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Proposal of a new graduate course in Science and Technology of Polymer in Brazil

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Abstract – A new graduate course is being proposed by Macromolecular Institute (IMA) and Chemistry School (EQ), both belonging to Federal University of Rio de Janeiro (UFRJ), in order to prepare good professionals in Polymer Science and Technology, to attend the Brazilian Industries in different fields.

The proposal of a graduate course in Science and Technology of Polymers is based on the recognizing that such course presents particular characteristics, including multidisciplinary, that are not found in any other graduate course already offered in Brazil.

Polymers are extensively used in several fields nowadays, so that not only Chemistries, Chemical Engineers, Industrial Chemistries, Materials Engineers look for knowledge in Polymer fields, but also Dentists, Architects, Pharmaceuticals, Mechanical Engineers, Designers among others do. Each one applies polymer in their specific activities.

Therefore, Polymer Science is a multidisciplinary science and a graduate course focused in such field will certainly attend the demand for professionals presenting a solid knowledge in this area, without requiring any other complementary formation as post-graduation, if the professional does not intend to work in research or development.

The Institute of Macromolecules (IMA) and the Chemistry School (EQ), both of Federal University of Rio de Janeiro (UFRJ), present the capacity to offer a widely and solid formation in macromolecules and polymers. IMA has been offering post-graduate courses in Science and Technology of Polymers for more than 40 years. EQ has been preparing professionals in Chemical Engineering and Industrial Chemistry for more than 70 years.

Due to the multidisciplinary characteristic in the macromolecules/polymers, the professionals that would be prepared by the proposal course are already necessary in several industrial activities, such as, Chemistry, Cosmetic, Pharmaceutical, Naval, Electro-electronic, Civil construction, Petroleum and Petrochemistry. Another great important activity is related to recycling polymers, already in course at IMA.

The aim of the proposal course is to prepare professionals having deep scientific and technological knowledge in Polymers Science and Technology, including preparing processes, polymer characterization, plastics, rubbers, fibers and thermosetting processing, in order to attend the technical-scientific demand of the Brazilian industries acting in such field. To achieve the so described aim, the proposal curriculum comprises not only fundamental knowledge in calculus, physics, chemistry, but also specific information about polymer synthesis, characterization, physical-mechanical and physical-chemistry properties, processing and recycling, including thermoplastics, rubbers, fibers and thermosetting resins. Besides, some basic information about economy, administration, industrial organization and industrial processes are also included.

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