

AERA Ancient Egypt Research Associates

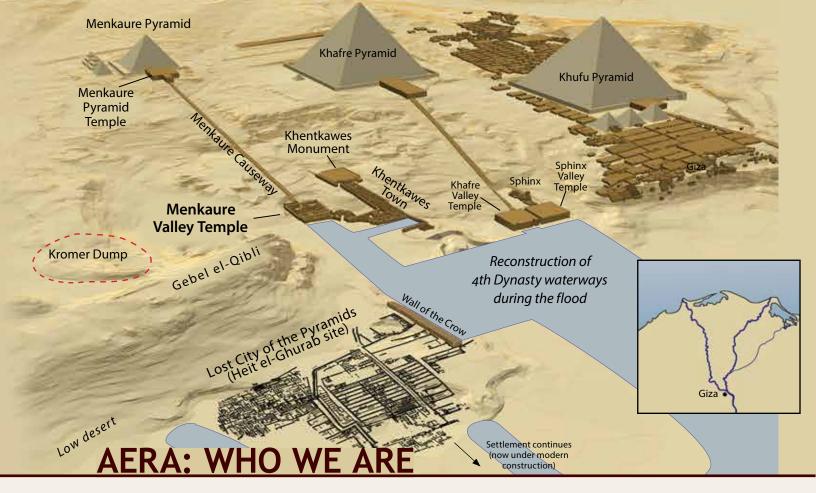
Annual Report 2019–2020



# **Adapting and Pushing On**

and share share

When the COVID-19 pandemic disrupted AERA's plans for 2020, we adapted and forged ahead. While most team members were on their way home, and workmen backfilled our 2020 excavations, Dan Jones and Mark Lehner used the short time left before the Giza Plateau shutdown to clear and study the Offering Hall in the Menkaure Valley Temple. View to the east.



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, conservation, 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, nonprofit 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 2019–2020 annual report were taken by Mark Lehner, Dan Jones, Sayed Salah Abd el-Hakim, Ali Witsell, 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 Website: http://www.aeraweb.org

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## **PRESIDENT'S MESSAGE**

ike so many people around the world, members of the AERA team came into 2020 with high hopes and goals that crashed up against the COVID-19 pandemic. In spite of this crisis, AERA continued to accomplish more in the field than most major institutions.

We entered 2020 with a full agenda. We planned to launch the Great Pyramid Temple Project (GPTP), with Zahi Hawass. We opened the AERA Objects Publication Project (AOPP)—publication of many small objects of material culture from 30 years of AERA excavations at Giza, which will be available on our website. For both projects, the American Research Center in Egypt (ARCE) awarded Antiquities Endowment Fund (AEF) grants.

Thanks to the generous support of Walter Gilbert, we launched Season 2020 of our re-excavation and study of the Menkaure Valley Temple (MVT). We wanted to extend our research into the inner sanctum, or offering room, against the center western wall of the temple, last seen 110 years ago when George Reisner excavated the MVT for the Museum of Fine Arts, Boston. In our "Sondage 141," along the outside of the back wall, on the other side of the sanctum, we planned to excavate where no one had excavated before. We wanted to see what Reisner saw-evidence of a massive flash flood that he thought had destroyed the sanctum, leading people to abandon the "First Temple" and later to rebuild it as the "Second Temple." We stood a good chance to find more fragments of royal statues. We were on standby to remove the derelict modern soccer field that covers most of the Royal Administration Building (RAB) on the Heit el-Ghurab (HeG) site, and to then continue to excavate the RAB to determine if it formed a major part of a palace of the pyramid-building kings.

We started in February at the MVT, and carried on for six weeks before March 12, when a two-day rainstorm brought a stop to our excavations. How ironic—a major storm and flash flood halting our work—given that it was our very purpose this season to record how just such a event washed out the MVT and ended it for everyone who served in the First Temple. As prologue to the pandemic, this so-called "dragon storm" shut down Cairo just ahead of the COVID-19 shutdown. We suspended Sondage 141 just as we were encountering interesting ancient features.

Within 24 hours after the storm, most team members were on flights home, and all non-Egyptian members left before Egypt closed Cairo Airport on March 19, except for Dan Jones and me. To protect the temple walls against collapse from having been soaked and then rapidly drying, we immediately had our 80 workers backfill everything we had just worked so hard to expose. But Dan and I took the opportunity to un-fill the inner sanctum, what Reisner called the Offering Hall. He had backfilled the sanctum with clean sand. We were able to see and record the hall as Reisner left it. We saw his rather aggressive probes and trenches, and the stratigraphic evidence of the catastrophic ancient flash flood. We regretted not finishing the trench on the other side of the wall, but vowed to complete the excavations in our next season.

