

# Career Guideline

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“If you don't know where you want to go you might end up at any place.”





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Abstract:	This document offers information on career planning: From identifying your own skills and developing a vision accordingly to building networks and keeping a life-domain-balance, this document guides you through different steps of career development. Further aspects treated are: communicating priorities, tips on writing, mentoring, salary conversation, and many more.		
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# 1. My goal? A great career!

The starting question “what is your goal?” might sound too obvious. It is of course already clear: you want to develop a successful career! But do you also have a clear picture of what you want to achieve in your life, why you would like to further pursue your career, and where your chosen path should lead you?

A long-term perspective of what you want to achieve in your life might not be that easy or clear to formulate. Moreover, without a variety of experiences, it might be hard to have a clear vision of whether you want to become a professor at a university or aim for a position in industry or in an NGO, etc.

Compared to a long-term vision, small steps like the next promotion, a paper, or contract might seem like goals that are easier to plan and achieve because they are right there and, to a certain extent, the expected outcomes have been formulated. However, even smaller steps are in fact not that easy to plan: that is the nature of working in research contexts. It is not like a production line where you can estimate the number of parts or products you can produce in a day, a week, a month, or a year. Research is supposed to be unique, novel, something that has not been achieved before. You cannot estimate the number of novel thoughts per month, you cannot foresee all obstacles, such as experiments that will go wrong, etc. If publications are part of your career, who knows how often the reviewers will reject them? Moreover, you might have additional obligations that are not that easy to plan either, for example, lecturing, organising conferences, completing work for your institute or team, or writing proposals to fund your research.

Despite all the difficulties, making plans will help. And many of the risks and difficulties can be integrated in the plan to keep it flexible.

**Before you get started, reflect on your own planning practices:**

- Do you have a long-term vision of what should come next after your PhD?
- Do you have a deadline for when your PhD will be finalised?
- Which time units are you using? Are you making plans for the year to come, for a quarter, a month, a week, a day?
- How are you doing your planning? Which tools and planning techniques do are you using?
- How are you dealing with unplanned activities you have to take care of?
- How easy is it for you to follow the plan?
- How easily do you become distracted?

## 1.1 Skills, passions, values

Your career plan should be aligned with your skills, passions, and values.

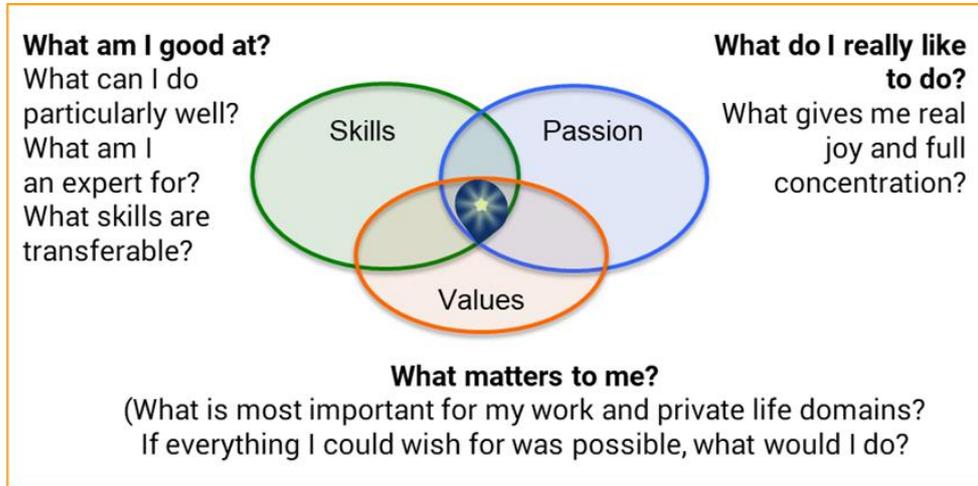


Figure 1: Identify your skills, passions and values

### 1.1.1 Start with a diary

A diary can be motivating and lead to valuable insights when answering the following questions.

<b>Motivation questions for the morning:</b>
• What makes me happy today?
• What am I proud of right now?
• What am I going to be fully committed to today?
<b>Reflection questions for the evening:</b>
• What has been particularly successful today?
• What did I learn today? (About your relationships, skills, values ....: what to keep/what to change)
• How can I use today's events for my future?

### 1.1.2 Explore your success stories

Remember situations when things went well and you felt good:

- What worked well?
- Who/what contributed to the success and those good feelings?

Identify stories you are really proud of:

- What was the situation? The challenge?
- What was your task?
- What did you do (action)?
- What was the result that was achieved (visibly) by you?

Interview your friends, colleagues, and supervisors:

- “Tell me one thing I should keep and one thing I should change.”

<b>Describe your competencies with the STAR method</b>	
<b>S</b> ituation	Describe a critical situation you almost failed at?
<b>T</b> ask	What did you want to achieve? Which difficulties did you experience?
<b>A</b> ction	What individual steps have you taken? Why?
<b>R</b> esult	What measurable results have you achieved? How would others recognize the result?

Figure 2: The STAR method

The STAR method has been used to interview job applicants as well as to describe competences in résumés. It is an excellent method to practice describing your competences as well as to prepare for job interviews. With the STAR method, you describe your personal contribution to an achievement rather than, for example, the general achievements of your team or organisation you are working for. By focusing on critical situations, you can gain more insight about your flexibility, resilience, willingness, and abilities to perform under difficult circumstances.

A summary by the City University London provides detailed examples on leadership, communication, resilience, and analytical skills (see <https://www.citystudents.co.uk/pageassets/getinvolved/leadershipaward/competencies/STAR-Method.pdf>).

## 1.2 You are a person, not a job!

Richard Bolles advises you: “begin by stripping yourself from any past job-titles. When you ask yourself “Who am I?” you must drop the vocational answer that first springs to mind. Like: I’m an accountant, or I am a truck driver, or [...] writer. That kind of answer locks you into the past. You must think instead: ‘I am a person ...’

‘I am a person who ... has had these experiences’

‘I am a person who ... is skilled at doing this or that.’

‘I am a person who ... knows a lot about this or that.’

‘I am a person who ... is unusual in this way or that.’

**Yes, this is how a useful self-inventory begins. You are a person, not a job.”<sup>1</sup>**

<sup>1</sup> Bolles R. N. (2017: 115): What color is your parachute? Ten Speed Press, Berkeley

## 1.3 Why having a vision?

Having a vision of your future helps you to move towards it. Without a vision of who you want to be and where you want to go, you might end up anywhere.

Based on knowing your skills, passion, and values better, take your time “to dream” about your future life and workplace, as these are important aspects of your long-term vision. It is important to keep this vision as precise as possible and stay flexible on how to achieve it.

