

## What to Know to Use the ICP

- What elements are you trying to measure?
- What are the approximately concentration ranges of those elements?
  - Consult the list of detection limits on our website to see if your concentrations are high enough. For best results, the minimum concentration should be around 100x the listed detection limit.
- How much sample volume will you have available?
  - You should have at least 5 mL per sample.
- What is your matrix?
  - We generally use 2% nitric acid. Please keep your matrix consistent throughout your blank and standards.

## How We Use the ICP

- You will be trained to use the ICP yourself; we do not perform analyses for you.
  - The first training session will take around 2-4 hours depending on the number of samples you have that day (anticipate about 6-12 samples per hour, less for your first time using the ICP).
  - The next time you use the ICP, a refresher of how to use the instrument should take about half an hour.
  - After about 5 uses, you should be able to use the ICP on your own with minimal help. Wenbo is always on call to help if you need it!
- We bill your PI/lab monthly. You can find the recharge form on our website if your lab has never used the facility, or pick one up when you visit.
  - You are charged \$80 for the first hour and \$58 per hour for the rest hours the plasma is turned on. Please sign in and out of the binder in the lab whenever you are using the instrument so we can accurately bill you.

## Common Mistakes & How to Avoid Them

- Forgetting to bring the blank or all standards
  - Always bring plenty of volume of each!
- Forgetting to bring standards and samples to the training session
  - We will train you using your own samples, so please bring some for analyzing during training.
- Not using a consistent matrix throughout the blank and standards
  - Keep your matrix consistent for proper calibration.
- Using all the same concentration for each element in your standard

- Each element should have a unique concentration depending on what your samples will most likely show. The sample range should fall somewhere between your first and second standards' concentrations.
- Giving each element its own standard
  - The beauty of the ICP is that it can measure up to at least 21 elements at once! Please make one set of standards which have all of your elements in one solution to save time during calibration.