Graduate Research Position in
dmathematical analysis of metamaterials

Objective: We are seeking a graduate research assistant (MS or PhD) with interest in mathematical research focusing on dynamics of engineered materials. Individuals with background (BS or MS) in Applied Mathematics and/or Physics are invited for consideration.

Project description: This research project is focused on a certain class of engineered materials (also known as metamaterials) with extraordinary characteristics related to wave shielding. The candidate will be involved in

- rigorous analysis of wave motion in advanced materials, including dynamic homogenization schemes and asymptotic analysis
- laser-based ultrasonic experiments aiming to validate the desired wave shielding or cloaking capabilities of such materials (see the below figure for a related ongoing experiment in our lab). The degree of involvement in this case depends upon the candidate’s interest in experimental research experience.

Instructions: Applications will be considered until the position is filled. The intended start date is Fall 2020 or after. If you are interested, please submit your CV and your unofficial transcripts to Dr. Fatemeh Pourahmadian at fatemeh.pourahmadian@colorado.edu.

Funding: This research position is funded for graduate students and include a full tuition coverage, health insurance, and a monthly stipend, including summer support.

Life at CU-Boulder: The University of Colorado Boulder is one of the most comprehensive and prestigious public universities in the United States. In particular, its graduate programs in Civil Engineering ranked 21 and in Applied Mathematics ranked 14 according to the U.S. News & World Report. The main campus is located at the heart of the Boulder metropolitan area, nestled at the base of Colorado’s Rocky Mountains. Boulder is the nirvana of outdoor activities because of its world-class destinations such as Eldorado Canyon, Chautauqua, and Valmont Bike Parks. Boulder is also home to many national laboratories and key tech/industrial companies such as NIST, NOAA, NREL, and Google.

Laser ultrasound for multiscale characterization of metamaterials