

# Focus on CSIR Research in Water Resources

## South African Mercury Assessment (SAMA) Programme

### SAMA Focus:

Mercury pollution is a world-wide problem requiring attention at global, regional and national levels. Various anthropogenic activities release mercury into the atmosphere. It can occur as both elemental and oxidized forms, and is removed from the atmosphere by both dry and wet deposition onto land, freshwater and marine resources. Mercury can also be washed off the land (via runoff) into local water resources. In water resources mercury is quickly converted into the more toxic methylmercury form, which bioaccumulates readily in the aquatic food chain. This can pose a serious health risk to humans who may consume contaminated aquatic organisms such as fish. All of the above forms of mercury exhibit neurotoxic effects in humans, and this is particularly problematic in children and developing foetuses.

The SAMA Programme aims to develop a framework for Mercury research in South Africa. The research areas addressed in the SAMA Programme include, a) regulatory framework; b) analytical methods; c) source, speciation, fate, and transport; and d) impacts (ecological and human health).

### SAMA Mission:

The mission of the SAMA Programme is to be leaders in innovative, directed research on mercury as a global pollutant that influences policy development and actions in southern Africa.

### SAMA Goal:

To provide a platform for co-ordinating research and action on mercury as a global pollutant in southern Africa.

### Objective(s):

The SAMA Programme will:

- co-ordinate and facilitate high-quality research relating to sources, speciation, fate, and transport of mercury in the envi-

ronment; impacts of mercury on terrestrial and aquatic ecosystems, and human health; and mercury emission mitigation options.

- ensure that research results are evaluated scientifically; disseminated to stakeholders; contribute to advisories and mitigation controls; and contribute to effective management of natural resources.
- bring its research activities to the public's attention in a scientific, responsible and appropriate manner to raise awareness regarding mercury, particularly its potential impacts on terrestrial and aquatic ecosystems, and human health.

### Benefits:

The SAMA Programme will:

- Provide the central domain for technical information on mercury pollution and its biogeochemistry in South Africa;
- Guide the development of advisories and mitigation controls relating to mercury pollution in South Africa; and
- Benefit South Africa's knowledge and institutional base by building capacity in mercury research, policy development, and mitigation controls.

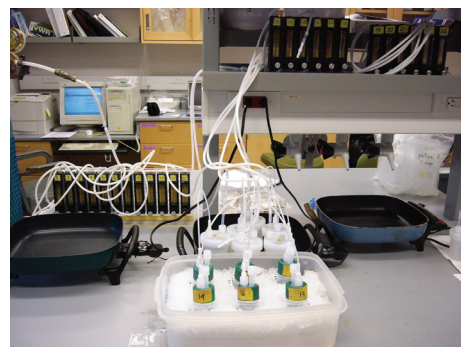
### Applications:

Emphasis will be on providing opportunities for collaboration and training for young scientists. Ultimately, the SAMA Programme will maintain:

- A record of qualified research scientists, their areas of expertise and organisations;
- A register of accredited laboratories to undertake reliable mercury analyses;
- An online system to access relevant research project reports undertaken; and
- An up-to-date and prioritised listing of required research.

### Clients/Partners:

The SAMA Programme is based on partnerships between stakeholders (public, academia, and parastatal organisations), government and non-governmental organisations (local and international).



### Contact details:

CSIR Natural Resources and the  
Environment

Dr Joy Leaner  
Senior researcher

Tel +27 21 888 2441  
Fax +27 21 888 2524  
Email [jleaner@csir.co.za](mailto:jleaner@csir.co.za)

[www.csir.co.za](http://www.csir.co.za)