



ARCHAEOLOGY UNIT: WORKSHOP POSTERS



EXCAVATED CERAMICS OF SINGAPORE: PRE-COLONIAL TO COLONIAL ARTEFACTS

Mr Aaron Kao Jiun Feng



THE ARCHAEOLOGY OF SINGAPORE: ANCIENT TEMASEK AND THE COLONIAL PERIOD

Mr Michael Ng



VOLUNTEERISM IN SINGAPORE ARCHAEOLOGY

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**WORKSHOP ON  
 THE HERITAGE OF ANCIENT AND URBAN SITES:  
 GIVING VOICE TO LOCAL PRIORITIES  
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 SINGAPORE**

### ABSTRACT

Three posters were designed by the Archaeology Unit for the Heritage Workshop. They were displayed in the ISEAS Foyer, with an explanation given to the Workshop participants during the Coffee Break of the first day. This was followed by a lunch-time tour of the Archaeology Unit.

### BIODATA

Mr Aaron Kao majored in painting at Lasalle SIA College of The Arts and where he received his diploma as the top graduate from the school of Fine Arts (1999). He received his Bachelor of Arts degree with Distinction from Royal Melbourne Institute of Technology (2003). Aaron is interested in military history and first integrated historical research efforts with archaeology at the Fort Serapong excavations, Singapore (2006). His field of enquiry has grown to encompass the pre-colonial history of Singapore and Southeast Asia; participating in excavations in Singapore and Cambodia from 2013–2015. Apart from fieldwork, Aaron applies his Fine Arts training as illustrator for the Archaeology Unit. Aaron also conducts illustration, image capture, and image analysis training for international students.

Mr Ng graduated with a BA (Hons) in Linguistics and Multilingual Studies minor in History from Nanyang Technological University. He has been involved in several archaeological excavations in Singapore, Indonesia, Cambodia and Jordan. Currently, he is working on processing the artefacts that were excavated from the National Art Gallery, Singapore excavation and as well as other artefacts excavated from other sites. Michael's research interests revolve around Southeast Asian archaeology and history; in particular, World War II/military history, maritime trade within Asia, maritime archaeology, Khmer, Majapahit and Srivijayan architecture and art, ceramics and geographic information system application in archaeology.

Young Wei Ping is currently a research assistant with the Archaeology Unit, NSC, ISEAS – Yusof Ishak Institute. She has been aiding in post-excavation processes which include washing and sorting of previously excavated artefacts, and also aiding in research. Her other archaeological experiences during the course of her gap year include her first volunteer experience at the Empress Place Rescue Excavation project in Singapore as a field assistant in 2015, and in the NSC Archaeological Field School 2015 as a participant. She seeks to understand and learn more of the field of archaeology before pursuing her undergraduate studies.

## CONFERENCE POSTERS

ISEAS YUSOF ISHAK  
INSTITUTE

# EXCAVATED CERAMICS OF SINGAPORE

## PRE-COLONIAL TO COLONIAL ARTEFACTS

Aaron Kao

### WHY CERAMICS?

Ceramic pottery, which have been vital utensils for life for thousands of years, were found in abundance throughout the archaeological sites of Singapore. They tend to be better preserved than other types of fragile artefacts as they are more robust.

### WHAT CAN THEY TELL US?

The study of ceramics artefacts is crucial as they were an integral part of the local culture and economy. They hold clues to:

- 1) Understanding technological traditions and determining production and industrial capabilities.
- 2) Examining stylistic choices to explore the nature of the relationships with that of neighbouring areas.
- 3) Identifying ceramic production origins through a study of their composition and raw materials.
- 4) Understanding site-specific activities through the study of the patterns, artefact deposition and formation processes.
- 5) Estimating past economic trade volumes and population size potential by measuring its quantity.



Stamped (above) and  
Hand-stamped (below)  
earthenware potsherds  
from National Art  
Gallery site

### EARTHENWARE

Earthenware vessels were a common product of ancient Singapore and they share many stylistic elements with those produced around Southeast Asia.

Assuming a variety of forms and utilitarian functions such as cooking and storage of goods, these low fired pottery (up to 900 degrees Celsius) are usually brown in colour and are full of grit. More often they appear crudely made when compared to stoneware and porcelain.

These vessels are either plain or decorated with impressed geometric patterns that span the diameter of the vessel, or incised horizontal and vertical border bands.



Stoneware rim  
from National Art  
Gallery site

### STONEWARE

Stoneware pottery found in Singapore were mainly imported from China and would have been used as containers for the importation of goods.