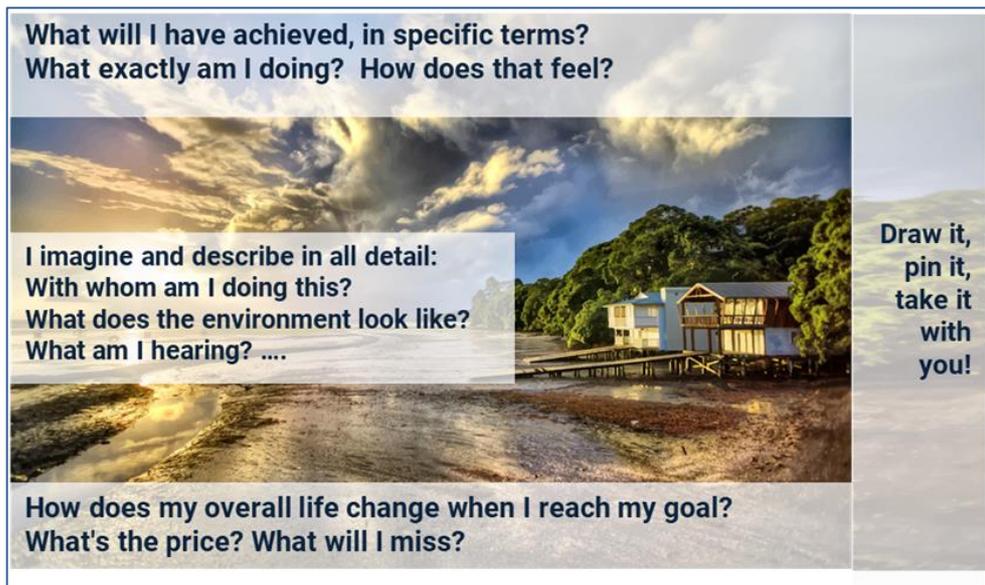


Figure 3: Think about your vision

Creating your own “vision board” is a useful self-coaching exercise. It helps you to focus and set priorities over a longer period and in times of multiple demands and distractions. It consists of role models, motivational sentences and goals, pictures of future workplaces, drawings, etc. Take some ideas from Jack Canfield’s blog post: <https://www.jackcanfield.com/blog/my-personal-vision-board/>.

### Summarise for yourself the following thoughts:

- With all my skills, passion, and experience, I have the following options for my future career: ...
- If everything I could wish for was possible, these will be my achievements, my working environment, ...: ...
- This is a picture I can collage, draw, and take with me: ...

## 1.4 Get moving, start planning

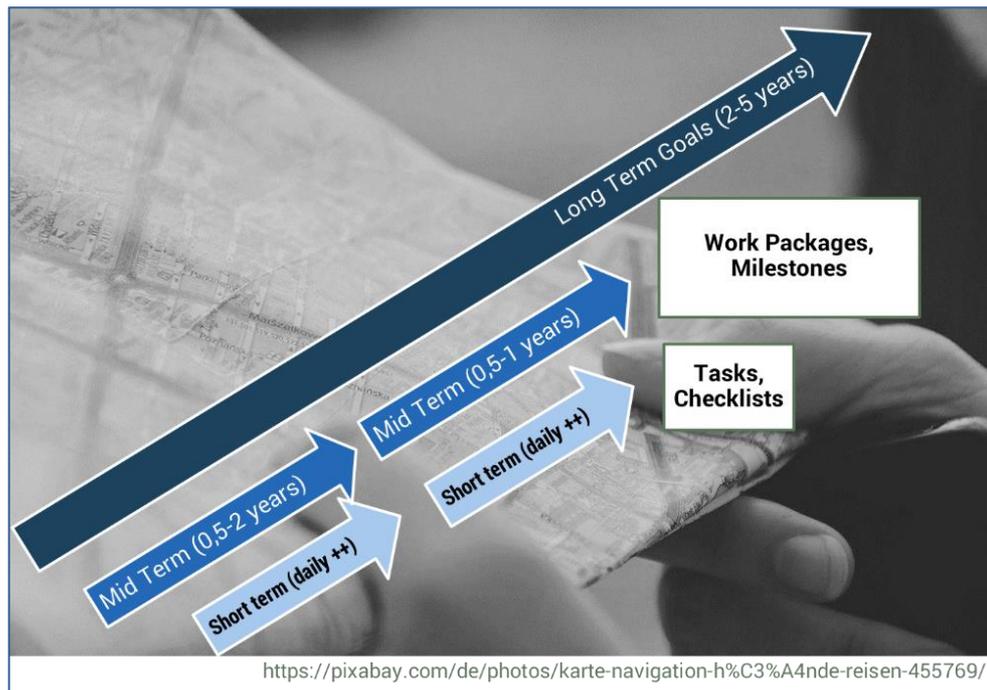


Figure 4: Plan your goals

To get your career to the next level with a promotion, a publication, a fixed contract, or another milestone might be your long-term or even mid-term goal. Begin by defining work packages, tasks, and milestones that must be reached, even if scientific work is hard to plan and outcomes might still seem unpredictable. You might wish to visualise milestones and deadlines with a Gantt chart, either electronically or on a big, unplugged calendar, to indicate, for example, the deadline of your call or review, the expected end of an experiment, the deadline for a paper or conference, etc.

Go ahead and plan in further detail those work packages or tasks which you will focus on during the upcoming month and try to estimate time properly. For example, for a publication, you might ask some of the following questions:

Which database will you search for your literature review? How much time do you estimate the search will take? How much time will you need for reading and drawing conclusions? How much time do you need to summarise the results? Plan with some buffer in mind. For example, multiply your first estimation by at least 1.5. Increase your multiplier if it is a new task and/or you don't know the risks, such as, for example, a new software you are trying to use.

## 1.4.1 Start with a rough plan

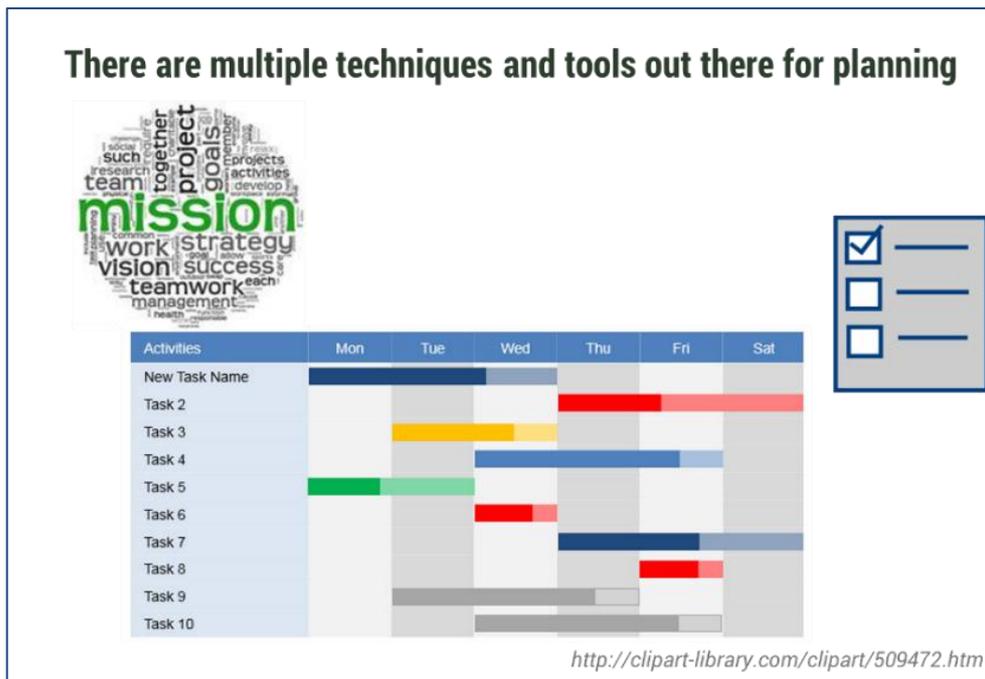


Figure 5: Techniques and tools for planning

Divide your plan in months and only plan the upcoming month (or quarter or work package) in detail. The following are some tools you might wish to use:

- Gantt Charts (Excel, MS Project, ...) - These might be updated in larger time intervals. However, don't plan too many long-term work packages and milestones in detail;
- Trello or similar tools;
- Outlook tasks lists and other simple lists;
- Paper and pencil: diary, paper sheets, post-its, big calendar on your wall (with main deadlines, e.g., of conferences), etc.

