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SCIENTIFIC PRODUCTIVITY SYSTEM

University of the Philippines

BACKGROUND: THE SCIENTIFIC CAREER SYSTEM (SCS)

The Scientific Career System, which was established within the Civil Service pursuant to EO 784 dated March 17, 1982 in order to support and encourage the development of science and technology, one of the major dimensions in the country's national and developmental efforts. Section 19 of EO 784 states

> *Section19. Scientific Career System – A Scientific Career System shall be established within the Civil Service. Such System shall cover scientific personnel who shall, for purposes of this Executive Order, be those who have earned advance degrees in any field of the science. The Scientific Career System shall have the following features:*
>
> 1. *Entrance to and career progression or career advancement in the Scientific Career Service based on qualification and merit;*
> 2. *Parallel career paths which will allow scientists to develop within their respective areas of expertise without having to change their status as scientists;*
> 3. *Incentives and rewards to ensure attraction and retention of highly qualified manpower in the science and technology sector; and*
> 4. *Other measures to strengthen and increase the effectiveness of the science and technology system*

Thus the Scientific Career System (SCS) is a system of recruitment, career progression, recognition and reward of scientists in the public service as a means of developing a pool of highly qualified and productive scientific personnel (EO No. 901 Prescribing the Rules and Regulations to Implement the Scientific Career System, July 19, 1983).

Appointment in the System is based on rank from Scientist I to Scientist V. Scientific personnel are admitted into the System to the extent that they meet the minimum qualifications. The criteria for appointment to scientific ranks are as follows:

- Education - advanced degree of at least master's level from a college or university of recognized standing either locally or abroad
- Productivity – significant outputs and contributions in relevant fields of applied and natural sciences which includes the following:
    - scientific articles in publications of international circulation and other work of similar nature

- discoveries, inventions, and other significant original contributions
- practical applications of research findings, discoveries, inventions in commerce, in public policy and in government
- books, monograms, compediums, and major bodies of published work
- training of young scientists
- professional standing – refers to the level of acceptance and recognition in the scientific community in terms of professional, moral and ethical integrity

In order to create a pool of scientific and technological capabilities who shall give priority to research and development, scientific personnel must devote at least 75% of their official time for R&D to include thesis guidance in the pursuit of scientific work and to exclude administrative work, to qualify them for appointment to Scientist rank. (SCC Resolution Feb. 28, 1991). Researchers and other science experts who are conferred the rank of Scientists must focus their efforts in R&D and thus, shall remain in the scientific career path. (SCC Resolution Sept. 20, 1991)

Scientific personnel applying for the Scientist rank are evaluated using the "Merit System for the Scientific Career System". (SCC Resolution Sept. 3, 2002; SCC Resolution July 4, 2003).

APPLICABILITY OF THE SCS IN UP

Although the System was supposed to embrace the Department of Science and Technology (formerly the National Science and Technology Authority) and its component agencies, the EO also provided that "other scientific personnel in the national government shall likewise be covered by the system as soon as rules and requirements for the purpose have been worked out".

Three professors from the Central Mindanao University, a state university, were conferred the Scientist rank in 1992. Recognizing that SUCs adhere to the closed career system which have their own policies on ranks and salary scale and that the implementation of the Scientific Career System in SUCs will have adverse effects on there adherence to the said closed career system as well as their operations, the Scientific Career Council passed the following clarifications regarding the manner by which SUCs can be considered as part of the System (SCC Resolution No. 4, 08 March 2000):

1. it has filled-up plantilla positions that are equivalent to scientist ranks in terms of qualification standards and benefits, and
2. It has a research and development unit.

The resolution further stated that the "corresponding guidelines on accreditation of SUCs shall be formulated and promulgated by the Council". Such guidelines have not yet been formulated as of this date.

Considering that the SCS is a closed career system which requires that Scientists must devote 75% of their time in R & D, then UP faculty members inspite of their scientific productivity can not be covered by the SCS in its present form; UP researchers (REPS), however, can.

