hart, Eleuterio Luther Sousa, Mohammed Hussein, Ali Witsell, and Martin Odler.

the MVT examples. The KRO sample of 93 painted plaster pieces, multi-colored and well-preserved, are consistent with a royal or high-status source for the material discarded in the KRO dump.

**Philip C. La Porta** returned to resume his study of stone tools from HeG, including querns, whetstones, abraders, and grinders. Much of his work involved measuring, photographing, and describing these objects. He noted the purposeful fracturing of tools at the end of their use life in order to recycle them into smaller objects, such as spindle whorls, drill bits, and jar stoppers. Philip also worked with Manami on an alternative function for the abraders. They found that the angles and curves of the abraders correlated with the outlines of mortar, plaster wall, and ceiling fragments, which may suggest that abraders were used as fine sanding tools for finishing painted plaster walls.

**Samar Mahmoud** continued documenting the KRO lithic material. The main tool types were knives and sickle blades, as well as cores, flakes, and chipping waste. The MVT tools included handled knives, sickle blades, and end scrapers, as well as blades, flakes, and chipping waste. Most of the sickle blades had visible sickle gloss or sheen, indicating they had been used for cutting grasses and plants rich in silica, most likely cereal stems.





**David Jeřábek and Ali Witsell**, the AERA sealings team, continued analyzing the KRO sealings, stoppers, and clay globs, while completing an initial pass through the MVT material. As with the MVT sealings from previous seasons, they found more impressions made with stamp seals than with cylinder seals. This is not surprising given the increasing use of stamps near the beginning of the 6<sup>th</sup> Dynasty, when they became the standard. However, the motifs show continuity from the 4<sup>th</sup> through the 5<sup>th</sup>–6<sup>th</sup> Dynasties.

**Richard Redding and Mohammed Hussein**, faunal analysts, completed their study of all the KRO animal bone and some backlog from HeG. They also began analyzing the new material from MVT. They found large numbers of limb bone shafts in the KRO material, as they did last year. Among the MVT remains an overwhelming majority (99%) was cattle, mostly fragments of limb bone ends and small fragments of shafts, with the ratio of forelimbs to hind limbs almost 3:1. This ratio is consistent with the fact that the front limb was the beef offering most often depicted in temples.

**Claire Malleson**, archaeobotanist and lab director, analyzed flotation and dry-sieve samples from KRO, and began a study of the plant remains in mud-bricks. Her initial impression was that the KRO dump materials came from a settlement that was not “provisioned” as HeG was, but was more self-sufficient.

**New Team Members, New Projects.** Visiting specialists joined us in 2019 to undertake new projects. **Luther Sousa** examined cut-marks on animal bones from KRO, looking for evidence of butchering with copper knives—he found very little. **Elizabeth Hart** studied all the flint sickle blades from our excavations at HeG as part of her ongoing study of technological change in the form and shape of sickles over time during the Old Kingdom. She noted that a small number of the sickles showed gloss, indicating that some residents of HeG had been cutting cereals, and were possibly farmers on the side. **Martin Odler** and his team from Charles University, Prague, examined industrial materials from HeG, including metal objects and archaeometallurgical remains, such as slag.



Emmy Malek



Manami Yahata



Mohammed Hussein

They primarily focused on Area D17x, where we found evidence of a copper workshop in 1998—one of the few known from the Old Kingdom. The team prepared 23 samples to send to the Institut français d’archéologie orientale (Ifao) laboratory in Cairo, where the elemental composition of the material will be determined. Dr. Odler’s team will be able to compare the HeG material with samples he previously studied from Karl Kromer’s 1970s excavations in the KRO Dump, currently stored in Vienna.

# RETURN TO THE SPHINX VIEWING PROJECT

Over the last 30 years much work has been carried out at the Sphinx, but plenty of it has not been recorded or published. The goal of the Return to the Sphinx Viewing Project (RSVP) was to collect and document all the information stemming from this work. This includes geophysical surveys of the Sphinx that have not been published; drill holes to test for the quality of the bedrock and for ground water; modern channels cut for the Sound and Light show or electrical cables; and ancient features documented during restoration work in 1980s and 1990s.

