Development of PHD Research Framework

INSTITUTE OF OCEANOGRAPHY AND ENVIRONMENT

Marine Coastal and Delta Sustainability for Southeast Asia

Co-funded by the Erasmus+ Programme of the European Union

PhD Candidate:
Afifi bin Johari

Research Topic;
The Dynamics of South China Sea Western Boundary Current and its upwelling variability

Offer letter for PhD works

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PUSAT PENGURUSAN AKADEMIK DAN KUALITI

Rujukan Kami : UMT/PPAK/IT/1-8/4/5 (930217146889)
Tarikh : 07-Apr-21

AFIFI BIN JOHARI
Pt 5411 Jalan Ts 2/6c
Taman Semarak 2
71800 Nilai
Negeri Sembilan Malaysia

Tuan/Puan,

TAWARAN KEMASUKAN KE PROGRAM PENGAJIAN PASCASISWAZAH UNIVERSITI MALAYSIA TERENGGANU (UMT)

Sukacita dimaklumkan bahawa tuan/puan ditawarkan untuk mengikuti program Pengajian Pascasiswazah Universiti Malaysia Terengganu:

Program	:	Doktor Falsafah
Struktur Program	:	Penyelidikan
Bidang Utama	:	SAINS BUMI
Sub Bidang Pengajian	:	OSEANOGRAFI (FIZIKAL OSEANOGRAFI)
Pusat Pengajian/Institut	:	Institut Oseanografi Dan Sekitaran
Penyelia Utama	:	Profesor Madya Dr Mohd Fadzil Bin Mohd Akhir
Penyelia Bersama	:	
Semester Kemasukan	:	SEM 2, 2020/21
Status Tawaran	:	Penuh
Status Pengajian	:	Sepenuh Masa
Dokumen Sokongan	:	Sila rujuk **Lampiran A**
Yuran Pengajian	:	Sila rujuk **Lampiran B**
Tempoh Pengajian	:	4 Semester (Minimum) - 10 Semester (Maksimum)

Sesi pendaftaran pelajar adalah seperti berikut:

Tarikh/Hari	:	21 MAC 2021 (Ahad) - 13 JUN 2021 (Ahad)
Masa	:	9.00 pagi - 3.00 petang
Tempat	:	Cara Pendaftaran: Jarak Jauh (emel dokumen yang dinyatakan pada surat tawaran kepada

