Resilience Toolkit

A Physicist's Guide to Building and Maintaining Wellbeing

IOP Institute of Physics

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Foreword

The topic of wellbeing or resilience is now prevalent in working environments. Looked at positively, it demonstrates the increased awareness and acceptance of the importance of good mental health and the recognition that mental-health issues affect one in four of us during our lives. However, the need to talk about strategies for resilience also reflects the increased demands and pressures of modern working life, particularly for those without the job security once taken for granted.

There are many definitions of resilience and wellbeing, but they mostly boil down to the concept of coping and adapting. Coping means that our resources balance out, or are greater than, the stresses and challenges we face. No one expects working life to be consistently straightforward and routine, particularly in fields like research and scientific development, which are intrinsically based on uncertainty and the unknown. Many physicists would find a predictable job a source of frustration – but there needs to be a balance.

This guide has been written to help you develop your resilience and support others. It is not written by a clinician or expert in mental health and does not claim to offer advice for those with mental-health problems, although it will point to key people and organisations who may be able to offer more appropriate assistance. Instead, this guide has been written in partnership with a wide range of physicists, who have shared their approaches to managing stress and difficulties. The focus is on practical advice to maintain your wellbeing.

We all react differently to adversity and challenge, so you should expect to find contradictory advice here. One person's recovery strategy might add to the difficulty felt by others. This is why the guide starts with reflecting on what drains your resilience and wellbeing. If you understand the situations, people and tasks that affect your attitudes, you are more likely to find strategies to avoid or cope with them.

Contents

How the guide is structured

This first section will help you to think about your own resilience and wellbeing. It starts by looking ahead to your future career and highlights some of the additional challenges that you might encounter as you progress.

Then it looks at common triggers that reduce wellbeing, so that you can think about the things that affect you. Understanding what might create negative thoughts and reactions is really important, as it can help you to gain insight into why you are experiencing particular feelings and how you can take steps to alleviate these, as well as potentially avoiding them in the future.

The central section of the guide shares a range of ideas that other physicists have used to help them build their resilience and maintain their wellbeing. There are lots of different suggestions in this section with more ideas in the case studies throughout the guide.

Finally we look at the support that is available in universities, companies and from a range of organisations. This section also points to helplines and resources available if you feel that your problems go beyond the scope of this guide.

You'll see that there are many questions and spaces throughout the guide for you to add your own notes and thoughts. This doesn't claim to be the definitive guide to wellbeing, but it's designed to help you find some strategies and ideas that will help you to develop a more resilient approach to life, study and work.

This guide is designed to help you develop a more resilient approach.

Why do I need to think about resilience?

The foreword mentioned that it has become much more common to talk about wellbeing, but your plans to be more resilient need to have a personal foundation.

Even if you feel comfortable at the moment, it's likely you will face challenges in the future.

The diagram above is based on conversations we've had with the physicists featured in this guide and others who've attended events and appeared in other publications.

Even if you feel comfortable and in control at the moment, you may face challenges in the future. Developing an understanding of what triggers problems for you and thinking in advance about how to deal with them should help you to manage them more effectively. This guide will help you do this, and includes lots of space for you to add your own notes and ideas.

The Institute of Physics has produced a wide range of publications including profiles of physicists working in many roles and fields. Reading these career stories can help you to look ahead and think

about the challenges you are likely to face as you progress. You should also try to talk to people who are on the same career path as you, or find a mentor and ask them about how they have managed the challenges they've faced.

Talking to people in this way usually reveals the difficulties or setbacks that they have overcome. The more we all talk about these things as a community, the less likely it is that people will feel they have to try to solve problems on their own, or feel that these difficulties mean that they aren't good enough. Learning to ask for help is an important skill to strengthen your resilience.

Although reading and talking to people about their careers can give you some sense of what is to come, there may be other challenges ahead. Developing good habits now could help you to cope with stress in the future.

What do you think will be the challenges in the next stage of your career?

Who can you talk to about this?

What strategies can you identify from people who have managed these challenges?

Anna Wood

Anna is a physics-education researcher, currently working as a part-time researcher in digital education at the University of Edinburgh.

Anna's career in physics followed a familiar path: degree, PhD, postdoc. She was then awarded a fellowship and began to build an independent research group, but became seriously ill. With an ongoing chronic medical condition that limits her to around two hours of work a day, mostly home-based, she has had to develop very effective approaches to maintaining resilience.

Although my medical condition prevents me from pursuing the research career I had before, I was always determined to keep my brain active, so undertook an MSc in e-learning. My aim during my studies was simply to finish a few of the modules, but with careful planning and management of my time, I completed the whole course and fell in love with the subject. It's been fantastic to discover that science education is a field of research, so I've combined the two to become a physics-education researcher.

Having had to face being unable to pursue a career I loved, my main message of resilience is to remember that even the greatest challenges can be a good thing, as they can lead to something that is far more enriching and interesting than you were doing before. Whatever the situation you are in, there are likely to be options. Most people change careers repeatedly, so don't worry about leaving something behind. And of course taking time out, if that's what you really need, is also an option.

Like most people, my resilience is affected by stress, taking on too much and not having enough recovery time. Although I'm careful to manage my energy, I know that I've done too much when my body doesn't want to do what I want and stops me in my tracks. I also get caught out by my optimism about how long it will take to do things – even with the adjustments I've made, I don't always allow time for when things don't run as smoothly as I expect, or when the illness flares up.

Even now, it is really hard to make myself take proper breaks, as I am always tempted to push on just that little bit longer to try to finish something. I think most of us recognise that taking proper breaks and being fully rested results in better productivity, but we all seem to find it really difficult to stop and properly step back. When I do stop, I find that periods of enforced rest lead to some of my most creative thinking. Periods of days or even weeks where I can't work give me a creative space in which to be really innovative. My advice is to give yourself time to do nothing.

Despite wanting to offer advice based on what I've had to learn to manage, I think it's important to remind everyone reading this that you really need to trust your own judgement as well. There is a lot of advice available on resilience and wellbeing, which is great, but in a perverse way can add to the pressure of getting everything right. It's OK to fail and it's OK to decide what will work best for you. Reflect on your working practices and think about what you are doing and what you want to achieve. Whatever situation you are in, this continuous learning approach will enable you to become more effective.

With this health warning in place, there have been a few things that have boosted my resilience. One is the online community I've built up on Twitter, partly by following the #acwri discussions (others may find #phdchat and #ecrchat useful). I've found people with similar interests and made some really useful connections. Twitter has also helped me get to know people who I've gone on to meet at conferences (such as the Variety in Chemistry Education and Physics Higher Education Conference), which has made it easier to connect with them. If you aren't confident about networking, particularly when your resilience is low, then online networks are much easier to engage with.

