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Advanced Materials Science Research

Metallic Nanoparticles: Production of the Reduced or Reduce the Production?

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The Industrial sectors are joining hands with technology and marching ahead to create a smart world. The collaboration of the features of technology with the manufacturing firms is progressing in high fashion. The production processes are accelerated by the material input of various kinds and certainly, the smart materials occupy the prime position. The functional materials of various kinds are characterized by the attributes of property changeability, the competence of energy swapping, disjunct dimension or position and mutability. Industry 4.0 is embedded with various technology and it primarily focusses on a smart production system. It is the need of the production sectors get adopted into such a kind of digital ecosystem in this age of information and technology. The production environment must be circumscribed by the elements of technology and smart materials in the coming days to withstand the exponentially growing demands of the end customers. The smart materials are explored and the intensive investigation is undertaken by the researchers to make optimal decisions on the selection of suitable smart materials for making smart production system. Decision-making is a multidisciplinary area that comprises of mathematical methods and models to arrive at feasible decisions. Smart material selection plays a vital role in production systems as it is the initial step in the input phase. The quality of the products and the time efficiency are the outstanding objectives of production systems of diverse nature. It is very essential to design suitable multi criteria and multi-objective decision – making model for material selection to ease the process of smart production and this research work is a step towards it.

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Biography

Shampa Sen completed her Ph.D. in environment from indian institute of technology, guwahati, India. At present, she is the founding director of edumatter, a platform for academically guiding students of various backgrounds. She was the Associate Professor at school of bio-sciences and technology, VIT, Vellore, India. With extensive experience in academia, she has about 100 publications in the fields of biotechnology, drug design, nanobiotechnology and nutraceuticals. She has edited two books published by taylor and francis, "Nanotechnology in nutraceuticals: Production to consumption" and "machine learning and IoT: A biological perspective". She is actively involved in many professional development activities. Her research interests include biosynthesis of metallic nanoparticles, nanoparticles in biomedical and environmental applications, metabolic engineering, drug design, and computational biology. She is a life member of biotech research society, India (BRSI) and environmental mutagen society of India (EMSI) and member of international neural network society (INNS). She is also a fellow of the royal society of biology.

3rd International Conference on Materials Science and Research | November 18-19, 2020

Citation: Shampa Sen, Metallic Nanoparticles: Production of the Reduced or Reduce the Production?., Materials Research 2020, 3rd International Conference on Materials Science and Research, November 18-19, 2020, 09