Ideas might be organised via

- a box with cards, a diary, mind-mapping, OneNote, Evernote, etc.;
- MS Whiteboard or Gfonic Tablet - instead of taking many sheets, as you can share it virtually with colleagues, which is also useful for online teaching.

When using different tools, keep in mind which of them you would like to synchronise and how to do this. Make a quarterly review of your plans, which is a task by itself.

### Always plan with the end in mind!

No matter if vision, long term, mid term goal:  
What do you want to accomplish?

Figure 6: Keep the end in mind



## 1.4.2 Set SMARTER goals

Make sure you set SMARTER goals for each task by describing in detail what you want to accomplish. SMARTER goals are

1. **Specific: clear and unambiguous**  
The detailed formulation is based on clearly observable facts and figures.
2. **Measurable: objective and verifiable**  
To what extent has a goal been achieved?  
Attention: not all relevant goals are easily measurable!
3. **Attainable: difficult, but achievable**  
For long-term goals, develop smaller steps and define sub-goals that can be achieved.  
In this way, motivation and energy are maintained.
4. **Relevant: significant and accepted**  
Make sure you are in control of achieving this goal and know the factors that might influence or put your achievements at risk.
5. **Terminated: limited in time**  
Set a realistic timeframe with limited interdependencies with other tasks.
6. **Expandable: specified and completed**  
Goals and plans made at the beginning might lack insights which can only be gained over time.
7. **Revisable: checked and changed**  
Under changing conditions, some goals might no longer make sense. They should therefore be subject to rolling adjustment in terms of relevance, priority, and scheduling.

Make sure you add mid-and short-term milestones or checkpoints such as, for example, meetings with your supervisor, colleagues, and/or with yourself to review your achievements and, if necessary, adapt your goals and plans. Add small deliverables!

## 1.4.3 Make detailed time plans

Further detail your goals by planning your upcoming week and day.

Check your tasks for the upcoming week and make smart, realistic goals according to your overall schedule and obligations. For example, read one paper, write one paragraph or three pages a day, etc. In case you struggle with too many obligations at the same time, set priorities by asking yourself the following.

**What can be done and how to do it (and if its only 15 minutes a day ...):**

- Is there anything on the list that can be postponed?
  - If I do this, will it support my career development?
  - If I do not do this (right now), what is the worst thing that might happen?
  - Can somebody else do it? Can I skip it?
- Consider a fair balance of “giving and taking” among colleagues

Don't underestimate the time needed to switch between different tasks.

- Only plan 60% of your day - the rest will be filled anyway!
- Check emails only twice a day! - you don't want to become distracted.
- Leave time for “blue-skies research” - time to think without distraction.
- Schedule some time for yourself, time in which your mind can wonder around freely and follow any thoughts and ideas freely without the pressure of reaching any specific milestone or result.

#### 1.4.4 *Daily routines help*

We have all learned to brush our teeth without further thinking. If you manage your time by setting routines, it will become easier to fulfil these tasks. Discover for yourself which routines work best for you. Are you creative in the morning or in the evening? Which time of the day is easiest to schedule for yourself? Which places work best for you to concentrate on which tasks (at work, a library, at home, etc.)?

- An example of a daily routine would be to schedule the first hour in the morning for writing, no matter if you are in the mood for it or not: just do it.<sup>2</sup>
- Mark this time in your calendar as a meeting with yourself and make sure you don't get disturbed.
- Turn off your emails and cell phone and schedule specific times when to answer them.
- Make use of a diary and answer questions (in your own words).
- Morning Question: What is it that I'm really looking forward to achieving this day/week? This will help you to set priorities!
- Evening question: What am I thankful for? What have I achieved? What went wrong? - How can I learn from the achievements/challenges of today for tomorrow (or for a longer time perspective)?

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<sup>2</sup> Get inspired by:

[https://www.goodreads.com/book/show/149482.Writing\\_Your\\_Dissertation\\_in\\_Fifteen\\_Minutes\\_a\\_Day](https://www.goodreads.com/book/show/149482.Writing_Your_Dissertation_in_Fifteen_Minutes_a_Day)



## 2. Context is key

### 2.1 Obligations and networks can support your career

Robert MacIntosh, in his 10 top tips for early career researchers, states, “Academia is characterised by communities, or ‘tribes’, with hierarchies and clear signs who belongs to one tribe and who belongs to a different tribe. This leads to disputes within one tribe and clear demarcation lines towards other tribes. Demarcation lines become evident when ‘outsiders’ are cited only to prove their flaws.”

That means, for an academic career, you not only need to be productive, innovative, and unique - you need to become a member of a community via networking and contributing.

MacIntosh advises you to find a clearly identifiable community until your reputation has a solid base. Your research must fit this community. Be aware that, when striving early for an interdisciplinary approach, it might become harder to identify the community and to be recognised; publishing might become difficult.

Cite the members of your tribe, know their work well, and don’t criticise members of your tribe too harshly. Make sure you know the related journals, be at the right conferences, and start to build your networks as early as possible. Find friends in your community, friends who come from different universities and countries.

Robert MacIntosh also advises you to be helpful and reliable towards your supervisor, to volunteer for jobs, and to make yourself indispensable.

### 2.2 How to consider obligations

Not all additional jobs you will be asked to do will support your personal career development. Be careful with volunteer work that does not support your career. This is especially important for women, who, as research has shown, tend to spend more time with administrative support work, in the labs and with other duties that are important for the institute but do not contribute to their personal career development.

- Analyse how work is distributed within your group and team.
- Find a good balance of giving and taking.
- Make sure that you communicate your interests and needs wisely.

Examples for additional obligations supporting your career in academia are to act as a reviewer, set up a session or panel for a conference, and run workshops by yourself.

## 2.2.1 *Five steps to take when considering your obligations*

- 1) Know what motivates you to be helpful: Is it about building relationships? Is it the wish to be a supportive colleague? Is it the wish to move on with your career and prove that you are able to do the right things for it?
- 2) Clarify the balance: Analyse and define the time budget dedicated to certain tasks. What obligations/tasks are mainly distracting you from your next career goal?
- 3) Set priorities: Prioritise tasks that must be done by answering the following questions:
  - a. If I do this, will it support my career development?
  - b. If I don't do this (right now), what is the worst that could happen?
- 4) Search for alternatives: Who/What else could help in finishing the conflicting task? - Consider a fair balance of "giving and taking" among colleagues.
- 5) Practice: reflect with others and on how to set priorities, role play how to "say no", etc.

## 2.3 The art of communicating a positive no

According to William Ury, saying NO means that you are saying YES: to your own priorities, to what is important for you.

If you can formulate this "yes" for your priorities, what you want, and what is important for you clearly, saying "no" to distracting obligations becomes much easier.

You should of course also value priorities of your colleagues and maintain good relationships.

The following advice will make your conversations constructive and saying "no" will become easier.

1. Make sure you listen carefully to the person approaching you with a request. Express that you understand why the request is important.
2. Take your time and do not answer spontaneously. Say "may I get back to you in XY time"?
3. Prepare well: consider critical reactions in advance (no-one likes a "no" as an answer). Think about what the best way to respond might be.
  - a. Discuss the options and impacts with friends, a coach, or mentor. Roleplay what you want to say, the critical reactions, and gain some feedback on how your responses might be perceived.
4. Explain your priorities and what is important to you.
5. Be firm but friendly. Explain your "No" but don't be defensive.
6. Suggest alternatives and ask questions that help explore alternatives ("I understand that this is important for you; who/what could help; etc.?").
7. Keep your word if you say yes. Your word should be your bond! If you are realistic in your commitments, you build up credibility and respect.

