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Fabrication of Exotic Materials by Selective Laser Melting

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Selective Laser Melting (SLM) is one of the additive manufacturing processes, which can produce a three dimensional part from a pre-designed computer aided design (CAD) data layer by layer. The major advantage of the SLM process is the added functionality the parts can have apart from design flexibilities. Moreover, a near net shaped component can be produced in a single step (theoretically) and the powder particles (raw materials) can be recycled without much wastage of material and is an environmental friendly process. Extensive research has been carried out in the last decade, focusing on the development of the process parameters for different classes of materials followed by the microstructure evaluation and the testing of their mechanical properties. Some studies has also focused on the mechanisms involved in the process and the laser metal interactions. In addition, researchers have also focused on the modelling aspects of the SLM process, right from the melt pool modelling, microstructural modelling, estimation of mechanical properties etc. The present talk will focus on the different classes of materials that can by fabricated by SLM. So lights will also be shed on the considerations that are taken into account in fabrication of exotic materials.

Biography:

Dr.-Ing. Prashanth Konda Gokuldoss working as an Associate Professor in Additive Manufacturing at the Department of Manufacturing and Civil Engineering, Norwegian University of Science and Technology, Gjovik, Norway. He has several years of research and industrial experience with nearly 70 research articles in peer scientific reviewed international journals. In addition, He has delivered 3 keynote lectures, nearly 15 invited presentations and over 25 contributed oral and poster presentations at various national and international Conferences, Symposiums and Seminars.