My main message of resilience is to remember that even the greatest challenges can be a good thing, as they can lead to something that is far more enriching and interesting than you were doing before.

Another resilience-boosting habit is to stop comparing myself to others. Some of my former colleagues are now professors and heads of departments, but there's no value in thinking about what I might have been able to achieve if I wasn't ill. Instead, I focus on doing the best I can with the circumstances I am in.

Finally, if I can, I try to make a little bit of progress each day on my writing and research. If you are busy with lots of things then getting into the habit of taking small steps will lead to progress, which can be lost if you keep waiting for the perfect day to sit down and write. I also try to prioritise things that are valuable to me and build my sense of worth. I think that it's easy for people to get drawn into doing things that they don't want to, so saying no is another resilience strategy.

What drains my resilience?

As well as looking ahead as part of your approach to developing resilience, you should also think about trials you've faced in the past. We're all different, so it's understandable that you will find some things more difficult than colleagues or friends.

Similarly, colleagues and friends may have a tough time with things that you find easy. It's useful to look at the causes of tensions, because this will help you to identify the best strategies to deal with them.

As before, the suggestions above come from other physicists, but they aren't intended to be a definitive list, just to help you to reflect on your own resilience and wellbeing. Tick any that you agree with, but also add in your own triggers.

Although this might be a difficult exercise, there's little point in reading through this guide without a clear sense of what you need to deal with.

Working out what affects you will help you to plan a response to problems rather than getting stuck in a cycle of negativity about them. Understanding that a particular person or task causes you stress will make it easier to be objective about your situation and come up with solutions you can apply in future. This exercise might also help you to see patterns in

Working out what affects you will help you plan a response to problems.

the triggers that you can avoid or tackle, or help you to see that your resilience is adversely affected by a particular set of circumstances.

Your reactions to this

Don't be embarrassed if the triggers to your negative feelings seem trivial. They are on the list because people mentioned them during interviews and workshops.

Don't think that you aren't good enough. You are studying or working in a demanding field and you've already achieved far more than most people.

Don't be disheartened if the problem seems to lie with other people who aren't likely to change. The guide will look at managing difficult situations with people.
Don't worry if your own thoughts and behaviours seem to be causing problems or making things worse – it's the same for most of us. Recognising this is more likely to help you change your approach in future (or be kinder to yourself and set more realistic goals).

You should also reflect on the fact that you are reading this because you've progressed far enough in your career to be a member of the IOP. That suggests significant academic and professional achievements and that you've overcome challenges and setbacks in the past. Reflect on your past behaviours. What have you done that's worked before? If you are struggling to identify the solutions that have worked for you in the past, think about what friends or colleagues have done in similar situations.

What are your main triggers?

Are there any patterns or common themes?

What have you done up to now to manage and overcome these?

Beth Reekles

Beth graduated last year with a degree in physics and now works for PWC on their Graduate Assurance Scheme.

"I studied physics because I found it really interesting, although I could have taken a degree in modern languages and would probably have achieved a higher final classification. Having made the decision to study a subject that I found challenging at times, I needed a strategy to be resilient.

My degree included lots of assessments, tutorial papers and lab reports, so there was a constant stream of evaluation and feedback. All too often this made it clear that I didn't understand something as well as I thought I had. I found that this affected my resilience as well as the amount of work involved in my degree. The timetable for a degree in physics is heavy – lab classes, lectures, tutorials and problem classes, which can feel relentless, particularly if you have friends with much lighter timetables. I remember feeling there wasn't time to really get to grips with things before we moved on.

The way forward was to talk to people, especially those on my course. We sat and worked together, explaining things to each other as we went. This wasn't just great for the things that we didn't understand, as the process of explaining the bits that I did understand to someone else really helped it to sink in. This group approach also helped us all to keep our motivation up as not only were we all experiencing the same workload and knew what was required, we also relied on each other. One person in particular was a great study partner, as we were good at very different things. We were put together as lab partners in the first year, but then chose to work together through the degree, knowing that our collaborative efforts were better than what we'd achieve individually.

I also overcame the feeling of intimidation I had about some of the topics I studied and with some of the lecturers. Not all of them had done their degrees in the UK, so they had their own ways of explaining things that weren't always easy to follow, even when I approached them for extra help. Rather than continue to be confused, I approached one of the PhD students who taught us in problem classes in another area and they were able to help by setting a bit of time aside in the class. It's important to ask for help and not to assume that you aren't bright enough to understand it. To get to grips with the topics I found challenging, I worked though past papers until the practising really drove home the understanding.

I chose physics as a degree because I enjoyed the subject. I did have some doubts on the way, but I held on to the fact that learning something so demanding was ultimately more motivating and rewarding for me. I wasn't alone in these feelings – many friends felt frustrated from time to time about our prospects and the demands of the course, so it really helped to vent occasionally with people who understood how it felt.

Alongside these successful approaches to tackling these challenges, I also made sure that I properly rested. There's no point spending a day trying and failing to be productive when you are too tired or feeling ground down. Properly walking away and treating myself well usually meant that I came back so refreshed that I'd achieve more in an hour later on than I would sitting at my desk feeling weary.

Now that I've left physics and am again working in a new area (assurance) with lots of things to get to grips with, I remind myself that I'll get through it by understanding that I have weaknesses as well as strengths. This isn't a negative thing – rather, it will help me to be matter-of-fact when the challenges come, and remind me to ask for help. It isn't always the best approach to devote lots of time to become great at something. A better strategy might be to just be good enough to get through it and not let it take over.

It's also important to remember that sometimes you will be different from other people – studying physics at school was the start of this, as it was a subject lots of people didn't enjoy and it continued at university where there were very few female staff in my department. Don't worry if you are different from others – no one else is better than you."

Paras Naik

Paras is a senior research associate at the University of Bristol.

Working in particle physics researching the nature of matter, antimatter and asymmetry in the universe, Paras is in the process of applying for fellowships and lectureships.

My resilience has been affected by some of the feedback I've received, particularly when it wasn't what I was expecting. Honest feedback helps to improve applications but you are expected to be of such a high standard without any guarantee of success. Competition is such that grant proposals I'm submitting need to contain no questions for the reviewers about the work or my ability to do it – this is impossible to achieve.

Added pressure comes from knowing that as my career progresses, my options are becoming more limited. Criteria for some schemes have changed over the past few years, and I've been caught out with one important funding stream for which my eligibility is now limited. Brexit also potentially further reduces options. I've also had a number of very near misses on previous applications, which raise questions about how much to change in the next round. Reviewers differ in their opinions, and panel discussions might go a different way on a different day.

