Open Positions for M.S./Ph.D. Student

TÜBİTAK 1001 Project

Multiscale Modeling of Carbon Nanotube Reinforced Polymer Composites

The objective of the project is to develop a multiscale numerical model to determine the mechanical behavior of the carbon nanotube (CNT) reinforced polymer composites under static and dynamic loadings. In accordance with this objective, the method to be followed consists of the steps; to develop the equivalent elastic model of a CNT, to develop a two phase model consisting of the CNT and the surrounding matrix polymer, to develop a polymer composite model reinforced with multi CNTs that have predefined orientation and length-scale distribution functions, to develop a CNT-polymer interface which allows slipping and separation and lastly to verify the model under static and dynamic loadings.

Requirements:

• Solid background in mechanics
• Being a self-learner and highly motivated

A background in one or more of the following areas would be desirable

• Finite element method
• ABAQUS
• Basic coding skills in at least one of the following languages, Fortran, C, C++, Python
• Constitutive modeling
• Composites
• Continuum mechanics

Supporting:

Student(s) will be supported by TÜBİTAK project up to 30 months.

If you are interested in position, please contact to Dr. Ercan Gürses