Our research group has been using synchrotron radiation to characterize and optimize the nano and microstructure of advanced construction materials. I will discuss how three-dimensional tomographic images are providing fresh new insights into the complex nature of composite materials and how this information can be used in the design of improved materials. The lecture will also cover the exciting goal of producing x-ray images with a spatial resolution of 1 nm.

Prof. Paulo Monteiro is the Roy W. Carlson Distinguished professor in Civil and Environmental Engineering at the U.C. Berkeley. He has published over 235 archival papers and he co-authored a comprehensive textbook on concrete that is widely used and has been translated into Japanese, Chinese, Greek, Spanish, Portuguese, and Persian. He has received the following awards for this research: Premio Ari Torres, Brunauer Award and Wason Medal for Materials Research.

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