



# 22ND CONFERENCE ON FLAVOR PHYSICS AND CP VIOLATION

Chulalongkorn University

Bangkok, Thailand

27 - 31 May 2024



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A. El-Khadra (UIUC)	C. S. Kim (Yonsei/Dongshin)	A. Soffer (Tel Aviv)
M. Giorgi (Pisa)	Z. Ligeti (LBNL)	

## Local Organising Committee

B. Asavapibhop (SEAMEO STEM-ED)	A. Limphirat (SUT)	N. Srimanobhas (CU) <i>co-chair</i>
C. Asawatangtrakuldee (CU)	C. Pongkitivanichkul (KKU)	W. Sreethawong (SUT)
A. Chatrabhuti (CU)	N. Poovuttikul (CU)	N. Supanam (SWU)
A. De Roeck (CERN)	K. Pumsa-ard (SWU)	N. Suwonjandee (CU)
G. Isidori (Zurich U.)	S. Rimjaem (CMU)	P. Uttayarat (SWU) <i>co-chair</i>
P. Ittisamai (CU)	N. Ritjoho (SUT)	V. Wachirapusitanand (CU)
C. Kobdaj (SUT)	D. Samart (KKU)	Y. Yan (SUT)

Do you spot something strange in the poster?  
See picture description in the Indico page.

[indico.cern.ch/e/FPCP2024](https://indico.cern.ch/e/FPCP2024)



# Welcome to the Flavor Physics and CP Violation Conference (FPCP 2024)

## 27 – 31 May 2024

# organized by Thai High Energy Physics Consortium



**Big thanks to funding agencies, sponsors,  
and our universities**



# Registration

FPCP2024

Please review and correct any mistakes in your details, and return this paper by the end of the morning break. You can put it in the box in front of the plenary room. The receipt will be provided by Wednesday or Thursday. The total amount you paid will be shown in THB. If you need it in a different currency, please write the amount and currency in the note.

Registration ID: 1

Name: Phat

Family Name: Srimanobhas

Institute: Chulalongkorn University (TH)

Food Restriction: No food restriction

Information on your food restriction and allergies:

Welcome Reception (Accompany):

Conference Dinner:

Excursion: Bike (Siam Boran):

Excursion: Bang Kachao:

Excursion: Rattanakosin Island:

Excursion: Ancient City:

Total amount (THB):

Note:

After registration, you will get this paper. It contains all key information.

} Food restriction

} Welcome reception (accompany) + Conference Dinner

} Excursion, if you choose

} Amount of registration fee in THB. It will be the number we will use in the receipt. If you want to use your own currency, please write down and return this to us (box in front of this room) by noon. For note, if you see [PSI], it is me (phat).



# Registration

Participants

Local organizers and staffs

**Name**

**Family name**

**Institute**

**Name**

**Family name**

**Institute**

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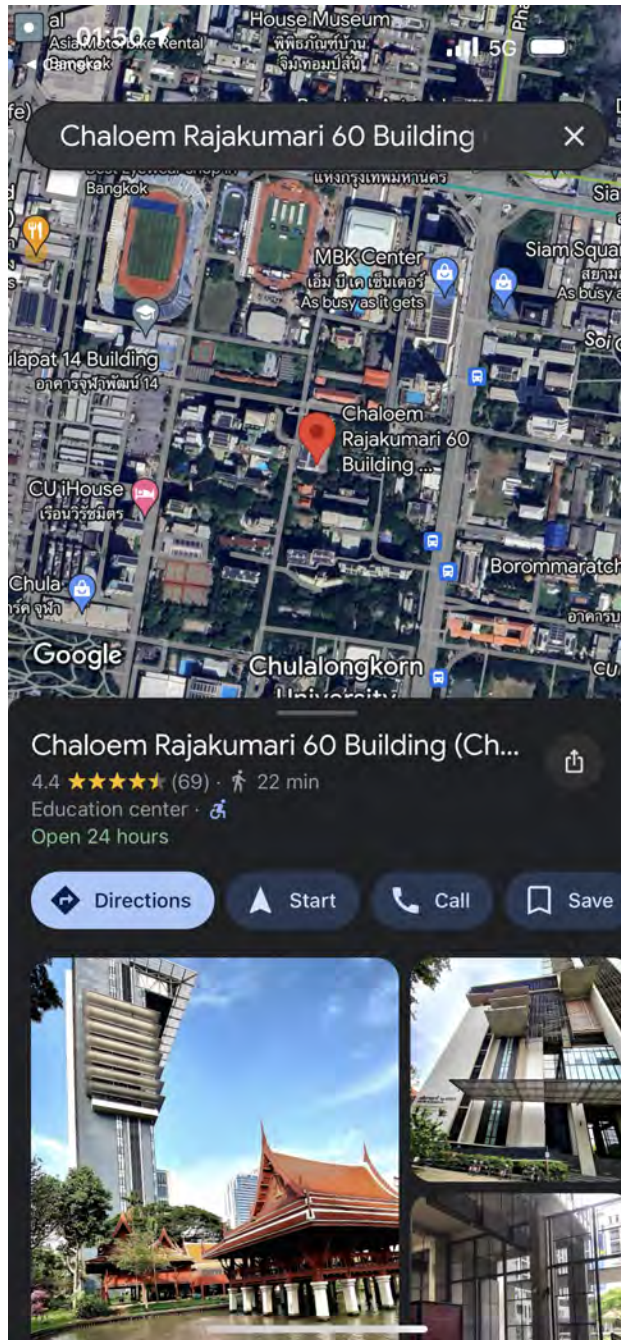
Chulalongkorn University  
Bangkok, Thailand  
27 – 31 May 2024





