

# UTM CRG 2018

## CRG10 Tomography Lab-On-Chip For Microsample Image Reconstruction

### Projects:

- **CRG10.1 Electrode-Based Tomography Lab-On-Chip Design and Development (UTM)**
- **CRG10.2 Data Acquisition System for Tomography Lab-On-Chip (UniMAP)**
- **CRG10.3 Tomography Lab-on-Chip Image Reconstruction (UTHM)**
- **CRG10.4 Tomography Lab-on-Chip Modelling and Characterization (UMP)**



# Projects Information



Project (Focus Area)	Project Leader (National)	Institution / Agency	PL UTM (RADIS)	Allocation
Project 1 (LOC)	Dr Leow Pei Ling	UTM	Dr. Leow Pei Ling	RM 40k
Project 2 (Control and DAQ)	AP Ir. Dr. Mohd Hafiz Fazalul Rahiman	UniMAP	Dr. Jaysuman Pusppanathan	RM 20k + RM20k
Project 3 (Image Reconstruction)	Dr. Elmy Johana Mohamad	UTHM	Dr. Anita Ahmad	RM 20k + RM20k
Project 4 (Numerical Simulation & Characterization)	Dr. Yasmin Abdul Wahab	UMP	Dr. Rashidah Arsat	RM 20k + RM20k

# Timeline and Planning

Time	Description	Remarks ( <i>What I did</i> )
Sept 2017	Grant Briefing by RMC	<ul style="list-style-type: none"> <li>• <b>Brainstorming of ideas</b></li> <li>• Call/ Whatsapp friends, Check phone book and etc.</li> <li>• Explain to potential collaborators the plan/ requirements.</li> </ul>
1 Oct – 31 Dec 2017	Opening for CRG application in RADIS	<ul style="list-style-type: none"> <li>• Prepare offline a <a href="#">5 pages proposal (Appendix 1)</a> referring to RADIS requirement.</li> <li>• Get Letter of Intent (LOI) from all collaborators.</li> </ul>
Feb 2018	Grant Proposal Presentation/ Pitching	Prepare Slides and informing all members in the CRG.
March 2018	Announcement of Receiving of Grant	Start <a href="#">MOA</a> (Appendix 2) documents preparation (template is provided)
<b>April 2018 – Dec 2018</b>	<ul style="list-style-type: none"> <li>• <b>MOA Preparation (double check on the availability of NCs / TNCs/ CEOs and ...)</b></li> <li>• <b>Registration on RADIS</b></li> <li>• <b>Follow Up of Payments</b></li> </ul>	<ul style="list-style-type: none"> <li>- <b>Legal office UTM (<a href="http://www.utm.my/legal/staf/">http://www.utm.my/legal/staf/</a>)</b></li> <li>- <b>Letters/ email to all collaborators</b></li> </ul> 
Aug 2018	<ul style="list-style-type: none"> <li>• Presentation of MOA – JPU (Signature by all parties by Post)</li> </ul>	
1 Oct 2018	<ul style="list-style-type: none"> <li>• RADIS registration completed. Grant CRG10 activated.</li> </ul>	
5 Dec 2018	<ul style="list-style-type: none"> <li>• Stamping of MOA (Submitted to RMC all copies)</li> </ul>	

# Explaining The Concept

Program (RM100k + RM60k)

Project 1  
(RM40k)

Project 2  
(RM20k  
+  
RM20k)

Project 3  
(RM20k  
+  
RM20k)

