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## Brazilian Graduation Programs on Chemistry: New Paths?

Published by the Brazilian Federal Agency for Support and Evaluation of Graduate Education the triennium 2007-2009 results, it is important that, despite the improvement of its graduate programs, the Brazilian chemical community reflect upon the organization of most Chemistry area programs. In many of those, one can still notice the four major concentration sub-areas: Organic Chemistry, Inorganic Chemistry, Physical Chemistry and Analytical Chemistry. Such division reproduces the anachronistic Department model, under which most Brazilian universities are structured, even those positioned among the best 500 according to the international rankings.

Universities like Cambridge, in the United Kingdom, and many others of acknowledged international excellence, have been replacing the classical four sub-area division for major knowledge domains, which join their research groups in five large nuclei: Synthesis Chemistry, Computer Science, Chemistry of Materials, Atmospheric Chemistry and Biological Chemistry. Obviously, the model adopted in Cambridge cannot simply be transferred to the Brazilian chemistry graduate programs. Our reality greatly differs from that of the Great Britain. Nevertheless, we cannot perpetuate a system considered outdated by many simply because "one does not change a winning team"

The revolution undergoing the public system of higher education in Brazil, the expansion of which has renewed the permanent faculty of the graduate programs at very high rates, has not been followed by the necessary changes towards the leap to the future able to place Brazil in the select G-8 group. It is worth remembering that the rich nations are those in which chemistry plays an important role in the economy.

Domains such as the biomass, the pre-salt oil, new materials, natural fibers, renewable energy, biodiversity and medicine chemistry can exemplify "nuclei" able of bringing together chemistry graduate program research groups. Given to its dynamics and maturity, it is easier to implement changes in the graduate level than in the undergraduate one. But, if a satisfactory solution is not found for the drop in the chemistry undergraduate courses and, mainly, for the lack of math knowledge of the chemists, who graduate from most of the Brazilian universities, the graduate level will certainly decline .

Another important change that should be made in the chemistry graduate programs is a nationally unified applying-for system or, to begin with, a regionally unified one. Some knowledge areas have been successfully adopting such model, which brings many advantages in preventing intellectually unprepared students from receiving their Master or PhD titles in Chemistry or, even more serious, from receiving the Brazilian Federal Agency for Support and Evaluation of Graduate Education (CAPES) or National Council of Technological and Scientific development (CNPq) grants. Only the best students should be accepted for the graduate programs, which should be seen as a reward and to which they should have a full-time dedication.

There is a consensus in the scientific community that, among all accurate sciences, chemistry stands out as the one that has improved most both in number and in quality. Continuous actions should be taken by the Brazilian chemical community in order to become even better and capable of attracting foreign students the same way the developed countries do.

***Angelo C. Pinto - UFRJ***
*Editor JBCS*

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