Despite the uncertainty and frustrations of this process, I have had to keep my focus on developing my CV and my ideas. The added challenge here is that taking on management roles impacts on the time I have for generating new results. This means I'm having to make decisions about what is more likely to strengthen future applications – evidence of leadership, new data or new collaborations. Hopefully I'm finding the right balance.

Although I'm aware that it may be more difficult to move into an alternative career the longer I pursue the fellowship track, I feel that at the moment the right thing is to continue trying. It's difficult not being in control of much of this situation (particularly when the political situation creates additional challenges), but I'm honest with myself about the likelihood of success and think that I'll be able to transition into a new career. One benefit of seriously positioning yourself for a prestigious award or permanent academic position is that your CV will be very strong.

I also rely on the help of a lot of different people. Several are very aware of the current funding climate and try to do the best for their researchers. It's best to take a broad range of advice and be aware that there are different approaches to leadership and success. Some advice puts you in the wrong situation, despite good intentions. I don't have a single mentor, but talk to lots of people about their careers, approaches to work and what has made a difference for them. I've realised that there is a political dimension to some decisions and opportunities – you need to push hard to get some of them that may come easier to others – networks and connections matter.

Whatever sector you're in, you're surrounded by people who are part of the decision-making process – they will decide on promotions and make decisions about grants, either as reviewers or panel members. They will know what has worked for others and most are willing to share their advice, but you always need to contextualise this with your own approach to work and decide what's going to work for you.

If you look ahead and can see that there will be challenges on your career path, such as securing funding and support, my advice is to start early and be as flexible as you can to increase the number of opportunities available.

What keeps me going is the universal encouragement I get when I talk to my line manager and senior staff in the department. No one has ever said to me that I need to rethink my ambitions – they all believe that I have the potential to secure one of these awards and to build a successful career in research. My friends and partner also offer a lot of support, which has helped me to persevere and to remain positive.

How do I improve my wellbeing?

If you've read some of the case studies throughout this guide you'll have begun to see that resilience or wellbeing (remember that we're using these terms interchangeably) is not a binary quality – it isn't something that you either have or don't. Rather, it is a set of behaviours that you can identify, adapt, learn and embed into your routines.

This section of the guide will look at 11 ideas to improve resilience and wellbeing. They won't all work for you, but some of them should make a difference. At the end of this section we'll guide you to sources of support if you think that the feelings or difficulties you are experiencing are more significant.

Have motivating goals

When we're under strain we might tend to focus on the here and now and only see the immediate challenge we're facing. Trying to develop or improve yourself means learning to do things that you currently can't and this process can be difficult at times. Periods of study, starting in a new job or taking on a new project or role are likely to generate stress or difficulties, but result in a better situation. If there is a setback on the way (failure to achieve promotion or secure funding), reminding yourself of the longer-term goal can help you to see the setback in context.

If you are employed in a stable position you can still experience this feeling. It can help to have a clearer sense of the value of your work to your organisation or colleagues. If you can't see what this is, think about talking to a manager or supervisor about whether your skills could be better utilised or whether you are ready for a different opportunity.

Where do I start?
What is the end point of what you are doing at the moment? A better qualification? A new career path? Experience that will lead to progression or promotion?

What is you role in your organisation and why is it important?

If you can't find a sense of purpose at work or in your wider life, why not look for something that gives you that structure and sense of momentum. Look at the process for developing your IOP membership. The route to Chartered Physicist is structured around achievements and may provide you with a focus to help you feel more motivated.

Have realistic goals

Most of us feel that we have more on our plate than we can comfortably cope with. Sometimes this is a factor of reductions in staff, deadline pressures or being given too much to do by others. However, some people also have such enthusiasm for some roles and activities that they find it difficult to say no. You may also find it difficult to say no if you are asked to do something by someone more senior or if you feel that the person asking has power or influence.

Improving yourself means learning to do things you currently can't, and this can be difficult.

Where do I start?
If you are being overwhelmed by your own tendency to say yes, try to pause before committing to anything else. Thank the person for the opportunity and say that you need to check your availability and workload. Be honest about how well you will be able to do additional work and think critically about what you will need to spend less time on (or delegate) to reliably deliver on what is expected. It is better to say no, but ask to be considered again, than to damage your reputation by doing a poor job.

If you are overwhelmed by others, keep track of current projects or responsibilities, how they are scheduled and what is expected of you. When you are asked to do something else, say that you'll need to look at your workload and see what will take priority. If the same person is giving you everything, ask them to help you work out these priorities and to help you manage your workload, perhaps encouraging them to identify others to help you.

Build a community

One of the most consistent pieces of advice across all of the theories about wellbeing, resilience and mental health is about the importance of reducing isolation. It is all too easy to hide away to try and stop people seeing your problems, particularly if you worry that they'll judge you negatively in future. In fact, most people will understand your feelings and many of them will have experienced them at some point. In your workplace, social circles or university, find people who understand what you are going through and talk to them. If you can, work collaboratively on problems, as a range of approaches will probably lead to a more effective solution.

A virtual network can bring just as many benefits as a face-to-face one. Many researchers and scientists use social media to connect and communicate, and find these interactions help them to stay motivated and feel supported.

There are a lot of opportunities to meet other physicists as an IOP member.

Where do I start?
The IOP can help through communities such as the special-interest groups, which are focused around scientific interests (so people will understand the challenges of your work). Alternatively, branches are organised by region, making it easier to attend events and meet people face-to-face. The IOP can also support you through online networks, events, conferences and other networks for early-career physicists or women. There are lots of opportunities to meet other physicists as a member of the IOP, so look at the next email bulletin or invitation and think about the wider benefits of attending something.

Look again at the popular social-media platforms and see where physicists tend to congregate. You can find communities by looking for groups (on LinkedIn), pages (on Facebook) and hashtags (on Twitter).

Your workplace or place of study will also offer help – we look at sources of local support at the end of the guide.

Awareness of imposter syndrome

If at times you feel like you've only got to your current position through luck, if you feel that at any point you'll be found out, or that if you admit your mistakes or concerns you'll be viewed as incompetent, then you may be experiencing imposter syndrome.

Knowing that these feelings have a name should help you to see straight away that this phenomenon is common. Once you begin to look into it, you will find that many other physicists, including very successful ones, have experienced this at some point – often repeatedly. Imposter syndrome is common among high achievers and was first identified in the 1970s, yet many people are unaware that it's so widespread.

Where do I start?
It's heartening to start by looking at the testimonies of other people. Professor Dame Athene Donald has written about imposter syndrome on her blog (occamstypewriter.org/athenedonald) a number of times, and it's worth reading the comments under each post to see how common it is among physicists and other scientists and researchers.

