



[Dr. Ann Almgren](#)

Adaptive Mesh Refinement: Algorithms and Applications

**Dr. Ann Almgren, Senior Scientist
CCSE, Applied Mathematics and
Computational Research Division, and
Department Head, Applied Mathematics Dept.
Lawrence Berkeley National Lab, Berkeley, CA**

Adaptive mesh refinement (AMR) is a technique we use as a numerical microscope to zoom in on areas of interest in a computation to get more detail of what is happening in the simulation. In this talk I will describe in general terms how AMR works and how we use it effectively on today's supercomputers, and I will present examples from a wide range of applications.

Dr. Ann Almgren is a Senior Scientist in the Center for Computational Sciences and Engineering (CCSE) and the Department Head of the Applied Mathematics Department in Lawrence Berkeley National Laboratory's Applied Mathematics and Computational Research (AMCR) Division. Her primary research interest is in computational algorithms for solving partial differential equations in a variety of application areas. Her current projects include the development and implementation of new multiphysics algorithms in high-resolution adaptive mesh codes that are designed for the latest hybrid architectures. She is a SIAM Fellow and the Deputy Director of the Exascale Computing Program's AMReX Co-Design Center, serves on the editorial boards of CAMCoS and IJHPCA, and co-leads LBL's Computing Sciences Area Mentoring Program.

DATE: MONDAY, March 18, 2022

Seminar TIME: 4:00 – 5:30 PM

ZOOM LINK TO REGISTER FOR REMOTE ACCESS:

(US MOUNTAIN TIME)

<https://us06web.zoom.us/meeting/register/tZcrdeCsrj4qGtCAXWymaaf1VHflgtDd236Z>

CONTACT: computationalscience@utep.edu