Supervisor and Profile

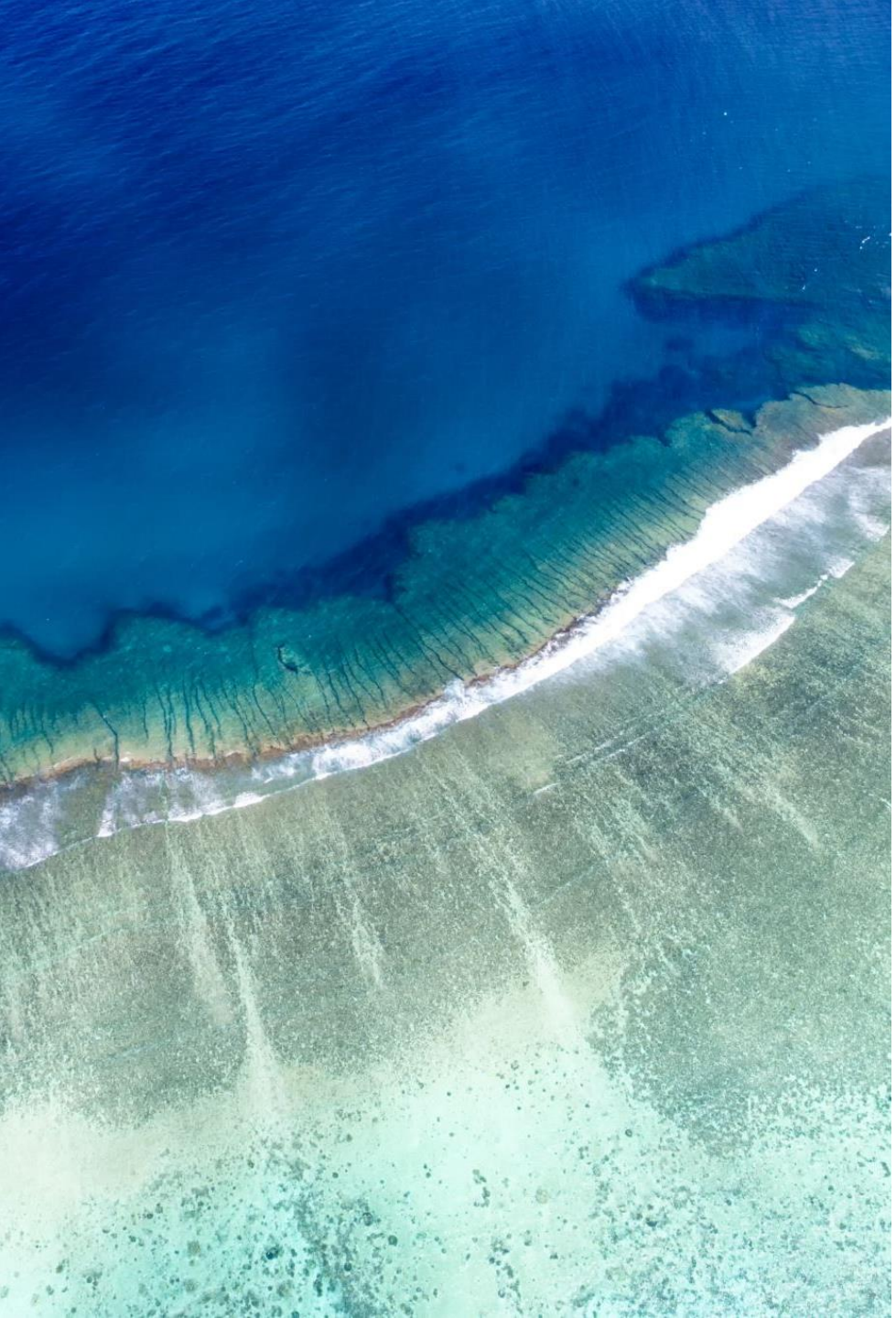
- Assoc. Prof. Dr. Mohd Fadzil holds the position as a Director in Institute of Oceanography and Environment in UMT. Dr. Mohd Fadzil's research interests are in coastal physical oceanography, with emphasis on field observation and numerical modeling. He has played an active role in examining the southern south china sea, particularly in terms of ocean currents, wind, wave and its water masses. The most important aspect of his study is the recent findings of upwelling system along the east coast of Peninsular Malaysia. Involvement with number of a research project under the IOC/WESTPAC has allow him to establish regional networks and leads the Upwelling research group that consists of regional expert that focusing on establishing constructive information on upwelling sites within South China Sea. So far he is leading a major research project between Malaysia and China which is the Ocean Forecasting System (OFS) for the South China Sea. Through this project, his team has established MFAST (Malaysia Marine Forecast) to provide open access forecast to industry and community. He has recently been awarded the highest-ranking national grant scheme, a Long Term Research Grant (LRGS), to conduct research on Ocean Climate change. The project will focus on the long term impact of climate change on ocean processes and productivity toward Malaysia waters.

Past and present related research topics relevant to the PhD work;

Interaction of ocean dynamics with the climate system of past, present and future using ocean observation integrated data and numerical modeling, National Resreach Grant (LRGS-2020, ongoing)

Development of Integrated System of Ocean Forecasting and Observation Network in Malaysia Waters of Southern South China Sea (Ministry of Science and Technology Grant -2018, completed)

Upwelling studies through ocean data integration towards sustaining ocean health and productivity (IOC-Westpac, 2015-ongoing)



