



MATERIALS SCIENCE

UNIVERSITY OF ROME
TOR VERGATA



MATERIALS SCIENCE SEMINAR

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Ruffino room second floor

Department of Industrial Engineering



ODS Steel for Nuclear Reactors

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Oxide dispersion strengthened (ODS) ferritic steels are candidate materials for applications in fission and fusion nuclear reactors. The strengthening of ODS steels is achieved by a uniform dispersion of very fine (10-50 nm) oxide particles (Y_2O_3 or TiO_2) in the steel matrix and by an ultra-fine ferritic grain microstructure. This talk will present a study of a Fe-14Cr-1W-0.4Ti steel strengthened by 0.3% of Y_2O_3 particles and produced by a low energy mechanical alloying, focusing the attention on the effect of the production method on the mechanical and microstructural properties.