

## Chemspec Europe

**18-19 June 2014, Budapest**

PhosphonicS

Title: Functionalised Silicas – Tools for Sustainable Chemistry

Speaker: Dr Sophie Purser, PhosphonicS

### *Abstract for the conference*

There continues to be a strong demand for precious metals across a diverse range of industries. The special chemical properties that they impart on a number of chemical processes has cemented their place in the development of new technologies and looks set to do so well into the twenty-first century.

The recycling of precious metals is becoming ever more important largely due to their relative scarcity and the high cost of their extraction from nature. Many companies are seeking more efficient methods of recovering every last trace from their processes, both in the production of clean products and in treating waste.

Using patented technology, PhosphonicS specialises in capturing precious metals from industrial processes by adsorption onto a silica matrix which has been chemically modified to afford multiple binding sites for the metal. Silica is a very suitable material upon which to act as a framework for a diverse array of chemical streams as it doesn't swell, possesses a high surface area due to its high porosity and can pack well allowing good flow characteristics.

The main driving force for treating waste streams containing these precious metals, which are often present in parts per million quantities, is to recover the value of the precious metal that would otherwise be lost. Concentrating precious metals onto a solid surface is an efficient way of significantly reducing the volume of material to be treated at a metal refiner and the cost savings associated with this treatment can add value to a company's waste management profile.