



Research Collaborations

A guide for early career researchers
by early career researchers

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RU

LERU Doctoral Summer School
Building Research Capacity and a Collaborative
Global Community



THE UNIVERSITY
of EDINBURGH

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Introduction

The League of European Research Universities (LERU) organises a summer school each year at one of the member universities on a different theme, inviting PhD students from Europe's top research-intensive universities. This year's LERU summer school was organised around the theme of collaboration in research, with the aim of developing a guidebook for early career researchers including tips and advice for successful collaborations.

When the University of Edinburgh proposed international collaboration as a theme for the annual LERU doctoral summer school, it was obvious for LERU to support that idea. I am delighted to take this opportunity to emphasise the opportunities that collaborations offer. Rather than telling researchers about collaboration, the vision of the organising team was to create a collaborative challenge for the summer school attendees – to create a high quality publication in five days! The guide you are now reading demonstrates how much a group of diverse and motivated researchers can achieve when they pool their skills and experiences to work together.

LERU is itself a collaboration between 23 universities in 12 European countries which has proven to be very successful. Over the past 15 years, joint lobby activities have been set up, joint best practices have been developed, joint research projects have been implemented and joint degree programs have been offered, all of this enhancing collaboration and mobility between the 23 members' leadership teams, researchers and students.

Clearly, national, European and international collaboration is beneficial for research, innovation and education: it increases interaction between people, exchange of ideas, development of breakthroughs, speed of scientific progress, exchange of scientific knowledge, understanding of cultural differences, and the quality of the student experience. This guide draws from the experiences of researchers from across the LERU network and summarises the many benefits of



working together, whilst being honest and realistic about the challenges that can arise.

In the weeks leading up to the workshop, each participant conducted an interview with a senior researcher in their field asking them about their insights in and experience of collaboration. Also, throughout the workshop, participants shared their thoughts and experiences on collaborating with academic and non-academic partners, for instance success factors, challenges, cultural aspects, etc. This guidebook, therefore, is a result of the synthesis of the initial input from senior researcher interviews with input from participants based not only on their past experiences but also on what they learnt throughout the workshop while listening to invited speakers.

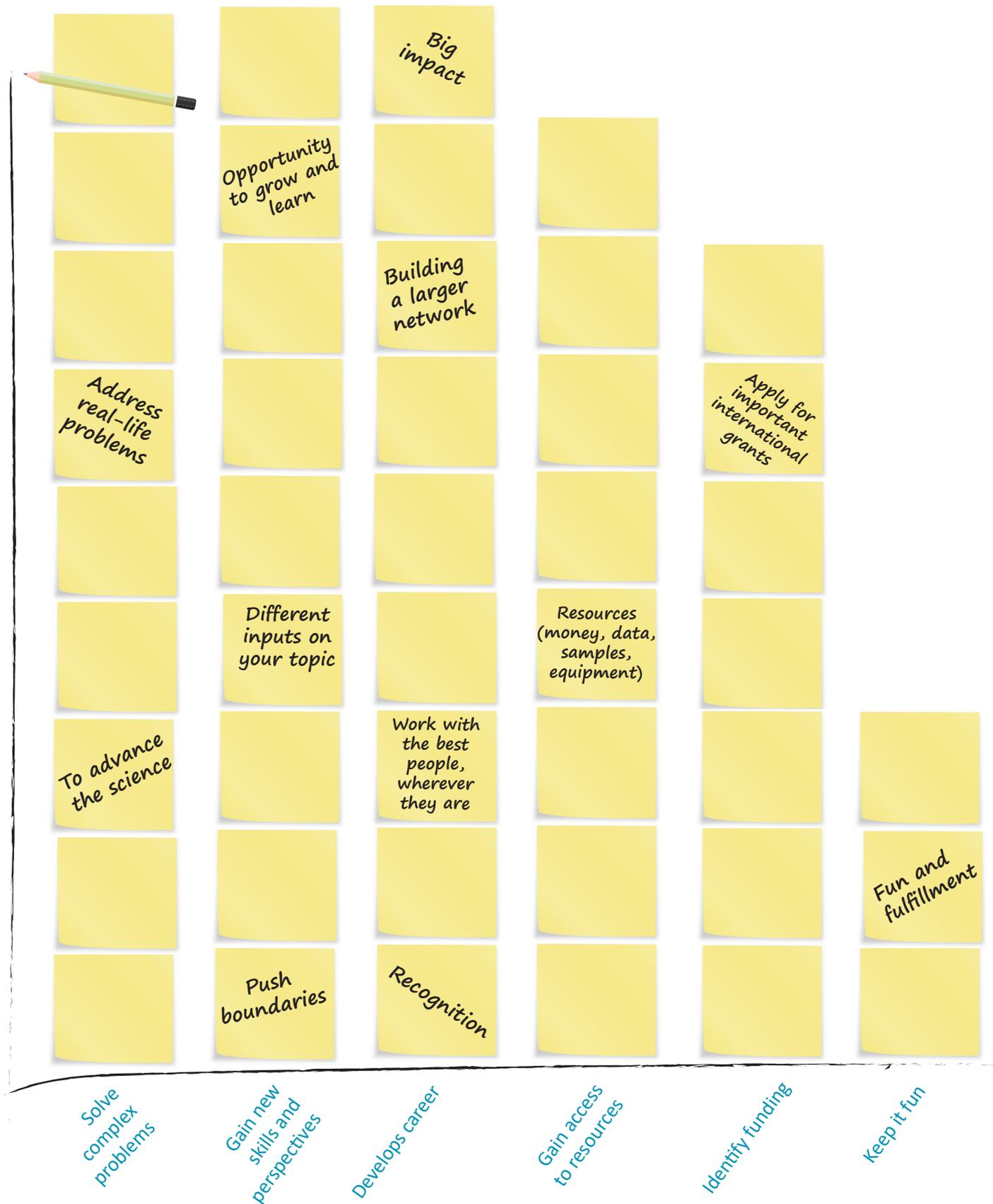
I am confident that the quality of this guide will demonstrate what a great experience our doctoral researchers had and I hope it will inspire many others to work collaboratively.