# Welcome reception

15 min walk from here, or take CU Shuttle Bus No.2 (just in front of this building)



## Welcome reception

Chamchuri 10 building  
Tuesday, 28 May  
19:00



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# Registration

## Conference dinner

River City Bangkok  
Thursday, 30 May  
19:00



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30-45 min walk from here, or take bus  
no. 36 (Bus Terminal, Si Phraya Pier)

Looking for the "River City Pier"

Please bring your coupon with you, it will  
be needed to exchange with cruise ticket.

Everyone is welcome.



That needs to work two more papers  
this year to pay back to university



# Registration

## Ancient City

Half-day excursion  
Wednesday, 29 May



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## Bicycle Tour Bang Kachao

Half-day excursion  
Wednesday, 29 May



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## Rattanakosin Walking Tour

Half-day excursion  
Wednesday, 29 May



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## Bicycle Tour Siam Boran

Half-day excursion  
Wednesday, 29 May



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Meeting point is the  
ground floor of this  
building (MHMK),

Food box to provide to  
all participants on  
Wednesday.



# Registration



## Souvenir

Bring this card  
to reception  
for a nice souvenir!



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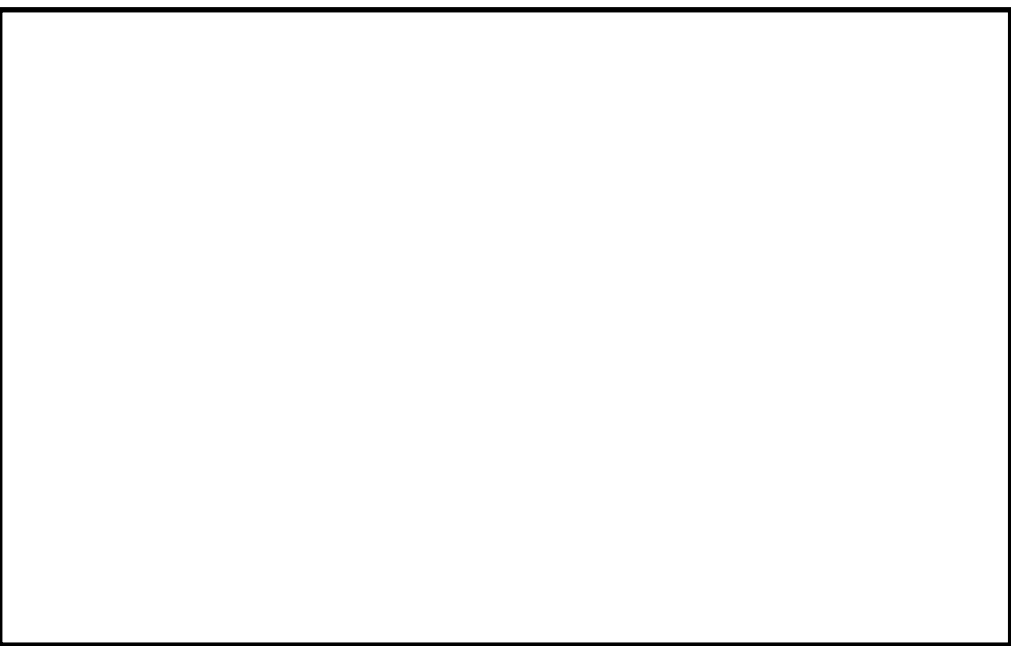
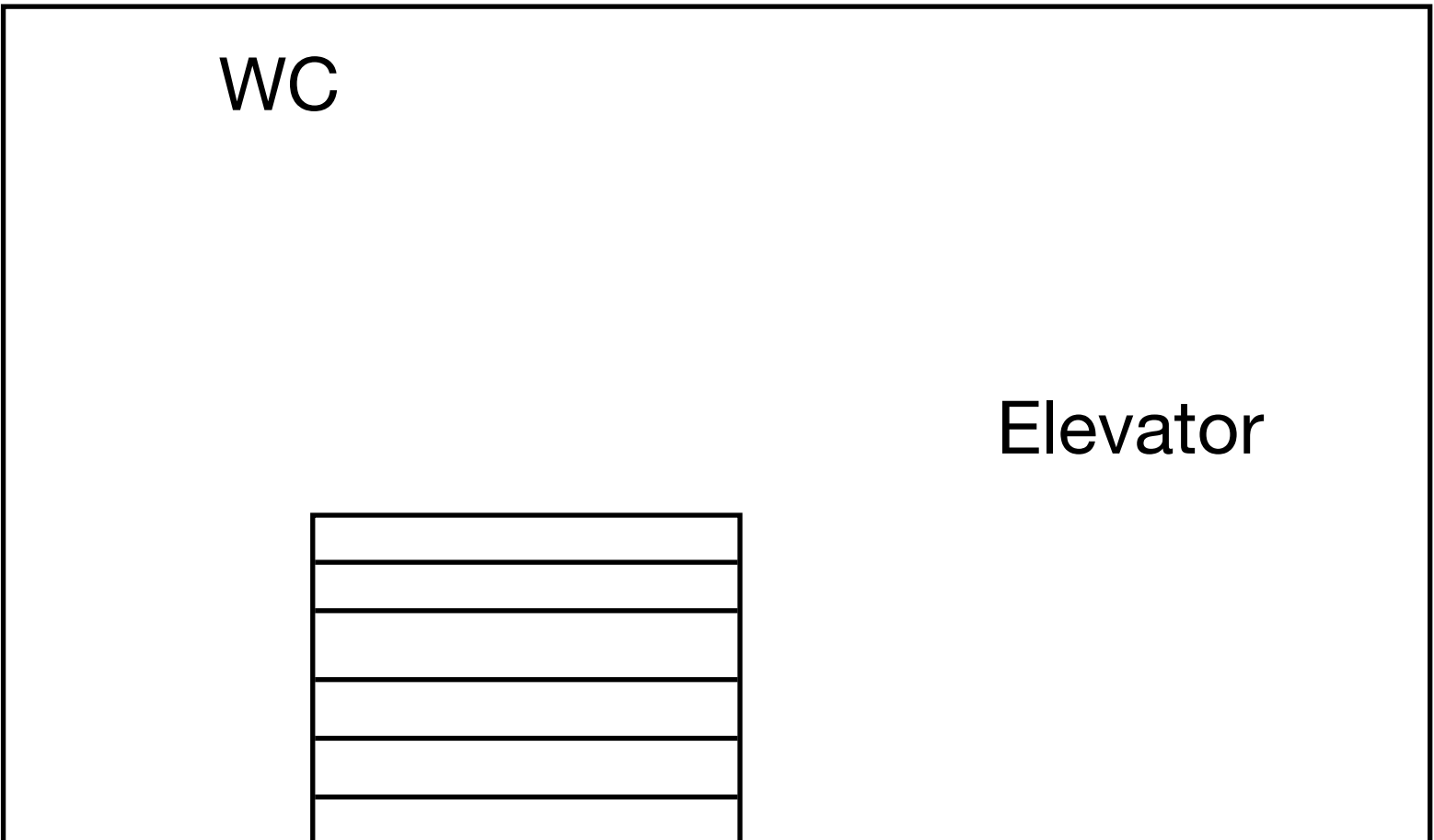
"Thai Elephant Pant"

