CENTER FOR INTELLIGENT MULTIFUNCTIONAL MATERIALS & STRUCTURES
TEXAS A&M ENGINEERING EXPERIMENT STATION

MATERIALS SCIENCE & ENGINEERING
TEXAS A&M UNIVERSITY

TEXAS A&M UNIVERSITY

Summer School on Computational Materials Science Across Scales

College Station, Texas, USA

July 23 – Aug. 4, 2017

The 6th summer school on Computational Materials Science will take place on the Texas A&M University campus in College Station, Texas. The school is organized by the Center for intelligent Multifunctional Materials and Structures (CiMMS) and the Department of Materials Science & Engineering. Lectures from previous schools can be found at http://cms3.tamu.edu/.

Purpose: To provide a platform for knowledge exchange and for academics as well as training for graduate students interested in the area of Computational Materials Science across multiple scales of space and time.

Objectives: At the end of this course, attendees should have a thorough overview of some of the most important tools currently in use to investigate materials phenomena at multiple scales, ranging from the continuum to the electronic structure level.

Structure: The School is organized in thematic sessions focused on different computational techniques. The themes will be organized in a top-down manner, starting with simulation tools at the continuum level, and finalizing the course with an overview of techniques that investigate materials at the electronic structure levels. A new module on Materials Informatics is included in the 2017 edition of the school.

The course duration will be 10 days. Morning sessions will consist of an overview of the method, with the afternoon sessions dedicated to hands-on computational laboratory activities.

Who should attend: The course should appeal to graduate students in the broader field of materials science with an interest in learning more about computational materials science.

Financial Support: A limited number of fellowships will be made available to qualified applicants, as follows:

International participants: flight up to $1,500, accommodations and registration fee.

Domestic non-TAMU participants: flight up to $500, accommodations and registration fee.

Domestic TAMU participants: registration fee.

Registration Fee: **Academic:** $500.00 **Industry**: $1,000 per module (3 days).

Contact Information:

Amine Benzerga (benzerga@tamu.edu)
Raymundo Arroyave (arroyave@tamu.edu)
Ankit Srivastava (ankit.sri@tamu.edu)
Xiaofeng Qian (feng@tamu.edu)
Olga G. Sauseda (ogsauseda@tamu.edu)

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Application

Applicant's Full Name: _____

Applicant's Email Address: _____

Applicant's Affiliation: _____

Applicant Status: MS ___ **PhD** ___ **Post Doc** ___ **Industry** ____ (Module) ___

Gender: M _____ **F** _____ (For lodging purposes of accepted applicants only)

1. **Area of Research:**

2. **Expected Outcome:**

Attach two reference letters with application (in a single PDF file named StudentLastName, StudentFirstName.pdf)

Email completed application and reference letters to ogsauseda@tamu.edu

Application deadline: ***May 1, 2017***

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Program Outline

Module 1: Continuum

Georges Chatzigeorgiou (ENSAM - ARTS ET METIERS ParisTech): Micromechanics of Heterogeneous Solids

Pedro Rivera (University of Cambridge, UK): Computational Thermodynamics/Kinetics

Jacques Besson/Yazid Madi (MINES ParisTech): Micromechanics of Fracture

Module 2: Mesoscale

Jon Guyer (National Institute of Standards and Technology, USA): Phase Field Method

Moono Rhee (Lawrence Livermore National Laboratory, USA): Discrete Dislocation Dynamics

Anter El-Azab (Purdue University, USA): Continuum Dislocation Dynamics

Module 3: Atomistic

Peter Entel (University of Duisburg-Essen, Germany): Quantum Mechanics

Module 4: Materials Informatics

Bryce Meredig (Citrine Informatics): Practical Materials Informatics with Citrination Platform

Turab Lookman (LANL): Advanced Materials Informatics for Optimal Materials Discovery and Design