

PL-1

SOCIAL RESPONSIBILITY IN NANOSCIENCE AND NANOTECHNOLOGY AN INTEGRAL APPROACH

Miguel Valcárcel, Encarnación Caballero

Departamento de Química Analítica. Grupo FQM 215 del Instituto Universitario de Investigación en Química Fina y Nanoquímica. Universidad de Córdoba. 14071 Córdoba. <http://www.uco.es/grupos/FQM-215/> e-mail: ga1vacam@uco.es / a32cadie@uco.es

Firstly, the main topic of this presentation is contextualized by defining the basic concept of Social Responsibility (SR) including keywords such as responsibility, stakeholders, quality of life, sustainability etc. that allows one to describe the cyclic characteristic of SR as well as the seven principles that support the right concept of it. The role of both international frameworks documents and written standards are also emphasized as milestones to implement a social responsibility management system in varied organizations.

Subsequently, *Social Responsibility in Science and Technology (SR S&T)* is defined in three complementary ways being two connotations the crucial aspects of them: the ethical behavior of people involved in R+D+I activities as well as their compromise to contribute to the betterment of the society and to help to meet the “Grand Humanity Challenges” of our time according to the Lund declaration. The internal and external connotations of SR S&T help to identify two groups of stakeholders and the corresponding generic action directives.

In spite of the great experience in the fields of environmental protection and remediation, again the same endemic error has been detected in the field of *Nanoscience & Nanotechnology (N&N)*: its exponential growth in the last decade has not been accompanied by enough efforts in order to know the impact of N&N on living organisms (nanotoxicology) and on the environment and society in general. This is the action field of *Social Responsibility in Nanoscience & Nanotechnology (SR N&N)*.

As in other emerging technologies, SR of N&N should be tackled using a proactive attitude since their principles and practices will be crucial to consolidate this increasing interest and doubly interrelated area.

The definition of an *integral model* that involves SR in Nanoscience and Nanotechnology in the sequence R+D+I allows one to define internal, external and mixed stakeholders of both Nanoscience centers and Nanotechnological industries. The definition of the interface between them constitutes one of the main contributions of this presentation.

SR in Nanoscience is a topic scarcely dealt with despite its importance. After defining the internal and the direct/indirect external stakeholders, eight strategic action lines in the context of internal connotations are proposed. As regards the external connotations, there are many possible action lines being the establishment of effective communication pathways and the increase of the citizens’ trust in Nanoscience, the most relevant ones.

SR in Nanotechnology is a well established topic. It can be defined as the awareness of the nanotechnological industries of the dual impact of nanoresidues and nanoproducts on society and the environment. It has internal and external stakeholders and it is possible to define internal and external connotations.

In summary, the most significant contributions of this presentation are, on the one hand, the definition of an integral model that embraces SR in Nanoscience and Nanotechnology and on the other hand, to develop SR in Nanoscience for the first time.