- Prof. Kurt Deketelaere, Secretary-General, LERU

Motivations for Collaborations

We firstly asked our interviewees about their motivations to collaborate. Understanding these from the beginning would help to design and run the project to deliver the needs of all partners.

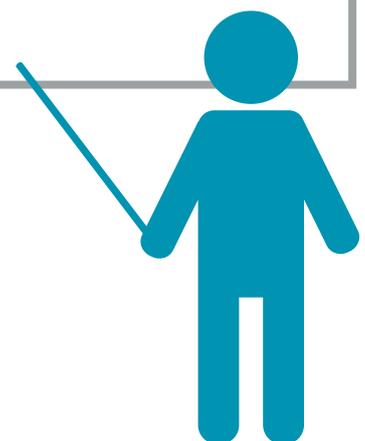
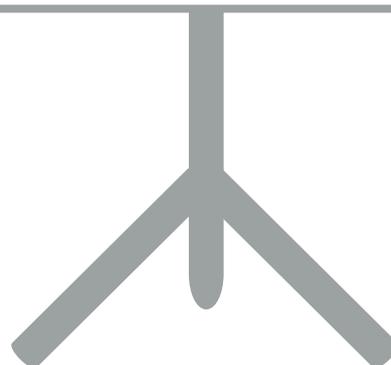
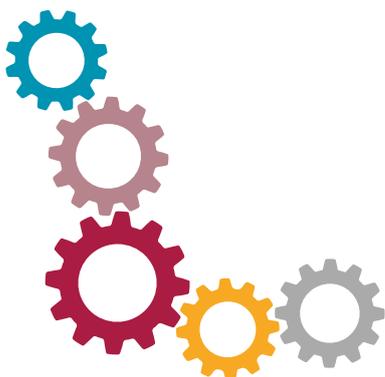
In the diagram below, we have categorised the main reasons for collaborating. These are further elaborated by particularly significant comments gained from our research.