Meanwhile, up in the AERA Field Lab (now the Ministry of Tourism and Antiquities [MoTA] Magazine Lab), the dragon storm rainfall *continued on page 4*  severely damaged the roof. Anticipating the storm, Richard Redding had placed plexiglass coverings over windows, and plastic sheets over shelves and tables holding ancient samples and objects. Two days of rain left water pooled on the floor, but fortunately did very little damage to the ancient material. After the storm, there was no getting around the need for a new roof. With approval from the MoTA's Giza Engineering Department, Overseer Sayed Salah and I hired workers to install an entirely new roof with an underlying layer of insulation and a new cement cover. Our Egyptian colleagues were then able to carry on in the lab until March 19, preparing drawings and photographs of artifacts. As of March 21, they, too, needed to return home before bus and train service was suspended, and out of concern for the spreading virus.

The airport-shutdown left me in Giza for the next four months. I took this time to write my contributions for a book, *The Red Sea Scrolls*, mostly by Pierre Tallet, on the ancient Red Sea ports, the amazing find of Wadi el-Jarf Papyri at a port of Khufu on the Gulf of Suez, and on what these amazing documents tell us about the project to build Khufu's Great Pyramid.

During late spring and early summer, with all projects suspended, or slowed, I met several times with Zahi Hawass, officials from MoTA, and ARCE staff to plan our Great Pyramid Temple Project (GPTP), taking into account MoTA's redevelopment of the Giza Plateau—part of the Giza Heritage Project—which will establish controlled access to the Giza Plateau from the west. Electric transports will carry visitors, with stops at various locations. The larger Giza Heritage Project is carried out in tandem with the eventual opening of the Grand Egyptian Museum (GEM), nearing completion a few kilometers north of the Giza Pyramids.

The temple of the Great Pyramid is the second largest pyramid temple (after the Step Pyramid of Djoser at Saqqara) and one of the oldest temples in the world. Until 1992 a paved asphalt road ran across the black basalt pavement of the temple court. Between 1992 and 1995 Zahi Hawass, then Director of Giza, removed the road and cleaned and re-excavated the temple. It subsequently turned into a parking lot and mounting place for camel and horse rides. Our GPTP plan was to finish mapping and documenting every feature of the temple remains, and then to build a perimeter walkway around it and prepare signage. After many meetings and adjustments, we decided on a plan of action and the installation of a walkway around the temple.

I returned to the plateau with Dan Jones and a GPTP team in September. But this takes us into AERA fiscal year 2020–2021. As we have worked through various challenges and crises over the years, AERA's independence and presence on the ground in Egypt made it possible to work right on through the crisis of COVID-19. Stay tuned for our report on the Great Pyramid Temple project and word of our unexpected, surprising discoveries. And watch for AERA's post-pandemic progress on the MVT and HeG sites.

Thank you again for all your generous support. You have made possible all of AERA's discoveries and accomplishments.

Mark Lehner

The Giza Plateau the day after the dragon storm.

## Menkaure Valley Temple 2020

In January 2020 we returned to the Menkaure Valley Temple (MVT) to continue building upon the work of George Reisner, who excavated the temple in 1908 and 1910. Our main goals were to 1) examine the temple foundation that Menkaure laid down before his death, and 2) scrutinize the sanctuary at the back of the temple, the Offering Hall. We wanted to see the evidence that Reisner saw in the hall of a flash flood that destroyed the temple and left it abandoned until a "Second Temple" was built in its place. We did not get to the bottom of the temple foundation, but in the Offering Hall we discovered evidence of a major phase in the MVT that Reisner missed. We also determined the function of two deep pits, the Northeast Hole (NEH), just outside the northeast corner of the temple, and Thieves' Hole, as Reisner called it, in the southwest corner of the temple (map, page 7).

Looking for the MVT Foundation. Menkaure built a foundation of massive limestone blocks for the grand stone temple he envisioned. But he died before any more work was done, leaving his successor, Shepseskaf, to hastily finish the temple in mudbrick, a structure Reisner called the First Temple. We hoped to see deep into Menkaure's foundation in NEH and Thieves' Hole, as both cut down through the entire temple.