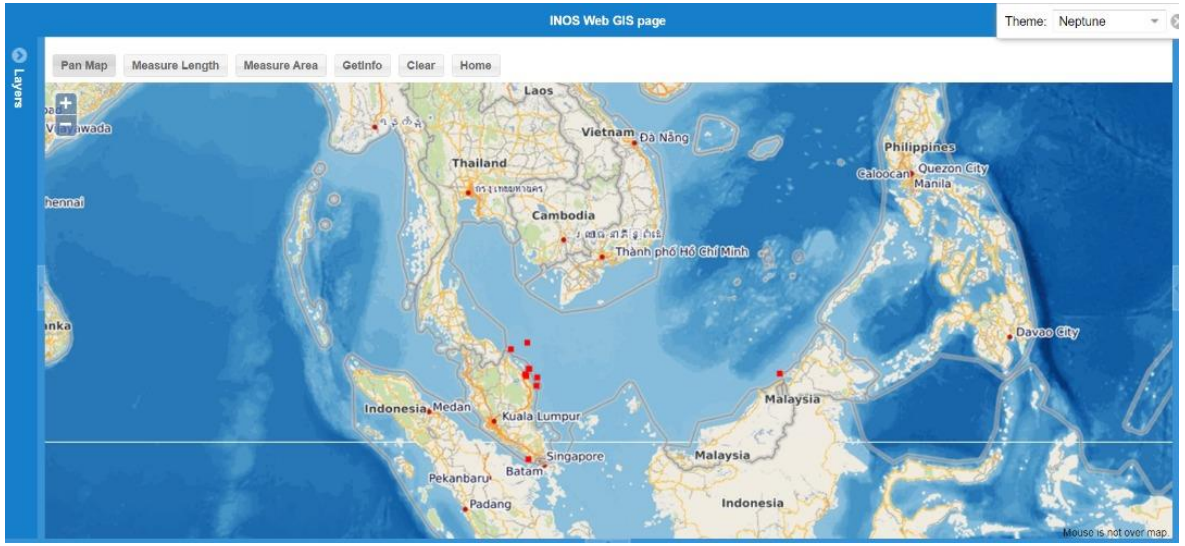
Conferences and workshop

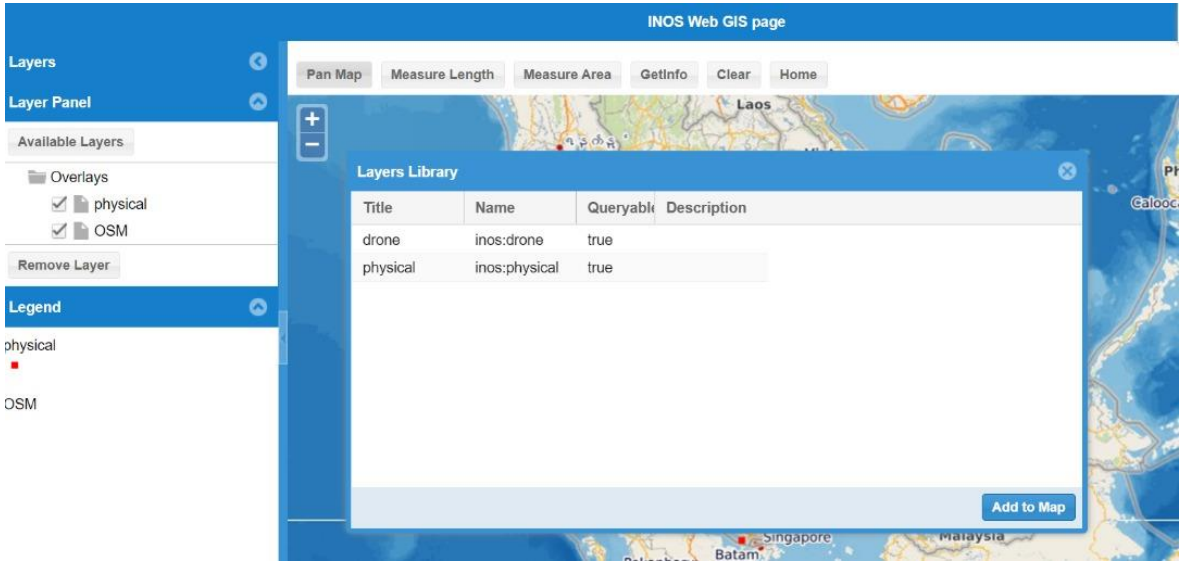
- IOC-Westpac Marine Science Symposium, August 2022, Bangkok
- Tropical Ocean and Marine Symposium, October 2022, Kuala Terengganu
- Summer School MARE, UTP, 2021
- Research Methodology in Applied Science (PPS5031), 29th June 2021: Training modules developed by UMT Academic Management Division (Postgraduate)

