



DR. BHANU P. S. CHAUHAN

Engineered Nanomaterials Laboratory, Department of Chemistry,
William Patterson University, Wayne, NJ

**“SILICON AGENTS FOR SELF-ASSEMBLED METALLIC
NANOPARTICLES AND INTRODUCTION TO THE
MS PROGRAM IN MATERIALS CHEMISTRY AT WPU”**

**September 20th, 2019 ~ 11:30AM
Life Science Center II, Room 130**

Abstract: In recent decades, electrical, optical, catalytic and magnetic properties of self-assembled novel metal nanoparticles have been at the forefront of nanochemical research due to their promising applications in the field of chemical and biological sensing, biomedicine, Raman scattering, catalysis and surface plasmonics. Programmed assemblies of biopolymers and well-defined synthetic copolymers have been used as stabilizing and morphology driving agents to produce organized one-dimensional (1D), two-dimensional (2D) and three-dimensional (3D) assemblies. Our group has established that silicon based stabilizing agents can provide a good balance between stability and reactivity for the nanoparticles. In addition, added advantage of our system has been that the hydrosiloxanes can reduce metal complexes to produce nanoparticles, avoiding use of additional reducing agents. In this presentation, we will present our recent results¹ related to silicon monomer and silicon polymer stabilized assemblies of metallic nanoparticles. We will describe a new approach to self-assembled magnetic nanoparticles and demonstrate the unique activity of silicon based agents to transfer self-assembled gold nanoparticles from aqueous to organic solutions.

FALL 2019 CHEMISTRY SEMINAR SERIES

**HOST:
DRS. JAEKLE &
GALOPPINI**

**COFFEE SOCIAL
11:00 AM
OLSON HALL, 338**

**ALL THOSE
INTERESTED ARE
WELCOME TO
ATTEND**

RUTGERS
UNIVERSITY | NEWARK

**DEPARTMENT OF
CHEMISTRY**

73 Warren Street, Olson Hall
Newark, New Jersey

<https://sasn.rutgers.edu/chemistry>