



NEBRASKA CENTER FOR MATERIALS AND
NANOSCIENCE
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Applications of Femtosecond Laser-induced Nanowelding and Thermal Nano-Sintering for SERS, Sensing, and Flexible Electronics Packaging

Nanojoining, a burgeoning research area, is a key step in the fabrication of complicated nanodevices with functional prefabricated components. Femtosecond laser irradiation is promising to weld metal nanoparticles through non-thermal ultrafast melting. On the other hand, nanoparticles with different shapes show variable thermal stabilities and sintering behaviours. In this talk, we present nano welding of Ag/Au nanoparticles irradiated by femtosecond laser pulses and low temperature sintering of self-assembled Ag nanoparticles films. The initial applications of joint nanoparticles are displayed in surface enhanced Raman scattering, electronic sensing and flexible electronics packaging.

Prof. Anming Hu received his first Ph.D degree from the Institute of Physics, Chinese Academy of Science in 1997 and his second Ph.D degree from the Department of Physics and Astronomy, University of Waterloo in 2008, after which he joined the Department of Mechanical and Mechatronics Engineering, University of Waterloo as a research assistant professor. His research focuses on laser-nanomaterial interactions, nanofabrication and nanojoining for water treatment, photo-voltaic, and plasmonics.

Friday, October 15, 2010

2:00 p.m.

237 West Scott Engineering Center

**Host:
Prof. Yongfeng Lu
Electrical Engineering**

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