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1- Field of cooperation: Nanotechnology-nanostructured polymers

I suggest co-operation with the Germans in the field of nanotechnology as emerging current field where nanotechnology is the alternative field of the old ones now in all industries in manufacturing functionalized materials with new potential properties.

We have to support our experience in manufacturing, characterization of the nanomaterials and their applications in various fields via the joint project with the high German technological experience in that field. One of the promising areas of that field is the nanostructured polymers. Several classes of nano-structured polymers are recognized such as dendrimers, hyperbranched and star polymers. Such polymers are used industrially in biologically active materials, drug delivery systems and pharmaceutical industries.

So, several projects can be expected in that field.

2-Field of cooperation

Glycopolymers

Generally, over the past few years, interest in the biomedical ⁽¹⁾ applications of polymers has grown considerably where biologically active polymers have to be tailored to fit the desired biological and physical properties. Glycopolymers are especially interesting in this regard where natural saccharides (carbohydrates) have been viewed as biomass, food, and raw materials. Recently, it has been revealed that saccharides and their derivatives have a wide variety of biological functions where it was discovered that carbohydrate units are vital elements in cell walls and the recognition of these carbohydrate residues is often used by viruses and bacteria to cause infection. On the other hand, glycopolymers refer to synthetic polymers containing sugar moieties which act as specific biological functional groups similar to those of naturally occurring glycoconjugates which play a decisive role in molecular recognition processes in which the oligosaccharide chain participates. Several projects are expected in the field of manufacturing, characterization and application of the glycopolymers and their composites which are expected to be applied in biomedical applications.

3-Field of cooperation:Share in financing and organizing

-The 2nd- international conference and general assembly of the global young academy- Alexandria- Egypt- 2012

- Initiative of the woman in science