Typically globular in form, the grey coloured clay body is harder than earthenware as they are fired at a much higher temperature (1,100 - 1,200 degrees Celsius) and are often glazed entirely or partially in earthy tones of brown, green or yellow.

On some occasions, they are decorated with intricate motifs or stamped with a maker's mark. Scores of small-mouthed bottles, usually of a type found with a broad shoulder and a tapered body, are also commonly found, possibly for the transportation of liquid products.



Iron undeglazed  
decoration found on a  
whiteware potsherd  
possibly made in a  
Cizhou kiln

### PORCELAIN

Greenware, Whiteware, and Blue and white ware make up most of the porcelain assemblage which are high fired (up to 1,300 degrees Celsius) kaolin blanketed in a glassy glaze.

They are objects of beauty and status and are often decorated with ornate designs such as intricately stamped floral motifs or pleasantly incised curvilinear lines. They also serve as ornamental objects or religious paraphernalia.

For 2000 years, they were highly sought after as commodities along the maritime trade routes that spanned the Indian Ocean, the Java Sea and South China Sea.



European stoneware bottles  
found at the Cathedral of the  
Good Shepherd

### EUROPEAN CERAMICS

The arrival of the British in Singapore heralded a new dimension to its archaeological remains.

Stratigraphic layers above the Temasek cultural layer were littered with a host of early and late colonial ceramic artefacts such as European stoneware bottles, transfer printed white earthenware bowls, plates and saucers, as well as 20th century bathroom fixtures and electrical fittings.

BACKGROUND:  
Greenware vessel from  
Empress Place site

Artefact photography by Aaron Kao and Ung Bui Loon  
Graphics by Hoang Huong  
Copywriting by Foo Shu Teng

### WHAT ARE WE DOING WITH THEM?

The Archaeology Unit, Nalanda-Sriwijaya Centre, ISEAS-Yusof Ishak Institute is working hard to complete the post-excavation processing of four and a half tonnes of artefacts from three major ancient sites.

The three sites are:

- National Gallery Singapore (2009/2010) - 375 kg
- Victoria Concert Hall (2010) - 654 kg
- Empress Place (2015) - 3,500 kg

Challenges faced by archaeologists:

- Prior to 2015, the bulk of resources were allocated to rescue excavations which took priority over post-excavation work.
- Backlog of large quantities of un-processed artefacts.
- Reliance on volunteer force can create an erratic and inconsistent workflow.

In 2014, a pilot project was launched to create a database starting with artefacts found in the National Gallery Singapore site. All 375 kg of artefacts were cleaned, sorted and issued a Unique Identification Number (UIN).

Here is a summary of the project:

- To date, 23,152 artefacts have been labeled with their UIN.
- A database programme was explicitly customized for post-processing and data entry work is currently in progress.
- A web catalogue showing highlights of the finds was initiated and will become a component of the ISEAS-Yusof Ishak Institute library.
- Archaeology Unit staff are actively carrying out research on the excavated artefacts.