Available from this afternoon

M - Freesize - XL - XXL



# Conference rooms



304  
Parallel 2,5,8

306  
Registration



307  
Parallel 3,6,9

308  
Plenary  
Parallel 1,4,7



# Speakers

The screenshot shows a web browser window with the URL <https://indico.cern.ch/event/1291023/timetable/>. The page displays a timetable for an event. The current session is 'Parallel - 1' starting at 14:00. The convener is Mr NAKORN THONGYOI (Khon Kaen University). Three presentations are listed:

- 14:00** **Exploring type-I seesaw under  $S_3$  modular symmetry** (15m)  
This work's novelty lies in using the simplest group i.e.  $\Gamma_2 \cong S_3$  modular symmetry implemented on the canonical seesaw to explain neutrino phenomenology. Here, we construct and classify models based on the doublet and singlet representations of supermultiplets under  $S_3$  discrete symmetry along with their respective modular weights, allowing a mass matrix for the neutrino sector with minimal use of free parameters. These modular symmetries become advantageous in avoiding the requirements of multiple flavon fields and the intricacies of vacuum alignments. In this way, we endeavor to clarify the effect and significance of modular  $S_3$  symmetry, which is considered in explaining the neutrino phenomenology viable with the current observations. Additionally, we also shed some light on the neutrinoless double beta decay.  
Speaker: mitesh behera
- 14:15** **Neutrino masses and mixing in an inverse seesaw (2,3) model augmented with  $S_4$  modular flavor symmetry** (15m)  
In our work, we have used modular invariance approach to construct a neutrino mass model in the framework of the inverse seesaw(2,3) mechanism with modular  $S_4$  flavor symmetry. The use of modular invariance requires less number of flavon fields which increases the predictability of the model. The phenomenological study of the neutrino mass matrix is carried out using the current  $3\sigma$  ranges of neutrino oscillation data to test the compatibility of the model with experiments. Again the use of inverse seesaw mechanism allows the right-handed neutrinos to have masses in the TeV scale which may be feasible at the current collider experiments.  
Speaker: Raktima Kalita (Cotton University)  
Files: [FPCP\\_2024\\_raktima...](#), [FPCP\\_2024\\_raktima...](#)
- 14:30** **Leptogenesis in a Left-Right Symmetric Model with double seesaw** (15m)  
We explore the connection between low-scale CP-violating Dirac phase ( $\delta$ ) and high-scale leptogenesis in a Left-Right Symmetric Model (LRSM) with scalar bidoublet and doublets. The fermion sector of the model is extended with one sterile neutrino ( $S_L$ ) per generation to implement a double seesaw mechanism in the neutral fermion mass matrix. The double seesaw is performed via the implementation of type-I seesaw twice. The first seesaw facilitates the generation of Majorana mass term for heavy right-handed (RH) neutrinos ( $N_R$ ), and the light neutrino mass becomes linearly dependent on  $S_L$  mass in the second. In our framework, we have taken charge conjugation ( $C$ ) as the discrete left-right (LR) symmetry. This choice assists in deriving the Dirac neutrino mass matrix ( $M_D$ ) in terms of the light and heavy RH neutrino masses and light neutrino mixing matrix  $U_{PMNS}$  (containing  $\delta$ ). We illustrate the viability of unflavored thermal leptogenesis via the decay of RH neutrinos by using the obtained  $M_n$  with the masses of RH neutrinos as input parameters. A complete analysis of the

