**Physics Department Research Committee Report**

**Oct. 15, 2015- April. 30, 2016**

Chairman, Physics Department formed Research Committee on Oct. 15, 2015 with the following members: Drs. Al-Jalal, Al-Kuhaili, Maalej, Naqvi (Chairman) and Al-Quraishi. The following were the tasks assigned to the committee:

1) Discuss methods to Increase the visibility of research done at the Department.

2) Set guidelines for inviting visitors to the departments.

3) Study ways to strengthen the existing Research groups in the Department.

4) Study the future of the Nuclear Radiation physics group.

5) Investigate the optimum use of lab space in the Department.

6) Discuss the need of the Department for major research equipment.

7) Other tasks (like conference attendance, etc.) forwarded by the Chairman to

the committee.

Since its formation, the committee held several meetings to discuss the assigned tasks and routine matters forwarded to the committee. The following are the details of committee recommendations.

**Task # 1: Discuss methods to Increase the visibility of research done at the Department.**

The committee discussed the methods to increase the visibility of research done at Physics Department nationally, regionally and internationally. The committee suggested the following:

1. **Establishment of Research Group Web Sites**:
2. Establish Web- Site of each Research Group containing information about faculty and students involved, the areas of research, facilities, equipment and a list of research projects. The site should also contain a list of publications, patents, awards, seminars and invited talks given by group members. **Inform faculty about Research Visibility Tools Such as Research Gate membership through a department seminar.**

1. **Organizing International, Regional or National conferences at KFUPM Physics Department.**

The conferences may be organized on specific topics with conference proceedings published in ISI journals. Such conference can be organized in collaboration with (under sponsorship of) national funding agencies such KACST, KACARE, SABIC etc . Within KFUPM, collaboration and sponsorship can be sought from Center for Research Excellence in Nanotechnology, RI, KFUPM (CENT, KFUPM) in organizing such conference.

**Task#2: Set guidelines for inviting visitors to the departments.**

The committee discussed the guidelines to invite the speakers to Physics Department through KFUPM channel and suggested the following:

* **Selection Criteria**

The invited speaker visit should be requested by a research group/group of researchers to assist them in their research. The selection should be based on the following criteria:

1. Relevance and Importance of research expertise of the invited speaker.
2. Productivity in Research, H index, etc...
3. Number of publications and citations.

Productivity in research, publication and citation may have less weight if the invited speaker is highly relevant and important for the development and progress of research program.

* **Tasks of the invited speakers**
1. Meeting with the host research group/group of researchers to discuss their research problems and provide necessary help.
2. Delivering Seminars in the Physics Department.
3. Arranging Workshops/Lecture Series on topics of interest at KFUPM.
4. Meetings with physics faculty to discuss topics of common interest.
5. Meetings with physics graduate and undergraduate students to discuss topics of common interest.

**Task # 4: Study the future of the Nuclear Radiation physics group.**

The committee discussed the future of Nuclear and Radiation Physics Group in two consecutive meeting sessions. Following are the recommendation of the committee about future of the Nuclear Radiation Physics Group.

1. **Prioritize nuclear physics:** Nuclear physics field is a top priority for the kingdom based on the KACARE nuclear energy program. KFUPM physics department should have a leading role towards this program to serve the strategic priorities of the Kingdom.
2. **Hiring new faculty in Nuclear physics:** Most nuclear physics faculty have either left the department for other duties or have reached the stage of retirement. The department should hire new faculty in the field of nuclear physics to bring new blood and new momentum to the research program.
3. **Improve facility and equipment for nuclear physics research:** In order to attract new nuclear physics faculty, we should have very good nuclear facility and equipment. We should first repair and maintain existing equipment whenever possible. We should also acquire new essential multipurpose equipment for research that can serve nuclear physics, medical physics and nuclear engineering program, such as a small size particle accelerator.
4. **Build strong collaboration:** The nuclear physics group should build strong research collaboration with local, national and international organizations. At least two hospitals in the eastern province already have medical linear accelerators and mini-cyclotrons that nuclear physicists should be able to access for research purposes.

**Task # 5: Investigate the optimum use of lab space in the Department.**

The committee discussed the use of lab. space in Physics Department. Following are the recommendation of the committee about lab. space utilization in Physics Department.

1. **Disposal of obsolete equipment:**

The committee suggested that obsolete equipment should be disposed -off to make space available for faculty in need of lab. space. Dr. Qureshi informed the committee that he is working with Chairman, Physics Department to prepare inventory list of obsolete equipment.

1. **Lab. Space Allocation Policy**

For optimum use of Lab. space in physics department, the lab. space should be allocated among researchers either on project basis ( short term allocation , terminating by the end of project) and on research program basis( long term allocation continuing till the termination of specific research program)

**Task # 6: Discuss the need of the Department for major research equipment-**(Dr. Kuhaili request to Purchase New XRD Machine)

Under this of category of the tasks the committee discussed the request of Dr. Kuhaili. The committee made the following recommendation.

1. The committee observed that a large number of physics faculty and graduate students heavily use XRD machine for teaching and research. **Therefore, a separate XRD machine is required at Physics Department.**
2. The present XRD machine is a relatively new one but it broke down. The committee request that the machine should be fixed as soon as possible. We should exhaust all means to repair the XRD machine by calling the local agent of the manufacturer. If the local agent is not responding seriously, then we should contact the XRD machine manufacturer abroad to repair the machine.
3. **Regarding the purchase of a new XRD machine, the committee observed that a new machine should be only be purchased if it is proven that present machine cannot be repaired**
4. Improvements should be made in operating and maintaining the XRD machine to avoid its frequent breakdown. If needed, the present operator(s)of the XRD machine should be provided additional maintenance training to make up their deficiencies. If this is not done, even a newly purchased machine will break down soon after purchase because of poor maintenance.
5. In the future, machine maintenance service should be included in purchase contract.

**Task #7: Other Tasks – Evaluation of Faculty Conference Attendance Applications.**

Under this of category of the tasks the committee evaluated and approved conference attendance application of following faculty members.

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| **Faculty Name** | **Number of Conference Applications** |
| *Dr. Al-Jalal* | **1** |
| *Dr. Ayub* | **2** |
| *Dr. Basheer* | **3** |
| *Dr. El-Saeed* | **2** |
| *Dr. Faiz* | **1** |
| *Dr. Farhat* | **1** |
| *Dr. Gondal* | **3** |
| *Dr. Haider* | **1** |
| *Dr. Harrabi* | **2** |
| *Dr. Kunwar* | **1** |
| *Dr. Maalej* | **1** |
| *Dr. Mekki* | **1** |
| *Dr. Qasmi* | **1** |
| **Total Applications** | **20** |