We cleared Thieves' Hole in Season 2019 along with an adjacent pit where Reisner found the famous dyad of Menkaure and a woman. Reisner conflated the two pits as Thieves' Hole when he published the excavation. During 2020 we planned to examine the core (foundation) block barely exposed below the dyad findspot. In 2019 we were unable to dig down to see the block because of groundwater. In 2020 we expected to remove enough water with a pump to explore farther down and get to the bottom of the temple. But the pump only managed to lower the water briefly before more water started flowing in from the sides. We gave up, unable to reach the bottom of the core block. But in the NEH operation we were able to look in and under the temple foundation, thanks to a "robber's hole" tunnel, which starts at NEH and runs south below the MVT floor for almost 20 feet (6 meters), between seven large foundation blocks.

Selim Hassan excavated NEH during his 1932–1933 season at the Khentkawes Complex, just to the north. He believed it was "the temple well," constructed by Menkaure. But when AERA teams partially cleared the NEH—in 2008, 2009, and 2011–2012—we determined the hole did not date from the time of Menkaure. NEH and Thieves' Hole were probably dug long after Menkaure, and at the same time, as suggested by features they share. They are about the same size and descend down to the water table along the massive core blocks of the temple foundation. Also, each has a curved revetment of irregular stones against their eastern sides. They were most likely dug by the occupants of the Second Temple, perhaps late in the 6<sup>th</sup> Dynasty.



Why would they have dug such large, deep holes, right inside the temple and through its exterior northeastern corner? By this time the Second Temple was little more than a scruffy village inside a thick enclosure wall. Conditions had become hotter and drier. The harbor basins fronting the MVT and Khentkawes Town, connecting them to the Nile, were filled with sand. Pharaoh may have seen his own resources increasingly diminish. So, locals may have felt no qualms about digging deep for groundwater, close at hand, right through the old temple walls, to create village wells.

The NEH Hole exposed courses of the huge limestone blocks, but did not reveal the bottom of the foundation. Only the top of the lowest block was visible, and the bottom lies more than 10 feet (3 meters) farther down. Thus we do not know how far down the foundation extends, but we can see that it is deep and massive.

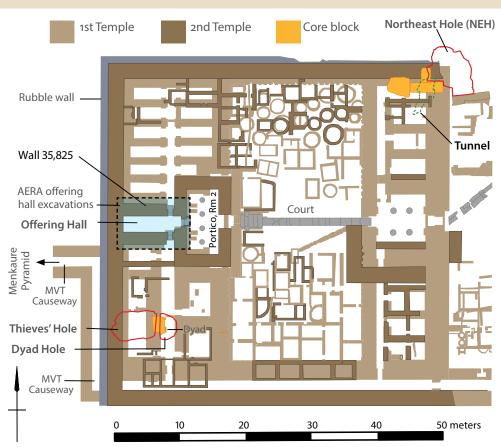
Why did Menkaure build such a foundation? He clearly wanted a large, stone valley temple like Khafre's. But his predecessors had quarried away the good, layered bedrock of the plateau, so his builders had to found his valley temple in a deep quarry. This, and the high water table, are why we have yet to get to the bottom of the foundation. **The Offering Hall**. Just before the COVID-19 crisis shut us down, we cleared the Offering Hall. It turned out to be complicated, not only because of building and rebuilding over three centuries, but also because Reisner gutted the room. He tore out the floor of the Second Temple and trenched along the base of the walls to trace the lines of the First Temple. He removed most of the northern wall and scraped off the face of the western wall and hacked two vertical trenches into it.

In 2020 we meticulously assigned every structure and depositional feature its own numeric identification tag, allowing us to sort out the different "builds," deposits, and their sequence. Then with a thorough review of Reisner's diaries, photographs, and publications, Dan Jones began to construct a more complicated history than the already-complex story that Reisner documented.

While Reisner saw two phases, the First and Second Temples, separated by a flood, Dan Jones found evidence of additional damaging floods and a more complicated rebuilding. The first flood, or possibly other catastrophic event, apparently destroyed much of the Offering Hall. We found the original north, south, and west walls preserved only a few centimeters high



at the bottom of the later walls. Then a second destructive flood tore through the hall, leaving it uninhabitable. Reisner missed the evidence for this flood. but he saw signs of extensive plundering in the temple prior to his Second Temple phase, indicating that the structure must have been abandoned. The Offering Hall remained roofless long enough for the bricks of the northern wall to develop a crackled crust. The damage to this wall was apparently extensive enough to call for a new wall (AERA feature 35,825, see photo at left), which people built in front of the old one, reducing the width of the hall from 9.8 to 7 feet (3 to 2.15 meters). The back, west wall was



also rebuilt, upon the remains of the earlier wall. This rebuild marks the start of a phase of the temple that Reisner missed. He believed that the new north wall (35,825) was built as part of the Second Temple. But we confirmed that it dated prior to the Second Temple.