Once you've done this, try to think objectively about the likelihood that your situation is all down to mistakes made by others or pure chance. Then talk to someone about why they thought you were suited to the opportunity – if you aren't receiving much positive feedback, you might be surprised by how positively you are viewed.

Take proper breaks

Read through the case studies in this guide and see if you can spot the common threads of advice – the main one is the importance of resting and taking breaks.

Walking away from your desk or keyboard at a time when you aren't being productive feels counterintuitive, but if you've ever come to the end of a day trying to force yourself to be productive and achieved little or nothing, you'll start to see that a short break might have been a more effective approach.

What you do in these breaks is up to you, but another consistent recommendation from experts in wellbeing and mental health is the importance of gentle (and not so gentle) exercise, particularly outside.

Where do I start?
Set an alarm so you take a break every hour when you're writing or working on something intellectually demanding. Try to take a short walk.

Take your holidays. Find out what your entitlement is and use it. Switch off any technology that links you to work during breaks and holidays.

Try to avoid taking work home if you haven't completed it during the day. Better to go home, refresh and come back with a clear head.

Ask for help

As a physicist, there's a reasonable chance that you will spend much of your life learning.

You'll develop new skills, understand new knowledge and face new challenges. Much of this you will learn through experience, but there's no sense in wasting time and losing confidence by trying to do things on your own when a colleague or supervisor can help you work out a solution much more quickly.

If you're still in education it's also important that your teachers, lecturers and supervisors know when you haven't understood something, so they can think about whether they've explained it in the best way.

One of the case studies talks about the importance of giving help as a way of understanding things better, so don't be afraid to ask. The same applies if you need help to cope with challenges. There are lots of people in universities, colleges and companies who are interested in your wellbeing and want you to have the best experience at work or study. If you look around you'll probably see posters and information about the support services around you, but if not you can start with human resources, student unions, postgraduate offices and unions. If they can't help, they will guide you to the right support.

> There's no sense wasting time trying to do things on your own if a colleague or supervisor can help.

All universities have counselling services but they are often stretched for resources – again indicating that asking for help is common. Don't let this put you off making an appointment, but if you need to talk to someone more urgently, look at the list of organisations at the back of this guide.

Where do I start?
Think about the task you find difficult and who could help you understand it better. Ask them if they would be willing to help and when might suit them to meet with you. If you're uneasy about approaching someone, talk it through with a friend and plan your approach. Work out the best questions to ask and if you can't get the help you need, think about alternative support.

Look in the final section of the guide for information about people and organisations that take an interest in wellbeing.

Find perspective

Although a common feature of resilience guides, it's slightly patronising to suggest that thinking positively should be a part of a resilient approach to life and work, particularly for those going through a difficult patch.

A better approach, even when you feel very down, is to find ways to be objective about your situation and put your feelings into context. The first step is to avoid comparing

yourself unfavourably to others, however difficult this may be. What you see on the outside is no indication of what is happening on the inside – they could be struggling too. Happily, there is an increasing trend for interviews with successful people to ask them about the highs and lows. Most will talk about the difficulties they've overcome and the times when they've felt uncertain or demoralised. These feelings are part of life, particularly if you choose to be stretched and challenged by your work. This guide was written to demonstrate that we all need to work at building resilience, because if we don't attend to this, we're more likely to doubt ourselves and feel negative about work or life.

Where do I start?
Remind yourself of the successes and achievements that have put you in your current position. Use some of the other strategies here, starting with taking a proper break, to help clear your head. Another strategy is to write down your concerns and look at them again one week later. If you feel less concerned or the crisis has passed, it's a good reminder that situations play themselves out and can be forgotten. If you feel the same or worse, ask for help or look at some of the resources in the final section – don't hesitate, particularly if you feel yourself declining in spirits.

Work to your strengths

Sometimes our resilience drops because we inadvertently set ourselves up to fail, then become despondent when we do. Instead of trying to do things under difficult circumstances, it is better to be realistic about what you are trying to do and to think of when you are most likely to achieve it. This is particularly pertinent if you are trying to write to a deadline or on a large project or working on something complex or new to you.

If your productivity drops at a particular point in the day, take a break or do something less demanding.

Where do I start?
Think about when you are most productive. Is it in a particular place? Working at a particular time? When you have a particular level of clarity about something? Set up these circumstances when you are trying to do something.

Be realistic about how long it will take you. Start by estimating the time it might take you to do something, then compare this with the reality. Most of us are guilty of underestimating how long something will take. You should also track the time and look for patterns in your productivity. If it always drops at a particular point in the day, try taking a break then or doing something routine and less demanding.

Try to set yourself up to be successful, even in small ways. If you're trying to write a dissertation, thesis or paper, aim to write for an hour a day in 20 minute chunks. If that doesn't work, aim to write for 20 minutes. Be realistic about how long it takes to do things – underestimating time needed for tasks is common and demoralising. Rather than berating yourself for failing to achieve something, look at what you achieved in the time you had and use this as a guide for future planning.

Develop coping strategies

Some of the advice in this section is about developing yourself to minimise the impact of difficult situations. Other sections look at how to adapt your behaviour to manage your reactions to others and becoming part of communities to find help and support.

Sometimes, the only thing you can do in a difficult situation, particularly one that is out of your control, is to find a way to cope with the feelings. For these situations it's helpful to have thought through the triggers in advance and to prepare your reaction. This might include a checklist of things to do when you get a rejection from a job or funding application. It might be planning a treat like a night out or trip away at the end of a difficult set of experiments or challenging project.

Where do I start?
If you've identified your main stress triggers in the first part of the guide, you may be starting to see that there's real variation in people's approaches to resilience building. Some seek out social contact and others avoid it, some talk about using online communities and others get outdoors. Think about the things you do that help to top up your positive feelings. Now think about which of these might be particularly helpful when you face a challenge. Write a short plan to refer to when that difficulty has to be faced.

Look at failure differently

If you react badly to failure it can reduce your willingness to take risks and set challenges for yourself. This means losing out on the learning, developments and new opportunities that come from stretching yourself. Much of this learning comes from the setbacks, and there are many famous quotations about the importance of failure and how it indicates innovation and drive in people.

Again, the nature of physics and the application of learning through research or technology means that you are likely to be working on problems with unknown solutions. Are you really expected to always come up with the perfect solution first time, every time? That doesn't sound feasible, so accepting that failure is part of working (and wider) life will build your resilience.

Where do I start?
Rather than being afraid to try new things, factor in the likelihood of failure from the beginning and have a plan ready. Think in advance about why a particular venture or endeavour might not end in success and develop a different approach for the next attempt. Even if things go well, the habit of being ready with an alternative may improve your planning and tactics for future challenges.

