# The hallmarks of a great scientist

What makes a good junior scientist?

- Do you know what a research team is looking for in a junior scientist when selecting applicants for an open position?
- Why should any research team pick you?
- These are important, but not the most important:
  - How "smart" are you? What was your GPA?
  - What school did you attend? Who were your mentors?
  - Are you a quick study? Do you have a great memory?
  - What awards or intellectual competitions have you've won?
  - What great personal "story" you have?
  - What makes you special & unique?
- Why should people think you'll be a helpful colleague?
  - Will you earn your pay? How will you earn respect?

What makes a good junior scientist?

- Everybody has good (necessary) letters of recommendation
- Your personal life story just isn't that interesting
- Being unique doesn't make you special
- You are too young to compete on hard science skills alone
  - You have no published (peer reviewed) original papers
  - You have no discoveries (laws) or inventions to your name
  - You have not been cited in any premier journals or patents
  - You have few hours in practical laboratory experience
- How can you possibly add value at this young age?

What makes a good junior scientist?

#### 1. Because you effuse boundless natural curiosity

- You care enough to ask & pursue the how & why
- You are a lifelong learner driven to constantly upgrade your skills to remain relevant as science & technology advance

#### 2. Because you are a keen observer

- You notice the littlest things & can see what others dismiss as just random or trifle – details matter to you
- You cherish & explore the unexpected connections between diverse fields

### 3. Because you can tolerate being lost the longest

- Your eyes don't glaze over when presented with an avalanche of information – you can deal with not knowing everything upfront
- You resist getting overwhelmed because you systematically break down complexity and tackle things in pragmatic steps

What makes a good junior scientist?

- 4. Because you are consistently resourceful
  - You don't play the role of victim and never act helpless
  - You are quite clever at applying all of the tools in your toolbox
  - You are committed to mastering new tools to add to your toolbox
- 5. Because you exhibit a remarkable sustained focus
  - You can stay on topic long enough to make a meaningful advance
  - You are not flighty nor jump ship at every moment of despair
- 6. Because you are trustworthy (= worthy of trust)
  - You have integrity: you neither waffle nor manipulate people
  - You have honor: you keep secrets secret and are willing to volunteer for the tedious tasks other people conveniently dodge
  - You are dependable: you don't miss deadlines, you show up to work on time ready to go & your preparation is relentless

What makes a good junior scientist?

#### 7. Because you ask precise questions

- You get to the crux of the problem at hand by quickly ferreting out the important requirements
- You are realistic and humble you know the difference between confidence and bravado – you don't kid yourself (or others) into thinking you know something when you really don't
- You do your own research ahead of time and try to become the best expert that you can be prior to seeking help

#### 8. Because you take good notes to help the whole team

- You are not an individual glory seeker looking to punch your ticket and just move on – you are committed to the moment
- You care that your teammates understand fully what you are learning – you unconditionally share what you know

We don't offer positions to junior scientists because of who they are... but rather because of who they might become.

According to Brookhaven National Laboratory