We found the evidence in the remains of the Second Temple, which was put up after the devastating flash flood Reisner recognized. The flood ripped out the south and east walls, and part of the back wall. It left in its wake a pile of debris—rocks, broken mudbrick, and mud—in the hall.

The Second Temple builders did not clear much of this debris, but built a new floor on top of it, raising the level by about 2.7 feet (0.82 meters). And at the back they constructed a new wall in front of debris that had piled up in the flood breach, shortening the length of the hall by almost 20 inches (0.5 meters). They also built new south and east walls.

The evidence that placed the north wall (35,825) before the Second Temple can be seen in its relationship to the back wall and the floor. The west end of 35,825 extended all the way back to the remains of the earlier back wall, not the new wall built in front of the



The tunnel into and under the MVT.

flood debris, like the new south wall. Also, the Second Temple west wall on the north side of the room was built over 35,825. In addition, the base of 35,825 lies well below the level of the Second Temple floor.

We had planned to look at more evidence of the flood that Reisner documented by excavating a trench (Sondage 141) on the back, outer side of the west wall behind the Offering Hall. But with the COVID-19 shutdown, we ran out of time. Next season when we return to the MVT we'll excavate that trench and fill in yet more detail in the complex history of the MVT.

## FIELD LAB 2020







In addition to the ongoing field excavations in the Menkaure Valley Temple (MVT), the 2020 Spring season saw AERA's lab team back at work, as well, analyzing and cataloging finds in the AERA Ministry of Tourism and Antiquities (MoTA) Magazine Lab. Unfortunately, our work on AERA's archaeological materials was left incomplete due to the emergence of the COVID-19 crisis in mid-March, with many staff members having to return home quickly due to impending travel restrictions. Additionally, several days of wild and wet spring weather meant we had to spend time and resources repairing the windows and replacing the lab roof. Although our time was abruptly ended and our season cut short at only six weeks, the lab team still made great progress on many fronts.

The primary aim of the season was the continued analysis of AERA's main categories of material culture: ancient plant and animal remains, small finds, ceramics, lithics, and clay sealings. Different specialists worked on their backlogs from recent years, primarily on material from either the 2018 Kromer Dump (KRO) or the 2019 excavations in MVT-East, pending the arrival of new 2020 materials from MVT up to the Lab.

Both the archaeobotanical and archaeozoological teams were happy to welcome new trainees in 2020, overseen by Dr. Claire Malleson, Lab Director and Archaeobotanical team leader. In archaeobotany, Agata Bebel-Nowak joined previous trainee Essam Ahmed in learning how to process, identify, and analyze charred plant macro-remains; while Shereen el-Morsi worked with Dr. Richard Redding to begin her study of animal bones. She joined Richard's previous student, Mohammed Hussein, who was working on the 2018 KRO remains to advance his skills in fish identification.

Manami Yahata continued her study of AERA's roofing material, plaster wall fragments, and pieces of flooring from the Kromer area. Her work continues to illustrate the potential of this material thanks to the fantastic preservation of the KRO building material, high and dry on the Giza Plateau. Alexandra Witsell worked on finishing the documentation of the clay sealing material from the 2018

Yaser Mahmoud, Alaa Talaat, and Rasha Mohamed



KRO and the 2019 MVT-West (MVT-W) excavations; AERA's KRO material continues to date only from Khafre's time, while the MVT-W material examined thus far is overwhelmingly 6<sup>th</sup> Dynasty in date. Samar Mahmoud joined us to continue her study of the lithic material from 2019 MVT-W. Her ongoing analysis shows that the majority of this material is production waste and informal blades. She was able to record approximately 250 pieces before her time was cut short. Unfortunately, the last-minute changes due to COVID meant that the ceramics team was unable to work in the Lab this year.

