



Universitas Warmadewa  
Denpasar, Bali-Indonesia



Universiti Kuala Lumpur  
Kuala Lumpur-Malaysia

**1ST INTERNATIONAL  
CONFERENCE ON TOURISM,  
MANAGEMENT AND  
TECHNOLOGY 2019**

**19<sup>TH</sup> AUGUST 2019**

**UNIVERSITI KUALA LUMPUR  
BUSINESS SCHOOL**

## PROGRAM INTINERARY

DAY 1- 19 AUGUST 2019 (MONDAY)		
TIME	VENUE	PROGRAM
12.00pm to 1.00pm	Lobby	Registration of participants
1.00pm to 3.00pm	Lobby	Poster Presentation
	Room 1	Media and Technology in Tourism
	Room 2	Technology and Management on Tourism
	Room 3	Tourism Policy and Planning
3.30pm to 4.30pm	Lobby	<b>Plenary Session:</b> 1. Tourism Impact on Community Development by <i>Dr. Sharina Osman (UniKL)</i> 2. Community-Based Homestay; Prospect and Challenges by <i>Prof. Dato' Dr. Che Musa Che Omar (UniKL)</i> 3. Traditional Frigate Mackrrel (Auxis Thazard) processing as Balinese local wisdom by <i>Prof. Ir. Suranaya Pandit (Universitas WARDEWA)</i> 4. The role of social capital to boost growth of SMEs in tourism sector in Bali by <i>Dr. Putu Suyatna Yasa (Universitas WARDEWA)</i>
4.30pm to 5.00pm		<b>Awards Ceremony</b> <b>Closing Ceremony</b> <b>Group Photo</b>
5.00pm to 5.30pm		<b>Hi-tea and Networking Session</b>

## CONCURRENT SESSION

Venue	Name of Presenter	Title
Lobby (Poster)	Dr.Rima Kusuma Ningrum, Prof. Dr. Dewa Putu Widjana	<i>Learning model in the implementation of health and medical tourism courses</i>
	Dr. I Made Mardika	<i>Implications of cultural policies on Balinese sculpture industry</i>
	Dr. Luh Putu Sudini, Dr. I Nyoman Sujana	<i>Impact of tourism on physical environment in Bali</i>
	Dr. A.A. Gde Raka	<i>The role of culture in the development of tourism in Bali</i>
	Dr. A.A Rai Sita Laksmi	<i>The management of community based sustainable tourist attraction in "Penglipuran" villa</i>
	Dr. Ni Wayan Sitiari, Dr. Ni Made Wahyuri	<i>The role of capabilities of customer relationship management as mediator of market orientation and business performance of the sector hotel in Bali</i>
Room 1: Media and Technology in Tourism	Nurul Husna Binti Abd Hamid	<i>The Impact of Instagram Towards Youth Purchase Intention</i>
	Dr. I Wayan Budiartha, Dr. Ni Wayan Kasni, Dr. Made Susini	<i>Techniques of translation applied in promoting tourism</i>
	Muhammad Hafiz Sultan Seavudeen	<i>Factor Influencing Purchase Intention on Online Shopping of The University Students</i>
	Siti Harijah Binti Ramli	<i>The satisfaction level of educational technology on student's learning process</i>
	Farra Anis Adilla Binti Ab Malek	<i>The factor that influence the customer intention to online business</i>
Room 2: Technology and Management on Tourism	NorHayati Jabarrudin	<i>Factors Influencing Behavioural Intention To Use The E-Wallet Amongst Millennial In Kuala Lumpur</i>
	Muhammad Farhan Bin Rosli	<i>Factor Affecting Purchase Intention of Customers on Food Delivery Application</i>
	Daniel Salleh Bin Mohd Ali	<i>Customer Satisfaction on E-Hailing Services among Students in Klang Valley</i>
	Dr. Mirsa Umiyati, S.S, M.Num	<i>Building sustainable tourism hierarchical framework in linguistic perspective</i>
	Nazrul Hakimi Bin Jalani	<i>Measuring Customer Satisfaction of the user of "SETEL APPLICATION"</i>
Room 3: Tourism Policy and Planning	Dr. Sheikh Muhammad Hizam	<i>Managerial Engagement And Performance: The Mediating Role Of Organizational Commitment In A Malaysian Telecommunication Company</i>
	Shamzani Affendy Mohd Din	<i>Inhalable and respirable dust mass concentration on soiled inorganic artefacts at the National Museum Malaysia</i>
	Shamzani Affendy Mohd Din	<i>Assessment of the Spa Premises Spatial Organization towards Muslim Friendly Elements</i>
	Dr. Simon Nahak, Dr. I Nyoman Budiarta	<i>Legal protection against foreign investor in Bali</i>
	Dr. Dra, Ni Wayan Kasni, M,Num	<i>Revitalizing traditional culinary in supporting sustainable tourism</i>

# INHALABLE AND RESPIRABLE DUST MASS CONCENTRATION ON SOILED INORGANIC ARTEFACTS AT THE NATIONAL MUSEUM MALAYSIA

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## Abstract

*Particulate matter (PM) plays a crucial role in altering the air quality, human health and materials. PM does not only affect human health but damages the museum's artefacts in many ways such as paint and materials deterioration, metal corrosion, fading of dyes and soiling of stone rubber, and textile. The main aim of this research is to quantify the mass concentration of suspended particulate matter in terms of respirable and inhalable particles at outdoors, indoors, and exhibition boxes of the National Museum Malaysia. This research was conducted for 32 days (16 weekdays and 16 weekends). The main target exhibition boxes for this research were those containing inorganic-based materials such as metals, stones, and ceramics. In total, 12 sample stations were surveyed, this includes three exhibition boxes each from Gallery A and B, an indoor area of both Gallery A and B, lobby and three outdoor locations at the front entrance, rear entrance, and right-wing of the building. Cyclone sampler head and Casella 7-Holes were used to capture respirable and inhalable samples, respectively. Result revealed that most of the average mass concentration obtained in all sample stations were beyond limited guidelines stated by the Department of Safety and Health (DOSH) and Department of Environment (DOE). The average mass concentrations of inhalable dust sampled at the metal and ceramic exhibition box of Gallery A at weekdays were the highest with an average mass concentration value of 0.4688 mg/m<sup>3</sup>, which is about 213 % more than the required standards. However, lower values were obtained for the respirable particles, but they were found to still beyond standard DOE guidelines for PM<sub>10</sub>. The highest respirable particles were found at the ceramic exhibition box of Gallery A with 0.3788 mg/m<sup>3</sup> average mass concentration. The result of respirable dust to the total inhalable dust were 55.4 % and 59.7 % for weekdays and weekends, respectively. The concluding part highlights recommendations on ways to reduce the transfer PM into the indoor area of the museum to reduce soiling defects. DOE, DOSH, as well as the Ministry of Natural Resources and Environment (MONRE), can use the result of this research to come up with a procedure to reduce the effect of airborne particulate matter on the museum artefacts. Hence, reducing government expenses by reducing the total cost of cleaning procedure toward damaged artefacts. Additionally, this study is beneficial to conservationists, museum management and curators by enlightening them on ways to reduce the damaging effect caused by airborne particulate matter.*

**Keywords;** *Particulate Matter (PM), Mass Concentration, Inorganic Artefacts, Soiling defect*