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Dear colleagues,

In recent years the problems of modeling crystals containing dislocations, point defects, grain boundaries and describing the formation and evolution of microstructure attract attention of physicists, material scientists, and mechanical engineers due to the new interesting experimental and theoretical methods as well as the potential applicability in metallurgy and creation of new materials. Being encouraged by the successfulness of the previous Mini-Symposium in Berkley 2 years ago, I am organizing a Mini-Symposium on

“Dislocation Mechanics: Continuum versus Discrete Approach”

within 5th International Conference on Material Modeling (ICMM5) which will be held at *Palazzo Argiletum*, Rome, Italy, June 13-16, 2017. The mini-symposium will focus on recent theoretical, computational, and experimental aspects of dislocation mechanics. The problems of interest include, but are not limited to, continuum and discrete modelling of dislocations, disclinations, and distributed point defects, differential geometric models of defect mechanics, numerical simulations of defects in solids, atomistic aspects of defect mechanics. The topics will include a wide range of mechanisms and scales e.g. cross-slip, dislocation climb, dislocation pile-ups in fcc, bcc, and hcp crystals, incorporation of interface and grain boundary in continuum dislocation models, size-effect, formation and evolution of microstructure, statistical mechanics of dislocations and point defects et cetera.

In view of your great expertise in this fast growing field, you are cordially invited to participate in this Mini-Symposium. Please let me know whether you plan to participate, and if yes, send to me the tentative title of your talk.

With my best regards, KC Le.

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Recent publications:

- Stricker, M., Weygand, D., and Gumbsch, P., 2017. Irreversibility of dislocation motion under cyclic loading due to strain gradients. *Scripta Materialia*, 129, 69-73.

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