

## BULK NANOSTRUCTURED SPD-PROCESSED MATERIALS FOR ADVANCED APPLICATIONS IN ENGINEERING AND MEDICINE

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### Abstract

Nanostructuring of various metals and alloys by severe plastic deformation (SPD) paves the way to obtaining unusual properties that are very attractive for different applications. Especially significant progress has been made in recent years in this area when generation of new superior properties from nanostructuring has been demonstrated, such as very high strength and ductility, record-breaking fatigue endurance and superplastic forming capabilities. The innovation potential of this research area is outstanding, and the given talk is focused on such new innovative R&D works, for example an important role in this activity has been attributed to development of nanostructured metals and alloys for advanced structural and functional applications. The examples of such developments focusing on the application of nanoTi in medicine as well as superstrong light nanoalloys for advanced structural applications are considered and discussed in the present talk.

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