Top Tips on Effective Time and Resource Management in the Laboratory

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Research life is busy. There is always something new to learn and discover. Furthermore, your projects are reliant on funding; you can only get funding if you have a research plan. You need to deliver on your promises to get further funding. It is, therefore, imperative to work effectively. Proper time and resource management laboratory management, organization, training, and clever time-saving laboratory hacks will help you keep up to date with deadlines, and balance your work and personal life efficiently. There are many ways to organize your work, and you need to decide what works best for you.

Be an Efficient PI

As a principal investigator (PI), you now have to balance performing research along with managing a lab and people. This can be overwhelming. However, if you follow these tips , you should be able to stay on top of things.

- **Detailed Planning of Tasks**: Set up a calendar and share it with your colleagues. Remember to schedule a time for activities such as reading or writing. A detailed and structured plan will help you sail through the day.
- **Follow Templates to Maintain Consistency:** Standardizing the way your researchers report their experiments and results to you will save you and everyone else time.
- **Use Filing System**: Setup a shared electronic filing system and be specific about its organization and file names. This way, everyone can access and share the necessary information quickly.
- **Schedule Meetings Without Disturbing Your Work**: These can use up a lot of valuable time and interrupt your focus. Try to schedule meetings on one day so that your workflow is not disturbed on other days.
- **Update Your Calendar Regularly**: Review your calendar mid-week to ensure your schedule is going as planned and decide whether any adjustments need to be made.
- **Set Aside Some Reading Time**: You can easily fall behind on your reading if you don't plan well. Schedule daily or weekly reading times to keep up to date on current research.
- **Plan Your Concept Meetings:** Prepare an agenda for time-consuming meeting. Schedule these meetings monthly and ask your team to prepare well in advance.
- **Providing Guidance and Being Available:** Students often need guidance that will take a minute. Schedule some open-door time where you deal with activities that do not require a lot of concentration. This way you can get a few things off your to-do list but also be available for students and staff to ask quick questions.
- **Spare Some Time for Extra Work:** Build a bit of extra time into your schedule to allow for activities you may have missed or take longer than expected.
- **Be Flexible to Changes and Tailor Your System:** Your management system needs to suit you and the people you work with. Adjust it accordingly.

Tips for Junior Researchers

If you are on your way up the research ladder and not a PI yet, your days will mostly focus on research. Save time by working effectively and accurately:

- **Workspace:** A clean, uncluttered, and organized workspace will make you more productive.
- **Lab book:** Consider recording your experiments manually/digitally. This will save you time in finding notes and analyzing data.

- **Label:** Your reagents and shelves should be clearly labeled. If you can find consumables easily and quickly, you will save time.
- **Maintain Records:** Keep proper records of your experiments and protocols to help you troubleshoot and make decisions. Time your tests as you go so that you can plan future time more effectively.
- **Plan:** This point comes up regularly and for a good reason. Book equipment timeously and plan your experiments to avoid delays and frustrations.
- **Take regular breaks:** I know you think you don't have time for frequent breaks. However, you will be more efficient if you are not tired.

Clever Lab Hacks

A lab can be a pressurized environment where you may feel you have to perform a lot of work in a short time. Trying to do too much too quickly can be a time waster. We share some time-saving hacks from researchers:

- Early-bird or night-owl? Tasks requiring the most concentration should be scheduled during your most productive times of the day.
- Setup an experiment before sitting down at your desk.
- Preparation: write out your experiment and reagents in full before you start.
- Backup your work in several places.
- Prepare reagents such as master mixes during downtime.
- Train your staff and yourself. This will make everyone more efficient as the staff can spend time performing experiments rather than trying to work out how to do something.
- Lab layout. An efficient workflow will save you time. Ensure your lab is setup practicably.
- There's nothing worse than going to fetch consumables from the storeroom halfway through an experiment to find they are finished!
- Tidy up! It may be tempting to leave the mess after a long day. Rather spend the time cleaning up so that you can start your next day with a clean bench.

Laboratory Instruments

Maintain your lab equipment. Instruments in proper working condition will ensure your experiments run smoothly.

Optimize Your Laboratory Inventory

To be efficient, you need to have everything you need for your experiment. In a lab, you will use a lot of consumables, and you will have to share them with your colleagues. If everything is organized and there is a system that everyone knows, you should never run out of anything. Here's how to do it:

- **Organize**. First, you need to know what you have and have a place for everything
- **Sort**. Your most-used reagents and supplies should be within easy reach. While extra unopened stock should be stored.

- **Label**. We are sure your memory is excellent, but there is no time for mistakes in a lab, especially when working with potentially dangerous chemicals.
- **Automated software**. This can streamline your inventory.
- **Onboard new researchers**. Teach new students and staff about your processes. This will ensure that everyone knows how your system works.
- **Accounting**. Physically check your inventory from time to time to prevent

Do you have any time-saving lab hacks? Share them with us in the comments section below.

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