The Nano Energy Lab in the Department of Mechanical Engineering at the Carnegie Mellon University has multiple PhD student openings in Fall 2015. We are particularly interested in the prospective students with background/experience in the following areas:

(1) **Micro/nanofabrication.** We seek highly motivated students with strong experimental skills, especially in micro/nanoscale design and fabrication. The students should have a background in one of the following areas: applied physics, electrical/mechanical engineering, and materials science. Our research focuses on micro/nano fabricated thermal/mechanical/electrical devices, graphene/carbon nanotube based photonic sensors/biosensors, etc. Knowledge/Experience is desired but not limited to: photolithography, electron beam lithography, scanning electron microscopy, focused ion beam, atomic force microscopy, transmission electron microscopy, physical/chemical vapor deposition, wet/dry etching, etc.

(2) **Nanophotonics.** We seek highly motivated students with strong theoretical backgrounds in optics/photonics and proficient scientific programming skills. Our research focuses on the following topics: (1) control/engineer the chaotic optical emission (e.g. thermal radiation in the near-field/far-field, LED, fluorescence, etc.); (2) next generation solar/thermal energy harvest system; (3) optical imaging/sensing in the infrared and THz range. We welcome the applications from students with backgrounds, such as physics, computer science, mechanical/electrical engineering, materials science, etc. Knowledge/Experience is desired but not limited to: (1) electrodynamics, optics, nanophotonics, plasmonics, metamaterials, quantum optics; (2) statistical physics, non-equilibrium fluctuation processes; (3) electromagnetic numerical simulation skills in FDTD, FEM, MoM; (4) scientific programming skills in C/C++, Python, etc., and parallel computing.

Applicants should send a full CV via email (please only send one email) to Professor Sheng Shen (sshен123[at]gmail.com).