5 Min

2 Min

0

Please upload your slide at least 20 min before the session starts



# Proceeding



Proceeding of FPCP2024 will be published in the EPJ Web of Conferences.

Deadline: The initial submission of your articles is: Mon July 29 2024 at 09:00 BKK (04:00 CEST).



# Coffee Break



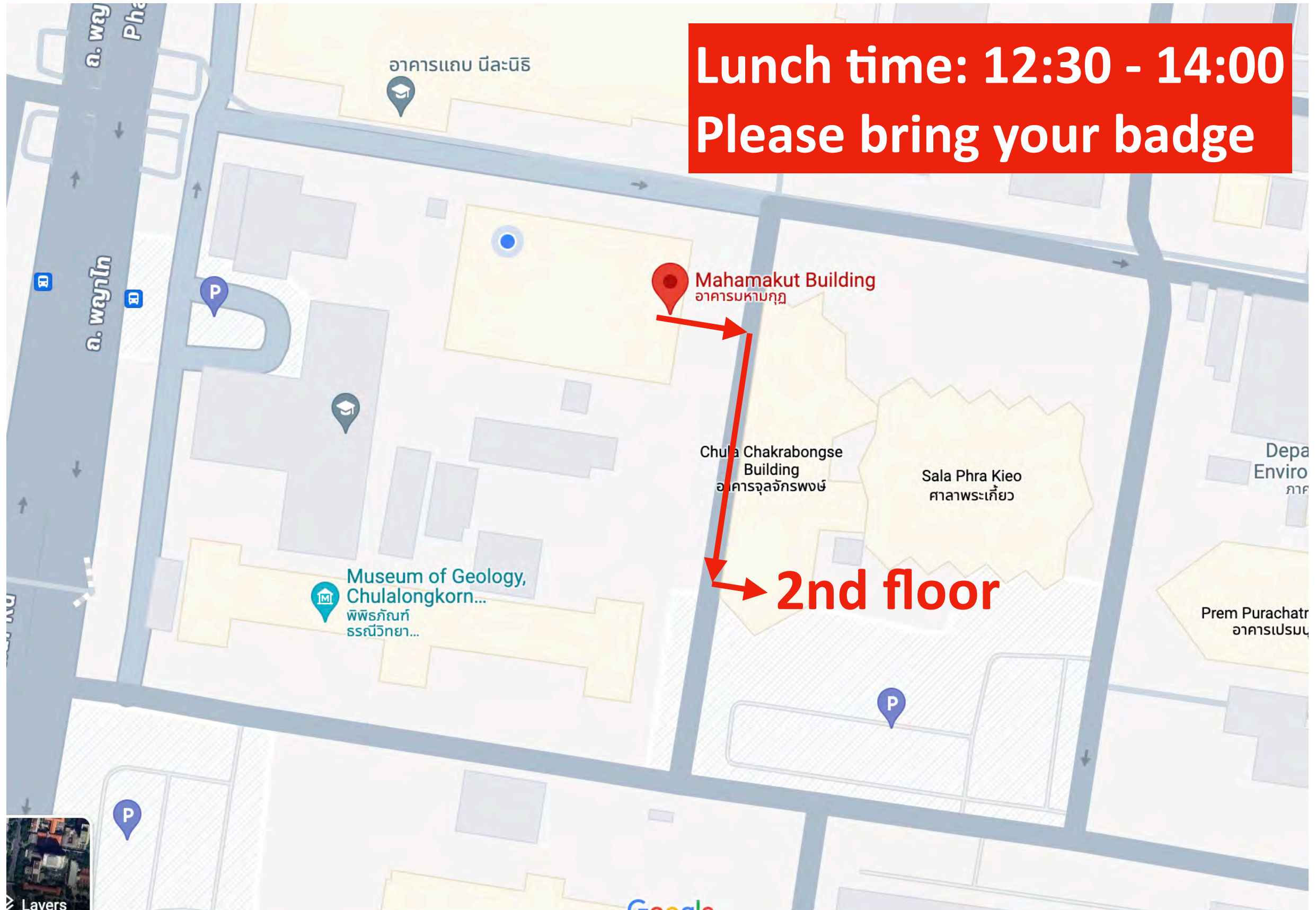
Ground floor, 30 min each

For vegan, please look at the yellow flag (lunch also)