But UP faculty researchers can very well qualify as Scientists in terms of qualifications and achievements. Consider the following:

- Although teaching – both at the undergraduate and graduate levels – is the primary mandate of the UP faculty, research and extension are part and parcel of their academic life. In fact, research and extension are inseparable from teaching because the former enrich the latter. Research and extension provide the real-life context to the theories and concepts taught in the classrooms, and thus contribute significantly to enhancing teacher competence. This is the reason why merit promotions and special awards give considerable weight on the faculty's achievements in research and extension, even as the University puts the premium on teaching effectiveness.

- Most of the country' leading scientists and S&T experts are in UP. Trained in the leading universities in the country and abroad, and recognized for their significant research contributions, these scientists and experts are also called upon by the government to head key S&T posts in the country.

- With most of the country's distinguished scientists and S&T experts based in UP and with R & D facilities more advanced than local universities and research institutions, UP is at the forefront of R&D in the country.

- The University's research outputs which impact significantly on the national R&D thrusts, have helped the country gain recognition in the international scientific community, and have been lauded for their contributions to the advancement of scientific knowledge locally and internationally.

While UP faculty can very well qualify as Scientists in terms of achievements, it has to address two major concerns in the existing SCS guidelines:

(1) the nature of the Scientist appointment : permanent vs. temporary appointment

The basic appointment of the UP faculty is to a specific faculty rank (Professor, Associate Professor, Assistant Professor or Instructor) whose main function is to teach, with corresponding salaries specified by the Salary Standardization Law. The University has its own policies on appointment, renewal, tenure and promotions for its faculty members and REPS.

(2) the criteria for admission to, renewal and promotion in the System: more strict than the existing SCS

Already, some academic units in UP impose more stringent requirements for promotion and tenure than the present rules of the SCS.

THE SCIENTIFIC PRODUCTIVITY SYSTEM (SPS) OF THE UNIVERSITY OF THE PHILIPPINES: UP's VERSION OF THE SCIENTIFIC CAREER SYSTEM

Scientific research and productivity have played a crucial role in the development and advancement of the industrialized world through the painstaking generation of new knowledge, new discoveries, and inventions. In all these development and advancement, the scientist is the key player.

The University of the Philippines is the home of the largest group of the finest scientists in the country. These scientists have been continuously providing first-rate contributions towards national progress through their discoveries and inventions published in reputable journals here and abroad. And their expert knowledge has been applied to policy development as well as to the scientific understanding and solutions of social issues. Many of the UP scientists have become esteemed national and international experts in their own disciplines.

The University has been supporting its scientists through provision of research funds and honoring those who have distinguished themselves in their specialized disciplines with different types of awards. The rightful nurturance of these distinguished scientists by the University is now embodied in the "UP Scientist" Award. The Award bestows not just esteemed recognition but also material incentives and a conducive environment that fosters advanced scientific productivity for national development

Thus, the UP Scientific Productivity System was established by the BOR in its 1199th meeting on 26 August 2005 to encourage and reward scientific productivity. Deserving scientists shall be given the rank "UP Scientist" for a specific period of three years with a monetary award, the UP Scientific Productivity Award.

General Principles

1. The conferment of the UP Scientist title shall be based on qualifications and merit.

   Faculty members and researchers with doctoral degrees in fields of study in which they are being considered, or MD with MS/MA, with consistent scholarship within the period required in the Guidelines shall be evaluated using a set of high standards that will put "UP Scientists" in their rightful place in the international community of scholars. Only the best and the most deserving shall be conferred the title. The conferment shall be temporary, thus, only those who are productive shall be considered for another conferment and may even be promoted.

2. Scientific productivity shall be evaluated based on the following general criteria:
   - Scientific publications in refereed reputable scientific journals and books
   - Peer-reviewed technological outputs
   - Scientific standing in the international science community
   - Professional standing in the international science community

3. The merit rating system shall take into consideration the following:
   - the variations in the landscape among disciplines within the University
   - the relative weights in the rating system will reflect the significance of the source of points
   - sense of proportionality regarding relative weights of point system
   - expectations for each Scientist rank - the higher the rank, the higher the expectations.

