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Ref. Lutfur Rahman and Alburuj R. Rahman Prizes for the faculty members and students in the Department of Physics of Karachi University, Karachi, Pakistan

Dear Vice Chancellor Professor Dr. Khalid Mehmood Iraqi,

Assalamu alaikum.

I am an atomic astrophysicist in the Department of Astronomy of the Ohio State University (OSU) in Ohio, USA. I have been connected to Department of Physics of University of Karachi for a number of years now. My association with the Physics Department has given me the scope for instituting a recognition program in the Department. I am proposing a recognition program that will give annual prizes to two faculty members, one for the best research publications and one for the best teaching in class, and two student prizes, one for the best Ph.D. thesis and one for the best B.Sc. student in Physics/Astronomy.

- I came in contact to University of Karachi as an examiner of a Ph.D. thesis in Physics sometime in the past. Since then I have reviewed several Ph.D. theses in Physics of University of Karachi.

- Several Physics members of University of Karachi took my online global online research training course titled "Atomic Astrophysics and Spectroscopy with computational workshops on the R-matrix and SUPERSTRUCTURE codes" delivered under the globalization program of the Indo-US STEM Education and Research Center of the Ohio State University and Aligarh Muslim University in India.

- I was interviewed for the "Physics camp for girls" to be presented at the camp organized by Pakistani students, largely from Karachi University. Prof. Shabana Rizvi and Prof. Zaheer were among the lecturers of the Physics camp. I was also involved in last year Physics camp for girls and provided the fund for all the prizes.

- I am helping members of the Physics Department to be free members of the American Physical Society (APS), the largest network of about 55,000 physicists from USA and all over the world.

Physics Chair Prof. Shabana Rizvi and Prof Zaheer Uddin and I have already discussed about the recognition program. Prof. Shabana Rizvi also communicated it to the faculty members of the Physics Department. She will be coordinating the process of instituting the recognition program.

I have attached the MOA of guidelines for the prizes for your perusal. Recognition has a definite positive impact on inspiration for achieving excellence in research, teaching and academic performance. These prizes are similar, with objectives and guidelines, to those I instituted in other places.

I will provide the endowment of \$6000 the recognition program. The profit from investment of the endowment in a bank will be used to give the prizes. Please direct me to whom the cashier check should address to and at what address it should be mailed.

I look forward to your approval of the recognition program for the Department of Physics of University of Karachi.

With best regards,

A handwritten signature in dark ink, appearing to read 'Sultana N. Nahar', with a large, stylized initial 'S'.

Professor Sultana N. Nahar

Fellow of APS, BPS, BAS, TWAS-UNESCO

Co-Director, Indo-US APJAK STEM Education and Research Center of OSU and Aligarh Muslim University

Adjunct Professor (UGC scheme), Aligarh Muslim University, India, 2017-2022

Adjunct Professor, Cairo University, Egypt

Memorandum of Agreement:**Lutfur Rahman and Alburuj R. Rahman Prizes in Physics and Astronomy at University Karachi, Karachi, Pakistan****1. Purpose:**

To recognize and encourage Muslim teachers for the best teaching in the class and for outstanding research publications, and Muslim students for achieving the best academic and research excellence in their respective areas of Physics. This recognition program aims to give annual prizes to teachers and students for their best performance.

Teachers play the most important role of raising the standard of the university by best teaching to the students of the entire class, carrying out high quality research, and guiding students in research projects. They need to be recognized. There is always a limited number of students who achieve the topmost positions in the class regardless of the standard of the curriculum. To raise the bar of excellence of these students and enhance the quality of performance of the entire class, teachers contributions are extremely essential. A teacher can uplift the standard by excellent teaching skill, helping. and giving positive support to the students. This recognition program aims to encourage the efforts of the teachers. To appreciate the teaching effort, the students will nominate the teachers by votes from whose teaching they gained the most knowledge.

Research is crucial for advances. Without research publications an institution is not known outside and can not make advances for humanity. Teachers play the important role in leading research projects and in guiding and training students in research. The recognition program will award a faculty for the best research publications.

To encourage excellence in research and education, two students will be awarded - one for the best Ph.D. thesis and one for the best undergraduate achievement.

