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## **“Materials in nuclear environments”**

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Nuclear environments are challenging and scientifically interesting environments for any type of materials especially the structural materials used in nuclear facilities. While corrosion phenomena in advanced nuclear systems such as Lead-Bismuth cooled reactors or spallation sourced are challenging, radiation damage adds an additional dimension to materials degradation not found in other systems. Small scale materials testing and characterization (AFM, nanoindentation, TEM, LEAP) can contribute significantly to the basic understanding of materials in these environments and if combined with ion beam irradiation can also help in the materials selection and optimization process. In this presentation, an overview of the activities at UC Berkeley and Los Alamos National Laboratory are shown which will help to address challenges faced today in conventional and advanced nuclear systems.