4. Scientific productivity in academia is universally measured by the ability to publish in refereed reputable journals and books. Thus, only refereed scientific publications shall be considered.

   Technological outputs in the applied sciences shall be considered if they are patented or are peer-reviewed by appropriate means.

5. Scientific and professional standings in the international science community are measured by peer recognition of one's achievements and scientific contributions, gauged by membership in prestigious international bodies and peer review groups, and prestigious international scientific awards,

6. Although teaching, extension work, and the training of other scientists are important functions of an academic, these criteria shall not be considered under the UP Scientific Productivity System. As the name implies, it is scientific productivity that is being recognized. Moreover, teaching and public

service deserve their own award system. Also, performances in these functions are already considered when being evaluated as faculty for promotions, tenure and other awards.

7. Conferment of the UP Scientist title shall be temporary, for a period of 3 years, renewable or upgraded depending on one's productivity. It shall be in the nature of an additional recognition, to be given by UP as an Award, called UP Scientific Productivity Award.

General Guidelines

1. Nature of the Appointment

    a) Productive UP scientists shall be conferred the title "UP Scientist" depending on scientific productivity:

        UP Scientist I
        UP Scientist II
        UP Scientist III

    b) Conferment of the UP Scientist title shall be temporary. It shall be in the nature of an additional recognition, to be given by UP in the form of title with a monetary Award.

    c) Regular, full-time faculty, research faculty, and researchers (REPS) in active service who belong to the scientific disciplines covered by the SCS* (Annex 1) and meet the qualifications in Table 1 may be considered for the title of UP Scientist.

    d) After three years, the Scientist shall be evaluated for the purpose of conferment of the Award for another 3-year period and if merited, for promotion in rank.

    e) Faculty, Faculty Researchers, and REPS shall retain their ranks as UP faculty, faculty researchers, and REPS when they join the System and may be promoted as faculty, faculty researchers, or REPS accordingly.

    f) Faculty, Faculty Researcher or REPS rank shall remain the basic rank, on which retirement and other benefits will be based.

*** list based on the Scientific Career System**

2. Admission into the System

a) UP personnel shall be admitted into the system to the extent that they meet the minimum requirements (Table 1) and subject to the availability of funds.

b) Nominees must have at the minimum a PhD degree in the field for which s/he is being conferred the Scientist rank or MD with MS/MA degrees.

c) The following shall be the criteria for evaluation:
- Scientific Productivity as measured by scientific publications, significant technological output and discoveries,
- Scientific Standing, and
- Professional Standing

d) A merit rating system for the evaluation of nominees shall be followed. (Table 2)

3. Re-appointment/Promotion in the System

a) Scientists shall be evaluated every three years using the merit rating system in Table 2.

b) To be conferred the UP Scientist title for another 3-year period at the same rank or promoted to a higher rank, the Scientist must meet the requirements stated in Table 3, based on accomplishments in the three years since the last conferment.

4. Readmission to the System

Scientists who are not conferred the UP Scientist rank upon evaluation after the three-year period may apply after two or more years and must meet the requirements for initial conferment (Table 1). The evaluation for re-admission into the System shall be based on accomplishments within a 5 year period.

5. Evaluation Procedure

a. Recommendations for appointment shall begin at the unit level (department and/or college). A Committee on Scientific Productivity shall be formed consisting of at least three members, with doctorate degrees in fields covered by the SPS (and MDs with MS/MA for UP Manila) who have good track records of research and publications, preferably with representation from the various disciplines/departments within the college. The dean shall forward the recommendations of the college to the CU.

b. A counterpart committee at the CU level shall review the colleges' recommendations to ensure compliance of requirements and strict implementation of criteria and the rating system. The Chancellor shall endorse the recommendations of the CU to the University System Committee for the final review. The System committee shall endorse its recommendations to the President.

c. Final approval of conferment of the rank of UP Scientist and the Scientific Productivity Award shall come from the Board of Regents upon the recommendation of the President.