2. Funding:

The prizes will be sponsored by Professor Sultana N. Nahar of the Ohio State University in the USA by giving the endowment fund from her personal income. She will provide a total fund of US\$6,000. The endowment is recommended to be invested for the maximum profit.

Of the total profit earned from the investment of the endowment fund each year, 90% will be used for the annual prizes, and the rest 10% will be added to the endowment fund for sustenance and future increase of the honorarium of the prizes.

3. Prizes:

Since Physics and Astronomy are typically combined in the Physics Department, I will mention Physics to cover both Physics and Astronomy. There will be 4 total annual Physics prizes, 2 faculty prizes and 2 student prizes, as describe below:

- i) "Lutfur Rahman prize for Distinction in Research Publications and in research guidance in Physics" for a faculty member,
- ii) "Lutfur Rahman prize for Distinction in Teaching in Physics" for a faculty member,
- iii) "Alburuj R. Rahman prize for the best Ph.D. student in Physics" for a graduate who received Ph.D. degree in the past one year.
- iv) "Alburuj R. Rahman prize for the best B.Sc. student in Physics" who graduated in the current year.

Each prize will consist of i) a Certificate of Excellence and ii) an honorarium. The certificates will be signed by the Vice Chancellor of the university or by the Vice President of Graduate Studies and Research or by the Dean of Faculty of Science, and the Chair of the Department. In case of two nominations with almost same score, both nominees will be selected as the winners, receive the same certificates, but share half of the honorarium.

Out of the profit earned from the endowment fund, 90% will be used for the distribution of prize honorarium. The ratio of a faculty prize to a student prize is 1.5:1. Hence, out of the total fund "X" available for the prizes, each faculty will receive a prize honorarium of $X/5 \times 1.5$ and each student prize will $X/5$.

4. The Prize Board:

The Prize Board will consist of the Vice Chancellor of the University, Vice President of Postgraduate Studies and Research, the Dean of Faculty of Science and the Chair of the Physics Departments, and the sponsor, Dr. Sultana N. Nahar.

For the best of motivation or encouragement, the academic committee of the Department may suggest modifications or adjustment of the process. Any decision on the modification of the terms and conditions or relevant issues on the prizes can be made by three members of the Board with the consent from the sponsor.

5. Terms and Conditions for the faculty and student prizes:

A. "Lutrur Rahman prize for Distinction in Research Publications and in research guidance in Physics":

i) Selection Criteria:

Nomination of this prize for a faculty member will be based on research publications and with whom at least one student has carried out his/her Ph.D. or Masters thesis research or authored in one publication in a peer-reviewed journal. In case

of a Ph.D. student in Physics carries out his/her Ph.D. research under supervision of faculty members in other STEM Departments, the recognition will include those supervising faculty members and follow the same criteria for selections.

Nomination points are divided as:

60% weight will come from research publications,

10% weight will come from conference presentations, participating in organizing a conference or some other of achievement/prizes that added to the University to be known for research.

10% will come from the research student under guidance of the candidate who will put the points based on his/her research experience with the candidate.

5% weight will come from the Chair of the Department who will judge based on quality of research and helping research students

5% weight will come from the recommendation of the sponsor, Prof. Sultana N. Nahar or her representative. In absence of the sponsor or her representative, the 5% will be added to the points for research publications.

ii) Evaluation of research publications:

For journals, proceedings, Book, Book Chapters:

1. SCI Journals: 10 points
2. Non-SCI journals but known with good readers (peer-reviewed): 6 points
3. Non-SCI average journals (peer-reviewed): 5 points
4. Conference proceedings: 4 points
5. Exceptional journal in the field: 10 additional points
6. Author of a textbook: 25 points
7. Author of a general book: 15 points
8. Book chapters: 10 points

The total point of each publication will be multiplied by the authorship factor:

1. Single author paper: 1
2. 1st authoring a 2-authors paper: 0.9
3. 2nd author in a 2-authors paper: 0.8
4. Any author in an N-authors paper (alphabetical order): $1/N$
5. 1st author in an N-authors paper (non-alphabetical order): 0.7

6. 2nd author in an N-authors paper (non-alphabetical order): 0.6
7. 3rd author in an N-authors paper (non-alphabetical order): 0.5
8. Any other author in an N-authors paper (non-alphabetical order): 0.4

iii) Citation: "In recognition of outstanding research publications and guidance in Physics"

However, the citation can be changed with research topics that are related to the winner.

