



Surface enhanced Raman Spectroscopy for chemical and biological detection

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ROOM CHANGE – EAS 330, Time 11am – ROOM CHANGE

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Surface enhanced Raman spectroscopy (SERS) has been gaining widespread interest due to improvements in instrumentation, nanofabrication, sensitivity and reproducibility. Recent experiments have shown enormous SERS enhancements which enable the detection of single molecules on roughened surfaces of gold or silver colloids. However, SERS has been limited for its difficulty of obtaining reproducible substrates and its localized plasmons or hot spots occurring randomly across the SERS substrate. This presentation will discuss recent advances in nanofabrication of functionalized SERS substrate materials for improved sensitivity and reproducibility. These SERS substrate materials may find wide applications in areas of chemical and biological detection, national security, and analysis of environmental pollutants.

Dr. Baohua Gu is a senior research staff and group leader in the Environmental Sciences Division at the Oak Ridge National Laboratory (ORNL). He received his Ph.D. in Environmental Chemistry from the University of California, Berkeley in 1991 and joined ORNL in 1992. He is one of the inventors of four patents and the winner of the 2004 R&D 100 Award related to the development of highly-selective, regenerable ion-exchange technology for treatment of perchlorate contaminated water. His major research interests include biogeochemical reactions and transformation of environmental pollutants, nanomaterials synthesis, spectroscopic studies, treatment and detection of environmental pollutants.

Light refreshments will be served prior to seminar



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