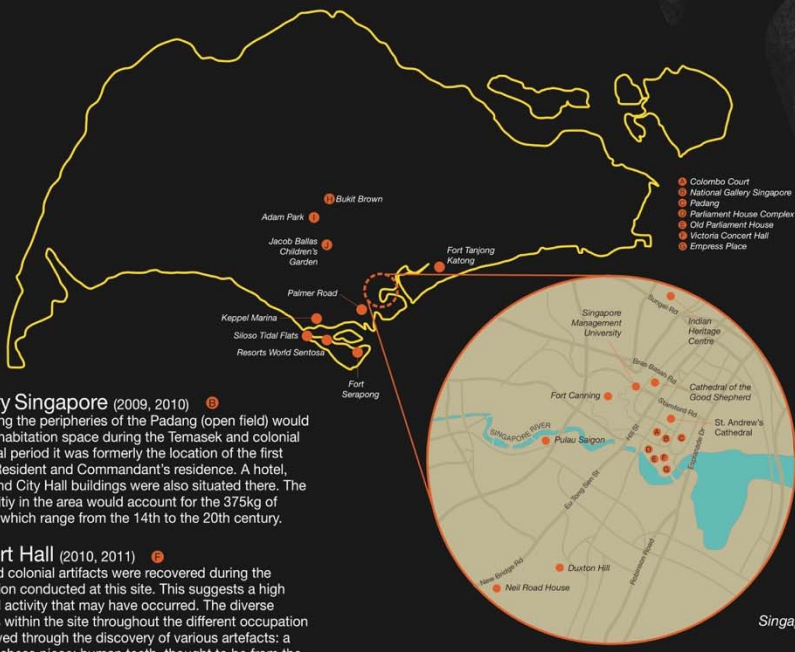
ISEAS YUSOF ISHAK INSTITUTE

NALANDA SRIWIJAYA CENTRE

# ARCHAEOLOGY OF SINGAPORE

## ANCIENT TEMASEK AND THE COLONIAL PERIOD Michael Ng

The first excavation in post-independent Singapore was conducted in 1984 at Fort Canning Hill. It was a pivotal moment as it paved the way for archaeological research in Singapore for the next 30 years. Since then, information found has been crucial in providing a better understanding of Singapore's 700 years of history and its importance to the region. This poster will provide an overview of the archaeological work that has taken place and elaborate on some of excavations that were conducted in the last five years.



TIMELINE

c. 1300s-1600s  
Temasek

1819  
Founding of Singapore

1942-1945  
Japanese Occupation

1965  
Singapore's Independence

1984  
First excavation at Fort Canning

2010  
Archaeology Unit at ISEAS established

2015  
Largest excavation in Singapore at Empress Place

**National Gallery Singapore (2009, 2010)** ②  
The site's location along the peripheries of the Padang (open field) would have made it a prime habitation space during the Temasek and colonial era. During the colonial period it was formerly the location of the first East India Company Resident and Commandant's residence. A hotel, the Supreme Court, and City Hall buildings were also situated there. The concentration of activity in the area would account for the 375kg of artefacts found there, which range from the 14th to the 20th century.

**Victoria Concert Hall (2010, 2011)** ⑤  
654kg of Temasek and colonial artefacts were recovered during the course of the excavation conducted at this site. This suggests a high volume of commercial activity that may have occurred. The diverse nature of the activities within the site throughout the different occupation periods can be observed through the discovery of various artefacts: a 14th century Chinese chess piece; human teeth, thought to be from the inhabitants of Temasek; and the foundations of an old 1950s assembly house.

**Adam Park (2010, 2011, 2013)** ①  
Adam Park was the site of heavy fighting between the British and the Imperial Japanese army during the final days leading to Singapore's surrender. The metal detecting and remote sensing surveys conducted in that area revealed ammunition and military equipment which were used and abandoned during the battle.

**Jacob Ballas Children's Garden (2014)** ③  
The objective of the archaeological evaluation was to document the three Chinese graves and a 20th century air raid shelter that resided within the vicinity of the Garden. One of the graves can be dated to 1842, which makes it the oldest *in situ* grave within Singapore.

**Bukit Brown Cemetery (2014)** ④  
An archaeological excavation of a tomb was conducted as part of a physical anthropological study in conjunction with the ISEAS Bukit Brown Cemetery Documentation Project. In addition, a metal detecting survey was also conducted at Bukit Brown in order to understand the site's Second World War past and its relationship to the nearby Adam Park site.

**Empress Place (1998, 2014, 2015)** ⑥  
The Empress Place (EMP) site is located at what used to be the mouth of the Singapore River. This area is known to be of archaeological and historical importance. However, landscaping and tree transplanting works in 2015 necessitated the most recent rescue excavation. The 2015 excavation was conducted in a 15m by 70m site, the largest excavation site thus far. It also produced the largest yield of artefacts ever recovered, with 3,500kg worth of artefacts found. This impressive discovery suggests a thriving commercial site during the Temasek period.

### Other Sites

| SITE                                       | YEAR                   | TYPE                |
|--|------------------------|---------------------|
| Fort Canning                               | 1984, 1985, 1987, 1990 | Research Excavation |
| Pulau Saigon                               | 1987-1988              | Surface Collection  |
| Old Parliament House                       | 1989                   | Rescue Excavation   |
| Duxton Hill                                | 1989                   | Rescue Excavation   |
| Parliament House Complex                   | 1994-1995              | Rescue Excavation   |
| Colombo Court                              | 2000-2001              | Rescue Excavation   |
| Istana Kampong Gelam                       | 2000, 2003             | Rescue Excavation   |
| Padang                                     | 2003                   | Research Excavation |
| St. Andrew's Cathedral                     | 2003 - 2004            | Rescue Excavation   |
| Fort Tanjong Katong                        | 2004 - 2005            | Research Excavation |
| Keppel Marina                              | 2005                   | Evaluation          |
| Palmer Road                                | 2006                   | Research Excavation |
| Neil Road House                            | 2006                   | Evaluation          |
| Fort Serapong                              | 2006                   | Research Survey     |
| Sentosa Island Integrated Resort           | 2006 - 2007            | Evaluation          |
| Fort Canning                               | 2010                   | Rescue Excavation   |
| Ulu Pandan                                 | 2011                   | Research Survey     |
| Indian Heritage Centre                     | 2012                   | Evaluation          |
| Cathedral of the Good Shepherd             | 2013                   | Evaluation          |
| Singapore Management University Law School | 2014                   | Evaluation          |