## 2.4 Build your networks

Networking and communication are key factors for career transitions. Through networking, you will receive important tips and advice for your current work and future steps by getting to know where there are open positions or if the work environment or culture of a different university or sector you are considering might be suitable for you.

Networking has thus the capability to give you a competitive edge throughout every stage of your career. While it is essential to connect with people who work at other institutions or in different fields, don't discount the importance of networking in your own workplace. Whether you are new to the institution or already established and have your sights set on a promotion, networking with your co-workers can be incredibly beneficial for your career progression. As you develop relationships with those in your department and in other divisions, be on the lookout for potential mentors, upcoming professional development opportunities, or new job opportunities that might not be publicly advertised.

### 2.4.1 *Start by analysing your networks*

With whom are you well connected - who might be missing?

How many real good contacts can you turn to for ...

... advice on strategic career development?

... professional expertise and collaboration?

... open feedback on achievements and how to improve?

... private issues and personal advice?

If your contacts are rather homogenous, the feedback and information you gain will be homogenous too. To expand your knowledge and skills, your contacts should be diverse. This is why you should analyse the diversity of your networks, for example, by filling out a table.

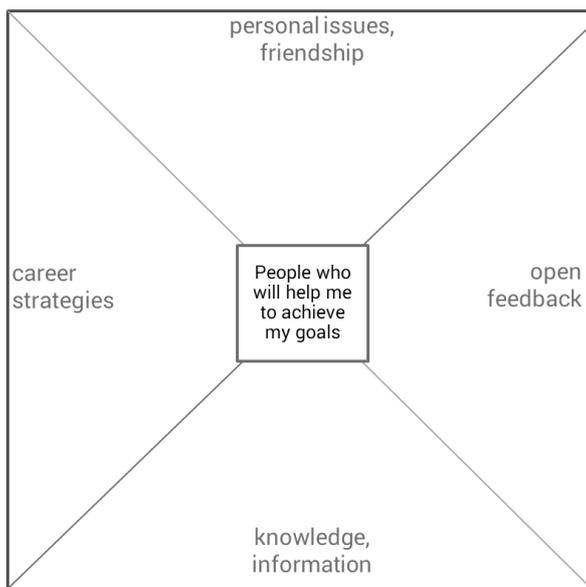
The number of real good contact that ....	
work in the same field/discipline:	work in a different field/discipline?
are of the same gender:	are of a different gender:
work and live in the same university/country:	work and live in a different university/country:
are on the same hierarchical level:	are on a higher hierarchical level:

Figure 7: Analyse your networks

Analyse and expand your networks:

- What exactly can people in my network do for me? In which areas are there gaps?
- Are there colleagues or role models who could become part of my network?
- Who are a few steps ahead and could become my mentor or even my sponsor?
- Who can help me make contacts and recommendations?

Move ahead and start to plan, for example, by visualising the contacts you have and need.



Colleagues and role models  
who should become part of my  
network:

Possible mentors or even  
sponsors:

People who might help me to  
make the contacts I will need:

**Figure 8: Visualise your contacts**



## 2.4.2 *How to network: some tips*

As people are different, there are different ways to network successfully. The key is to try out a number of different networking strategies to discover what best suits you. For example, introvert persons might prefer to network via one-on-one meetings over coffee or to attend more intimate events with fewer attendees.

Although you might not know exactly what you can expect to get out of each networking opportunity, it is important to head into each activity with a goal. For example, you may attend an event with the goal of connecting with three new people in your field of research or bringing back one new insight to share with your colleagues.

Do not neglect the follow-up step afterwards in the networking process. While you do not necessarily need to send a long, heartfelt message immediately after meeting someone new, you should send, for example, a LinkedIn connection request with a personalized message sooner rather than later. Save the thoughtful message when you have something valuable to share or a specific reason to reach out.

It is also a good idea to provide value to those in your network before you ask for help. Networking is ideally a mutual relationship and the more you invest, the more you learn about your new connections and the easier it is to offer support and receive it in return! Support opportunities do not need to be limited to work but can also be recommendations for hotels or restaurants or an introduction to someone in your personal network.

## 2.4.3 *A note on sponsors and mentors*

Sponsors actively and personally support talented people. This support is more far-reaching than with mentoring relationships and includes, for example, the possibility of accompanying senior researchers or managers to meetings, gaining access to career-promoting tasks, networks, and resources through direct recommendation.

Since sponsors get to know presentations by junior staff in joint meetings, they can give immediate feedback. They actively contribute to career development and provide direct support in the event of difficulties.

Such active and intensive support requires a lot of trust in the abilities of the person benefitting from the sponsorship.

This is actually the big difference in comparison with a mentoring relationship: In such a mentoring partnership, the transfer of knowledge about internal rules of the game, the exchange of experience, and reflection contribute to motivating and building the competences of mentees. However, the mentees take their own steps by themselves. Mentoring relationships are therefore less binding than sponsoring relationships and therefore easier to commit to. If a mentoring partnership develops positively, sponsoring by mentors might follow.

What is needed for effective mentoring is to differentiate between doing things right and doing the right things.

## 2.4.4 CAKE or PIE Mentoring

According to Colantuono<sup>3</sup>, mentoring can have different focus points like: Confidence, Attitudes, K(C)onnections and Encouragement (CAKE) or Performance, Image, Exposure (PIE).

CAKE	
C	<b>Confidence:</b> Developing confidence and courage to do something that mentees had not thought about at all or did not think they could do.
	Ask yourself: How is confidence developed in your mentoring relationships (being a mentor or mentee)?
A	<b>Aptitude &amp; Attitude:</b> Aptitude is about highlighting mentees' skills or pointing out their areas for development. A mentor often has a broader perspective and sees latent talent or skills - sharing these with the mentees helps to further refine their career path. Attitude refers to the discussion of and complaint about work-related challenges, which should be kept to a minimum.
	Ask yourself: How much time do you spend on aptitude & attitude discussions? Could that time be reduced and used for other purposes?
K	<b>Konnection [sic!]</b> to resources: Putting mentees in touch with the 'right' people, 'right' professional development opportunities, 'right' internal resources for success. This includes recommendations on courses; helping to attain important credentials, degrees or qualifications; support to attend or speak at conferences; advice on networking; tips on job offerings; referring mentees to others; etc.
	Ask yourself: What role does resource connection play in your mentoring relationships and field of activity?
E	<b>Encouragement:</b> Give backing to mentees, based on truly recognizing their value and qualities
	Ask yourself: To what extent is encouragement given or needed?

PIE	
P	<b>Performance:</b> Performance is about achieving outcomes. A job must not be done perfectly but should simply be done good enough to get the required results.
	Ask yourself: Who has enabled you to know what it means to achieve outcomes and which outcomes are most important?
I	<b>Image:</b> Image is about cultivating a 'leaderly presence' and exhibiting one's leadership qualities. There are different ways to do so, and they are not necessarily linked to clothing (e.g. Steve Jobs was dressed very casually but acted like a leader).
	Ask yourself: What types of image advice have you received or given?
E	<b>Exposure:</b> This involves getting the right job assignments to move up, to see and learn how work is done at higher levels (e.g., finding out who makes strategic decisions, what rationales guide decision making, how decisions affect the institute/organisation)
	Ask yourself: What kind of job assignments have you received/given? How did that provide insights into higher level thinking and decision making?

Formal mentoring (and training), especially for women and minorities, often focuses more on CAKE and too little on PIE aspects.

