

# ***Philippine Science Letters***

## ***- on the move***

**T**he number of submissions to Philippine Science Letters (PSL) and the number of accepted papers are increasing every year. We are proud to say that PSL has been recognized as eligible for the international publication award in UP and in several other universities in the Philippines. That recognition attests to the fact that the articles which are published in PSL describe scientific studies of local, as well as of international, interest. Moreover, our editorship and our Editorial Board are composed almost equally of individuals from the Philippines and from abroad. PSL articles are now cited in Google Scholar, so that our publications have become available to a wide audience. Our audience will be even wider when PSL becomes an SCI-indexed journal, which we hope will happen soon.

A good journal must have good, competent peer review. PSL fulfills this requirement. There are many well-published, internationally recognized Filipino scientists who are experts in their disciplines, based in the Philippines and abroad, who serve on the PSL Editorial Board and who serve as reviewers of manuscripts submitted to PSL. This is reflected in the composition of our newly reconstituted PSL Editorial Board to which we have recently invited new members.

Another new thing about PSL is the greater transparency in the review process. Indeed, many articles in PSL now include the identity of the reviewers. (We reveal the identity of the reviewers only when all of them agree to be identified.)

Further, we feel that experimental data, which constitute the basis for the results and conclusions drawn in a paper, should also be made available to the readers. PSL will henceforth suggest that authors submit as supplementary material their raw, experimental data, as well as details of the procedures used in the analysis of those data.

**PSL is dedicated to making a significant contribution to the improvement of Philippine science and to the training of young Filipino scientists.**

It is imperative that Filipino scientists validate their results and publicize their work to as wide an audience as possible. This can be done by publishing in international, peer-reviewed journals. PSL serves this purpose, not only because it now has an international audience and is peer-reviewed, but because it publishes work that may only be of local interest and which may not be acceptable to journals that publish mostly papers of worldwide interest. In this regard, PSL is particularly helpful to

young Filipino scientists, who may not yet have the resources to compete with the rest of the world, and those scientists, young and old, who choose to work primarily on local problems. Further, the fact that publishing in PSL is free and the articles are freely accessible to everyone allows Filipino scientists to make their work known to the rest of the world even if they do not have the means to cover publication costs that most journals charge and which could amount to several thousands of dollars.

Clearly there are research topics of interest and importance only to Filipinos and the Philippines. It is good for us to present them collectively in a Philippine journal and to showcase the work of Filipino scientists. In PSL, we have published articles on a variety of topics, including many that primarily concern Philippine bioresources.

When we started PSL in 2007, some people argued that there is no need to establish and support new science journals in the Philippines. Instead, it was suggested that Filipino scientists should simply publish in established, SCI-indexed journals. We argue otherwise. We believe that there is reason to promote a journal like PSL. We believe that Filipino scientists should publish in local journals, as well as in international, peer-reviewed journals.

In view of the grave deficiencies in the research infrastructure in the Philippines, many Filipino scientists collaborate with scientists abroad. Another reason to collaborate is the complex or multidisciplinary nature of most present-day scientific studies. Truly, the essence of Nature is in its complexity, requiring the use of a wide range of powerful instruments and techniques to allow the scientists of today to study the many aspects of a scientific problem, far beyond the simpler studies undertaken by most scientists in the past.

As the eminent Filipino scientist, Baldomero (Toto) Olivera, notes, the trend of scientific activity worldwide is towards collaboration. Seldom will one laboratory or one scientist have the expertise and the resources to pursue all pertinent experiments needed to address a scientific problem. One needs to find other scientists whose expertise complements one's own. Toto further states that while there are already many competent individual scientists and laboratory groups in the Philippines, we still lack the infrastructure – the existence and availability of groups that can complement one another to achieve success in a major multi-faceted study.

A consequence of the collaborative nature of most present-day experimental studies is that single-authored papers are fast becoming a thing of the past. Sadly, the resulting multi-authorship sometimes leads to quarrels among the contributors who think they should be first author - in a mistaken (in our opinion) belief that the order of authorship, or who is first author, is a big deal.