One main focus of work was a large-scale project to comprehensively draw and photograph the AERA study objects—30 years' worth of small finds, includ-



ing pounders, anvils, hammers, grinders, querns, drills, and broken stone objects. Working under the watchful eye of Claire and Emmy Malak (AERA Objects team lead), Yaser Mahmoud led a team of illustrators (doing both pencil and digital drawings), while Amel Aweida oversaw photography and image processing. A total of 216 study objects were drawn, and 468 pieces were photographed. This project was possible thanks to a grant from ARCE's Antiquities Endowment Fund. Emmy is now working with the AERA publications team to create typologies, illustrated with representative examples from the collection, to be placed on our website for free download. We are excited to make these materials available to the scholarly community for comparison and study.

> Workers build a new roof on the MoTA Magazine Lab after a violent rain storm in March severely damaged it.

Annual Report 2019-2020

# **SHARING OUR WORK**

### **Publications**

#### MARK LEHNER

"Giza Plateau Mapping Project," in *The Oriental Institute Annual Report 2018/19*, edited by Christopher Woods, Chicago: University of Chicago, 2019, pages 59–75.

"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.

"Lake Khufu: On the Waterfront at Giza - Modelling Water Transport Infrastructure in Dynasty IV," in *Profane Landscapes, Sacred Spaces,* edited by Miroslav Bárta and Jiri Janák, Sheffield: Equinox, 2020, pages 191–292.

"Merer and the Sphinx," in *Guardian of Ancient Egypt: Studies in Honor of Zabi Hawass*, Vol. II, edited by Janice Kamrin, Miroslav Bárta, Salima Ikram, Mark Lehner, and Mohamed Megahed, Prague: Charles University, Faculty of Arts, 2020, pages 895–925.

#### CLAIRE MALLESON

"Reading Seeds. Giza Botanical Database Spreads Knowledge Worldwide," compiled by David Everett from reports by Claire Malleson, *Scribe Magazine*, Fall 2019, pages 8–13.

"Feeding the Forces, Providing for the Pyramid Builders." *RAWI, Egypt's Heritage Review*, Issue 10, 2019, pages 24–27.

### Lectures & Conference Presentations

#### 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," Asahi Culture Center, Osaka, Japan, July 21, 2019.

#### MARK LEHNER

"Dyad Mystery: Finding the People and the Palace of the Pyramids," Virginia Robinson Gardens, Los Angeles, August 28, 2019.

"Digging into Khufu, Khafre and Menkaure...Season 2019 at Giza," Norma Kershaw Auditorium, Bowers Museum, Santa Ana, CA, August 31, 2019.

"Obfuscate or Elucidate? Our (Facile?) Use of the Word 'Elite' and the Distant King's Two Bodies," King and Officials in the Old Kingdom: Separation and Interaction, Geneva, Uni Bastions, University of Geneva, Sept. 11, 2019. "Pyramid Harbours at Giza," First Symposium of the Workgroup Egyptian Riverine Harbours, September 15th to 18th, 2019, Institut français d'archéologie orientale – Cairo, September 18, 2019.

"From Giza to Abusir and Back Again," Abusir in Diachronic Perspective: 100th Year of Czech Egyptology, Ministry of Antiquities Ahmed Pasha Kamal Hall, October 30, 2019.

"Finding the People of the Pyramids," Abercrombie & Kent, Global Advisory Board On the Nile, Aswan, November 2, 2019.

"From the Prairie to the Pyramids Via Edgar Cayce and Virginia Beach," Association for Research and Enlightenment (ARE), Virgina Beach, VA, December 6, 2019.

"Finding the People of the Pyramids? The Lost City of Giza," Antilles School, St. Thomas, December 12, 2019.

"Search for Khufu's Palace – Digging the Giza Pyramid Builders," The St. Thomas Forum: Bringing Egypt to St. Thomas, December 13, 2019.

"From the Prairie to the Pyramids Via Edgar Cayce and Virginia Beach," Annual Ancient Mysteries Conference: Beneath the Sands, Beyond the Stars, Association for Research and Enlightenment (ARE), Virgina Beach, VA, October 10, 2020, online.

"The People who Built the Pyramids – How We Know," International Archaeology Day; The Metropolitan Museum of Art, Department of Egyptian Art; The Archaeological Institute of America; The Archaeological Institute of America, New York Society; The American Research Center in Egypt; The American Research Center in Egypt, New York Chapter, October 17, 2020, online.

#### **RICHARD REDDING**

"Research Design in Archaeology: 37 Years in Egypt, 22 Years at the Pyramids." Ross School of Business, University of Michigan, December 4, 2019.