<sup>3</sup> Colantuono, S.L. (2012): Make the Most of Mentoring - Capitalize on Mentoring and Take your Career to the Next Level; Interlude Productions, Charlestown

## 2.4.5 *How to communicate with nearly everyone*

Communication is key for building networks. It becomes easier if you

- start with asking easy to answer questions and inviting your conversation partners to say something about themselves (everyone likes to hear a story about themselves - just like Winnie the Pooh);
- listen carefully, make sure you find good connectors: First seek to understand and then to be understood;
- identify a need of your conversation partners;
- offer a benefit: What might you be able to contribute? How might your conversation partner benefit from you and your conversation?;
- practice your elevator pitch: explain who you are, your current position at XY university, what you are passionate about, and your next steps;
- know your brand: add more details about you and your brand (what makes you unique? etc.);
- end with a “Memory Hook”: something people might remember easily.

The technique of an **ELEVATOR PITCH** might help you to move forward and phrase precisely what you have discovered so far about your skills and potential career steps.

Explore these videos to get some examples:

- Kevin Ward: How to create an Elevator Pitch (<https://www.youtube.com/watch?v=YHgf4SvysfA>)
- How to build a research pitch (<https://www.youtube.com/watch?v=3RgUR2nVcjs>)
- Willemijn Doedens: Three Minutes Thesis Competition Winner (<https://www.youtube.com/watch?v=7YesMSG9izE>)

## 2.5 Build and communicate your brand

When you communicate with others or apply for open positions, it is important to offer some easy to remember information about who you are and what you stand for. Your curriculum vitae can be attached to an application, but an attachment is different than a first impression. The “memory hook” comes with a personal brand which is even more important in interactions with others at conferences and networking events. The brand is built on your skills and expertise: what you do want you stand for and where you want to go?

Practice describing these in short:

- what you do and what is special about your expertise;
- how others benefit from what you do and why they need you;
- what you are passionate about and your next steps.

Start by practicing with friends, ask for their feedback, and then move on to introducing yourself at conferences, in the cafeteria, and on social media. Keep the communication principles in mind!

## 2.5.1 Social media networking for career aspirations

For professional network, platforms like LinkedIn, Researchgate.net, or Academia.edu are helpful.

You might ask your first-grade contacts to introduce you to their contacts working at the universities or companies you are interested in.

Search for alumni of your undergraduate or PhD university. Be proactive and ask them for an informal chat to find out what skill set they had when they started, what requirements their jobs have, etc.

Attend career open days, career conferences, and other career development events to get tips and meet people who have been or are in your shoes. The Society for Neuroscience's Annual Meeting has a Career Networking event on Saturday evening during the meeting and multiple professional development workshops.

If your institution does not have a postdoc office or career service office, organise with other postdocs and senior graduate students to set up a career development speaker series. Often you can ask the university to fund this.

## 2.6 Life-domain balance

Goals have many facets and encompass far more than a professional career. Not all goals can be achieved at the same time. To recognise how goals are particularly important and how they affect other areas of life, it is helpful to determine where one stands. Mentees enter their rating for each area in the following table: How satisfied were you three years ago? What's it like now? How about three years from now? Describe what works well already and what your boldest hopes are for the next three years. Do expectations in individual areas influence or exclude each other? The scale is freely selectable.

**Table 1: Personal position determination**

Area / Aspect	3 years ago	<---> now	in 3 years	What works well? --> What are the wildest expectations for the upcoming years? Which interdependencies and trade offs might be important?
Health, fitness				
Personality				
Spiritual				
Friendships				
Family				
Leisure time				
Professional occupation				
Career				
Finances				
...				
...				

## 3. Focus on change

Science is a complex endeavour and therefore difficult to plan. Do not be disappointed if the plans you made don't work out as they are supposed to do.

Ralph Stacey, a complexity researcher, makes us aware that innovation only takes place close to the edge of chaos.

Chaos comes with complexity, which rises with

- the number of involved stakeholders;
- lack of experience with similar projects or co-operations;
- new skills and expertise needed for a project;
- the dynamics of the environment in comparison to the project duration;
- difficulties in knowing and anticipating involved risks;

Your chances of overcoming difficulties rise with

- Your willingness and ability to learn;
- Search for feedback;
- Your resilience.
- 

Embrace change and stay flexible. Turn defeats into success stories.

A note on the term “risk”: in research “risk assessment” is mostly used in relation to identifying risks that could harm “subjects” or people. The University of Essex offers a website on “Research risk assessment, with detailed guidelines”: <https://www.essex.ac.uk/student/postgraduate-research/research-risk-assessment>.

A general introduction to risk analysis and management for projects can be found at: <https://www.pmi.org/learning/library/risk-analysis-project-management-7070>.

### 3.1 Find a balance between specialisation and diversification

A general approach on how to deal with complexity and enhance the likelihood of identifying risks and being ready for a plan B is to find a good balance between specialisation and diversification in all aspects relevant for your thesis:

- your research strategy;
- your personal networks;
- your publication strategy.

It is essential to keep this balance of specialisation and diversification by planning SMARTER goals, analysing and expanding personal networks, and taking advantage of the HBP publication strategy guideline.

### 3.1.1 Publication strategy

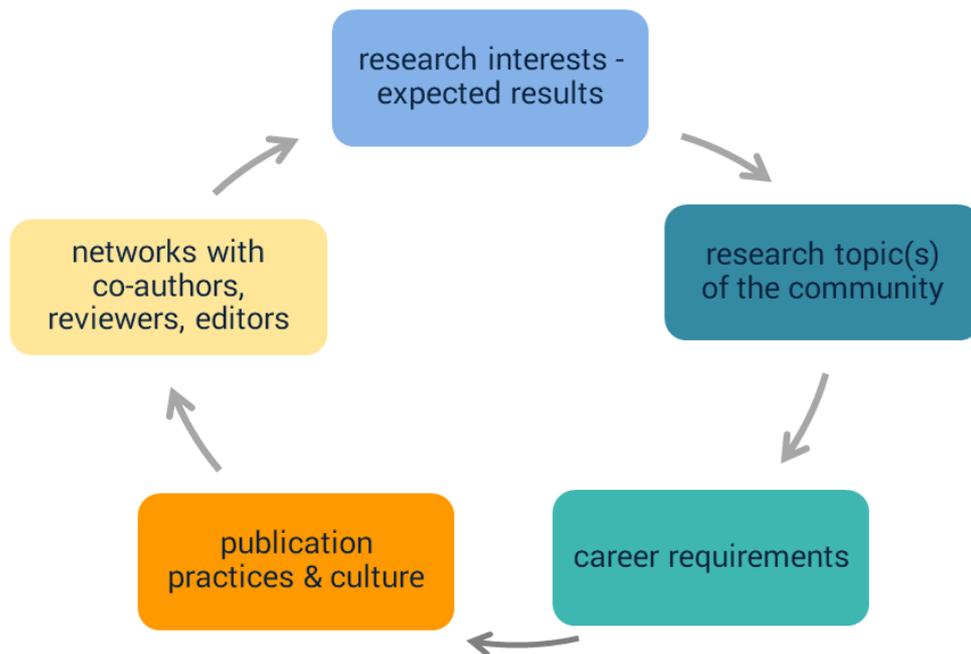


Figure 9: Publication Strategy

#### Do you know ...

- ... how your research interests/ topics fit
  - within the research field?
  - with the interests of your supervisor?
- ... the publication practices of your community?
- ... which publications (number, impact, co-authorship, etc.) are expected for your next career step according to
  - your scientific discipline(s);
  - your university;
  - funding agencies?

