



**MARINE COASTAL AND DELTA SUSTAINABILITY FOR
SOUTHEAST ASIA (MARE) MOBILITY PROGRAMME
AT
DEPARTMENT OF CIVIL ENGINEERING,
UNIVERSITY TECHNOLOGY PETRONAS**

LOGBOOK

NAME: LUISA PULVIRENTI
MATRIC ID: O58000748
PROGRAM: BUILDING CONSTRUCTION AND ARCHITECTURAL
ENGINEERING
RESEARCH TITLE: CHARACTERIZATION OF HYDRAULIC PROPERTIES OF A
POROUS BAMBOO WAVE SCREEN USING PHYSICAL
MODELLING
SUPERVISOR (S):
1. DR. TEH HEE MIN
2. PHD STUDENT ERIC JOSEPH PEREIRA
3. PROFF. PIETRO SCANDURA, DANIELE SANTI LA
ROSA

NAME: LUCREZIA CAVALLARO
MATRIC ID: 1000021883
PROGRAM: BUILDING CONSTRUCTION AND ARCHITECTURAL
ENGINEERING
RESEARCH TITLE: A STUDY OF VULNERABILITY OF MANJUNG COASTLINE
USING QGIS
SUPERVISOR (S):
1. DR. TEH HEE MIN
2. PHD STUDENT VASUKEY PALANY KUMAR
3. PROFF. PIETRO SCANDURA, DANIELE SANTI LA
ROSA

DAY: TUESDAY - WEDNESDAY

DATE: 04/07/2023 - 05/07/2023

ACTIVITIES:

1. Travel days

- Departure from Catania, first connecting flight in Rome Fiumicino, second connecting flight in Hamad International airport in Doha, Qatar.
- Arrived in the capital Kuala Lumpur, where we spent the night.

Field Supervisor Signature:



Dr. Teh Hee Min
Senior Lecturer
Department of Civil and Environmental Engineering
Universiti Teknologi PETRONAS
32610 Bandar Seri Iskandar
Perak Darul Ridzuan
MALAYSIA

DAY: THURSDAY

DATE: 06/07/2023

ACTIVITIES:

1. Moved to UTP

- Train from Kuala Lumpur to Batu Gajah and moved to University Technology Petronas (UTP).
- Meeting with Shaerra Amiera and accommodation in the village.
- Obtain credentials for usage of wifi on campus.
- Organization of the next day's meeting at the academic block.

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DAY: FRIDAY

DATE: 07/07/2023

ACTIVITIES:

1. Meeting with Field supervisor Dr. Teh Hee Min

- Brief meeting with Dr. Teh Hee Min during which we introduced ourselves.
- Discussion on project topics about MARE programs and decided on each person's assignments.

2. Overview of Programs to understand scope of work for 2 weeks

- Brief discussion with Dr. Teh Hee Min and PhD Student Eric Joseph Pereira about characterization of hydraulic properties of a porous bamboo wave screen using physical modelling.
- Brief discussion with Shaerra Amiera about the characterization of Manjung Cost and planning the meet-days with PhD Vasukey Palany Kumar for working on the project.
- Deciding the scope of works and objectives to be achieved over the two weeks.
- Visit to the hydraulic laboratories and discussion with the PhD Student Eric about the project about the evaluating hydraulic characteristics of a permeable bamboo wave screen.

Field Supervisor Signature:

Dr. L. B.

Ammin

Dr. Teh Hee Min
Senior Lecturer
Department of Civil and Environmental Engineering
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MALAYSIA

DAY: SATURDAY

DATE: 08/07/2023

ACTIVITIES:

1. Readings about the project

- Reading the book "Building with Nature in Indonesia" to understand the issue related to the project through interviews and initial design approaches.
- Reading the book chapter "Measurement Tool for Determination of Coastal Vulnerability in Malaysia" to understand the meaning of coastal vulnerability, especially in Malaysia, and to understand the three parameters for analyzing the vulnerability of Manjung Coastline.

