Materials and structures at the nanoscale often have unique mechanical, electronic, or optical properties. With emergence of various novel nanoscale materials and structures over the past decades, traditional testing and characterization techniques may not be suitable any more especially when structures are formed with sizes comparable to any of many possible length scales. In this special issue, original research articles were selected which cover the mechanical, electrical, thermal, optical, and biological properties of a broad range of nanomaterials. We hope the special issue will stimulate finding of new phenomena and properties and developing novel techniques for testing and characterization of nanomaterials.

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