Have you considered biases regarding gender, universities, non-native speakers, or interdisciplinary research you might have to deal with?

Is your publication strategy linked to a network strategy for increasing the visibility of your scientific work?

#### Are you aware of biases you might need to deal with?

Interdisciplinary research might be more difficult to label and review (e.g., success rates of interdisciplinary proposals for ERC Grants were lower, Labastida, 2013 cited by Shapiro, 2014).

Native English speakers, from countries where English is the native language have a higher likelihood of being published in high-ranking medical journals (Paiva et.al, 2017).



Women are more likely to add honorary authors (Fong & Wilhite 2017).

Women tend to publish less (Rørstad & Aksnes, 2015), especially in research areas that require an expensive infrastructure, and they cooperate more regionally than internationally (Larivière et.al, 2013).

Mentors can draw attention to the differences and support mentees in the development of a publication strategy that is appropriate for their scientific discipline.

#### Your interest and who is interested in it?

- What are the main scientific interests of the scientific superior?
- What research questions are discussed in the scientific discipline?
- Should regional differences be considered? (e.g., sciences of law and history are embedded in a regional context, but funding agencies might request an international context).
- Which methods are used and are currently particularly important?
- Which research gaps are addressed in the current literature?
- Which specific focus might be innovative and contribute to the further development of the research field or discipline?

#### Does your research topic fit into the scientific community?

- Which scientists, research institutions, and communities are particularly visible in my research field (e.g., Who is quoted very frequently, who holds keynotes at important conferences, etc.)?
- Who cooperates with whom?
- Which disciplines are involved in the collaborations?
- Who (scientists/institutions/disciplines) cooperates frequently?

#### Do you know the publication practices of your discipline?

- What type of publication is ranked highest?
- How many authors are listed? In which order?
- Which journals, conferences have the highest impact?
- How are interdisciplinary contributions ranked?
- Who publishes particularly successfully?
- How many publications per year might be expected?
- What is the expected time span for a "high-ranking" publication (with respect to review, corrections, and revisions of the contribution and the rejection risk)?
- Which alternative publications with lower rejection risks might be considered, even if they are less highly ranked?
- Is open access an option? Can I afford it?
- Are there any rules or regulations at the university or institute that have to be considered?

**Are you familiar with your career requirements?**

- What might be the range of scientific knowledge expected for my scientific career (high specialisation vs. fit to different institutes)?
- Which range of scientific knowledge is covered by my role models and/or institutes I'm interested in?
- What is the degree of specialisation of my research topic?
- What further topics should I cover to foster my next career step?
- Are there guidelines regarding publication requirements for my next career step (doctoral guidelines, habilitation guidelines, performance agreements, etc.)?
- Who can provide information on these requirements?

**Where to publish: low impact or high impact?**

- “The value of a researcher” is often determined by the “impact” of their publications on a scientific community, i.e. the impact factor of journals or the number of citations of an article.
- The Hirsch-Index (also known as h-index) refers to the number of publications which have been cited at least h-times and is one established measure for the overall work of a researcher, especially in STEMM fields
- However, different communities have different metrics and numbers (e.g. books are not counted with the h-index and more important in arts and social sciences)
- Risks to consider when publishing:
  - Choice of Journal: Rejection, long waiting periods vs. low impact
  - Co-Authorship: honourable authors: more citations vs. less credit

**Design your publication strategy:**

- This is how I will make my research topic more visible: ...
- These parts of my research outcomes can be published independently: ...
- For the upcoming 3-5 years, the number of publications I am dedicated to is ...
- I will increase the visibility of my publications by considering renowned journals, conferences, co-authorship, networking, ...
- These are the colleagues I want to research and publish with: ...
- I will contact colleagues who are potential contributors at ...
- We will have to discuss and mutually agree on ...

**Table 2: Design your publication strategy**

Which publication?	With whom (first author)?	Journal, Publisher	By when?	Estimated effort

## 3.2 Planning revisited: do it agile

Gantt charts and milestones are good for keeping us updated on fixed deadlines, such as those for a research proposal or a paper submission. They signal a sequence of modules or tasks in which certain steps can only be taken after previous ones have been finalised. However, research is rarely a linear endeavour which can be planned in detail beforehand and then carried out step by step accordingly. While we move forward, we gain new insights. We might have to reconsider previous achievements or insights as premature, while at the same time, we might be able to accomplish other tasks in parallel.

An agile approach to planning, as developed for software engineering, works with so-called prototypes which can be quickly achieved, examined, and revised early in the development process.

Instead of spending a long time building a big thing,  
spend a short time building a small thing,  
but integrate regularly to see the whole.

*Based on Kniberg H.: Kanban vs Scrum - how to make the best of both*

For researchers, Hick and Foster have published 2010 a paper “adapting Scrum to Managing a research group” (<http://www.cs.umd.edu/~mwh/papers/score.pdf>), which is summarised and supplemented for you in what follows.



Figure 10: SCORE - Scrum for research projects

Small tasks and prototypes might be the summary of a literature review, an early experiment, the presentation of a research outline at a conference, etc. The approach encourages you to search for feedback early in the process and to schedule short meetings often with your supervisor and/or colleagues. Make sure you can clearly deliver what you plan to do or have achievements that can be challenged in these meetings, which should take no longer than 15-30 minutes. By following this strategy, you can adapt your research process at an early stage.

In her “CAREER COLUMN”, Laura Pirro has written an article titled “How agile project management can work for your research”

(<https://www.nature.com/articles/d41586-019-01184-9>), which explains guiding questions for short, efficient meetings in further detail:

*“Try to have a stand-up meeting with no laptops or papers. Only three questions need to be addressed: what was done the previous week to contribute to the goal? (For example, which experiments were performed?) What will be done next week to contribute to the goal? (For example, what experiments will be performed next?) And, are there any impediments? (For example, is the set-up working properly? Are all the materials needed available?)”*

When receiving constant feedback and new ideas, you might become distracted. Don’t forget to reflect and differentiate carefully what must be achieved from what might be nice to achieve additionally, as well as the new risks that might be involved in changing your original plans.

**Increase your flexibility while keeping limited resources in mind**

	<b><u>MUST HAVE</u></b>	What must the project achieve in order to be successful?
	<b><u>NICE TO HAVE</u></b>	What else would be great? What does the thesis/project not have to achieve?
	<b><u>WHAT IF ...</u></b>	Imagine everything that could go wrong! Invite friends/colleagues to brainstorm threads and <b>alternatives</b>
	<b><u>TIME AND AGAIN</u></b>	rethink, discuss, replan (smatER goals)

Figure 11: Integrating feedback

### 3.3 Thanks for the feedback: a book summary

A key to successful, timely adaptations of your plans is to learn from feedback. Feedback is not always easy to take, especially when provided or perceived as personal critique. Therefore, we discussed in depth on how to deal with feedback and I summarised the following book for you:

Douglas Stone und Sheila Heen (2014): Thanks for the Feedback. The Science and Art of Receiving Feedback Well. Even if it is off Base, Unfair, Poorly Delivered, and, Frankly, You’re not in the Mood. Viking, Penguin Group New York.

