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**Dmitry Golovaty\*** ([dmitry@uakron.edu](mailto:dmitry@uakron.edu)), Department of Mathematics, The University of Akron, Akron, OH 44325-4002. *Euler elastica as a  $\Gamma$ -limit of discrete bending energies of one-dimensional chains of atoms.*

I will discuss a one-dimensional atomistic model that describes the cross-section of a graphene sheet as a collection of rigid links connected by torsional springs. I will use a  $\Gamma$ -convergence argument to rigorously justify an upscaling procedure for the discrete bending energy of the atomistic model. The argument establishes that as the bond length in the atomistic model goes to 0, the bending energies  $\Gamma$ -converge to Euler's elastica. This is a joint work with Malena Espanol and Pat Wilber. (Received July 20, 2016)