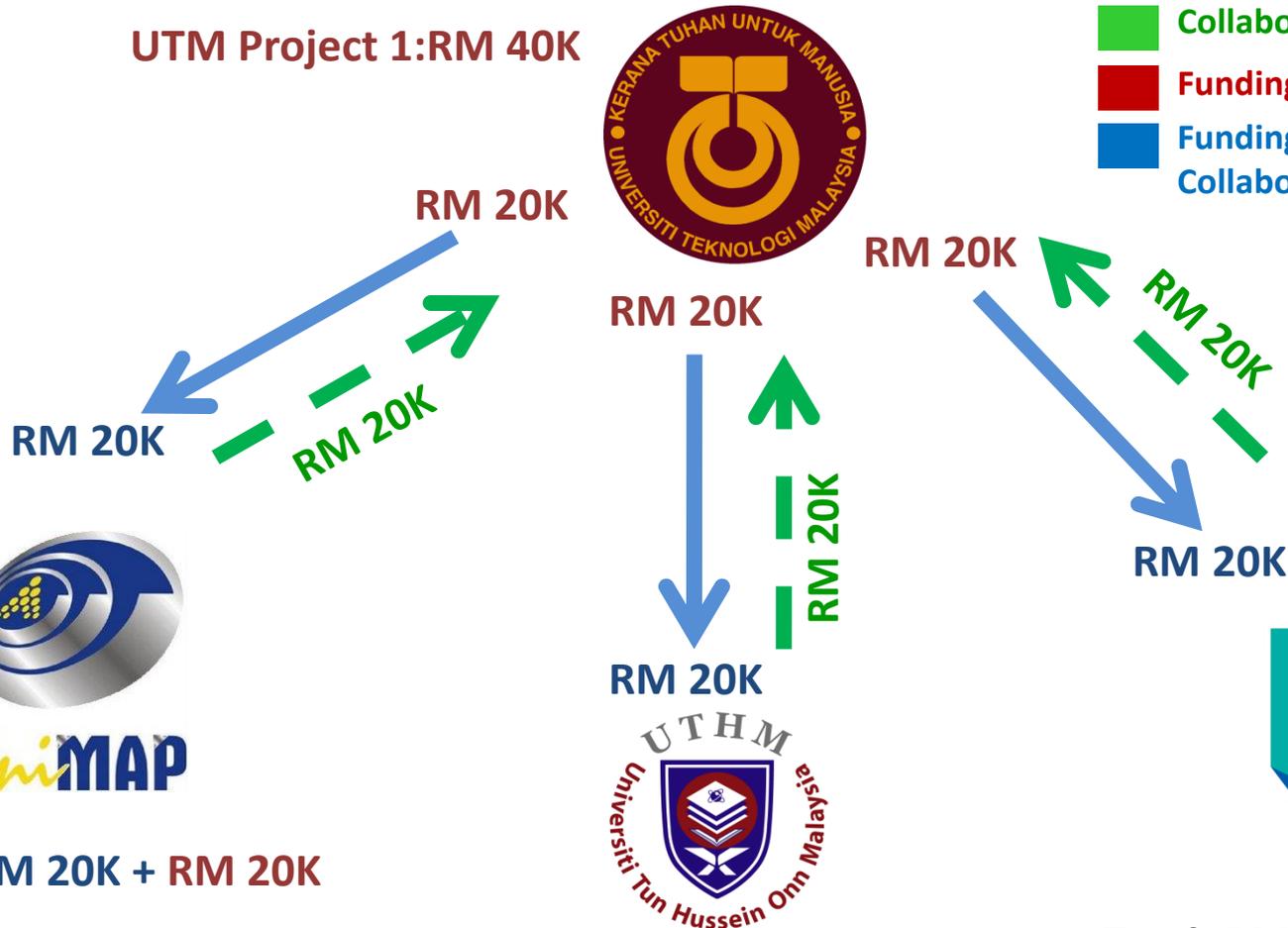
Project 4  
(RM20k  
+  
RM20k)

# Funding Concept

(Completion of Disbursement before 30 April 2018)

UTM Project 1: RM 40K

- Collaborating transaction
- Funding park & audit by UTM
- Funding park & audit by Collaborating Universities



Total: RM 20K + RM 20K

Total: RM 20K + RM 20K

Total: RM 20K + RM 20K

# Video: Explaining The Concept



## CRG 2018

**Program Title: CRG10 Tomography Lab-On-Chip For  
Microsample Image Reconstruction**

**Projects:**

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# Letter of Intent

**UniMAP PERLIS**  
SCHOOL OF MECHATRONIC ENGINEERING

“ *UniMAP DIIKTIRAF MS ISO 9001:2015* ”

Alamat Surat Menyurat :  
Universiti Malaysia Perlis  
P.O. Box 77,  
d/a Pejabat Pos Besar,  
01007 Kangar, Perlis. MALAYSIA  
☎ 604-979 8008  
🌐 www.unimap.edu.my

Our Reference:  
Date : 22nd December 2017

Faculty of Electrical Engineering  
Universiti Teknologi Malaysia  
81310 Skudai, Johor.  
(Attn: Dr. Leow Pei Ling)

Dear Madam,

**LETTER OF INTENT TO COLLABORATE IN UTM COLLABORATIVE RESEARCH GRANT APPLICATION**

I am pleased to notify you of our university, Universiti Malaysia Perlis (UniMAP) intent to become the research collaborator in your UTM Collaborative Research Grant (CRG) application with project reference number **PY/2017/02425** entitled "Tomography Lab-On-Chip For Microsample Image Reconstruction".

2. We envisage the integration of tomography system into microdevice platform will able to launch a new innovative research field that benefits to future Lab on Chip (LOC) applications. Therefore, we are keen to establish collaboration with UTM in the research of Tomography LOC. We will support the research by contributing a matching grant as stated in the requirement of the CRG application. Besides that, we will also provide laboratory and research support in making this project a successful one.
3. We look forward to participate in the research project.