The RSVP is directed by Zahi Hawass and Mark Lehner under the concession held by Dr. Hawass. This season we continued work begun in 2018, which focused on the Sphinx enclosure. During 2018 Amr Zakaria, surveyor, and Ashraf Abd el-Aziz, photographer and archaeologist, mapped the features in the floor around the Sphinx and carried out a topographic survey of the Sphinx base and its enclosure. A team from the Glen Dash Foundation for Archaeological Research (GDFAR) conducted a ground penetrating radar (GPR) survey around the base of the Sphinx.

During 2019 the RSVP shifted focus to the Sphinx Amphitheater, specifically the Sphinx Temple and the area immediately east of the temple. The GDFAR team of Glen Dash†, Rebecca and Eric Sperber, and Sara Ahmed, from the office of Dr. Zahi Hawass, surveyed at the Sphinx Temple, beginning with the terrace in front of the southeast corner. The terrace was of interest because streams of water during heavy rains disappear down between the large laid-in limestone blocks. Glen was not impressed with the data they collected here, but it is clear that the seams between the blocks open up and extend deep down.

When the GPR survey team moved into the temple court, they picked up an anomaly that did impress Glen. As of his untimely passing in September 2019, he had been working on processing this data. We



Above: The GDFAR team carries out a ground penetrating radar survey of the Sphinx Temple. The yellow devices are antennae which record echoes from radar pulses transmitted into the ground. From left: Eric Sperber, Glen Dash, Sara Ahmed, Rebecca Sperber, and team worker.



Right: Limestone object found east of the Sphinx Temple during the 2019 RSVP survey. It is shaped like an anchor, similar to anchors found at pharaonic port sites on the Red Sea coast, including the port of Khufu at Wadi el-Jarf.

will work with his daughter, Rebecca Sperber, now head of the GDFAR, to have the data processed and interpreted.

As part of the RSVP, a Japanese team, directed by AERA team member Yukinori Kawae, carried out 3D recording by drone, photogrammetry, and laser scanning. Their state of the art data capture of the Sphinx produced amazing results, as seen in the image on the facing page.





Above: A 3D image of the Sphinx and Sphinx Temple from the integrated laser scan data, GoPro images, and drone images, produced by the Japanese Giza 3D Survey team.

Left: Ashraf Abed el-Aziz (left) and Amr Zakaria with the Total Station in the corridor between the Sphinx Temple and the north ledge.



Mark Lehner mapped the features cut into the front of the Sphinx Temple between 1980 and 1983, making it unnecessary to map them again this season. However, the survey team of Amr Zakaria, Ashraf Abd el-Aziz, and Marwa Mohamed, of the MoA Giza Inspectorate, did map small holes cut into the floor of Terrace I east of the temple, some of the main lines of the Sphinx Temple eastern and northern walls, the edge of the terrace in front of the Khafre Valley Temple, and the sides of the two approach ramps leading to the valley temple. One of the most interesting incidental finds was a limestone piece shaped like an anchor. Comparable to anchors found at pharaonic port sites on the Red Sea coast, not least, the port of Khufu at Wadi el-Jarf, it offered support for the hypothesis that the terrace ended on the east at a quay and harbor basin. The anchor, if such it is, broken in two pieces, was in a rectangular pit cut into the bedrock in front of an unfinished tomb cut into the face of the north ledge.

# SHARING OUR WORK

## Publications

MARK LEHNER

“Neighborhood to National Network: Pyramid Settlements of Giza,” *Archaeological Papers of the American Anthropological Association* Volume 30, Issue 1 (Special Issue July 2019), pages 20–38.

## Lectures & Conference Presentations

YUKINORI KAWAE

“Pyramid Quest II.” TEDxSaikai, Nagasaki, Japan. July 8, 2018.

“The Secret of the Pyramid Explored by Advanced Technology.” Museum of Yayoi Culture, Osaka, Japan. November 8, 2018.

“Pyramid Survey.” The National Geographic Society, Asia Society, Hong Kong, China. November 13, 2018.

“Application of 3D Documentation in Egyptian Pyramid Survey.” The 63<sup>rd</sup> Annual Conference of the Institute of Systems, Control and Information Engineers, Osaka, Japan. May 22, 2019.

“The Forefront of Ancient Egyptian Studies.” The Ancient Orient Museum, Tokyo, Japan. June 20, 2019.