Opening Doors

Suggestions for introducing yourself and your research to a mixed audience

- Focus less on the details of your research and place emphasis on the nature of the collaboration you are looking for to attract the right people.
- Interact with the audience, ask questions, tell jokes or get them to stand up.
- Be personable and enthusiastic – it's contagious if you convey how interesting you find your work.
- Find something that everybody can relate to and start with it.
- Don't use jargon!
- Talk about the skills you have as these may be valuable for other projects or ideas.
- Design simple visuals, but invest time in them so they are clear, appealing to look at and explain your work to a broad audience.
- Be concise in what you say and what is on the slides. Too much text or details can be distracting especially if they are inconsistent with what you're saying.
- Be open-minded about who is listening as you might find collaborations in unexpected places – don't turn down possibilities with pre-conceived assumptions about who will or won't be interested.
- Imagine you're explaining your research to someone in an elevator and you have until they get off to get them engaged.
- Encourage your audience to participate by asking for questions, ideas or collaborations.
- Use themes to interest people in related/similar fields.
- Mention topics you are interested in - research can be very specific and it can be hard to extrapolate the research project to wider skill areas or interests if these aren't highlighted.
- People are interested in people, so share a personal moment with someone about yourself (i.e. a joke, being really passionate, a fun fact eg "I can't draw!"; "I won the three minute thesis!"; "I'm excited to X!")
- Think about what you want to achieve with your introduction and design it with this end in mind. What do your audience need to know to take the action you want them to?
- Practice your introduction with people from other fields so they can help you see what might spark an idea in someone else.
- Using keywords (such as data mining) to help others connect with you and remember you better.
- Keep in mind the impact of what you do and why you do it instead of technical details about how you do it.
- Have a few versions ready so you can adapt your introduction to the public and the room if you learn more about them before you present.
- Use your slide as a visual aid – design it to reinforce the key points you want people to remember.



Success Factors

Six key success factors for collaborations were identified based on the interviews and our workshop discussions. These six success factors are listed below, along with the good practice to achieve them.



Trusting relationships

Meet face-to-face to foster personal connections	Be ethical and responsible; create an explicit code of conduct from the beginning	Transparency is key; all partners should have access to all data and materials where possible
Avoid hierarchy of disciplines, and value other perspectives	Be clear about your aims, and honest about your own skills and limitations	Commit to the project



Shared vision and clear goals

Have explicit and transparent discussion of vision with all partners	Clearly formulate goals and commitments	Make an effort to get to know your collaborators' key professional interests
Don't lose perspective of the collaboration objectives	Understand each others' backgrounds and motivations	Value all members equally



Clear and effective communication

Establish a common language	Have frequent communication with all members	Plan meetings carefully and follow up afterwards
Be thoughtful about choosing forms of communication	Listen actively, and encourage all members to share opinions	Openly discuss differences as soon as they arise

Mutual benefits



Discuss the benefits to all parties

Not everyone can get everything; seek fair compromises

Build strategic alliances with collaborators you can benefit from

Explore opportunities in your differences

Discuss patents, intellectual property, and authorship

Share knowledge and ideas

Effective management and support



Ensure common understanding of expectations, roles, and outcomes

Ensure there is appropriate administrative and technical support

Nominate a central contact or project manager

Set and communicate clear, achievable deadlines and schedules

Have regular face-to-face meetings to monitor progress

Ensure files, data, and schedules are stored securely and ethically

Positive team dynamics



Be aware of power dynamics

Actively listen to others' inputs and concerns

Keep a positive, engaged, and passionate attitude

Engage in social activities together

Be willing to work through personal differences

Make a conscious effort to be inclusive

Challenges of Collaborations

Challenges will inevitably arise during collaborations. Some can be prevented during the design of the collaboration (light grey/white clouds) and solved through appropriate processes such as having a partnership agreement, implementing good practice and seeking advice from support services.

Some can arise during the collaboration (grey clouds) and may not have clear guidelines when it comes to dealing with them. However, these may be addressed by the collaborators and managed.

Some may be due to the fact that collaborations involve different people with different ideas, cultures and backgrounds (black clouds). These differences are inherent, and the only solution when these clash is to become aware of them and do your best to find a way to deal with them.