Feedback can have different meanings



- 1) **Praise, motivation:** Perception, recognition of achievements
- 2) **Coaching, mentoring:** Tips on how to improve in the future, what you can do differently
- 3) **Assessment, evaluation:** placing performances in a ranking, orienting yourself on "where you stand"

#### The different meanings of feedback lead to misunderstandings

- It remains unclear what kind of feedback is involved, for example if the feedback
- Sometimes there is uncertainty because feedback is interpreted differently than intended (example: is feedback from superiors well-intended coaching which allows for one to improve, or is it a performance evaluation which could have a severe impact on one's actual position or career perspectives?).
- ➔ Sometimes a person needs some form of feedback other than what is actually given - for example, encouragement or motivation rather than a concrete list of points that could be improved. The following can help improve giving and receiving feedback:
  - When giving feedback, say in advance exactly what is meant.
  - When receiving feedback, ask how the feedback is meant.
  - When asking for feedback, clarify what kind of feedback would be helpful. For example, "Please tell me what you think has been done well in the preparation" or "what could I improve on, in your opinion"?

#### Feedback meets different forms of internal resistance

- 1) Professional resistance: The correctness of the content is doubted.
- 2) Relationship-oriented resistance: Feedback is rejected because it is interpreted as a lack of personal appreciation. The relationship and the intentions of the person giving feedback are doubted.
- 3) Personal resistance: The feedback shakes your self-confidence. The feedback is not only related to the addressed performance, but you perceive it as critique of you as a person, your identity. Self-doubt makes constructive interaction difficult.

#### How feedback is accepted depends, among other things, on one's personal disposition.

##### Dispositions differ according to one's

- a) Sensitivity to different signals in general;
- b) Sensitivity to positive and negative signals (what is more likely to be noticed, how lasting is the effect);
- c) Need for positive confirmation, resilience, and self-confidence.

A note: According to Stone and Heen, sensitivity is genetically determined. However, culture, socialisation, and experiences also play important roles!

**Even from very critical feedback one can learn.**

Depending on the type of resistance caused by the feedback, different strategies can help to better accept the feedback.

"Resistance Trigger"	"Learning Response"
Content: e.g., <i>"This is wrong."</i> <i>"That's not helpful."</i> <i>"That's not me."</i>	Differentiate which kind of feedback was given - was it recognition, coaching, or evaluation? All three are important, but maybe something else is needed at the moment. Become aware: The people who give feedback have different information than you. Clarify misunderstandings to better understand the feedback by asking questions that shift from "that's wrong" to "tell me more".
Relationship: e.g., <i>"After all I've done for you?"</i> <i>"Who are you, who are you to tell me these things?"</i> <i>"You're the problem, not me."</i>	Differentiate between "What" (the content) and "We" (the relationship): Both are important, but each aspect requires separate consideration or processing. Reflect on the relationship: How is it structured? In what way do both parties contribute? What makes it difficult to accept the feedback?
Person: e.g., <i>"Oh dear, I've completely screwed this up."</i> <i>"Everything I do goes wrong"</i> <i>"I'm not a bad person - am I?"</i>	Be aware that there are different sensitivities to feedback and understand your own sensitivity better. Learning to find your own balance again and reconsidering the feedback received might help. Emphasise the coaching function of feedback and thus understand it as a way to grow and to learn.

Examples of reactions/self-assertion in feedback discussion

"Pitfall"	Better
<i>"This is wrong! "</i>	<i>"I see things differently."</i>
<i>"After all I've done for you", "You only think about yourself! "</i>	<i>"I feel underappreciated. It is therefore difficult for me to follow your feedback. I think we should talk about the feedback - and about how I feel."</i>
<i>"This is not my fault!"</i>	<i>I agree that I have made a contribution to ... I would like us to analyse the connections. I think there are still a few important aspects that we should clarify so that we can improve the situation."</i>
<i>"It's true, I'm a hopeless case."</i>	<i>"I'm surprised, this is a bit much at once. I need time to think about it. Can we meet again on ... and discuss it ... ? "</i>



### Feedback as an interaction of people with different needs

Feedback can "trigger" a relationship issue in us. We react by addressing this need directly or indirectly. This also means that the original intention or wishes of the person giving feedback are no longer addressed. A spiral of talking past each other develops:

- 1) We hear the feedback.
- 2) The feedback "triggers" a need, a theme.
- 3) We switch to this topic in conversation - and explain how we feel.
- 4) We don't talk to each other...

Supervisor: *"The sales figures are not in order"* Employee: *"You tell me that now, on the last working day before my vacation?"*

### What helps

- Recognise that two different topics are mixed up. Address them separately.
- Listen carefully and ask whether there are other needs and wishes behind coaching and feedback that were not directly addressed.

Stone and Heen: Example on page 104; Examples on page 115; Example on page 120.

### What helps for better accepting "inappropriate" feedback

- 1) **Set limits** and consider whether it is helpful to accept the feedback. Questions that help to clarify whether setting limits is appropriate include the following:
  - First, clarify, Do I understand my reactions to the feedback? Does the feedback perhaps meet "a blind spot" of mine?
  - Is it possible to identify helpful aspects or content independently of other needs that are "triggered" by the feedback?
  - Is my character being criticised or a specific behaviour or result?
  - If I changed my behaviour, has further criticism followed or continuous requests to change? (Is the feedback meant to just constantly tell me that I am not good enough?)
  - Is compliance with the feedback subject to unreasonable conditions? For example, "if you don't buy the flowers I recommended, you're to blame for ruining our relationship".
- 2) Accept feedback that is meant as coaching: sometimes you hear an evaluation even if the feedback is not meant to be evaluative (e.g., an executive draws our attention to a project management tool, and we take it as criticism of our project management skills).
- 3) For evaluations, **look for the coaching aspects in the evaluating feedback** and, instead of putting the evaluation in the foreground, look for ways to use the feedback for further development.

**Separate evaluation of performance from evaluation of oneself:** An evaluation clearly states where you stand. An evaluation also has consequences (e.g., not being promoted, not being able to participate in a competition) and is inevitably associated with disappointment. It is these personal disappointments that hurt, but the evaluation can still be important and correct.

- 4) **Give yourself a second, positive evaluation** for things others did not notice and for how the evaluation was handled/processed. The original bad evaluation might be a starting point for future improvements, i.e. to think about those aspects in the evaluation that are suitable to work on an improvement. Then you can set a new goal and learn from the whole experience - for future chances!

## 3.4 Belief in your career

“Belief is the attitude that something is the case or true.”

- You do believe that something about you is in fact true. This is based on
  - Experiences you have made;
  - Feedback you have received;
  - How you interpret your experiences and the feedback gained.
- Negative beliefs about yourself will hinder your personal and career development.
- Positive self-beliefs are important for defining and reaching your goals.
- Beliefs can be changed!
  - Become aware of your self-beliefs and become aware of the painful effects of negative self-beliefs and how important it is to get rid of them!
  - What self-beliefs would be most helpful? - write them down.
  - Every day: repeat your new positive self-beliefs.
  - Every day: collect evidence and make notes on everything you have done well.

## 3.5 Resilience - be realistic and recover fast

Life in academia is quite demanding and rather stressful, especially when depending on your thesis to be finalised, setbacks, and feedback that might often be difficult to handle. Consequently, we conclude this coaching session with a reflection on resilience and how to become a resilient person.

*“Resilient people possess three characteristics:  
a staunch acceptance of reality,  
a deep belief [...] that life is meaningful;  
and an uncanny ability to improvise”.*

In her article “How Resilience Works. Three traits of those who bounce back” (2017), Diane Coutu writes the following: Notice that acceptance of reality somehow contradicts the simple optimism of “everything will just work out fine”. It means to embrace critiques while also seeking positive insights, adding self-praise to recover, and building trust in one’s ability to overcome difficult situations.



