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Research Issues & Projects

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On behalf of the Research Team

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Major Research Issues

- Research Direction
- Collaboration in Research
- Administration & Management of Research
- Manpower (including Graduate Students) and Resources

1: Research Direction

- ◆ Research at KFUPM lacks "Direction", and this includes:
 - ó Objectives
 - ó areas of excellence
 - ó multidisciplinary work
 - ó national plans,
 - ó integration with curricula and with industry needs,
 - ó identification of new areas of need, etc

There is a clear need for a consistent research strategy
Further, work at the university does not fully align with
the national needs of the Kingdom

ue 2: Collaboration

- ◆ Collaborative research is very limited
- ◆ There is a need to improve collaboration with research institutes and universities, both local and international
- ◆ Further, collaboration with and integration of activities of RI with academic departments must be encouraged
- ◆ Industrial collaboration must be pursued aggressively, and support for industry funded research must be sought

3: Administration & Management of Research

- ◆ The way Research support is administered, which includes:
 - ó organizational structure
 - ó policies & procedures, and support
 - ó Evaluation, manpower & funding, incentives, etc.
- needs to be overhauled
- There is rigidity of applications of rules, unified regulations, and policies
- Does the research generate valuable and quality output? in terms of its utilization, publications, citations, patents, income, etc

Graduate Students, Manpower & Resources

1. There is Insufficient manpower, in terms of RAs/GAs, ageing technical staff, and the difficulty in hiring new support staff is a major issue
2. Lack of existence of research labs at academic departments
3. Research culture and research interest groups are almost non-existence
4. Graduate student body that transcends geographic and ethnic boundaries is a needed component to support research

Project I: Set Research Direction

- ◆ **Aim:** Define research directions for KFUPM to serve national needs and align with the international research trends
- ◆ **Objectives:**
 - ó Assess existing human resources (faculty, researchers, graduate students, technicians, etc) and facilities (laboratories, libraries, ITC, etc)
 - ó Determine areas of strength based on the available research expertise and resources at KFUPM
 - ó Identify national and industrial research needs (via surveys)
 - ó Review international research trends and directions
 - ó Set research directions for KFUPM by proposing appropriate research programs based on the national needs and international trends
 - ó Develop expertise and facilities to fulfill defined research directions

Create an Integrated Research Structure and Administration to enhance Efficiency

- ◆ **Aim:** Evaluate current research structure, policies, and procedures.
- ◆ **Objectives:**
 - ó Assess internal organizational structure which integrates all university departments and research centers to ensure attaining the defined research objectives
 - ó Review current policies and procedures (both academic and contract), and rules and regulations affecting research activities, and recommend modifications
 - ó Provide the necessary resources for most efficient research administration and management
 - ó Enhance the desired research culture and efficiency of operation
 - ó Establish the appropriate coordination between the researchers, administrators, and the support staff

Project 5. Promote Industrial Collaboration

- ◆ **Aim:** Promote the interaction of the University's research capabilities with the national industry
- ◆ **Objectives:**
 - ó Assess the current level of interaction of KFUPM research activities with the national industries and various technical problems faced by them
 - ó Identify the needs of the national industries for research activities, and define possible as well as potential areas of interaction with KFUPM research activities
 - ó Develop appropriate procedures and tools (mechanisms) to link graduate research with industrial problems, wherever possible
 - ó Propose appropriate multidisciplinary research areas needed for further development of the industries in the country
 - ó Establish long term research partnership with industry

: National, Regional and International cooperation in Research

- ◆ **Aim:** To develop, enhance and maintain efficient, timely and sustainable cooperation, collaboration, and partnership with national, regional and international research groups on issues of mutual interest that would ensure innovative solutions for engineering, technology and scientific problems

: National, Regional and International cooperation in Research

◆ Objectives:

- ó Review and assess the current national, regional and international practices and trends for collaborative research activities
- ó Identify potential windows of opportunity for timely and efficient external cooperation
- ó Recommend strategic plans to initiate and advance the University cooperation with external research organizations/agencies/groups

Enhancement of Graduate Student Research

- ◆ **Aim:** Enhancement of the graduate student research in quality and quantity and align it with the KFUPM research directions
- ◆ **Objectives:**
 - ó Review the present situation and develop strategies to boost research with sufficient incentives for students' research
 - ó Develop strategies to involve students in research activities of faculty and the Research Institute researchers
 - ó Plan for graduate student research directions and priorities consistent with the KFUPM focus areas, national needs and latest developments
 - ó Develop strategies to attract students of high GPA from all over the world without constraints on ethnicity/geography.
 - ó Optimize the use of available research facilities

Strengthen Resources and Manpower

- ◆ **Aim:** Develop research resources and active manpower to support enhancement of Kingdom's scientific and technological development
- ◆ **Objectives:**
 - ó Assess the adequacy of current human resources actively participating and supporting research activities
 - ó Review facilities for research both at academic departments and the RI and determine the areas of improvement
 - ó Review the sources of funding for research activities at KFUPM, and develop appropriate tools to enhance funding
 - ó Establish measures for monitoring efficient utilization of resources and manpower
 - ó Enhance databases for both research facilities and manpower at KFUPM, and recommend appropriate management system for their utilization
 - ó Suggest strategies and make recommendations for upgrading research resources and developing manpower



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