Describing Nanomaterials: Challenges and Approaches

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The science and engineering of developing and commercializing materials on the nanoscale are rapidly maturing. A number of such nanomaterials are already in commercial products such as cosmetics and food, and more are coming each year. Research on new nanomaterials is increasing, especially in areas such as pharmaceuticals, advanced engineered materials for electronics and structural applications and more. Yet today there is no adequate system for describing the broad range of materials that have nanoscale features (defined as approximately 1 to 100 nm. By a description system we mean the designation of those characteristics that can be used to distinguish one nanomaterial from another. CODATA and VAMAS (The Versailles Project on Advanced Materials and Standards) have established a joint working group to develop as complete set of requirements for a nanomaterials description system on a multi-disciplinary, multi-use perspective. In this talk we discuss the challenges this working group is addressing as well as approaches to address those challenges. The results will be directed to ISO TC 229 on Nanotechnology and other standards and regulatory organizations.