YUKINORI KAWAE and MANAMI YAHATA

“The Frontline of Ancient Egyptian Research: The Reformation of Pyramid Study, History of AERA Giza Excavation, 2019 Excavation Report, Menkaure Valley Temple West.” The Ancient Orient Museum, Tokyo. June 22, 2019.

MARK LEHNER

“From the Prairie to the Pyramids.” The Arlene Theater, Minot, North Dakota. August 2, 2018.

“Finding the Lost City of the Pyramids and Its Flood Control.” Rotary of Minot, North Dakota. August 6, 2018.

“Nile Harbor Interventionists vs Anti-Interventionists... a review: Did I Get That Right? Or Am I in a Fog?” Egyptian Riverine Harbours: 2<sup>nd</sup> Workshop, Ifao, Cairo. September 17–18, 2018.

“Looking for Khufu in Heit el-Ghurab: Reporting on AERA Field Season 2018 at the Wall of the Crow.” American Research Center in Egypt – Northwest Chapter and the University of Washington Department of Near Eastern Languages and Civilization. October 2, 2018.

“The Palace Hypothesis: Expectations and Reality in Archaeological Fieldwork at Giza.” Egyptology and Assyriology, Brown University. December 3, 2018.

“The Great Pyramid in Context: Practical Geomorphology and Hints of Water Transport Infrastructure.” Geoarchaeology, Geomorphology and Geo-heritage: Modern Research and Advanced Geo-techniques Project Imhotep 2018–2020, Ain Shams University, Faculty of Arts. March 23, 2019.

“Settlements and Lived Experience, 4<sup>th</sup> Dynasty Giza.” Daily Life in Ancient Egyptian Settlements: Conference to Celebrate the 50<sup>th</sup> Anniversary of German Archaeological Institute Excavations on Elephantine Island, Nubian Museum, Aswan. March 27–28, 2019.

“Digging into Khufu, Khafre and Menkaure... AERA’s Season 2019 at Giza.” American Research Center in Egypt Annual Meeting, Washington, DC. April 13, 2019.

“From the Prairie to the Pyramids,” Minot High School, Minot, North Dakota. May 1–2, 2019.

“The Cattle and the Wheat, the Folks that Can’t Be Beat, and the Pyramids,” Minot State University, Minot, North Dakota. May 2, 2019.

MARK LEHNER and RICHARD REDDING

“Signatures in Our Sources... Ground Truth and Transparency in Modelling the Giza Plateau.” Ancient Egypt and New Technology: The Present and Future of Computer Visualization, Virtual Reality and other Digital Humanities in Egyptology, Indiana University, Bloomington. March 29–30, 2019.

CLAIRE MALLESON

“Agriculture in Ancient Egypt: A Review.” Bioarchaeology of Ancient Egypt Conference. American University in Cairo. January 2019.

“Thirty Years of Archaeobotany at the Pyramids (Giza, Egypt).” Agriculture and the Economy of Supplying the State. The International Workgroup for Palaeoethnobotany, Lecce, Italy. June 3–8, 2019.

RICHARD REDDING

“Diet and Status at Giza: Fish as an Indication of Rank.” The 20<sup>th</sup> Meeting of the ICAZ Fish Remains Working Group, Portland, Oregon. August 26–30, 2019.

“What I Have Learned: Assumptions Bad, Interactions Good.” Keynote at Joint Conference on the Bioarchaeology of Ancient Egypt, American University, Cairo. January 10–13, 2019.

“Managing and Staffing an Archaeological Project: Lessons for Human Resource Management.” Ross School of Business, University of Michigan. February 7, 2019.

“The Heit el-Ghurab Site.” University of Michigan, Alumni Association Tour of Egypt. February 20, 2019.

“A Brief History of Pyramid Construction.” University of Michigan, Alumni Association Tour of Egypt. February 23, 2019.

“Egypt, the Gift of the Nile.” University of Michigan, Alumni Association Tour of Egypt. February 25, 2019.

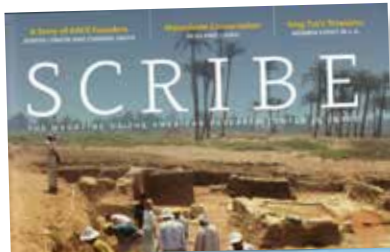
“Animals in History: A View from the Faunal Remains.” University of Michigan. April 4, 2019.