#### MANAMI YAHATA

"History of AERA's Excavations at Giza, 2019 Excavation Report, Menkaure Valley Temple West." Japan Society for the Promotion of Science (JSPS) Research Station, Cairo, Egypt, September 12, 2019; and the Asahi Culture Center in Fukuoka, Japan, December 1, 2019.

"Pyramid Towns, Giza and Lahun." Asahi Culture Center, Osaka, Japan. November 17, 2019.

### In the Popular Press

We were pleased to have the ARCE Sphinx Mapping Project featured in *NILE Magazine*'s November-December 2019 issue. Jeff Burzacott's "Mapping the Sphinx," on pages 20 to 26, describes the American Research Center project to comprehensively document the Sphinx, work that Mark Lehner and others carried out from 1979 to 1983. Burzacot goes on to explain how more than 30 years later Mark and AERA archivists pulled together and prepared the vast trove of photos, drawings, field notes, and documents produced by the Sphinx Mapping Project to put online at opencontext.org, available to all for free viewing and download.



### **Documentaries**

During the 2020 field season, Mark Lehner worked with three film companies making documentaries. In January, Tom Hewitson for Windfall Films of London filmed Mark at the Sphinx and Pyramids for a National Geographic documentary, "Lost Tombs of the Great Pyramid." Weeks later, during February 12 to 14, Mark worked with Sigrid Clement of Pernel Media of Paris for " Secrets of the Pyramid Builders." Finally, Mark shot footage with another Windfall crew at the Heit el-Ghurab site for the Discovery documentary series "Unearthed."

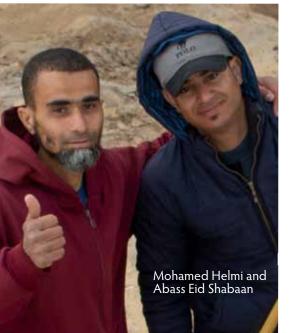
Mark films with a crew from Windfall Films of London for a National Geographic documentary, "Lost Tombs of the Great Pyramid."



## **SCENES FROM 2019-2020**

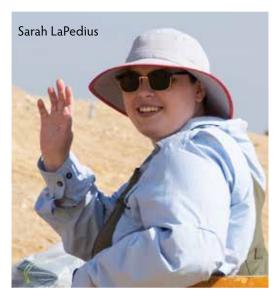


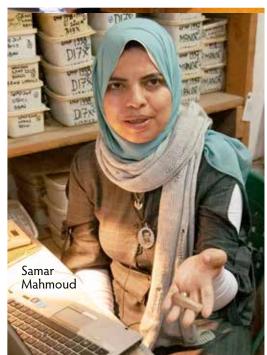












Manami Yahata

Dan Jones shows the lab staff the Dyad Hole in the MVT as part of a weekly site tour.

Mohamed Helmi (seated) and Abass Eid Shabaan work with the Total Station.







Claire Malleson works with Hany Zaki, Lab Inspector, to register incoming finds from the field at the lab.

As archaeologists dig, they fill baskets to be sieved for artifacts.



# 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 March 2021 are included.

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

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Dr. Claire Malleson, Director of Archaeological Science, Lab Manager, Archaeobotanist Dr. Richard Redding, Archaeozoologist Alexandra Witsell, Head of Clay Sealings Team Emmy Malek, Head of Objects Team Manami Yahata, Roofing Materials and Plaster Specialist, Archivist Samar Mahmoud,\* Lithics Specialist Yaser Mahmoud,\* Illustrator Amel Aweida,\* Photographer Alaa Talaat, Illustration Assistant Rasha Mohamed,\* Illustration Assistant Mohamed Hamed,\* Photography Assistant Nourhan Hassan,\* Photography Assistant Agata Bebel-Nowak, Archaeobotany Assistant Essam Ahmed, \*Archaeobotany Trainee Mohammad Hussein,\* Faunal Assistant Shereen el-Morsi,\* Faunal Trainee Essam Ahmed,\* Archaeobotany Trainee Mohammed Hassan, Lab Assistant Abdel Latif, Lab Assistant, Flotation and Wet Sieve Technician Ahmed Ezz, MoTA Inspector

Hany Zaki, MoTA Magazine Inspector

#### **EXCAVATION**

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\*Inspector with the Egyptian Ministry of Tourism and Antiquities (MoTA)

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