Scientific Resources (e-science tools)

INOS Marine Portal Database

- This database is maintain in house
- It will be used as the main data analysis for PhD students





Malaysia Marine Forecast System (MFAST)

5-days prediction of Current, Wind, Wave and Temperature data

Appendix –
Research Methodology in Applied Science (PPS5031): course syllabus/training modules

Pusat Pengurusan Siswazah

1.	Name and Code of Course: Research Methodology in Applied Sciences (PPS5031) *(Kaedah Penyelidikan dalam Sains Gunaan)*
2.	Synopsis: Students will be introduced to key elements and processes required in preparing, conducting and sharing the findings of a research. This course aims to introduce the key stages of research, research methodology, data analysis and interpretation as well as scientific writing. Importance is also given to ethics and values in research which includes research misconduct.
3.	Name(s) of academic staff: Assoc. Prof. Dr. Suhaimi Suratman Assoc. Prof. Dr. Kesaven Bhubalan Prof. Dr. Fadzilah Adibah Abdul Majid Dr. Hayati Mohd Yusof Assoc. Prof. Dr. Wan Mohd Khairul Wan Mohamed Zin
4.	Semester and year offered: Semester 1/ Semester 2, Year 1
5.	Credit value: 1 credit
6.	Prerequisite/co-requisite (if any): -not applicable-
7.	Course Learning Outcomes (CLO): At the end of the course, students should be able to: CLO1: Describe the elements and processes required in preparing a written scientific proposal/report (PLO1 - C2] CLO2: Identify the appropriate research methodology and data collections for their postgraduate projects [PLO3–C4] CLO3: Determine data analyses methods/software and data interpretation that are relevant to their studies [PLO3–C4] CLO4: Explain the process and ethics in preparing professional scientific reports/articles for publication (PLO3 – C5)

8. Mapping of the Course Learning Outcomes to the Programme Learning Outcomes and Teaching Methods:

Course Learning Outcomes (CLO)	Programme Learning Outcomes (PLO)								Teaching Methods
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	
CLO 1	√								Lecture
CLO 2			√						Lecture
CLO 3			√						Lecture
CLO 4			√						Lecture

9. Transferable Skills:
Critical Thinking & Problem Solving; Communication Skill; Professionalism & Ethics; Lifelong Learning.

10. Distribution of Student Learning Time (SLT):

Course Content Outline	CLO	Teaching and Learning Activities	Total hours
Module 1: Introduction to Key Stages of Research and Proposal Writing 1.1 Definition of research and scientific knowledge • Introduction to UMT postgraduate studies rules & regulations • Definition and objectives of research 1.2 Types and key stages of research • Definition of basic and applied research • The differences between basic and applied research • Key stages of research (research idea, literature review, hypothesis etc.) 1.3 Proposal and thesis writing • The differences between proposal and thesis • Contents of the proposal and thesis • Introduction to UMT's format • UMT's candidature assessment 1.4 Ethics & values in research • Safe conduct of research • Falsification of data • Plagiarism • Intellectual property	1 4	Lecture	3
Module 2: Research Methodology 2.1 Quantitative and qualitative research • The differences between qualitative and quantitative research 2.2 Research design for science and technology • Sampling design • Selection of proper research methodology 2.3 Management of resources and time • Responsible conduct of research • Emphasize on GOT	2 4	Lecture	3
Module 3: Data Analysis and Interpretation 3.1 Data collection • How to start? • Types of data • Reliability of data 3.2 Data analysis • Data management • Summary of data for analysis 3.3 Data interpretation • Data verification • Data analysis report	3 4	Lecture	4

