

CONCEPT PAPER

COLLABORATIVE RESEARCH GRANT (CRG) UTM-NATIONAL 2019

RESEARCH ALLIANCE

:

- | | |
|--------------------------|-------------------------------|
| <input type="checkbox"/> | Health & Wellness (HW) |
| <input type="checkbox"/> | Smart Digital Community (SDC) |
| <input type="checkbox"/> | Innovative Engineering (IE) |
| <input type="checkbox"/> | Frontier Material (FM) |
| <input type="checkbox"/> | Resource Sustainability (RS) |

PROGRAM LEADER

:

PROGRAM TITLE

:

PROGRAM NICHE AREA

:

- | | |
|--------------------------|---|
| <input type="checkbox"/> | Advancement in Materials Engineering
[Frontier Materials] |
| <input type="checkbox"/> | Advanced Filtration Technology
[Frontier Materials] |
| <input type="checkbox"/> | Smart Manufacturing & Automation
[Frontier Materials] |
| <input type="checkbox"/> | Bioproduct & Biomanufacturing
[Health & Wellness] |
| <input type="checkbox"/> | Bioenergy & Environmental
[Health & Wellness] |
| <input type="checkbox"/> | Medical devices & Health Informatics
[Health & Wellness] |
| <input type="checkbox"/> | Sustainable & Resilient Infrastructure
[Innovative Engineering] |
| <input type="checkbox"/> | Networking & Telecommunications
[Innovative Engineering] |
| <input type="checkbox"/> | Green Vehicle
[Innovative Engineering] |

- | | |
|--------------------------|---|
| <input type="checkbox"/> | Water & Wastewater
[Resource Sustainability] |
| <input type="checkbox"/> | Energy
[Resource Sustainability] |
| <input type="checkbox"/> | Resource Recovery
[Resource Sustainability] |
| <input type="checkbox"/> | Sustainable Practices
[Resource Sustainability] |
| <input type="checkbox"/> | Ecosystem Services
[Resource Sustainability] |
| <input type="checkbox"/> | Climate Change
[Resource Sustainability] |
| <input type="checkbox"/> | Education
[Smart Digital Community] |
| <input type="checkbox"/> | Social Economic & Wellbeing
[Smart Digital Community] |

CONCEPT PAPER

COLLABORATIVE RESEARCH GRANT (CRG) UTM-NATIONAL

1. Executive Summary
2. Background and Rationality of the CRG UTM-NATIONAL concept paper
3. Program Objective
4. Program Description (big picture diagram of program)
5. Projects Description (4 projects)
 - 5.1 Project 1 (Title and Project Description)
 - 5.2 Project 2 (Title and Project Description)
 - 5.3 Project 3 (Title and Project Description)
 - 5.4 Project 4 (Title and Project Description)

6. Description Methodology

Give brief description of each projects methodology and show the connectivity of each project in a **flow chart** (please include in this section)

7. Track Records

(Example)

**Project Leader	UTM / Collaborator	Collaborator Classification	Field of Expertise	*H-index & citation (3 years)
PROJECT 1				
Prof. Dr. Zainab	UTM	Host	Education	
PROJECT 2				
En. Zaki	1M4U Malaysia	NGO	Human Management	
PROJECT 3				
Dr. Alias	Taylor Univ.	IPTS	TVET	
PROJECT 4				
PM Dr. Hamdan	UiTM	UA	Social Behaviour	

**Applicable for academic staff only.*

*** Project Leader must be combination of UTM and 3 collaborators (UA, IPTS, National Agency, NGO) (Please refer to the guideline)*

8. Expected output (please refer to the guideline)

Criteria	Expected Output
Publication in indexed journals	Eg: <ul style="list-style-type: none">- Project 1: ? indexed paper (proposed journal/title of publication)- Project 2: ? indexed paper (proposed journal/title of publication)- Project 3: ? indexed paper (proposed journal/title of publication)- Project 4: ? indexed paper (proposed journal/title of publication)
Human capital	1 GRA (Master / PhD student)

Maximum pages: 5 pages excluding cover page (concept paper with exceeding pages will be disqualified)