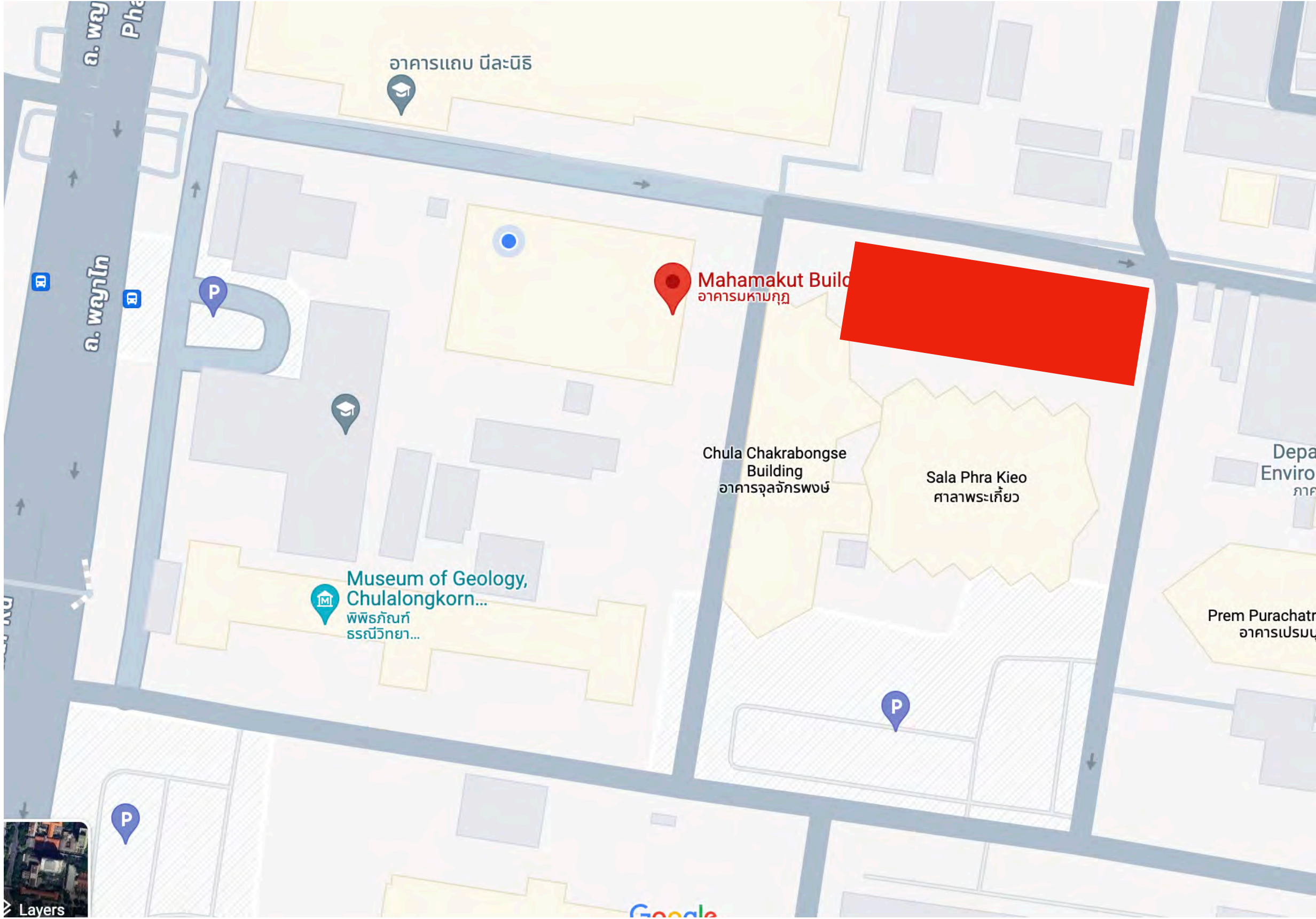


# Lunch





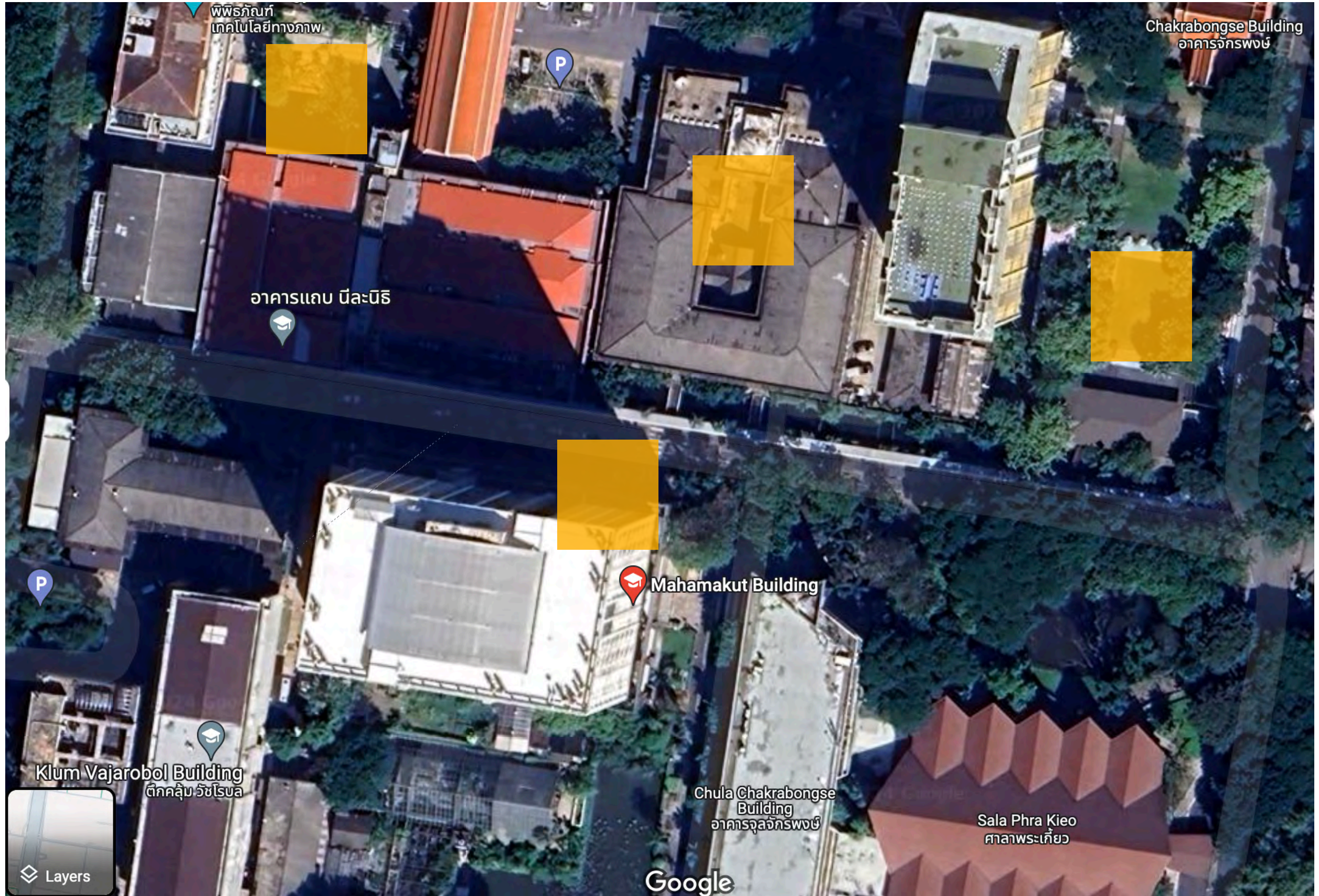
# Street Food Market: Tuesday and Friday 8:00 - 14:00





# Photo session

wednesday, 10:25, place to confirm!