“Using Archaeological Artifacts to Tell Leadership Stories.” For Oracle Corporation at the Ross School of Business, University of Michigan. June 6, 2019, and again for the Bank of America at the Ross School of Business, University of Michigan. June 27, 2019.

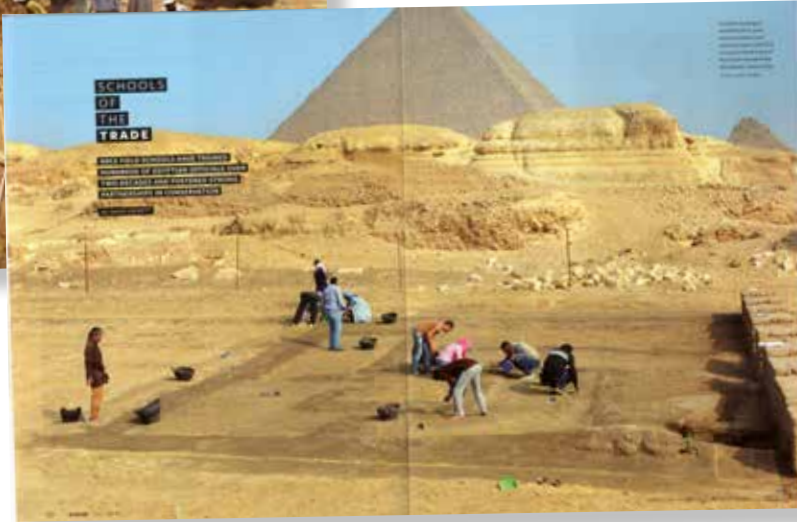
MANAMI YAHATA

“AERA’s 30-Year History of Giza Pyramid Town Excavation, 2018 Excavation Report.” Japan Society for the Promotion of Science (JSPS) Research Station, Cairo, Egypt. August 30, 2018.





Left: Cover of *Scribe Magazine*. Below: The opening spread of an article about ARCE Field Schools shows a photo of students excavating House D in the Khentkawes Town at Giza during the 2018 AERA Field School supported by ARCE.



## In the Popular Press

The AERA-ARCE Field School was featured in the cover story, “Schools of the Trade,” in the Fall 2018 issue of *Scribe, the Magazine of the American Research Center in Egypt* (ARCE). The article covers the history of the ARCE Field School program for inspectors in the Ministry of Antiquities and its significant impacts on Egyptian archaeology and on the graduates. ARCE began the program 20 years ago. Five years later AERA started offering a field school in conjunction with ARCE and went on to play a major role in developing the program and pushing it to a new level with a full compliment of advanced courses. A number of grads of the AERA-ARCE Advanced Field Schools are featured in the article.

## Documentaries

In November 2018 a crew worked with AERA team members on a WGBH NOVA film, “Decoding the Great Pyramid,” which features the work of Mark Lehner and Zahi Hawass. The program aired on PBS in February 2019.

In March a CNN film crew joined us to document AERA’s 2019 excavation in the Menkaure Valley Temple for CNN’s *Inside Africa* as part of a program on Egyptian archaeology that also features recent finds at Saqqara and ARCE’s field school program. The film, produced by Tom Bouchier Hayes, shows our team working in the Menkaure Valley Temple. This the first video footage of the western part of the temple. The CNN film details our approach to archaeological science, and interviews some incredible people working with us from Egypt and around

the world. We were delighted to share this work with a large audience. *Inside Africa* can be seen at <https://vimeo.com/338245576>.

Mark Lehner points out lever sockets on limestone blocks in the Menkaure Pyramid Temple while Label News camera records.





