

## ISEF Sample Abstract & Certification

### Category

Pick one only—  
Mark an “X”  
in box at right

|   |                          |
|---|--------------------------|
| Animal Sciences                                 | <input type="checkbox"/> |
| Behavioral & Social Sciences                    | <input type="checkbox"/> |
| Biochemistry                                    | <input type="checkbox"/> |
| Biomedical & Health Sciences                    | <input type="checkbox"/> |
| Biomedical Engineering                          | <input type="checkbox"/> |
| Cellular & Molecular Biology                    | <input type="checkbox"/> |
| Chemistry                                       | <input type="checkbox"/> |
| Computational Biology and<br>Bioinformatics     | <input type="checkbox"/> |
| Earth & Environmental<br>Sciences               | <input type="checkbox"/> |
| Embedded Systems                                | <input type="checkbox"/> |
| Energy: Sustainable<br>Materials and Design     | <input type="checkbox"/> |
| Engineering Technology:<br>Statics and Dynamics | <input type="checkbox"/> |
| Environmental Engineering                       | <input type="checkbox"/> |
| Materials Science                               | <input type="checkbox"/> |
| Mathematics                                     | <input type="checkbox"/> |
| Microbiology                                    | <input type="checkbox"/> |
| Physics and Astronomy                           | <input type="checkbox"/> |
| Plant Sciences                                  | <input type="checkbox"/> |
| Robotics & Intelligent<br>Machines              | <input type="checkbox"/> |
| Systems Software                                | <input type="checkbox"/> |
| Translational Medical Science                   | <input type="checkbox"/> |

Drinking water treatment especially at the point-of-use setting is vital for safe consumption and should be in accordance with EPA and WHO standards. Reduction in turbidity is one of their processes that allow water to be safe on a household level. MO is a sustainable, low cost, locally available, simple, reliable, acceptable, eco-friendly and household level point of use water treatment technology in order to reduce turbidity and pathogens in drinking water. Implementation of a local f-sand filter involves the creation of positively charged “f-sand” with sand or model “sand beads” and moringa oleifera particles. Solar disinfection is a low-cost effective disinfection method that involves the prolonged exposure of water in polyethylene terephthalate (PET) bottles. This study aims to find the extent to which the optimum dosage of moringa oleifera in an f-sand filter along with solar disinfection reduces turbidity and e. coli for drinking water and its adaptability in the point-of-use setting.

- As a part of this research project, the student directly handled, manipulated, or interacted with (check all that apply):  
 human participants    potentially hazardous biological agents  
 vertebrate animals    microorganisms    rDNA    tissue
- This abstract describes only procedures performed by me/us, reflects my/our own independent research, and represents one year’s work only.  
 yes    no
- I/We worked or used equipment in a regulated research institution or industrial setting.  
 yes    no
- This project is a continuation of previous research.  
 yes    no
- My display board includes non-published photographs/visual depictions of humans (other than myself)  
 yes    no
- I/We hereby certify that the abstract and responses to the above statements are correct and properly reflect my/our own work.  
 yes    no