# Local area

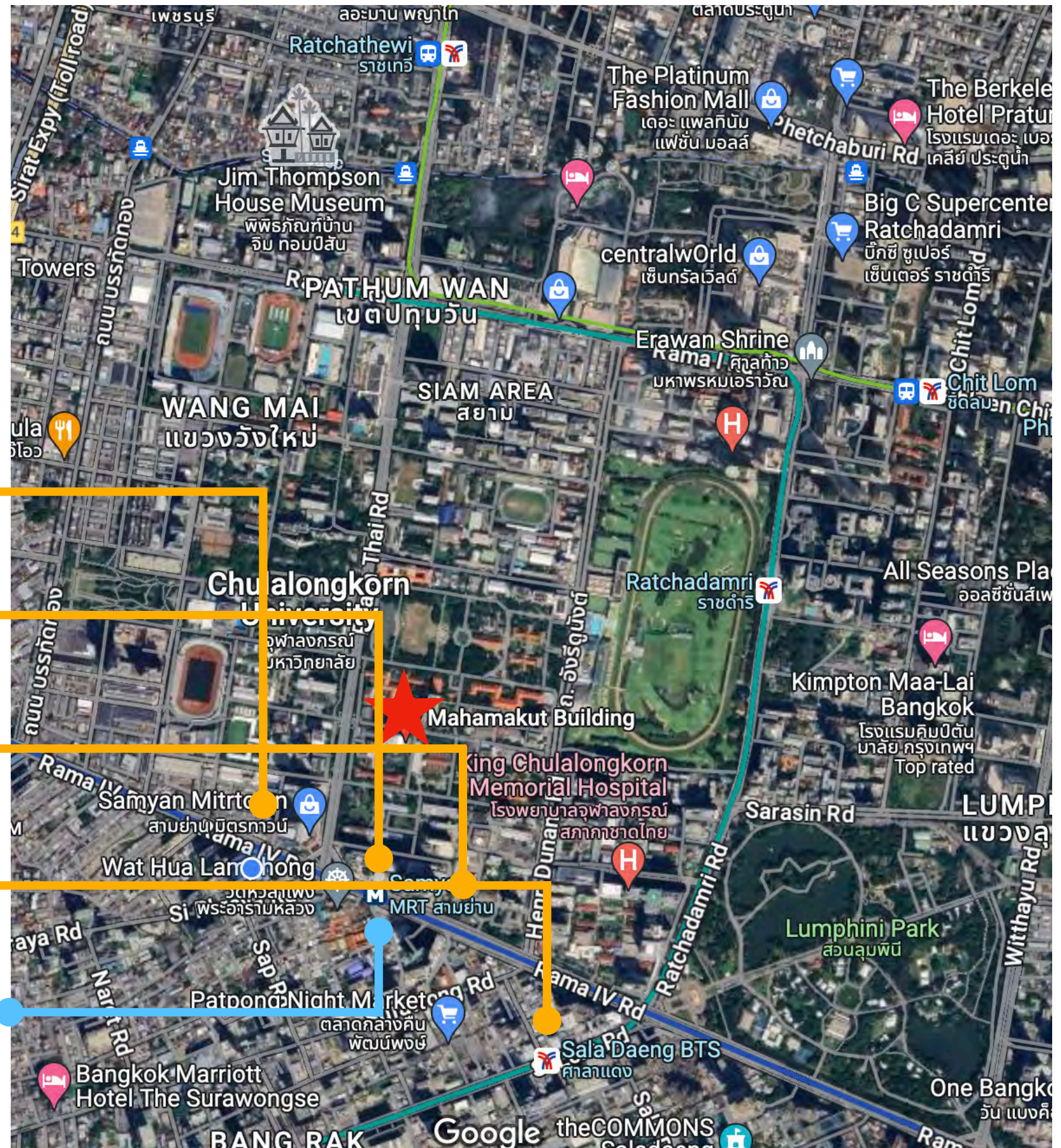
**Samyan Mitrtown**

**Chamchuri Square**

**Snake farm**

**Silom street**

**MRT to China Town  
in few stops**

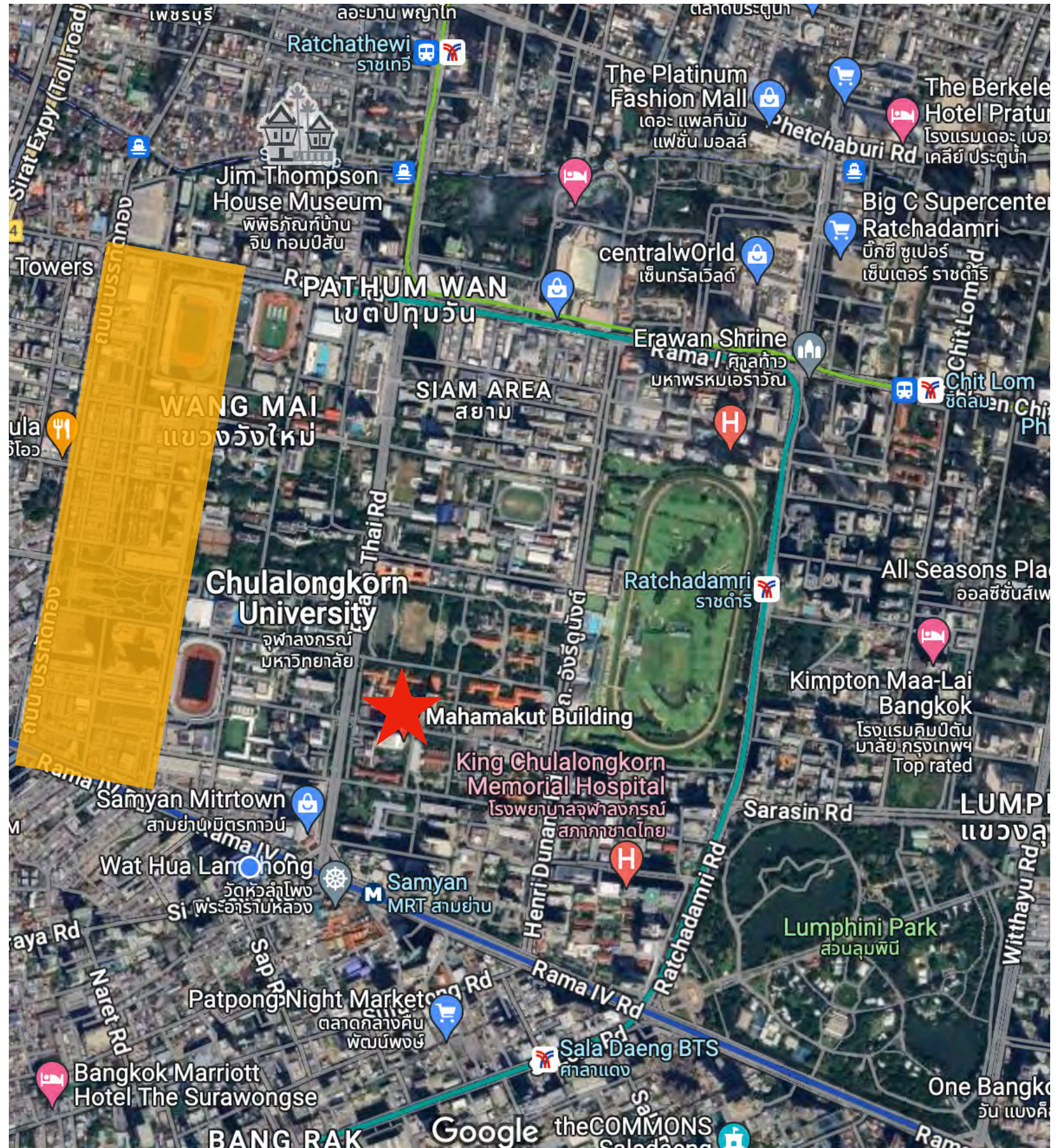




# Local area

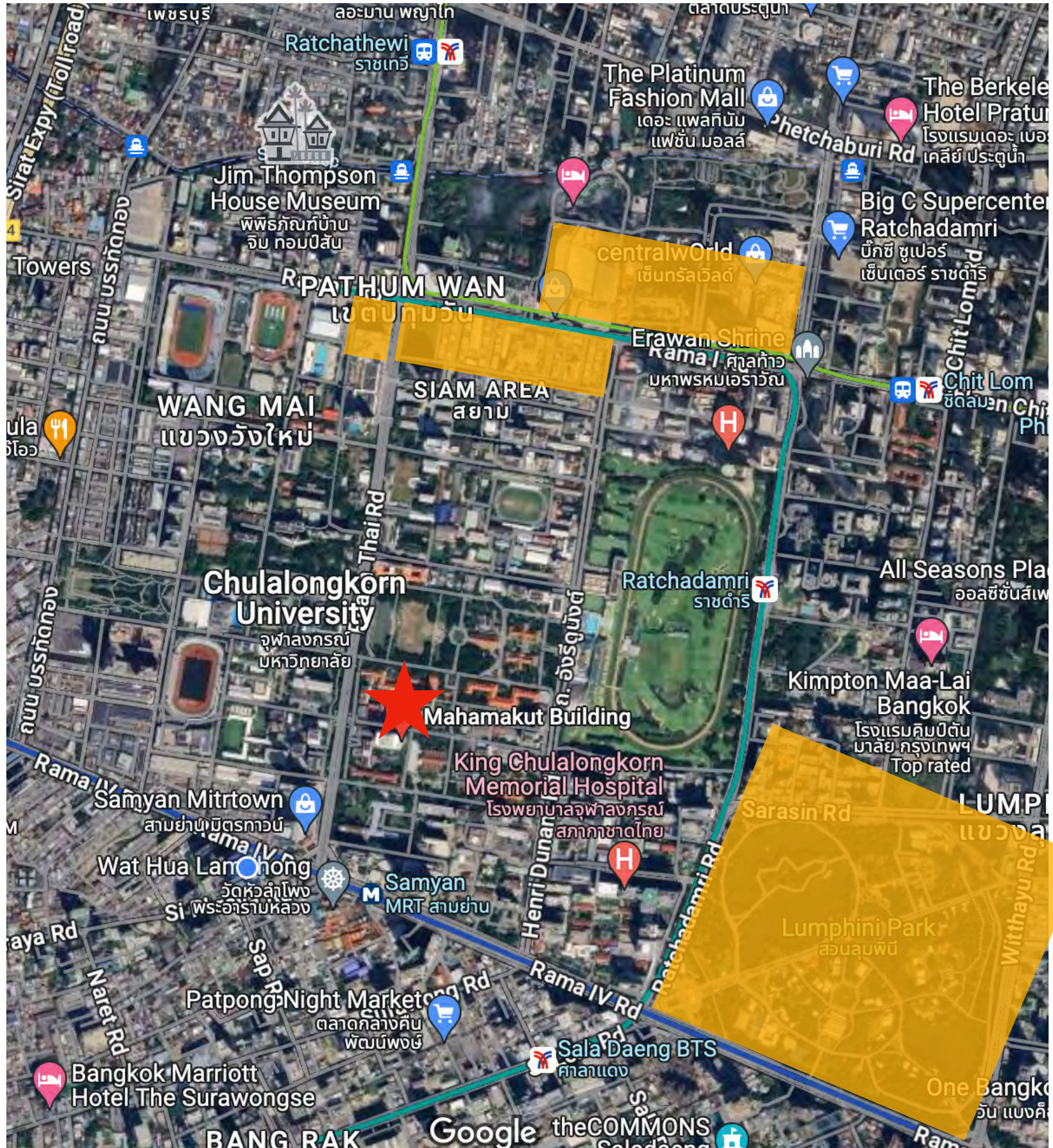
“Chula –  
Bantadthong –  
Sam Yan” –  
Foodies’ Paradise  
A Hub of Hip Thai  
Street Food

See [this link](#)





# Local area: Shopping and Dining



- Siam square
- Siam center
- Siam Paragon
- Central World
- MBK
- Lumpini Park, the first public park in Bangkok



# Culture tips

## Thai greeting - "Wai"

The traditional Thai greeting, the "Wai," involves a slight bow with the palms pressed together in a prayer-like fashion.

Generally, the younger or lower-ranking person initiates the wai, but you can offer it to anyone you feel deserves the gesture.





**Have a successful conference  
and wonderful time in Bangkok  
Enjoy your stay!**