2. Visit the coastal area

- Visit to the coastal area in Marina Island, Pulau Pangkor. Where a breakwater has been built to protect the resorts.

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MALAYSIA

DAY: SUNDAY

DATE: 09/07/2023

ACTIVITIES:

1. Readings about the project

- Continuing the reading of the book "Building with Nature in Indonesia"
- Started to read the guidelines regarding the building of permeable structures using bamboo in the book "Permeable structures - building with nature to restore eroding tropical muddy coasts."
- Continuing the reading of the book chapter "Measurement Tool for Determination of Coastal Vulnerability in Malaysia" and researching information about this topic on internet.

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DAY: MONDAY

DATE: 10/07/2023

ACTIVITIES:

1. Attended a Seminario

- Brief presentation by Dr. Teh Hee Min.
- The student Eric Pereira and Vasukey showed their projects.
- Presentation by Professors Pietro Scandura and Daniele Santi La Rosa to introduce the University of Catania.

2. Attended a meeting

- Meeting with the President of the Civil Engineering Degree Course, Mohamad W.

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DAY: TUESDAY

DATE: 11/07/2023

ACTIVITIES:

1. Visit the coastal area in Tanjung Kepah

- Visit to Tanjung Kepah where the bamboo screen will be built.
- Explanation of the issues affecting this coastline and how they would like to address them.

2. Visit the coastal area in Kampung Koh

- Visit to Kampung Koh to see how many remaining mangroves, observing a slow regrowth compared to previous months since the last visit of the local students.
- Explanation of the issues affecting this coastline and how they would like to address them.

3. Visit the hydraulic labs with Prof. Pietro Scandura

- Visit the Offshore Engineering Centre (OEC)
- Visit the Centre of Urban Resource Sustainability (CUREs)
- Discussion on the functioning of the water flume with Prof. Pietro Scandura

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DAY: WEDNESDAY

DATE: 12/07/2023

ACTIVITIES:

1. Laboratory setup

- Arrangement of the necessary tools to perform the structure analysis, including probes, water flume, and a PC. Under the supervision of PhD student Eric Joseph Pereira and the undergraduate student Yasmin.

2. Readings about the project

- Continuing the reading of the book "Building with Nature in Indonesia"

- View shapefile data on QGIS to map Manjung Coast vulnerability.

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DAY: THURSDAY

DATE: 13/07/2023

ACTIVITIES:

1. Attended a lecture

- Attended a lecture on "Extreme Loads on Tall Buildings: Wind Effects and Earthquake (Seismic Effects)" in the Advanced Structural Design Course at Block 11, Department of Civil Engineering.

2. Calibration test

- Laboratory calibration test for the properties of the structure under examination, using HR DAQ Software, under the supervision of PhD student Eric Joseph Pereira and the undergraduate student Yasmin.

3. Moved to Ipoh

- Check-out at the village and moved to Ipoh, our new accommodation.

Field Supervisor Signature:



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DAY: FRIDAY

DATE: 14/07/2023

ACTIVITIES:

1. Supporting Vasukey's project in her office (Perak Department of Irrigation and Drainage, Ipoh)

- Working on the project "Study of Vulnerability of Manjung Coastline using QGIS", supporting Vasukey and Shaerra on QGIS and add the data in the software.

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DAY: SATURDAY

DATE: 15/07/2023

ACTIVITIES:

1. Readings about the project

- Continuing the reading of the book "Building with Nature in Indonesia"
- Continuing the reading of the chapter "Measurement Tool for Determination of Coastal Vulnerability in Malaysia".

2. Setting the report

- Writing the report: identifying the issue, explaining the physical model of the bamboo screen and calibration tests; explain the characteristics of the Manjung coast, describe the three parameters used for the study of coastal vulnerability and specifically those used on QGIS to create maps highlighting the various levels of vulnerability along the coast.