# SCENES FROM 2018-2019

Takayuki Fujii, Yukinori Kawae, and Rio Takahashi



Dan Jones



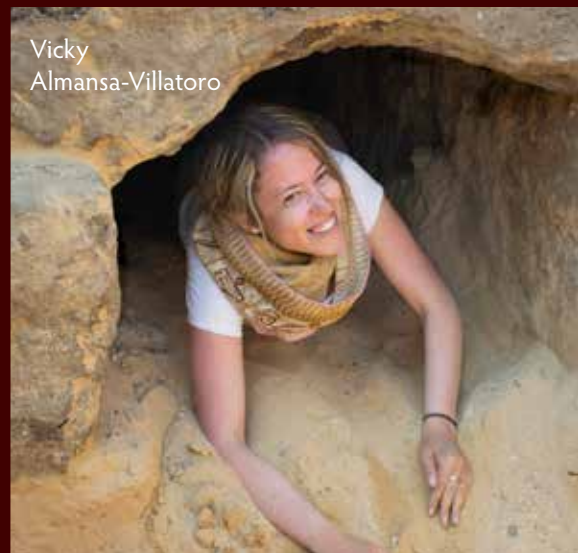
Marwa Mohamed



Elizabeth Hart



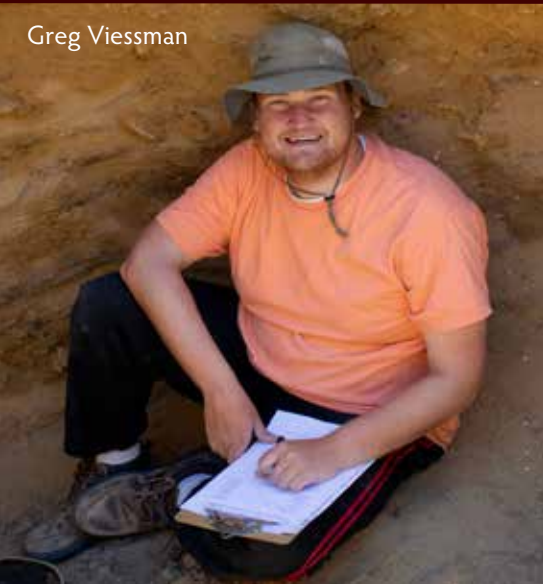
Vicky Almansa-Villatoro



Mark Lehmer



Greg Viessman



Martina Bardonova



Virag Pabeschitz



The Giza Field Lab. Khufu Pyramid in the background.



Southwestern corner of Menkaure Valley Temple, showing Corridor C and the pit where the famous dyad of Menkaure and a queen (or queen mother) was buried. View to the north.



Dyad pit

Corridor C

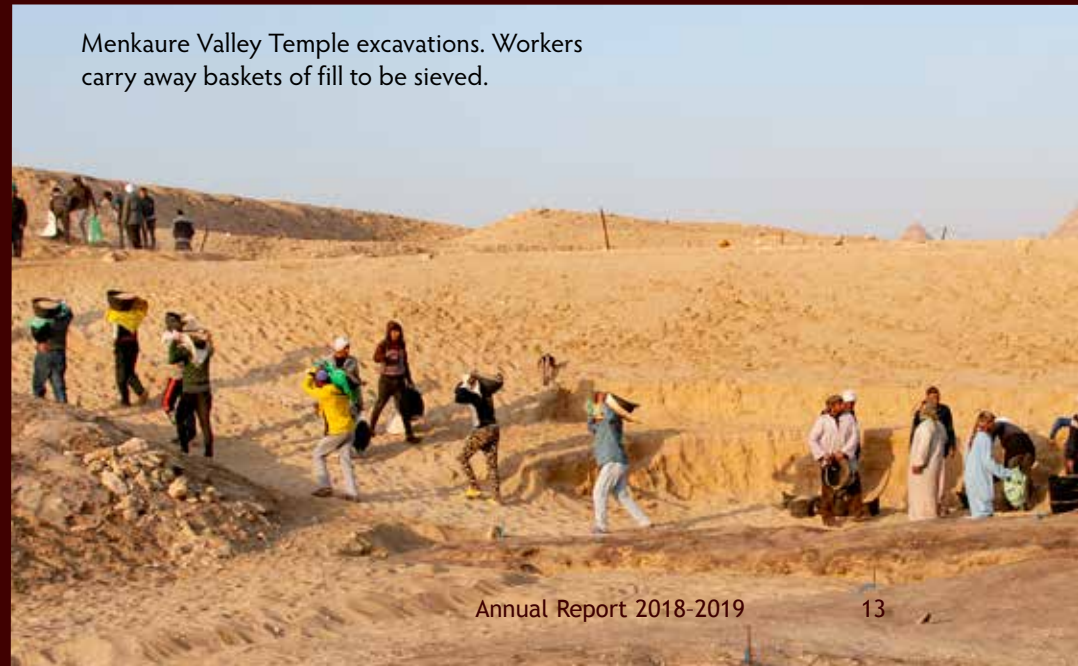
The GDFAR (Glen Dash Foundation for Archaeological Research) team surveying in the court of the Sphinx Temple.