# LOI



**UNIVERSITI MALAYSIA PERLIS**  
SCHOOL OF MECHATRONIC ENGINEERING  
\* ENMAP DIKERTIFIKASI ISO 9001:2015

Our Ref: ...  
Date: ...

Faculty of Electrical Engineering  
Universiti Teknologi Malaysia  
81310 Skudai, Johor.  
(Attn: Dr. Leow Pei Ling)

Dear Madam,

**LETTER OF INTENT TO COLLABORATE IN UTM COLLABORATIVE RESEARCH GRANT APPLICATION**

I am pleased to notify you of our university, Universiti Malaysia Perlis, intent to become the research collaborator in your UTM Collaborative Research Grant (CRG) application with project reference number PY2017/02425 entitled "Tomography Lab-On-Chip For Microsample Image Reconstruction".

- We envisage the integration of tomography system into Lab-On-Chip (LOC) applications. Therefore, we are keen to establish collaborative research grant as stated in the requirement of the CRG application. We will support the research of Tomography LOC. We will also provide laboratory and research support in making it successful.
- We appreciate the invitation for collaboration and are keen to see UTM in the research. We are interested in learning and exploring microfluidic devices and the performance of tomography in microfluidic devices. We will support the research and contributing collaborative matching grant.
- We look forward to participate in the research project.

Thank you.

**"BERKHIDMAT UNTUK NEGARA"**  
"Tanjung Menapakah Di Bumi, Puncak Menjelang Tinggi"

Yours Faithfully,

**DR. DR. MOHD RAFIZ FAZALUL RAHIMAN**  
Associate Professor,  
School of Mechatronic Engineering,  
Universiti Malaysia Perlis

**Universiti Malaysia PAHANG**  
Fakulti Kejuruteraan Elektrik & Elektronik  
Faculty of Electrical & Electronics Engineering

UMP 16 01/12 18/1 (A 3 )

Our Ref: ...  
Date: ...

Faculty of Electrical Engineering  
Universiti Teknologi Malaysia  
81310 Skudai, Johor.  
(Attn: Dr. Leow Pei Ling)

Dear madam,

**LETTER OF INTENT TO COLLABORATE IN UTM COLLABORATIVE RESEARCH GRANT APPLICATION**

As refer to the above matter, we are pleased to notify you of our university, Universiti Malaysia Pahang (UMP) intent to become the research collaborative research grant (CRG) application with project reference number PY2017/02425 entitled "Tomography Lab-On-Chip For Microsample Image Reconstruction".

- We appreciate the invitation for collaboration and are keen to see UTM in the research. We are interested in learning and exploring microfluidic devices and the performance of tomography in microfluidic devices. We will support the research and contributing collaborative matching grant.
- We look forward to participate in the research project.

Thank you.

Yours Faithfully,

**Dr. Yasmin Abdul Wahab**  
Senior Lecturer  
Faculty of Electrical & Electronics Engineering  
Universiti Malaysia Pahang  
26600 Pekan  
Pahang  
+609-4246121/ +6017-7536384

**UTM**  
Universiti Teknologi Malaysia

Fakulti Kejuruteraan Elektrik  
Dan Elektronik  
Tel: 604-6561000, 1300-1234 Fax: 67-4233000

UTM/PEET/400-12/1 Jil. 23 (04)  
20th December 2017

Faculty of Electrical Engineering  
Universiti Teknologi Malaysia  
81310 Skudai, Johor.  
(Attn: Dr. Leow Pei Ling)

Dear madam,

**LETTER OF INTENT TO COLLABORATE IN UTM COLLABORATIVE RESEARCH GRANT APPLICATION**

We are pleased to notify you of our university, Universiti Teknologi Malaysia (UTM) intent to become the research collaborative in your UTM Collaborative Research Grant (CRG) application with project reference number PY2017/02425 entitled "Tomography Lab-On-Chip For Microsample Image Reconstruction".

- We are excited on the logic proposed in integrating tomography system on to Lab-On-Chip (LOC) in which LOC has been rapidly reported in major technical journals. We foresee this collaboration will enable good publication opportunities. Therefore, we are keen to establish collaboration with UTM in the research of tomography for microsample image reconstruction. We will support by contributing matching grant and research support in this collaboration.
- We look forward to participate in the research project.

Thank you.

Yours Faithfully,

**DR. ELMY JOHANA BINTI MOHAMAD**  
Penolong  
Unit Kerja Sains dan Teknologi  
Fakulti Kejuruteraan Elektrik dan Elektronik,  
Universiti Teknologi Malaysia

MS ISO 9001:2015

inovatif • entrepreneurial • global