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# Decontamination of Mercury Polluted- Water and Agricultural Soils in Ghana using Nanotechnology

*A Data Management Plan created using DMPonline*

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Template: Royal Society

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Grant number: LAF\R1\180018

## Project abstract:

The proposed research project aim at removing toxic elements that pollute water bodies and soil as a result of illegal mining activities in Ghana. One major example of such toxin is Mercury. Mercury is a dangerous chemical element, that when it enters a human body will cause death. However, Mercury is used to extract gold from gold ores, and unfortunately, it is not well handled by illegal miners, and it finds its way into rivers and soils which end up poisoning the food chain. Very small particles, called Nanoparticles, can be used to efficiently remove Mercury from Mercury polluted water and soil. However, the method and materials used to make good quality nanoparticles are expensive and less environmentally friendly and will limit the use of nanoparticles in treatment of water and soil contaminated with Mercury. Our research seek to use simple and relatively cheaper and environmentally friendly materials in the preparation of good quality nanoparticles for mercury removal from water and soil.

Last modified: 04-03-2019

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## Manchester Data Management Outline

- Yes

Royal Society

- No (please provide details of the lead institution below and your role in the project)

KNUST Ghana

- Acquire new data
- Dropbox for Business
- < 1 TB
- No
- < 5 years
- No sensitive or personal data

n/a

- No
- No
- No
- No

DJ Lewis

04/03/2019

## Project details

The proposed research project aim at removing toxic elements that pollute water bodies and soil as a result of illegal mining activities in Ghana. One major example of such toxin is Mercury. Mercury is a dangerous chemical element, that when it enters a human body will cause death. However, Mercury is used to extract gold from gold ores, and unfortunately, it is not well handled by illegal miners, and it finds its way into rivers and soils which end up poisoning the food chain. Very small particles, called Nanoparticles, can be used to efficiently remove Mercury from Mercury polluted water and soil. However, the method and materials used to make good quality nanoparticles are expensive and less environmentally friendly and will limit the use of nanoparticles in treatment of water and soil contaminated with Mercury. Our research seek to use simple and relatively cheaper and environmentally friendly materials in the preparation of good quality nanoparticles for mercury removal from water and soil.

RS Guidelines

## Responsibilities and Resources

Michael Baah Mensah

Dropbox for business service supplied by UoM

## Data Collection

Experimental data

Laboratory work /

Characterisation facilities

## Documentation and Metadata

None

## Ethics and Legal Compliance

none expected

Through UMIP

### **Storage and backup**

Dropbox for business servive via UoM

Dropbox guest access

Host is DJ Lewis

### **Selection and Preservation**

none in particular

Repository upon publication

### **Data Sharing**

Repository

No