Reflect on things that haven't gone well and ask for feedback if it's available. If you're applying for a job or putting together a funding proposal (two tasks statistically likely to involve failure for most of the people pursuing them), think about how you will use the experience to make a better case next time. Who can give you feedback? How do others cope with these situations?

Focus on what you can do

At low points it's more likely that you'll feel like a victim of circumstance and focus on the elements of your situation that are beyond your control, particularly if they are unfair or the result of other people's behaviour. Try to resist this and focus on what you can control. Few jobs or tasks need to be done in a completely prescriptive manner and we usually have some control over how we work and manage ourselves. Review the situation and think about how doing it differently might result in you being more productive or effective.

Where do I start?
Think about the end you are trying to achieve, rather than the way in which you are expected to achieve it. What could you change about the approach without compromising on the result?

Another way to bring things into your control is to think about training to help you develop the skills you need, or information to help you understand something better. Can you be taught the skill you need? Can you get experience of something that will help you to do a better job? One example might be to try reviewing grants or papers to help you understand why yours are being rejected. Another would be to approach someone who is creating tension to find out if there are different ways to work that will accommodate them better.

Which of these strategies looks helpful?

What difference could it make to you?

When will you try this out?

Sean Fox

Sean has a physics degree from Oxford, qualified as a chartered accountant, and has subsequently moved into commercial finance.

Many aspects of my job I enjoy and find straightforward, but others present real challenges for me. The most difficult situations are those in big groups, particularly with lots of people that I don't know. These include networking events, conferences and even busy work events that you attend when you're new to a company. Any event that is designed to help individuals meet lots of new people is challenging.

Although they are difficult, these events are part of working life, so it's important to find ways to manage them. I do this by setting myself a small goal – such as aiming to talk to four new people – that I know I can achieve. It is potentially overwhelming to walk into a room of unknown faces, but if I'm only looking for four people to talk to I can stop the scale of the event becoming a problem. During events I also take regular short breaks to recharge. I don't spend the whole time engaging with people, but take time out either not to do anything, or quietly checking my phone. People often still approach you at events, but I find this much easier than having to initiate contact.

Another tactic has been to work hard at developing my public-speaking skills. I've done lots of training and practice, and discovered that this isn't a gift (that you either have or don't) but a skill that can be honed and improved. You also learn how not to be overawed by large groups of people. I find it much easier to be at the front of the room talking than milling around inside a large group, as there's more structure and control. My experience has been that if there's something that you have to do that doesn't come naturally, it is important to get really good training and lots of practice until you know what you're doing.

During the training I've done, I've come across a few key ideas that have become mantras for me. They come from the training, books, and reflecting on my experience. One that makes a huge difference is that you are the only one who knows what you intended to say. This is really helpful when you fluff something and can get anxious about how badly you came across. The truth is that no one listening knew what you had in mind and so they can't judge you against this.

Another idea that helps me is to not to be afraid of silence. If I start to feel uncomfortable when I'm talking I've learned to stop, take a deep breath and gather my thoughts. I've found that these silences don't matter and often make people listen more carefully when you're ready to talk. Don't feel you have to fill every space.

Feedback and suggestions from colleagues are a source of valuable learning. My supervisor in a previous role helped me to understand the importance of seeing things from other people's perspectives, particularly when you are trying to persuade them to do something (invest in an idea or make a change). If you put yourself in the shoes of the audience you are facing and try to imagine what they care about and what will make a difference to them, you will have more impact. Previously I'd think and present ideas in a way I found logical, meaning that I'd face challenges and questions that I wasn't prepared for.

If you want to develop more resilience, there are a few simple practical things that work for me. Make time at the start of the day to identify the main things you want to do. At the end of the day revisit these and be honest – what did I actually do? Although things always emerge during the day that you can't anticipate, it's easy to get into a bad habit of only working on short-term priorities and reacting to urgent demands rather than important ones. I go through this reflection on my commutes to and from work – on public transport I couldn't do anything very constructive otherwise, so it also makes good use of this time.

I also use technology to help me with another habit – taking gentle exercise in short breaks during the day. I have an app that tracks whether I've done 250 steps each hour and nudges me to do this. I tend to walk up and down the steps in my building and have found that by breaking my train of thought, getting my blood flowing and doing a little bit of physical activity, I break up long, potentially stressful, situations.

Jenny Clark

Jenny is a research fellow at the University of Sheffield.

"I moved here in 2013 after a Dorothy Hodgkin Fellowship at the University of Cambridge, a postdoc in Milan and a PhD in Cambridge.

In my group we use short (femtosecond) laser pulses to study carbon-based materials such as biological materials, organic semiconductors and graphene. I have two children (born in 2012 and 2013) and moved to Sheffield between kids.

Lack of sleep is a particular resilience issue for me. With two small children and looming deadlines, lack of sleep is difficult to avoid. I don't manage this very well and haven't found the one thing that works. I need to be flexible to adapt, as the challenges have changed as my career has progressed and my kids have got older.

Fundamentally, there are too many things to do in the hours I have available for them. Keeping a constant eye on what my priorities are and whether I am achieving them is important. Recently, I have found that booking holidays in my calendar well in advance helps me take them – even if it's just a day here and there. A day by myself with no kids helps to put everything back in perspective – I can even sleep if I want!

I also manage to be resilient because of my character: I am extremely optimistic and I don't waste too much energy worrying about things not working out – I just go for it. To counter this, I also have a very short memory. I quickly forget the things that didn't work out (some of which I attempted because I'm over-optimistic). I suspect this is a skill that most experimentalists develop. Nothing works first time in the lab. Every morning you have to come in with the attitude that today is the day, and forget about all the failed attempts.

