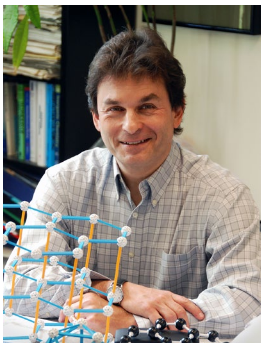
Richard B. Kaner



Richard Kaner received a Ph.D. from the University of Pennsylvania in 1984 working with Prof. Alan MacDiarmid (Nobel Laureate 2000, deceased). After postdoctoral research at Berkeley, he joined the Univeirsity of California, Los Angeles (UCLA) in 1987, earned tenure in 1991, became a full professor in 1993, a Distinguished Professor in 2012 and was appointed to the Dr. Myung Ki Hong Endowed Chair in Materials Innovation in 2017. He has published over 400 papers in top peer reviewed journals and holds 33 U.S. patents. According to the most recent Thomson-Reuters rankings, he is among the world's most highly cited authors. Professor Kaner has received awards from the Dreyfus, Fulbright, Guggenheim, Packard and Sloan Foundations along with the Materials Research Society Medal, the Royal Society of Chemistry Centenary Prize, the Chemical Pioneer Award from the American Institute of Chemists and the American Chemical Society's Buck-Whitney Research Award, Tolman Medal and Award in the Chemistry of Materials for his work on refractory materials including new synthetic routes to ceramics, intercalation compounds, superhard metals, graphene and conducting polymers. He has been elected a Fellow of the American Association for the Advancement of Science (AAAS), the American Chemical Society (ACS), the European Academy of Sciences, the Materials Research Society (MRS) and the Royal Society of Chemistry (FRSC).

Graphene for Energy Storage

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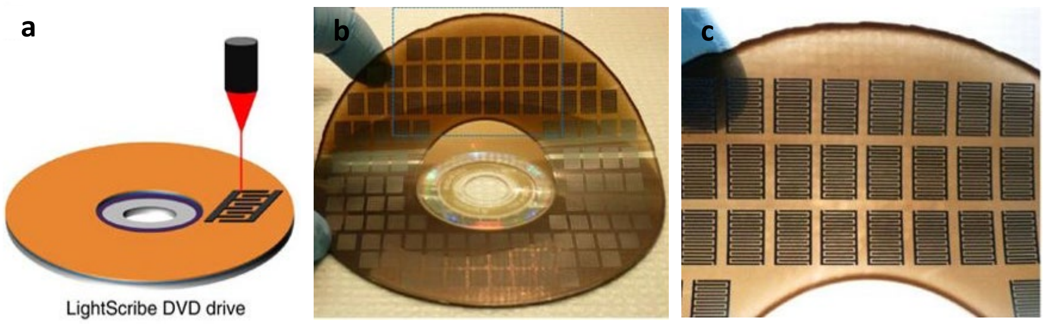
Graphene is the ultimate two-dimensional material consisting of a single layer of sp^2 hybridized carbon. A facile, inexpensive, solid-state method for generating, patterning and electronic tuning of laser converted graphene will be discussed (**Figure 1**). Briefly, graphite can be converted into graphene oxide (GO) sheets, which readily disperse in water, and can then be reduced by various methods. Due to its unique ability to be solution processed and patterned, GO can be laser reduced to graphene directly onto various substrates without masks, templates, post processing, or transfer techniques. This work paves the way for the fabrication of inexpensive electrochemical energy storage devices that combine the energy density of batteries and the power density of capacitors.

Figure 1 (a) Schematic showing the fabrication process of a graphene micro-supercapacitor using a



Light Scribe DVD drive. **(b,c)** This technique can produce more than 100 micro-devices on a single run and can be produced on virtually any substrate.