

## TOX detection using ICP-MS

### *Detection of Bromine in water samples*

- Remove samples from fridge, wait till they attain room temperature
- Start the ICP-MS instrument.
- Make sure the ARGON gas flow is ON!
- The gas pressure should be more than 60psi
- Start the plasma. Wait for the READY and PLASMA lights to be green
- Make sure the vacuum pressure is  $<10^{-5}$  torr.
- The tube should be in the MilliQ water beaker
- Check the daily performance values for the instrument. The tube should now be placed in the daily performance solution beaker. The counts obtained in the result should be as follows-

Mg>50,000

In>250,000

Ur>200,00

CeO<0.031

If they are not optimize the flow of argon gas according to the values obtained

### *To run the samples:*

- Choose METHOD which you want to use with respect to the analyte of interest
- Add 0.1% TMAH for testing bromine in water samples. For Iodine use 2% HNO<sub>3</sub>.
- Connect the tube to the autosampler
- Make sample list
- Arrange samples accordingly
- Start running the samples
- AUTOSTOP the instrument

For the full presentation, see:

[http://www.ecs.umass.edu/cee/reckhow/courses/772/Labs/ICP-MS Mahajan Slides.pdf](http://www.ecs.umass.edu/cee/reckhow/courses/772/Labs/ICP-MS%20Mahajan%20Slides.pdf)

For more on the ICP/MS, see:

<http://www.ecs.umass.edu/eve/facilities/equipment/ElanDRC.html> and  
<http://www.ecs.umass.edu/eve/background/methods/chemical/ICPMS.html>