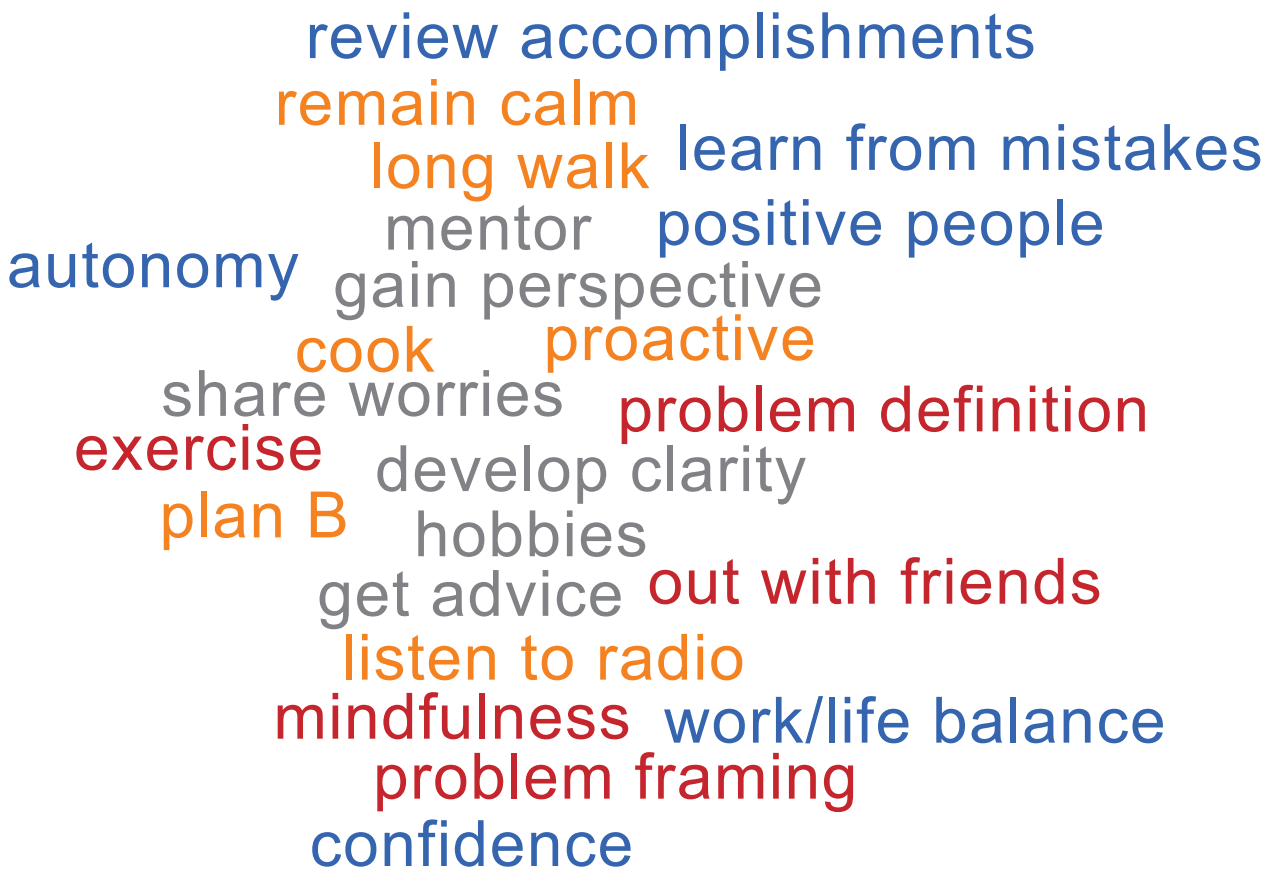
I would like to be able to say that I stick to my rule of working deep without distractions on certain days and that I am a beacon of efficient working. I'm very much a work in progress, although things have got better since I had kids. If an activity or request doesn't fit with my priorities, I say no. I don't check my work emails at home (ie, evenings and weekends) and very rarely work at home. I work two long days (typically 12 hours, sometimes more) to give me space to think and then pick up the kids three afternoons a week. The long days are often too tiring, so this isn't a long-term solution, but does give me a run of unbroken time to think and write productively.

Some strategies are very simple – after I found I was missing big upcoming deadlines that occurred on a Monday or the start of a month, I started using a rolling seven-day calendar and a one-year calendar on the wall. I walk to work more while trying to increase my concentration. Other good habits tend to come and go (especially when I'm low on sleep), but I try to plan my day the previous evening in my head, eat healthily and do yoga.

I've found that my network is another source of resilience and advice – female professors at other institutions who I meet at conferences, colleagues (male and female), my fellowship mentor and friends and family. I try to take advice from everyone and then use it when it seems appropriate.

Remember two things: collaboration is better than competition, and it's always a cock-up, never a conspiracy. (This makes a lot of things seem less bad. Has a colleague done something you find shocking? It's probably a cock-up, and not personal. Someone seems to be doing the same project as you? Collaborate – you'll both benefit and won't have to worry.)

I find it easier to live with myself if I know I've done my best and stuck to my priorities: being the best mother I can be within the constraints of our lives, doing the highest-quality science I can do (even if it's not a huge quantity), and being kind to everyone around me."



Know what works for you

Above are some ideas from people for how to improve resilience and wellbeing. Some are physicists, some not. Each of them was asked what their coping strategies are and the list is diverse – which is the point. You need to work out what makes a difference to you and remember to use this when you feel under pressure.

Which of these strategies looks helpful?

What difference could it make to you?

When will you try this out?

What do I do if other people undermine my resilience?

There are many ways in which others can erode our confidence and resilience, some of which are unintentional. We each have different styles and approaches to communication and working, and sometimes these differences cause tensions. These differences are not a deliberate campaign to undermine others, simply our preferences and natural habits, which mean we aren't always aware of the problems they cause.

If someone is upsetting or undermining you, the best thing to do is to approach them to explain the effect they are having. Try to gather some examples of the things they say and do (with times they happened so they can understand the situations better) and the effect they have on you. If you don't feel comfortable approaching them on your own, see if someone will act as a mediator to help you both see both sides. Be open to feedback about how your behaviour might impact on others. Being able to understand different perspectives and trying to accommodate them will ultimately make you a better colleague and help you in the future if you begin to manage others.

Unfortunately, not all cases are down to differences in approach. Some people behave badly at work in many different ways and sadly it is often not dealt with because the victims of their actions aren't supported or don't have the confidence to act. The first thing to make clear is that a good employer or university will take your complaints seriously and want to look into them. They may not immediately accept your view (and this is nothing to worry about – an accusation of bullying is serious and the organisation needs to be sure that it is justified) but they should have a procedure to follow and will explain this to you.

Sadly, some bullies feel that their actions towards others and impact on them can be excused if they are very successful or "this is just their way of doing things". This is not acceptable and whatever their position and yours, whatever the difference in your power or status, you must take action and stop bad behaviour before it affects you and others more seriously.

The first step is as above, to talk to the person involved and explain the effect they are having on you. Give them a chance to respond, but don't allow them to dismiss or belittle your position. If you don't think they are going to change their ways, then find the right person to talk to. Again, good workplaces will have posters and information widely available that explain procedures to follow and who to contact, but if in doubt, talk to someone at one of the organisations in the final section of the guide.

