

Young Researcher Visitor Report

Visit to: University of California, Los Angeles (UCLA), Los Angeles, USA
Visit period: 15. June to 30. September 2019
Visitor: Martin Diehl (TCMPrecipSteel)
Host: Jaime Martian

The University of California, Los Angeles (UCLA) is a public university in California at the east coast of the USA. The campus is located in Westwood, a district of Los Angeles not far away from the famous Hollywood area. Roughly 45 000 students study at UCLA diverse subjects in social sciences, humanities, science, and engineering. For me, coming from the MPI für Eisenforschung focusing on metals research, it was interesting to get to know the variety of a large university with all its facilities for recreation, music, and entertainment.

The department of Materials Science and Engineering (MSE) is part of the Henry Samueli School of Engineering and Applied Science (HSSEAS). The 15 faculty members and 200 graduate students in the MSE department work on the understanding of microstructures and design of novel materials in various material classes. I was hosted by Professor Jaime Marian, who has a second affiliation with the department of Mechanical and Aerospace Engineering. He and his group work on understanding materials evolution under extreme conditions using multiscale computational modeling. A special focus of the research is the development and use of computational tools to study defects in metals. An example for this research with a strong overlap of interest with SPP1713 is the investigation of impurity–dislocation interactions via kinetic Monte Carlo (kMC) simulations in bcc metals such as Tungsten.

I took the opportunity during my stay in the USA to visit three conferences and discuss challenges in modeling thermo–chemo–mechanical interactions in applied materials with various researchers. To this end, I also presented my work at the Massachusetts Institute of Technology (MIT), the Texas A&M University, the Ohio State University and the University of Illinois at Urbana-Champaign. Last but not least, I could explore California and enjoy the beach and the nature and worked as a part-time biologist for urban ecology at the weekend.

I have to thank Jaime Marian and the UCLA team for the warm welcome and support during my stay and the DFG for the financial support.