(Source: Lim Chen Siang)

### ISEAS-Yusof Ishak Institute (2010 - Present)

Post-excavation work is just as vital as the many excavations that have been carried out throughout the years. As a guiding estimate, it takes 21 days of post excavation work to process one day's worth of excavated material. Post-excavation work has been ongoing at the Archaeology Unit, Nalanda-Sriwijaya Centre, ISEAS-Yusof Ishak Institute since its establishment in 2010.

Graphics by Young Wei Ping  
Copyediting by Foo Shu Tieng

ISEAS YUSUF ISHAK INSTITUTE

NALANDA SRIVIJAYA CENTER

# VOLUNTEERISM IN SINGAPORE ARCHAEOLOGY

Young Wei Ping

Throughout the past 30 years of archaeological efforts in Singapore, volunteer labour has been a constant driving force. From Fort Canning to Empress Place, volunteers have continued to provide Singapore archaeologists with the much-needed personnel to sustain past excavations.

BACKGROUND: volunteers at sieving station at Empress Place site (2015)  
Photo by Patrick Tan

## ROLE OF THE VOLUNTEER

Volunteers have helped in multiple excavations conducted in Singapore, including Fort Canning, Fort Serapong, Victoria Concert Hall, National Gallery Singapore, Adam Park, Bukit Brown, Empress Place, and more. When onsite, volunteers may assist in processes such as sieving, bucketing, and ensuring that the artefacts are carefully collected. Volunteers may also help the Archaeological Unit with excavation work.

The need for volunteers is not restricted to excavation; it also extends to post-excavation work. For every day of excavation, it takes 21 days to process all of the excavated material. The efforts that volunteers have put into the work greatly facilitate archaeologists in such a way that vital documentation can be completed alongside other essential tasks.

Such tasks include washing of artefacts, sorting of artefacts, and labeling. As the volunteers may come from a wide range of ages and backgrounds, some volunteers may have specialised skills that can be utilised further, such as drawing and photography.

Experienced volunteers who have previously helped in multiple excavations or for extended periods may be more familiar with the excavated material and the procedure involved. Such volunteers may thus be assigned more managerial roles, such as overseeing and guiding newer volunteers.



Illustration of artefacts done by Shermaine Ang



Post-excavation processes: FROM LEFT TO RIGHT: Washing, sorting, and labeling of artefacts  
(Photos by Young Wei Ping and Aaron Kao)



Aerial photography of Empress Place site (2015) done by Ung Ruey Loon

## MANAGING VOLUNTEERS



### Level of interest

One of the challenges faced when managing volunteers is sustaining the interest and enthusiasm of different volunteers throughout their participation in archaeological activities. This is especially true during repetitive processes such as sieving, washing, sorting, and data entry. They are often treated with less enthusiasm, but are nevertheless equally important.



### Differences

Another major concern in managing volunteers is taking into account the various backgrounds of the volunteers. They have different strengths and weaknesses, as well as varying levels of maturity. Volunteers must be appropriately engaged to ensure they are getting the job done in an efficient manner, and in such a way that their morale is maintained. To do so archaeologists must render archaeological knowledge accessible and engaging, whether the volunteers be adults or children.



### Commitments

Another issue is that volunteers are often unable to commit large amounts of time. The availability of volunteers is never certain; the frequency and duration volunteers can provide assistance for are often irregular due to other priorities and commitments such as their studies or work. The number of volunteers available may fluctuate from none to large numbers that are often difficult to supervise. Thus volunteers need to be coordinated and allocated appropriate supervision.

## IMPACT OF VOLUNTEERISM

Amongst all of the processes, volunteers typically have a preference for excavation work. Often from the perspective of the volunteer, digging and discovering artefacts provides a unique sense of satisfaction from having contributed to the preservation of Singapore's past and the discovery of a more tangible Singaporean identity.

Volunteerism has a role in popularising archaeology. As a volunteer myself, I was only acquainted with archaeology in Singapore through volunteering. When volunteers learn more about archaeology and its importance in Singapore, they can become supporters and advocates for historical conservation and preservation.



Students at Fort Tanjong Katong excavation  
(Photo by Lim Cheri Siari)



Volunteers at Fort Serapong  
(Photo by Aaron Kao)

Graphics by Young Wei Ping. Copyediting by Foo Shu Teng