Mohamed Helmi and a worker set up the Total Station on a core block of the MVT.



Menkaure Valley Temple excavations. Workers carry away baskets of fill to be sieved.



# THANKS TO OUR DONORS

The generous contributions of our benefactors and members have made our work possible. Every tax-deductible donation supports AERA's archaeological excavations, publication of our findings, and educational programs aimed at advancing knowledge about our common human heritage. We are extremely grateful to the following foundations, businesses, and individuals who support our work. Donations through December 2019 are included.

## **LEADERS CIRCLE:**

\$100,000 and up  
David H. Koch†  
Dr. Walter Gilbert  
Ann Lurie  
Anonymous Donor  
Douglas Rawles & Reed Smith LLP<sup>1</sup>  
Peter Norton  
Charles & Lisa Simonyi Fund for  
Arts & Sciences  
American Research Center in Egypt  
Charles Simonyi & Microsoft

## **KHUFU SOCIETY:**

\$10,000 to \$99,999  
Glen Dash†  
Marjorie M. Fisher Fund  
William Frank  
Ed & Kathy Fries  
Janice Jerde  
Piers Litherland  
Bruce Ludwig  
Cameron & Linda Myhrvold  
Louise & Howard Phanstiel

## **KHAFRE SOCIETY:**

\$5,000 to \$9,999  
Anonymous Donor  
Dr. Andrew Safir & Maralee Beck  
Ann Thompson  
Prior Family Foundation

## **MENKAURE SOCIETY:**

\$1,000 to \$4,999  
Raymond Arce  
Anonymous Donor  
Marian Cobb & Phil Fox  
Lois Craig

W. Benson Harer  
Richard S. Harwood  
Louis Hughes  
Alice Hyman  
Dr. Jeffrey A. Lamia  
Scott & Debra Mangum  
Jill Mattson  
Matthew McCauley  
Tim McCauley  
Lois Moger  
Nathan Myhrvold &  
Rosemarie Havranek  
Stacey & Maxwell Pray  
Dr. Richard Redding  
Dr. Bonnie M. Sampsell  
Craig Smith  
Ragene Sovak  
Wells Fargo Foundation

## **SUPPORTING MEMBERSHIP:**

\$250 to \$999  
Roger Atkinson  
Herbert Boudreau  
Dr. William Bradford  
Leslie Cayce  
Ann Clark  
Susan Davy  
Frances Dilks  
Kenneth Dray  
Robert & Barbara Hensinger  
Kaarel Kaljot  
Donald Kunz  
Aki Kuroda  
Norrene Leary  
Daniel Lehner  
Betsy Link  
Michael K. MacDonald  
Daniel Major  
Steffany Martz

Douglas McKenzie  
Dr. George Mutter  
Charles Rigano  
Ralph & Barbara Russo  
Peter & Michele Serchuk  
James Shepperd  
George Sherman  
Carla Staffon  
Richard Vedder  
Robin White

## **BASIC MEMBERSHIP**

Paul Amman  
Anonymous  
Frank Ascione  
Ron Ballesteros  
Sergio Barassi  
Chris Bartlett  
Kelley Beebe  
John Blinke  
Carlos Borrico  
Thomas Breikreuz  
Bob Brier  
Dr. Edward Brovanski  
Jeff Burzacott  
George R. Bunn Jr., Esq.  
Frank Carroll  
Richard Cook  
Pam Costain  
Susan Cottman  
Claudia Curran  
Douglas Davy  
Bryce & Caydin Dilks  
Greg Duncan  
Pamela Emch  
Walter Foster  
Barbara Gaerlan  
Ilene Garrett  
Lorna Goodman