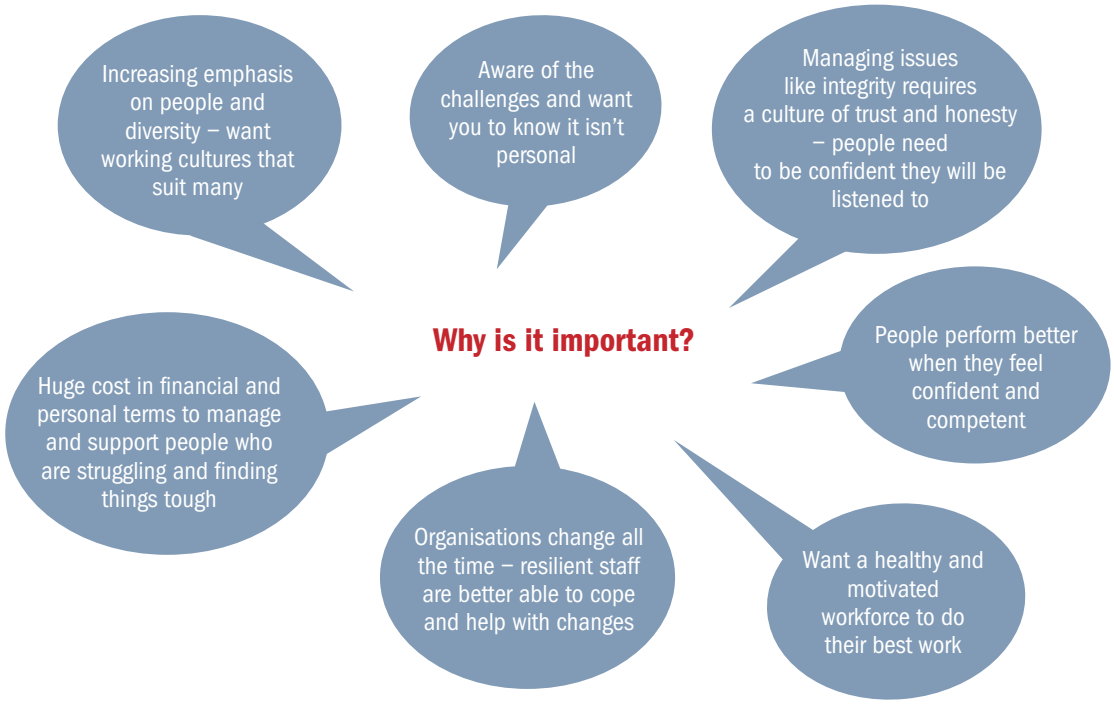
Don't suffer in silence – it may be that you aren't the only person who has been affected, and the danger is that if left unchallenged, serious problems can develop.

There's lots of advice on the internet about having difficult conversations with people. For instance the website of Judy Ringer, who is a professional mediator. Her guide, We Have To Talk, is available to download from her website, judyringer.com, and offers a clear step-by-step process for difficult conversations.

Being able to understand and accommodate different perspectives will make you a better colleague.

Who cares and where can I find help?

This guide has been written to help you identify the best ways to build and maintain your resilience and wellbeing, but the process of reflecting on your situation may have highlighted the need for more focused help. This section points you towards sources of additional help and face-to-face support.



Most employers are committed to developing a resilient workforce.

Most universities and employers are committed to developing a resilient and healthy workforce. Some of the reasons for this are above. If you are struggling to find help within your organisation, there are also independent charities and organisations you can approach for guidance.

Within a university

Universities take the mental wellbeing of their students and staff very seriously, knowing that the transition to independent-living study, working or studying in a new country and the demands of academic careers are all likely triggers for reduced wellbeing.

All institutions have a student counselling service (and many have a staff equivalent), but they are often under-resourced and you may have to wait for an appointment. Various services such as Nightline can help if your negative feelings are more intense and you need help quickly. They will help you to find the right support, or will just listen to you compassionately and non-judgementally and help you to work out some of your feelings. Look around your institution for posters, or search for wellbeing, resilience or mental health on your institution's website. You will probably find a wealth of advice and support that you weren't aware was available. Again, this shows that almost all of us experience negative feelings and that asking for help is important and expected.

Within a company

Each company will have a different approach to supporting and protecting its staff, so it's more difficult to identify the person or department to approach for advice, but there is legislation about employment standards and also a set of guidelines produced by the Health and Safety Executive to help improve health and wellbeing at work (see **hse.gov.uk/hwwb**).

Adherence to employment regulations and legislation will be the responsibility of the HR function, but you might find that other people are involved in wellbeing strategies – your manager, union representatives, training units, occupational health or informal employee-led networks. If you can't find support or advice, one of the independent organisations below may be able to help you.

Attitudes to mental health and wellbeing are evolving. More openness about anxiety and depression is causing a shift.

Telling your employer or university

People's attitudes towards mental health and wellbeing are evolving. Successful campaigns by many of the organisations mentioned in this guide and more openness about anxiety and depression from high-profile people is causing a shift. There's an increasing chance that anyone you decide to talk to in your place of work or study will be informed or understanding.

To prepare for a conversation about managing your mental health more effectively, taking time out or making changes, it may help to talk to one of the many helplines that are run nationally, or if you are a student you could also talk to someone in your Student Counselling Service. Ask to talk to someone who is aware of what you might be able to ask for from an employer or institution.

It is up to you how much detail you go into about your issues, although the type of support you receive will be more tailored and may be more effective if you are open. If you can, make a list in advance of what exacerbates the problems with your health or feelings and what changes would make a difference for you. There will be options that you may not have considered – suspending studies, working part-time or changing elements of your role. Employers are required to make reasonable adjustments to give people with mental-health issues better conditions to work in, but they have to balance these against the impact on others and the nature of your work.

Independent organisations

There are many charities and not-for-profit organisations working in wellbeing and mental health – a few are listed here. Some operate in particular parts of the country or have specific roles, but the main national ones are also listed. Most run confidential helplines that are open 24 hours a day if you need to talk to someone.

- **The Samaritans** run a free helpline, 116 123, which is open 24/7, 365 days a year. You can get in touch about anything that's troubling you, no matter how large or small the issue **samaritans.org/how-we-can-help-you/contact-us**

- **Mind** is the UK's main mental-health charity and provides advice and support to empower anyone experiencing a mental-health problem. The website includes tips and guides, lots of information and contact details if you need to talk to someone **mind.org.uk**

- **SANE** campaigns to raise awareness of depression and mental health, provides support and funds research, which feeds into the advice they provide **sane.org.uk**
- **Action for Happiness** is an organisation that translates neuroscience into practical steps to develop the skills of being happy. The website links to courses and events, along with advice and information **actionforhappiness.org**
- The **Scottish Association for Mental Health** has produced many fact sheets and guides to improve mental health, including their guide Five Ways to Better Mental Health and Wellbeing **samh.org.uk**
- The **Campaign Against Living Miserably (CALM)** focuses on providing support to those who may be struggling **thecalmzone.net/**
- **Breathing Space** provides a confidential helpline to call if you are feeling worried, depressed or anxious **breathingspace.scot**
- **Gofal** provides a range of services in Wales to help people and organisations to manage mental-health issues **gofal.org.uk**
- **Time to Change Wales** campaigns to end the stigma and discrimination faced by people with mental-health problems. It includes a guide on talking about your mental health with others **timetochangewales.org.uk**
- **Your Mental Health** focuses on support in Ireland and has an extensive bank of advice and suggestions tailored through a sliding scale, which you can move to reflect how you are feeling **yourmentalhealth.ie**
- **Aware** provides support for people with depression in Ireland and runs life-skills programmes to help you develop more resilience and manage your mental health **aware.ie/**

If you're worried about a friend or colleague, don't be afraid to ask if they're OK.