B. "Lutfur Rahman prize for Distinction in Teaching in Physics":

i) Selection Criteria for a Faculty:

Nomination of this prize for a faculty member will be based on learning experience (not technical knowledge such as learning computer skills) of students in the class.

85% weight will come from students assessment of their teachers from whom they learned most knowledge in class sessions. Students can vote on slips of paper which will be counted by the Prize committee formed by the Chair. Online methods, such as google docs, can also be used for the voting. However, the Department may introduce questions for the students to be more specific about the nomination. The Chair and members of the Prize committee also qualify for the prizes.

10% weight will come from the Chair of the Department who will judge the candidate based on completion of the syllabus, regularity in classes and performance of the students on the subject

5% weight will come from the recommendation of the sponsor, Prof. Sultana N. Nahar or her representative. In absence of the sponsor or her representative, the 5% will be added to the points from students votes.

ii) Citation: "In recognition of outstanding teaching skill and students learning in class in Physics"

C. "Alburuj R. Rahman prize for the best Ph.D. student in Physics"

The prize is for the graduate who has received the Ph.D. degree during the past one year.

i) Selection Criteria:

Distribution of points for the nomination of this prize is as follows:

60% weight - from research publications

30% weight - from the excellence in academic record

10% weight - from conference presentations, any relevant award

ii) Evaluation of research publications:

Research publication points should be counted following the method mentioned above for the faculty prizes. However evaluation will be carried out for the total number of publications during the entire study for the Ph.D. degree. Some consideration could be given to the subject area such that publications on some subject are more difficult compared to some other.

iii) Citation: "For the best research publications under the Ph.D. degree and academic excellence in Physics"

D. "Alburuj R. Rahman prize for the best B.Sc student in Physics"

The prize is for the graduate who has received the B.Sc. degree with major in Physics during the past one year.

i) Selection Criteria:

Distribution of points for nomination of this prize is as follows:

100% weight - from the academic achievement of topmost score.

5 additional points should added if the student had research experience which led to a publication or presentation of in a conference. In such case, the grade point average from the classes of the candidate should be scaled with respect to that of the topmost scorer as 100%.

6. Recognition process:

About two months before the end of the academic year the Head of the Department will circulate a notice to all faculty members, and the students who have completed their Ph.D. and B.Sc. degrees during the past one year, calling to submit their i) CV of the past year (only for faculty members), ii) full CV of everyone, and iii) printout of the research papers in journals by the faculty members (1 year) and abstracts of all publications by the Ph.D. students to the Physics office. The academic committee of the Department will form a prize committee of 3 or 5 faculty members to collect the materials and evaluate them. All faculty members in the committee are also eligible to be nominated.

For the teaching evaluation for a faculty member, the prize committee will collect students assessment of the faculty members. Students from all years of undergraduate and postgraduate studies will be asked to put down the name of the faculty member from whom they learned the most in the class in the past year. The voting for the best teaching can also be done by using googledoc.

The committee will make selection of candidates with maximum points, one or two (in case of close points). A copy of the selection will be emailed to the sponsor for her evaluation. The Chairperson and the prize committee will approve the winners for the prizes and send the names to the Prize Board headed by the University

personnel who will have them approved. In case of two nominees with almost equal points, two winners should be selected. The Board will inform the winners and present formally the certificate and honorarium to each of them.

7. Prize Ceremony:

To honor the winners and inspire others to make the best effort, it is suggested to hold the prize ceremony is held in combination with other events or in an event where the largest university audience will be present and publish the news of the winners in the university news media.

A handwritten signature in dark ink, reading "Sultana N. Nahar". The signature is fluid and cursive, with the first name "Sultana" being more prominent and the last name "Nahar" following in a similar style.

Professor Sultana N. Nahar

August 12, 2021