1. AERA thanks Douglas Rawles of Reed Smith LLP for providing advice and counsel on a myriad of legal matters.



Francis Gularte  
Anne Charlotte Harvey  
Dudley Heer  
Nancy Hoskins  
Tammy Hunt  
Elizabeth Johnson  
Nancy Jones  
John & Paula King  
Riley & Mason Lanning  
Leonard & Barbara Lesko  
James Lowdermilk  
Dr. Rafik & Donna Mansour  
Dr. Anthony Marks  
Gregory Marouard  
Anita McHugh  
Naomi Miller  
Tina Miracle  
Dorothy Mitchell  
Nadine Moeller  
Jim Moenke  
Elisabeth Moger  
José Munoz  
David Pepper  
Peter Prevos  
Pamela Reynolds  
Julia Rose  
Judith Salkovitz  
Kimberly Sanders  
Rita Satz  
Shawn M. Saunders  
Siobhan Shinn  
Paula Simonson  
Anna Stevens  
Marianna Theo  
Candace Todt

Fumi Tsuchiya  
Caterina Turrone  
Sugihiko Uchida  
Sandra Viessman  
Anna White  
Jeremy Wiltse

**BUILDING FUND 2012–2015**

Leslie Cayce  
Norma Kershaw  
Dr. Bonnie M. Sampsell

**CAIRO CENTER PURCHASE &  
RENOVATION FUND 2009–2010**

Waitt Family Foundation  
David H. Koch Foundation  
Ann & Robert H. Lurie Foundation  
Peter Norton & the Isambard Kingdom  
Brunel Society  
Charles & Lisa Simonyi Fund  
for Arts and Sciences  
Urban Land Institute members on  
behalf of Bruce Ludwig  
Dr. Marjorie Fisher

**IN HONOR OF THE JANICE JERDE-  
PETER DEL ROSSO WEDDING**

Kim V. Abeles  
Zoe Abeles  
Jennifer Abrahams  
Jeanne Anderson  
James Barbour  
Ralph Bravaco  
Cynthia Burns  
Marian Cobb & Philip Stephen Fox  
Claudia Curran  
Frances Dilks  
Sari Drucker  
Arthur Giglio  
Kathy Grupp  
Anjelica Huston  
Diane Jenkins  
Eugene Korney  
Jeanne Kregel  
Russ Landau  
Tim & Marguerite Lindsay  
Tippi Manske  
Melinda McMullen  
Alexandra Meehan  
Amelia Morabito  
Douglas Moreland  
Dorothy O'Carroll  
Marian Power  
Mary Rose  
Kerstin Royce  
Cynde Seegers  
Karen Stevenson

# 2018-2019 AERA Team

## **PRESIDENT**

Dr. Mark Lehner

## **SENIOR STAFF**

Dr. Richard Redding, *Chief Research Officer, Archaeozoologist*

Dr. Mohsen Kamel, *Field Director, Executive Director of AERA-Egypt*

Megan Flowers, *Business Manager*

Safinaz Ouri, *Grants & Financial Manager*

## **PUBLICATIONS**

Dr. Mark Lehner, *Executive Editor*

Alexandra Witsell, *Managing Editor*

Dr. Wilma Wetterstrom, *Art and Science Editor*

## **BOSTON OFFICE**

Frances Dilks, *Development Coordinator*

Steven Dilks, *Archives Assistant*

## **GIS**

Rebekah Miracle, *GIS Director*

## **GIZA SUPPORT STAFF**

Mohamed Said, *Giza IT Manager*

Mohamed Farouk, *Accountant*

Manami Yahata, *Archivist*

Sayed Salah Abd el-Hakim, *House Manager*

Amir Abdel Hamid, *Cairo Project Manager*

## **ARCHAEOLOGICAL SCIENCE TEAM**

Dr. Claire Malleson, *Director of Archaeological Science, Lab Manager, Archaeobotanist*

Dr. Richard Redding, *Archaeozoologist*

Alexandra Witsell, *Head of Clay Sealings Team*

David Jeřábek, *Clay Sealings Specialist*

Manami Yahata, *Roofing Materials and Plaster Specialist, Archivist*

Emmy Malek, *Head of Objects Team*

Sarah Hitchens, *Textile Specialist, Assistant Lab Manager*

Mahmoud el-Shafey,\* *Ceramicist*

Aisha Mohamed Montaser Ahmed,\* *Ceramicist*

Dr. Ania Wodzinska, *Ceramicist*

Samar Mahmoud,\* *Lithics Specialist*

Dr. Elizabeth Hart, *Lithics Specialist*

\*Inspector with the Egyptian Ministry of Antiquities (MoA)