All around you

Don't feel that you have to approach someone in a formal role connected with resilience or wellbeing when you are feeling under pressure. You can talk to friends and colleagues – in fact most of the people interviewed here rely on their social networks for support. Talking about problems when they are still small means that you are more likely to have the resilience to find solutions to them and to have the confidence to ask for help from others.

We can all take responsibility for improving wellbeing and resilience in our communities. Much of the advice from expert organisations is about opening up and talking to people about the challenges you are facing, particularly before they start to affect you seriously. Equally, if you are worried about a friend or colleague, don't be afraid to check with them and ask if they are OK. They may have been waiting for an opportunity to talk.

The Mental Health First Aid course is a new initiative running internationally that aims to equip anyone with some basic skills and understanding to help them help themselves and those around them. Search for "mental-health first aid" to see if a course is available near you.

Martin Hendry

Martin is a professor of gravitational astrophysics and cosmology and head of the School of Physics and Astronomy at the University of Glasgow.

"As the head of school, I need to ensure that I look after myself, but also the staff and students who work and study here.

My resilience drops when my plans are frustrated by external factors. No matter how much effort and time you devote to something, sometimes external factors or decisions negate all that. Setbacks such as this don't happen too often, thankfully, but they can occasionally come along on top of my day-to-day challenges of balancing multiple deadlines, travel and working out what to prioritise. I've collaborated successfully throughout my career and generally work in a community of people who think in the same way. We tend to appeal to each other's better nature when tensions or problems arise. When you start to work in new communities, you find a different set of approaches and ethical norms are used (some of which are far from ethical). Then you realise that your trusted strategies won't work and you need to find different ways to deal with difficult behaviours.

At these points, you need to show common sense and appreciate that you can't control everything. Assess the situation, without trying to blame anyone, and make time for self-reflection. Think calmly and sensibly about what you could do differently in future. If there's nothing else you could have done to bring about a different outcome, let it go.

For me, it helps that I draw on a number of mentors and advisors. Everyone is different and has different experiences, so their advice will sometimes be good for you, and sometimes bad. I'd advise you not to put all your eggs in one basket, but to draw upon a wide range of perspectives. You'll probably draw on the advice of others more when things are new, but over time you start to have a bank of your own experiences to draw on. I've found that as head of school – in the early stages, I asked for help from lots of people, but now don't need to as often.

When you have a lot of competing responsibilities, as I now have, it's important to balance the different demands and not stop doing things that are important and keep your motivation up. For me, this means that I've maintained a lot of research activity and also participate in public engagement – a real passion of mine. You also have to trust people around you to make good decisions and not become a bottleneck. I devolve as much as possible to senior staff in the school and although I'm still in the loop, I've found that this cabinet-style approach works well for all of us. This means that I don't feel chained to my office as I can still travel for meetings, conferences and other events. Email really helps me to keep on top of things, and I try to respond quickly, even if it's just to acknowledge that I'm aware of the issue and will be working on it. This also helps to reduce stress in others, knowing that they've been heard and that things are happening. A quick intervention often stops tension escalating and also buys me time to work out the best approach.

When you feel things getting too much, try to maintain a sense of perspective. Of course, I think you should be passionate about physics and whatever job you are doing, but recognise that in the end there's more to life. Don't let it take over to the point that it stops you enjoying other things like friends, family and hobbies. My rejuvenation partly comes from public engagement, which gives me fresh perspectives on my work, gets me out of my office and is hugely enjoyable and rewarding.

There are a number of difficulties I see affecting the staff and students here. In any large organisation such as the University of Glasgow, there are many administrative systems and they can generate a lot of work for people. This is part of life in a complex institution, but as the head of school, I try to find ways to balance the needs of the wider university community with what works best for my staff. Sometimes we can find better ways to manage systems internally as a school that still deliver what's needed centrally.

For students, there are always problems with infrastructure, timetabling and online systems (again, these are common in most universities) but most of this lies outside of our control as a school. So we try to fix what

we can, understand the implications of problems and flex in other ways to minimise their impact. I hope that our students feel we are on their side and we try to be their advocates where possible and use our influence to improve the way the bigger systems operate.

Understanding has to come from all sides. We expect our students to be realistic and understanding about the demands on our teaching staff and to accept that we have to work to multiple deadlines and won't always give them what they want the instant it is requested.

As the head of school, I think things work better for all of us if we can develop a sense of community, and there are a number of things we do to help the students feel they are part of the school. In addition to the support they receive for their lecture courses, we also give all of our students a swipe card that gives them access to a common room; we provide a free printing quota (despite the significant cost to the school), and seek to emphasise that we care and understand their challenges. I still teach first-year students, so I'm a visible and approachable point of contact and interact with many students each year to help them manage the pressure of the degree and wider university life more effectively.

> When you feel things getting too much, try to maintain a sense of perspective. Of course you should be passionate about physics and whatever job you're doing, but recognise that in the end there's more to life.

What differences might I start to see?

If you maintain a focus on strengthening your wellbeing and managing your resilience, you should feel better equipped to deal with work and life.

How could your IOP membership help you build resilience?

- Read some of our career guides to help with uncertainty about your future career
- Look at the research guides for strategies to cope with funding and collaboration
- Find more balance with advice from Equilibrium for career/family issues
- Take one of our online training courses chosen to develop a skill that will help you to be more effective
- Look at the range of special-interest groups if you feel professionally isolated, and have few colleagues to discuss your science with
- Start coming to our events to meet people
- Commit to working towards Chartered Physicist or Chartered Engineering as a way to put structure and momentum into your career

Through taking care of your wellbeing and building your resilience, you may find you are:

- More able to cope with future difficulties
- Performing better at work by being proactive and seeking help sooner
- Able to help managers and supervisors avoid overloading or demoralising staff
- More competitive and able to come back more quickly from knock-backs
- More productive as you are not wasting time without making progress

Working towards Chartered status can add structure to your career.

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