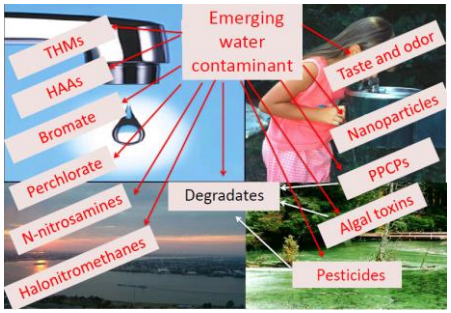
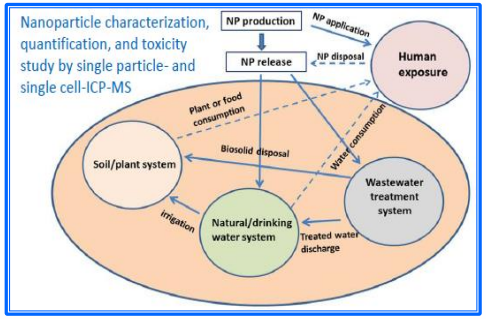
DEPARTMENT OF CHEMISTRY

Bioanalytical and Environmental Analyses

Research Focus

- Development of analytical methods for applications in life science, biomedicine, and environmental pollutants
- Drinking water quality monitoring and improvement
- Biomarker discovery including cancer biomarker, traumatic brain injury (TBI) biomarker, seed quality biomarker, etc.
- Nanoparticle characterization and quantification by cutting edge single particle- and single cell-ICP-MS and there novel applications in life science, food safety, emerging environmental contaminant, etc.
- State-of-the-art instrument development and testing for biomedicine, life science, and environment





Contact Information

Honglan Shi, Ph.D.
Research Professor
Department of Chemistry
Email: honglan@mst.edu
Phone: 573-341-4433

Research Funds

- National Institute of Health
- National Science Foundation
- Missouri Department of Natural Resources
- Environmental Protection Agency
- Leonard Wood Institute (DoD)
- Water treatment facilities
- Industries

Keywords

Bioanalysis; advanced instrumental analysis; single cell- and single particle-ICP-MS, environmental contaminants; water disinfection byproducts (DBPs); harmful algal bloom; biomarker

Significant Achievements

- Faculty achievement award, Missouri S&T, 2012, 2014, 2016
- Total >60 peer reviewed journal publications in recent 5 years
- Total >100 conference presentations in recent 5 years

Potential Collaboration fields

- Broad fields that need analytical quantification and characterization; instrument development; nanoparticle analysis and toxicity study; biomarker discovery

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