## **AERA BOARD MEMBERS**

Matthew McCauley, *Chairman*

Dr. Mark Lehner, *President and Treasurer*

Glen Dash†, *Secretary*

Dr. James Allen

Ed Fries

Louis Hughes

Janice Jerde

Eleuterio Luther Sousa, *Archaeozoologist*

Mohammed Hussein,\* *Assistant Archaeozoologist*

Philip La Porta, *Geologist*

Dr. Martin Odler, *Metallurgist*

Mohammed Hassan, *Lab Support Staff*

Abdel Latif Ibrahim, *Lab Support Staff*

Ahmed Ezz, *MoA Inspector*

Mohammed Salah, *MoA Inspector*

Dr. Sawsan Ibrahim Fahmy, *MoA Inspector*

## **EXCAVATION**

Dan Jones, *Senior Archaeologist*

Virag Pabeschitz, *Archaeologist*

Sayed Salah Abd el-Hakim, *Foreman*

Martina Bardonova, *Archaeologist*

Greg Viessman, *Volunteer*

Vicky Almansa-Villatoro, *Volunteer*

Mohamed Helmi, *Surveyor*

Shaimaa Abd el-Rahman, *MoA Inspector*

Mohammed Gamal, *MoA Inspector*

## **RETURN TO THE SPHINX VIEWING PROJECT**

Dr. Zahi Hawass, *Director*

Dr. Mark Lehner, *Field Director*

Glen Dash, *Director GPR Survey*

Rebecca Sperber, *Assistant Surveyor*

Eric Sperber, *Assistant Surveyor*

Sara Ahmed Abdel Aziz, *Assistant Surveyor*

Dr. Yukinori Kawae, *Archaeologist, Project Leader*

*3D Laser Scanning & Photogrammetry Survey Team*

Yoshihiro Yasumuro, *Laser Scanning & Photogrammetry*

*Specialist, Software engineer*

Ichiroh Kanaya, *Computer Scientist, 3D Specialist*

Takayuki Fujii, *Laser Scanning & Photogrammetry Assistant*

Rio Takahashi, *Laser Scanning & Photogrammetry Assistant*

Naoki Mori, *Laser Scanning & Photogrammetry Assistant*

Masahi Asai, *Laser Scanning & Photogrammetry Assistant*

Yasumasa Ichikawa, *CG Specialist*

Ashraf Abd el-Aziz, *Archaeologist, Photographer*

Amir Zakaria, *Surveyor*

Marwa Mohamed, *MoA Inspector*

Mahmoud Abd el-Aleem Hakel, *MoA Inspector*

## **EGYPTOLOGIST AND ART HISTORIAN**

Dr. Florence Friedman







# JOIN AERA TODAY

## Be Part of our Global Past, Present, and Future

Your membership directly supports the main pillars of our mission at [Ancient Egypt Research Associates](#): archaeological excavation, analysis, publication, and educational outreach.

Donors who contribute at the level of basic membership (\$65 US or \$85 Non-US) or more receive our AERAGram newsletter twice a year and the AERA Annual Report hot off the press, months before we post these publications to our website. Donors also receive firsthand updates on research from the field. Due to increased postal rates, non-US membership fees are slightly higher.

By contributing to AERA, you'll receive the benefit of knowing that you've made a valuable investment in us all, helping to broaden our knowledge of the past, make an impact in the education of our students, and strengthen the future of our global community.

Please join or contribute online at: <http://www.aeraweb.org/support>. Or send your check to the address below. AERA is a 501(c)(3) tax exempt, nonprofit organization. Your membership or donation is tax deductible.

### MEMBERSHIPS:

Basic: \$65    Non-US: \$85

Egyptian National: \$25    Supporting: \$250

Name \_\_\_\_\_

Address \_\_\_\_\_

Zip                      Country

Phone \_\_\_\_\_

Email address \_\_\_\_\_

Please make check payable to AERA.

Or charge your membership to a credit card:

Name on card \_\_\_\_\_

Card number \_\_\_\_\_

Verification Security number (on back) \_\_\_\_\_

Expiration date \_\_\_\_\_

Signature \_\_\_\_\_

Please send application with payment to AERA at:  
26 Lincoln Street, Suite 5, Boston MA, 02135 USA