6. A counterpart University System Committee shall be formed by the President with the following functions:

- Oversee the overall implementation of the SPS
- Recommend to the President UP Scientists from the different CUs to be conferred the UP Scientist title and given the UP Scientific Productivity Award
- Regularly review the guidelines for implementation of the SPS

7. These guidelines shall be regularly reviewed by the System Committee.

Annex 1

The Scientific Productivity System shall cover the following disciplines: (list based on the Scientific Career System of the Civil Service Commission and the Department of Science and Technology)

A. Basic/Natural Sciences and Mathematics

1. Archeology
2. Astronomy
3. Biology (including molecular Biology)
4. Biotechnology
5. Botany
6. Chemistry (including Biochemistry)
7. Earth Sciences
    - 7.1 Geochemistry
    - 7.2 Geology
    - 7.3 Geophysics
    - 7.4 Seismology
    - 7.5 Volcanology
8. Environmental Sciences (including Ecology)
9. Mathematical Sciences
    - 9.1 Mathematics (pure/abstract/applied, including analysis, differential geometry and graphs)
    - 9.2 Operations Research
    - 9.3 Statistics (including mathematical probability, statistical mathematics and computing and graphics)
10. Materials Science
11. Meteorology
12. Microbiology (including Veterinary and Agricultural Microbiology)
13. Nutrition
14. Oceanography and Marine Sciences
15. Physics (including Biophysics and mathematical physics)
16. Space Sciences
    - 16.1 Astronomy
    - 16.2 Interferometry
    - 16.3 Remote Sensing
17. Zoology

B. Engineering and Information and Communication Technology

1. Aeronautical and Nautical Engineering
2. Agricultural Engineering
3. Architecture
4. Chemical Engineering
5. Civil Engineering
6. Computer Engineering
7. Computer Science
8. Communications Engineering
9. Earthquake Engineering
10. Electrical Engineering

11. Electronics Engineering
12. Energy Engineering
13. Environmental Engineering
14. Food Engineering
15. Forest Products Engineering
16. Geothermal Engineering
17. Industrial Engineering
18. Information Technology
19. Materials Engineering
20. Mechanical Engineering
21. Metallurgical Engineering
22. Mining Engineering
23. Nuclear Engineering
24. Structural Engineering
25. Textile Engineering

C. Medical Sciences

1. Basic Sciences
    - 1.1. Anatomy
    - 1.2 Epidemiology
    - 1.3 Medical Pathology
    - 1.4 Medical Parasitology
    - 1.5 Medical Microbiology
    - 1.6 Physiology
    - 1.7 Pharmacology
    - 1.8 Public Health
2. Clinical Sciences
    - 2.1 Medical (including Pediatrics and sub-specialties of Internal Medicine and Psychiatry
    - 2.2 Surgical [including subspecialties of Surgery, Obstetrics, Gynecology, Ear-Nose-Throat (ENT) and Ophthalmology Medical Biotechnology]
3. Health Related Sciences
    - 3.1 Dentistry
    - 3.2 Medical Technology
    - 3.3 Nursing
    - 3.4 Pharmacy
4. Medical Biotechnology
5. Medical Genetics
6. Rehabilitation Science
    - 6.1 Occupational Therapy
    - 6.2 Physical Therapy
    - 6.3 Rehabilitation Medicine
    - 6.4 Speech Therapy
    - 6.5 Speech Pathology

D. Agricultural Sciences

1. Agricultural Biotechnology
2. Agronomy

3. Animal Science
4. Entomology
5. Fisheries and Aquaculture
6. Food Science and Technology
7. Forestry and forest products
8. Horticulture
9. Plant Breeding and Genetics
10. Plant Pathology
11. Soil Science
12. Veterinary Medicine
13. Weed Science

E. Selected Fields of Social Sciences (per SCC Resolution No. 12 dated 8-20-98)

1. Anthropology
2. Communication
3. Demography
4. Economics
5. Geography
6. History
7. Linguistics
8. Political Science
9. Psychology
10. Public Administration
11. Social Work
12. Sociology

F. Others

1. Library and Archival Sciences
2. Scientific and Technical Documentation