What has all this got to do with PSL? While the Philippines continues to invest in more scientific manpower and facilities that constitute the scientific infrastructure, PSL is there to accept all good scientific papers, even those with limited scope. PSL, among other journals, also tries to defuse the problems associated with multi-authorship by simply requiring that the contribution of the individual authors be clearly spelled out in the article.

In view of all the above, we believe that PSL provides the opportunity for Filipino scientists to showcase their work and join the arena of discussions among scientists all over the world.

#### **PSL and the question of us vs. them**

The Philippines is often compared with other ASEAN countries that have advanced economically and scientifically. The Philippines is viewed as the laggard, and some observers blame our poor science for the poor state of our economy. We believe that it is the other way around. It is our poor economy that is primarily responsible for our country's scientific woes (in science education, as well as in research and its translation into useful applications) - and our other woes.

For example, we are often compared with Singapore which has many times more scientists per capita and many times more scientific publications than the Philippines. What is not mentioned is the fact that science in Singapore is run to a considerable degree by foreigners who constitute more than 50 percent of the scientific workforce. Eminent foreign scientists work in Singapore because the Singaporean government lures them with financial packages that are way more attractive than those found in their country of origin. Large knowledge-based multinational companies cluster in Singapore, where they are given financial incentives. Singapore's progress is attributed to many years of good governance and political leadership, which has transformed it into an economic power - a leading business, banking and trading center in the ASEAN region and in the world. It is the financial resources of Singapore that drive science in Singapore, not the other way around.

In the Philippines, we are told that no amount of additional grant money is necessary since we have not learned to publish scientific results properly, that more money would mean a waste of more money. But the statistics and the facts elude our critics. The level of scientific R&D funding recommended by UNESCO is 1 percent of GDP. Most countries receive support in the level of 0.5 to 0.7 per cent of their huge GDPs. A number fulfill or even exceed the UNESCO recommendation. In the Philippines, scientific R&D support is a mere 0.2 per cent of our small GDP!

Why does UNESCO recommend large investments in R&D? Because scientific R&D is exploratory and high risk by nature, because R&D takes time, and time costs money; because scientists deserve good compensation and incentives in order to live decent, comfortable lives and not worry about the security and education of their families, because academic researchers must be relieved of heavy teaching responsibilities and be allowed sufficient time for research, and this requires more funds for each faculty member and funds for more faculty positions in the universities, and other practical reasons. In the Philippines, the salaries and other incentives that are provided our academics are way below those of our ASEAN counterparts and way below those of professionals in the private sector.

And unless sufficient infrastructure is in place, e.g., a critical density of expert scientists collaborating with one another and sustaining the mentoring of an assembly of MS and PhD students and researchers, a critical density of high level instrumentation and support facilities, the immediate availability of supplies and consumables, etc., good science cannot be pursued with ease. Data gathering and experimentation cannot be performed well and significant research results cannot be generated without the necessary infrastructure. All this requires an enormous amount of funding that the Philippine government can nowhere come close to providing.

An important case in point would be the need to study Philippine bioresources at the cellular, subcellular, biomolecular, and chemical levels. Unless high-level instruments, e.g., high-resolution and powerful microscopes, DNA sequencers, NMR (nuclear magnetic resonance) and mass spectrometers, which cost huge amounts of money, are made available to cell biologists, molecular biologists, biochemists, and chemists, progress in Philippine biomolecular science research cannot be achieved. To this day, such equipment is not yet fully available to Filipino bioscientists working in the Philippines.

Yet scientists and professors in our leading universities are incessantly denigrated for not producing enough high quality publications in high impact journals. International publications are considered the be-all and end-all of scientific activity. Actually, there is more good science being done in the Philippines, although not always documented as publications. This is scientific work that results in the public good, with direct benefits to Philippine communities.

Despite the relatively small amount of funding that Filipino scientists receive, some notably good science is now being documented and presented in PSL. The positive trend continues as more manuscripts are submitted to PSL with each coming year.

**Eduardo A. Padlan, PhD**  
**Gisela P. Padilla-Concepcion, PhD**  
**Editors**  
March 27, 2011