

# MECHANICS OF 2D MATERIALS AND 3D COMPOSITES

*N. M. Pugno*

Laboratory of Bio-Inspired & Graphene Nanomechanics, Department of Civil, Environmental and Mechanical Engineering, Università di Trento, via Mesiano, 77, I-38123 Trento, Italy,  
Center for Materials and Microsystems, Fondazione Bruno Kessler, Via Sommarive 18, I-38123 Povo (Trento), Italy,  
School of Engineering & Materials Science, Queen Mary University of London, Mile End Road, London E1 4NS, UK.  
[nicola.pugno@unitn.it](mailto:nicola.pugno@unitn.it)

The rapid development of synthesis and characterization of graphene, other 2D materials and related 3D composites as well as unprecedented computational power and theoretical advances have brought forth a new era of materials research in which experiments, simulation and modeling are performed side by side. Accordingly, this talk aims to present an overview of our recent studies of the mechanics of graphene, other 2D materials (e.g. fracture, deformation and friction) and related 3D composites (e.g. bio-inspired, hierarchical and self-healing). Finally, we will present recent results on spider silk inspired fibers with unprecedented toughness.

## References

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