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DAY: SUNDAY

DATE: 16/07/2023

ACTIVITIES:

- 1. Compilation of MARE Activities & Logbook reporting**
 - Compilation of report and logbook for MARE project over the two weeks.
- 2. Working on PPT presentation**
 - Start preparing slides for a PowerPoint presentation about our activities and the work done during the two weeks.

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DAY: MONDAY

DATE: 17/07/2023

ACTIVITIES:

Lucrezia's activity in Department of Irrigation and Drainage (IPOH), in Vasukey's office:

- 1. Conclusion of the project "Study of Vulnerability of Manjung Coastline using QGIS"**
 - Continuing to support Vasukey and Shaerra on QGIS, working with the software's tools to create two maps of study about coastal vulnerability: one of these based on physical parameters, specifically using geomorphology's variable; and the second based on socio-economic parameters, specifically using communication and transportation systems' variable.

Luisa's activity in UTP:

- 1. Worked to presentation**
 - Continuing the preparation of the PPT for the final presentation to Dr. Teh Lee Min and Shaerra Amiera the next day.
- 2. Attended lecture**
 - Discussion with PhD Student Eric Pereira about basic information of Marine hydraulics.

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DAY: TUESDAY

DATE: 18/07/2023

ACTIVITIES:

1. Presentation of the PPT

Show and explain our activities in UTP and our work on the projects carried out during the two weeks through the slides and photos in PowerPoint.

2. Final discussion with Dr. Teh Lee Min

- Discussing with Dr. Teh Lee Min about the progress of the work and what we learned, what our expectations were, and which are our feedback on the experience.

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DAY: WEDNESDAY - THURSDAY

DATE: 19/07/2023 – 20/07/2023

ACTIVITIES:

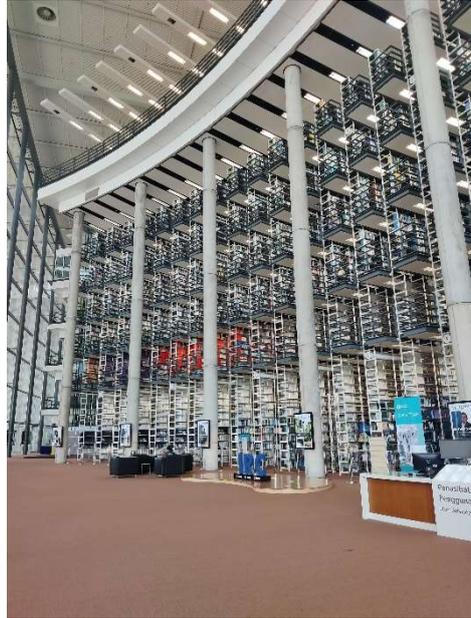
1. Travel days

- Departure from Ipoh, by train, to KL. Transfer to the airport, first connecting flight in Abu Dhabi, second connecting flight in Rome Fiumicino, then arrival in Catania.

Field Supervisor Signature:



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- Seminar



- Lab visit

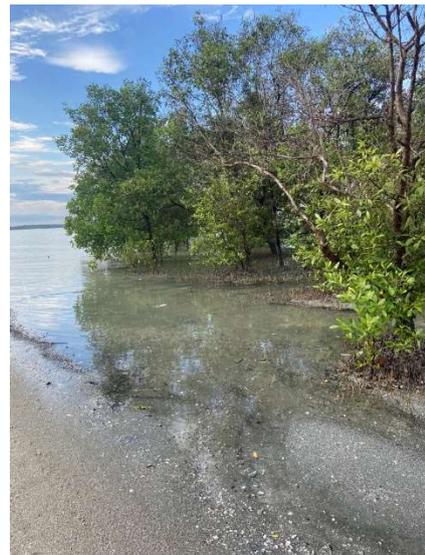




- Visit to Kampung Koh, Sitiawan, Perak, Malaysia



- Visit to Tanjung Kepah, Lekir, Manjung, Perak, Malaysia



- Meet up with Chairman



- Final presentation



- Last day with UTP student



- Boarding pass from Kuala Lumpur (Malaysia) to Catania (Italy)

