

Society for the Advancement of Materials and Process Engineering New Jersey Chapter 35th Anniversary



Pleased to Present the Featured Guest Speaker for our September 6th Meeting:

Multi-Scale Modeling and Penetration Mechanics of Composites

Bazle Z. Haque
University of
Bridgewater Center for
Composite Materials

ABSTRACT

Recent research at UD-CCM is focused on the multi-scale modeling of composites from atomistic to structural levels. In this regard, molecular dynamic simulations have been conducted to study the nanomechanics of single wall nanotubes, and to develop a failure envelope for them with and without defects under combined torsional-axial loading. Classical micro-mechanics theory has been extended to determine the non-linear properties of carbon nanotube reinforced nanocomposites. Penetration mechanics of composites is not yet a fully understood subject. Two unique test methods, a quasi-static punch shear test and a direct-impact punch shear test have been developed for the ballistic penetration model.

BIOGRAPHY

Dr. Bazle Z. Haque received B.S. and M.S. degrees from Bangladesh University, an M.S. from Tuskegee University, and a Ph. D. from the University of Delaware. Currently a Scientist at UD-CCM, his research has included molecular dynamics, multi-scale modeling, experimental and computational impact physics, penetration mechanics, energy dissipating damage mechanisms of composites and sandwich structures, dynamic behavior of materials, Hopkinson bar experimental techniques, blast and ballistic impact, and processing & repair of composite structural armor.

MEETING DETAILS

Place: Bridgewater Manor, Bridgewater, NJ; (908) 658-3000

Time: 6:15 – 8:30

Cost: \$10.00 Advanced Registration at Door; Students – Free

This meeting is open to all SAMPE members, spouses, guests, and other interested parties.

Reservations please contact John Sampe at 973-248-5885 or by email at sampejohn@yahoo.com by noon Wednesday before the meeting.

Directions to Bridgewater Manor: From I-95 north, take exit 22A (206 south). At the first lights, Bridgewater Manor is on route 206. Turn right on 206 south, take exit 22. Make right on 202/206 south, take exit 22. Make right on ramp. Make next left, a jughand on 202/206. At the third lights, Bridgewater Manor is on the right.



2013 Meeting Schedule

October 8, 2012 – Multi-Scale
and Penetration Mechanics of
Composites, Bazle Z. Haque,
University of Delaware Center for
Advanced Materials

October 15, 2012 - TBD

October 22 – 25, 2012 – 44th International
Technical Conference.
Charleston, SC. Sponsored by NJ Chapter

October 31, 2012 –TBD

November 6, 2012 – TBD

February 7, 2013 – TBD

March 7, 2013 – TBD

April 4, 2013 – TBD

May 2, 2013 – TBD

May 6-9, 2013 – 57th Intl SAMPE Symp &
Exhib, Long Beach Convention Center,
Long Beach CA

June 6, 2013 – TBD

July , 2013 – 30th NJ SAMPE
Tournament, Picatinny Arsenal

Please Note:

The NJ chapter is sponsor of the
International SAMPE Technical
Conference, Charleston Con
vention Center, Charleston, SC. – Oct
ber 22-25, 2012.



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