Irene Levin has summarised advice for how to become a resilient person:

- 1) “Make connections with people who can provide social support (e.g., mentors, friends, and colleagues).
- 2) Avoid seeing crises as insurmountable and maintain a long-term view toward the future.
- 3) Accept that change (and the need to adapt to it) is part of living.
- 4) Focus on small steps and realistic goals that can be accomplished on a regular basis.
- 5) Take decisive action rather than wishing problems would go away.
- 6) Look for opportunities for self-discovery; learn lessons from stress and adversity.
- 7) Nurture a positive view of yourself that allows you to trust your instincts.
- 8) Maintain perspective and don't blow things out of proportion.
- 9) Take care of yourself mentally and physically.
- 10) Meditation and spiritual practices are helpful to some people.” (Levin, 2011)

Practice Directorate of the American Psychological Association cited by Irene S. Levin  
<https://www.sciencemag.org/careers/2011/06/mind-matters-resilience>.

Which of the above attitudes and actions are already part of your routines?  
Which would be good to work on and integrate?



## 4. Videos and literature

### 4.1 Goals and Plans

Urban, T. (2016): Inside the mind of a master procrastinator. TED Talk. URL:

<https://www.youtube.com/watch?v=arj7oStGLkU>

Grant, A. (2016): The surprising habits of original thinkers. TED Talk. URL:

<https://www.youtube.com/watch?v=fxbCHn6gE3U>

Grant, A. (2017): Are you a giver or taker? TED Talk. URL:

<https://www.youtube.com/watch?v=YyXRYgjQXX0>

Bolles R. N. (2017): What color is your parachute? Ten Speed Press, Berkeley

Inspiration for planning tools:

<https://teamdeck.io/toolbox/10-free-project-planning-tools/>

<https://medium.com/@nTaskManager/top-6-project-planning-tools-every-project-manager-must-have-22f6150ba1e1>

#### 4.1.1 *Self-Coaching*

Cranfield J. (2007): How to Get from where you are to where you want to be

Ward K. (2016): How to Create an Elevator Pitch. URL:

<https://www.youtube.com/watch?v=YHgf4SvysfA>

#### 4.1.2 *Agile Management*

Hazzan O., Tozik S. (2014): Agile Research in InfoQ. URL:

<http://www.infoq.com/articles/agile-academic-research>

Hicks, M. & Foster, J.S., (2010): Adapting Scrum to Managing a Research Group, Communications of the ACM, (October), 1-9. URL:

<http://www.cs.umd.edu/~mwh/papers/score.pdf>

### 4.2 Writing

Bolker, J (1998): Writing Your Dissertation in Fifteen Minutes a Day

Booth W., Colomb G. Turabian K. (Eds.) (2018) Manual for Writers of Research Papers, Theses, and Dissertations: Chicago Style for Students and Researchers (Chicago Guides to Writing, Editing, and Publishing)

### 4.3 Obligations in Academia

MacIntosh, R. (2016). It's Not You, It's Your Data. Heriot Watt's PhD support site:

<http://www.itsnotyouitsyourdata.com/life-after-phd/top-ten-hints-on-building-your-academic-reputation/>

Shapiro E. (2014): Correcting the bias against interdisciplinary research. eLife No. 3: e02576 doi: 10.7554/eLife.02576

HBP Publication Guideline (2019): URL:

[https://www.humanbrainproject.eu/en/about/gender-equality/measures-and-materials/#\\_guidelines](https://www.humanbrainproject.eu/en/about/gender-equality/measures-and-materials/#_guidelines)

Larivière V. Ni Ch., Gingras Y., Cronin B-, Sugimoto C (2013): Bibliometrics: Global gender disparities in science. *Nature*, Vol. 504, No. 12, p. 211-213. URL:

<https://www.nature.com/news/bibliometrics-global-gender-disparities-in-science-1.14321>

## 4.4 Dealing with feedback and saying no

Ury, William (2008): *The Power of a Positive No. How to say No & still get to Yes*. London: Hodder Mobius.

Ury, William at Microsoft (2016): *The Power of a Positive No: How to Say No and Still Get to Yes* (55 min) <https://www.youtube.com/watch?v=1IcnRJsAOIU>

Lozeron N. (2017): *The Power of a Positive "No" summarized in 4 min* <https://www.youtube.com/watch?v=WuS0fySFNl0>

Remark: be aware of the gender stereotypes used in the examples 😊

Stone D. and Heen S. (2014): *Thanks for the Feedback. The Science and Art of Receiving Feedback Well. Even if it is off Base, Unfair, Poorly Delivered, and, Frankly, You're not in the Mood*. Viking, Penguin Group New York.

## 4.5 Networking, Mentoring and Sponsoring

Augustine, Amanda (nd): *The Importance of Networking (and How to Do It Well)*. URL: <https://www.topresume.com/career-advice/importance-of-networking-for-career-success>

Colantuono, S.L. (2012): *Make the Most of Mentoring - Capitalize on Mentoring and Take your Career to the Next Level*; Interlude Productions, Charlestown

Hewlett, S.A. (2013): *Forget a Mentor, Find a Sponsor: The New Way to Fast-Track Your Career*. Harvard Business Review Press

## 4.6 Publication strategy

Fong E.A., Wilhite A.W. (2017): *Authorship and citation manipulation in academic research*. *PLoS ONE* 12(12): e0187394 <https://doi.org/10.1371/journal.pone.0187394>

Hicks, Diana et al. (2015): *The Leiden Manifesto for research metrics*. In: *Nature*, Vol 520, 23 April 2015, p. 429-431.

Hirsch, Jorge E (2005): *An index to quantify an individual's scientific research output*. In: *PNAS*, Vol. 102(46), 15 Nov 2005, p. 16569-16572. DOI: [10.1073/pnas.0507655102](https://doi.org/10.1073/pnas.0507655102)

Larivière V. Ni Ch., Gingras Y., Cronin B-, Sugimoto C (2013): *Bibliometrics: Global gender disparities in science*. In: *Nature*, Vol. 504, No. 12, p. 211-213. URL: <https://www.nature.com/news/bibliometrics-global-gender-disparities-in-science-1.14321>

Paiva C.E. et al (2017): *What are the personal and professional characteristics that distinguish the researchers who publish in high- and low-impact journals? A multi-national web-based survey*. In: *ecancer*, No. 718. DOI: <https://doi.org/10.3332/ecancer.2017.718>



Rørstad K., Aksnes D. (2015): Publication rate expressed by age, gender and academic position - A large-scale analysis of Norwegian academic staff. In: *Journal of Informetrics*, Vol. 9, No. 2, p 317-333. DOI: <https://doi.org/10.1016/j.joi.2015.02.003>

Shapiro E. (2014): Correcting the bias against interdisciplinary research. In: *eLife* No. 3: e02576 doi: 10.7554/eLife.02576

## 4.7 Belief and Resilience

Primmer, Justin (2018), "Belief", in Primmer, Justin (ed.), [The Stanford Encyclopedia of Philosophy](#), Stanford, CA

Practice Directorate of the American Psychological Association cited by Irene S. Levin (2011). URL: <https://www.sciencemag.org/careers/2011/06/mind-matters-resilience>

## 4.8 Online resources for skill and career development, with a link to Industry

SfN Neuronline <https://neuronline.sfn.org/>

Professional blogs like Bioscience Careers (<http://biosciencecareers.org/>) or Cheeky Scientist (<https://cheekyscientist.com/>) .

Elsevier Researcher Academy: Seven strategies for scientists to communicate their research and create a brand. URL:

<https://researcheracademy.elsevier.com/communicating-research/ensuring-visibility/seven-strategies-scientists-communicate-research-create>



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