KONSEP IQRA'

MENGENAL ALLAH

IKHLAS

MENYELIDIK

MENERBIT / MENULIS

MENGAJAR / MENDIDIK

MENGENAL DIRI

آقرُ يَابَاسَمِ رَبِّيَّكَ الَّذِى خَلَقَ الْإِنسَانَ مِنْ عَلَقٍ

آقرُ وَرَبِّكَ الَّذِى أَكْرَمَ

آقرُ مَا لَمْ يَعْلَمَ

آقرُ الْإِنسَانَ عَلَمَ بَالْقَلْمِ

آقرُ الْإِنسَانَ مِنْ عَلَقٍ خَلَقَ
5P: PENGAJARAN, PENYELIDIKAN, PENERBITAN, PEMBANGUNAN MAHASISWA, DAN PERKHIDMATAN KEPADA WATAN

DENGAN NAMA TUHANMU

MENGAJAR

MENYELIDIK

MENERBIT/ MENULIS

KONSEP IQRA’
Content

1. Achievements
2. The 5 Elements
3. Engagements
4. CoE R&I Contribution
5. What is Expected from RUs?
6. Research Sustainability
7. KAI Achievement
8. Future
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1.0 Achievements

Figure 2. Growth in research output by country over the last 10 years, 2005-2014

Source: Thomson Reuters Web of Science®
% WOS Publication Growth (2006 - 2015)

- UTM: 1950%
- USM: 437%
- UKM: 473%
- UPM: 1050%
- UM: 395%
R&I Structure

VC

DVC(R&I)

5 Niche Areas

Frontier Materials

Innovative Engineering

Smart Digital Community

Health and Wellness

Resource Sustainability

18 FACULTIES & SCHOOLS

Single-Discipline Research Groups (SDRGs)

Research Direction

Multi-discipline Research Groups (MDRGs)

• Centre for Artificial Intelligence and Robotics (CAIRO)

• Institute of Bioproduct Development (IBD)

• UTM-MPRC Institute for Oil & Gas

• Institute of High Voltage and High Current (IVAT)

• Centre for Engineering Education (CEE)

R&I Supporting Units: Research Management Centre (RMC), Innovation and Commercialization Centre (ICC), UPMU, UTM Press, UTM Library

HICoEs

• Wireless Communication Centre (WCC)

• Advanced Membrane Technology Centre (AMTEC)

• Institute of Noise and Vibration (IKG)

Institute of Future Energy (IFE): CHE, CEES, OTEC

Institute for Vehicle Systems and Engineering (IVsE): ADC, CFC, MTC, UTM-LoCarTic

Institute for Smart Infrastructures and Innovative Construction (ISiIC): CRC, CRES, KALAM, CFE, CTG

Ibnu Sina Institute for Scientific and Industrial Research (ISI-SIR): CSNano, UTM-CIAM, CFIRST, UTM-BDC, CLEAR, Laser Centre

Research Institute for Sustainable Environment (RISE): IPASA, INSTAG, CIPD, PROSPECT, COEI

Institute of Human Centered Engineering (IHCE): CBE, UTM-MAGICX, SITC, IIN-UTM Cardio
Tahniah

UTM

UNIVERSITI TEKNOLOGI MALAYSIA

atas penarafan

6 bintang MyRA 2014
Heartiest Congratulations

AMTEC
Advanced Membrane Technology Research Centre

IKG
Institute of Noise and Vibration (IKG)

for being recognised as a
HIGHER INSTITUTION CENTRE of EXCELLENCE (HICoE)
2.0 The 5 Elements

(1) Publication

- Internal Journal Initiative
- Workshop on Conducting Quality Research
- Research Proposal Workshop
- Workshop on Writing Highly Cited/High Quality Paper
- Book Chapter Initiative
- Establishing & Harnessing Supporting Unit
- Organizing International Conference
- Leveraging Research Collaboration
- Maintaining Research Workers Appointment (Postdoc/VRP)
- Maintaining Foreign Students Intake
- Policy Papers Initiative
Current – The 5 Elements

(2) Innovation & Commercialization

- Industry driven research proposal must include element of product commercialization.
- R&D Product Reality Program.
- Revised IP Filing Process
- Enhanced existing marketing programme
(3) Branding & Networking

- To create policy on internationalization
- To create policy on industry linkages
- To increase outreach activities with industries. (especially to HR Manager)
- Increase Citation by Utilizing online professional networking such as research gate, academic.edu
- To enhance and update the personal website of researcher
- To Sustain the Numbers of Quality International Faculty Members
- To establish a consortium of technical University for Muslim Countries
- One community based research project (CBRP) from each faculty/COE/Institute
- Marketing kit for community and industry
- Proper coordination of the CBPR through the Director of RC/COE/Institute and expediting the appointment of TD Jaringan Industri & Masyarakat (JIM)
- Leveraging across Industry Centre of Excellence (ICOE)
- Promoting our expertise through social media (newspaper/radio/tv) regularly
- Establishing Academic Industrial Council (AIC - Across Economic Cluster- NKEA)
(4) Research Funding

- Appoint champion for International Funding
- Appoint champion for Private Funding
- Preparing Paper Policy on Contract Research & International Research Management
- Conducting Awareness Programme on Double Tax Deduction to Industry
(5) Income Generation

• Increase Income Generation by Existing Accredited Laboratory
• CETU, FS & FKM Must Receive Accreditation Status
• Kenalpasti Makmal-makmal berpotensi untuk menjana pendapatan dari aktiviti makmal (Selain dari makmal yang telah diakreditasi)
• Pendapatan dalaman yang dijana daripada program / aktiviti berdasarkan perkhidmatan akademik
• New business model for Labs (Leasing equipment concept)
3.0 Engagements

Community Engagement Project Discussion

Engagement with Support Units
International Grant Champions
Engagements

Engagement CoE/HICoE

SIV Workshop
Bridging the Gaps

Ensure Support Units are Aligned
4.0 CoE R&I Contribution

Indexed Publications First & Corr.