	Module 4: Scientific Writing 4.1 Introduction to scientific writing 4.2 Structure in scientific writing 4.3 Selection of journals for publication • List of predatory publications • Open and limited access 4.3 Authorship and publication • Roles of main, corresponding author and co-author • Importance of affiliation • Writing a proper acknowledgement	1 4	Lecture	4
11.	Course evaluation Evaluation is based on student attendance.			
12.	Identify special requirement or resources to deliver the course (e.g., software, nursery, computer lab, simulation room): -not applicable-			
13.	References (include required and further readings, and should be the most current): 1. Bootland, D., Coughlan, E., Galloway, R., Goubet, S and Mcwriter, E. (2017) Critical appraisal from papers to patient: a practical guide. Apple Academic Press Inc., Canada. 2. Gosall, N. and Gosall, G. (2015). The doctor's guide to critical appraisal (4th edition). PasTest Publisher. 3. Kothari, C. R. (2004). Research methodology: method & techniques. New Age International Publishers, New Delhi, India. 4. Laake, P., Benstad, H. B and Olsen, B. R (2015). Research in medical and biological sciences (2nd edition). Elsevier Ltd. 5. Malaysian Educational Module on Responsible Conduct of Research (2018), Malaysia. 6. Punch, K. F. (2009). Introduction to research methods in education. Sage Publications, London, U.K.			
14.	Other additional information: Presentation may include other supporting teaching materials based on the most current events or as deemed necessary by the academic staff.			

TENTATIVE:
WORKSHOP ON RESEARCH METHODOLOGY IN APPLIED SCIENCE (PPS5031)

Date : 29 – 30 June 2021 (Tuesday – Wednesday)
Time : 9.00 a.m – 4.00 p.m
Platform : Online (Cisco Webex Application)

Date (Day)	Time	Activities	Speaker
29 June 2021 (Tuesday)	9.00 a.m – 11.00 a.m	**Modul 1: Introduction to Key Stages of Research and Proposal Writing** • Definition of research and scientific knowledge • Types and key stages of research • Proposal and thesis writing • Ethics and values in research	Assoc. Prof. Dr. Maisara binti Abdul Kadir
	2.00 p.m – 4.00 p.m	**Module 2: Research Methodology** • Quantitative and qualitative research • Research design for science and technology • Management of resources and time	Assoc. Prof. Ts. Dr. Lee Oon Jew

Date (Day)	Time	Activities	Speaker
30 June 2021 (Wednesday)	9.00 a.m – 11.00 a.m	**Module 3: Data Analysis and Interpretation** • Data collection • Data analysis • Data interpretation	Prof. Dr. Marzuki bin Ismail Dr. Samsuri bin Abdullah
	2.00 p.m – 4.00 p.m	**Module 4: Scientific Writing** • Introduction to scientific writing • Structure in scientific writing • Selection of journals for publication • Authorship and publication	Ts. Chm. Dr. Wan Mohd Afiq Bin Wan Mohd Khalik

UNIVERSITI MALAYSIA TERENGGANU

UMT

WORKSHOP ON RESEARCH METHODOLOGY IN

APPLIED SCIENCE

(PPS5031)

SPEAKERS:

Prof. Dr. Marzuki Bin Ismail

Director
Institute of Tropical Biodiversity and Sustainable Development (BIO-D TROPIKA)

Assoc. Prof. Chm. Dr. Maisara Binti Abdul Kadir

Deputy Dean (Academic & Student Affairs)
Faculty of Science and Marine Environment (FSSM)

Assoc. Prof. Ts. Dr. Lee Oon Jew

Lecturer
Faculty of Science and Marine Environment (FSSM)

Ts. Chm. Dr. Wan Mohd Afiq Bin Wan Mohd Khalik

Lecturer
Faculty of Science and Marine Environment (FSSM)

Dr. Samsuri Bin Abdullah

Lecturer
Faculty of Ocean Engineering Technology and Informatics (FTKKI)

PROGRAMME

		STARTS 9.00 AM		STARTS 2.00 PM
JUNE 29	**MODULE 1** Introduction to Key Stages of Research and Proposal Writing		**MODULE 2** Research Methodology	
30	**MODULE 3** Data Analysis and Interpretation		**MODULE 4** Scientific Writing	