CoE Members: 333
Total Staff: 1710

Source: KAI Publication Data 13 Jan 2015
Principal Investigator (ex. Networking)

CoE Members: 333
Total Staff: 1710

Source: KAI Grant Data 13 Jan 2015
Are we satisfied?

Is it enough?

Did we give it 100%?
5.0 What is Expected from RUs?

- RU as part of national innovation system
- Operate at highest possible standard across discipline = setting national standards
- International standing = link to overseas organization
- Longer term = better future

Source: Group of Eight (Australia’s top 8 Univ. Group)
RUs Core Business

**Education**
- Foundation for further dev.
- Prep student for challenges
- Stimulates passion and motivation

**Research**
- The excellence, breadth, volume
- Basic research is important
- Need to explore whole spectrum of research

**Innovation**
- New pathway
- Look ahead, improvise, global trend
- MOOCs

**Store of Knowledge & Capabilities**
- Experts & facilities
- National assurance (response team)
- Build up the “storage”

**Economic & Social Mission**
- Student applying knowledge
- Knowledge transfer
- Drawing funds from various sources
- Diversity of staffs/students

**Reputation & Int. Networks**
- Global fight for talent
- Excellence attract excellence
- Global brand

Source: Group of Eight (Australia’s top 8 Univ. Group)
6.0 Sustainability

- Operation
- Research
- Academic
Activities

Research Sustainability

Baseline

CHEMICAL SEPARATION

UG

UG PROJECTS

Analytical Chemistry I

Instrumental Analysis

Advanced Analytical Chemistry

TAUGHT MSc PROJECTS

NETWORKING

CONSULTANCIES AND COMMUNITY

GUP

International

National

RESEARCH
Publications

Basic Output

CHEMICAL SEPARATION

UG PROJECTS

UG

PG

TAUGHT MSc PROJECTS

CONSULTANCIES AND COMMUNITY

RESEARCH

NETWORKING

Q4 & Non-indexed

BOOK CHAP.

CONF. PROC.

Lab Manual Procedures

Monograph

Advanced Analytical Chemistry

Analytical Chemistry I

Instrumental Analysis

Q1

Q2 & Q3

Q1

National

International

GUP

Basic Output

INOVATIF • ENTREPRENEURIAL • GLOBAL

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Intellectual Properties

Chemical Separation

Intermediate Output

UG Projects

UG

1

UG Projects

Analytical Chemistry I

Publication

Networking

Consultancies and Community

Research

National

GUP

Q4 & Non-indexed

Conf.

BOOK CHAP.

BOOK CHAP.

CONF. PROC.

Lab Manual Procedures

Monograph

ISBN

PG

1

Taught MSc Projects

Advanced Analytical Chemistry

Publication

KTP Report

Report

Report

Report

Report

Report

Patent

TO

Q1

Q2 & Q3

Patent

Intellectual Properties

Copyright

Utility Innovation

ISBN
Leadership
Teamwork
*Suca dengan Sengaja*

This Cycle Need to Happen

- Leaders
- Members
- Mentor
- Mentee
- Expert
- Newbie

Train ➔ Produce
Operations Sustainability

- Top Management
- HiCOE
- Research Institutes
- CoE

- RMC
- Bursary
- ICC
- UPMU
- Library
- etc.

- Faculties
Source: Living Lab Concept (http://www.halmstadlivinglab.se/)
7.0 UTM Achievement – Target (2015 – 2017)

- **2015**
  - RM 1.9 mil. Income from comm. & tech. licensing
  - RM 77 Funding from Grant
  - 68% Academic staffs as PI
  - 3440 Indexed Publications
  - 3 HICoE

- **2017**
  - RM 7 mil.
  - RM 170 mil. Income from comm. & tech. licensing
  - 80% Academic staffs as PI
  - 6500 Indexed Publications
  - 5 HICoE
  - 4 Accredited Lab

Source: KAI Data Jan – Dec 2015
8.0 Future – SIV

- **Skudai Innovation Valley**
- **Leading hub Startup ecosystem**
- **Venture capital**
- **Home Grown Tech Corp.**
- **Hub for Sustainable Ecosystem**
- **High tech business**
- **High Tech Economic Sectors**
- **Community based Innovation hub**
- **Human talent Development**
Future – IISJ

- Tourism, Halal, Heritage & Culture
- Improving Living Standards
- Affordable Infrastructure Development & Transportation
- Sustainability & Conservation
- Mapping Into 6 Areas
- Education, Skills & Leadership
- Welfare & Religious Living

IISJ-UTM

- Johore as Innovation Valley
- Centre for Discovering new knowledge
- Transforming into K-economy
- Hub innovation for industry
- IISJ

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Attitude is Everything

A bad attitude is like a flat tire

You can’t go anywhere until you change it
We cannot do *everything* at once, but we can do *something* at once.
How come *everyone*?

Everyone Has an Important Role
How come *everyone*?

Output

Behind-the-scene

Academic Staff

Superman Does Not Exist
Are we satisfied?
No, we shouldn’t be

Is it enough?
Definitely not

Did we give it 100%?
Maybe, but we need more
Even Superheroes need a Team!
Thank you everyone.

Ahmad Fauzi Ismail. PhD., FASc., CEng., FIChemE.