**No
common
vocabulary or
language**

**Problem
with leadership,
power dynamics and
hierarchial structure**

**Language
barrier, lack of
communication or
misconceptions, lack
of transparency**

**Lack
of team
cohesion,
motivation and
commitment**

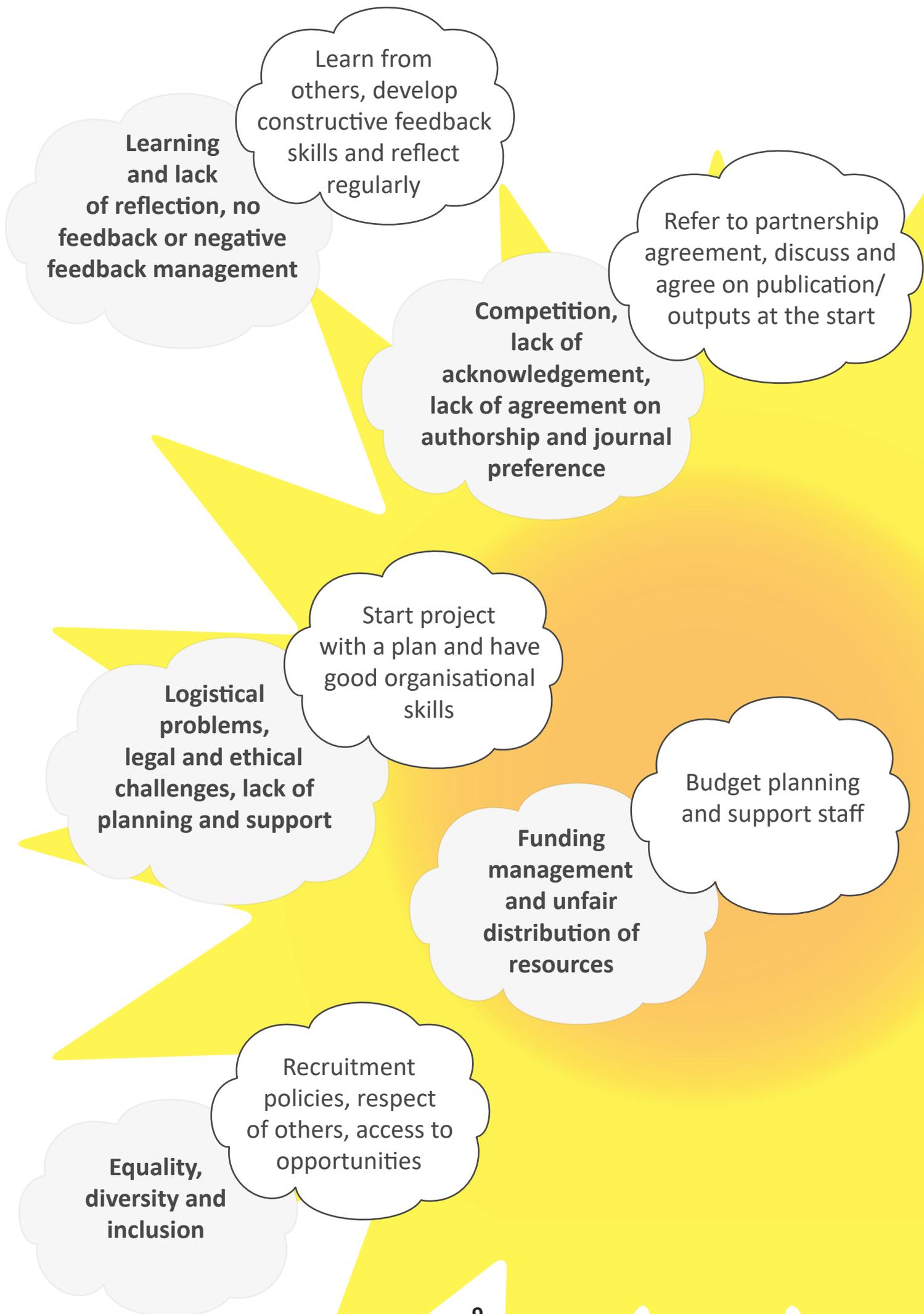
**No
mechanisms
for dealing with
conflicts or lack of
trust**

**Mismatch
of visions and
goals, expectations,
priorities and
responsibility**

**Cultural,
social
& political
differences**

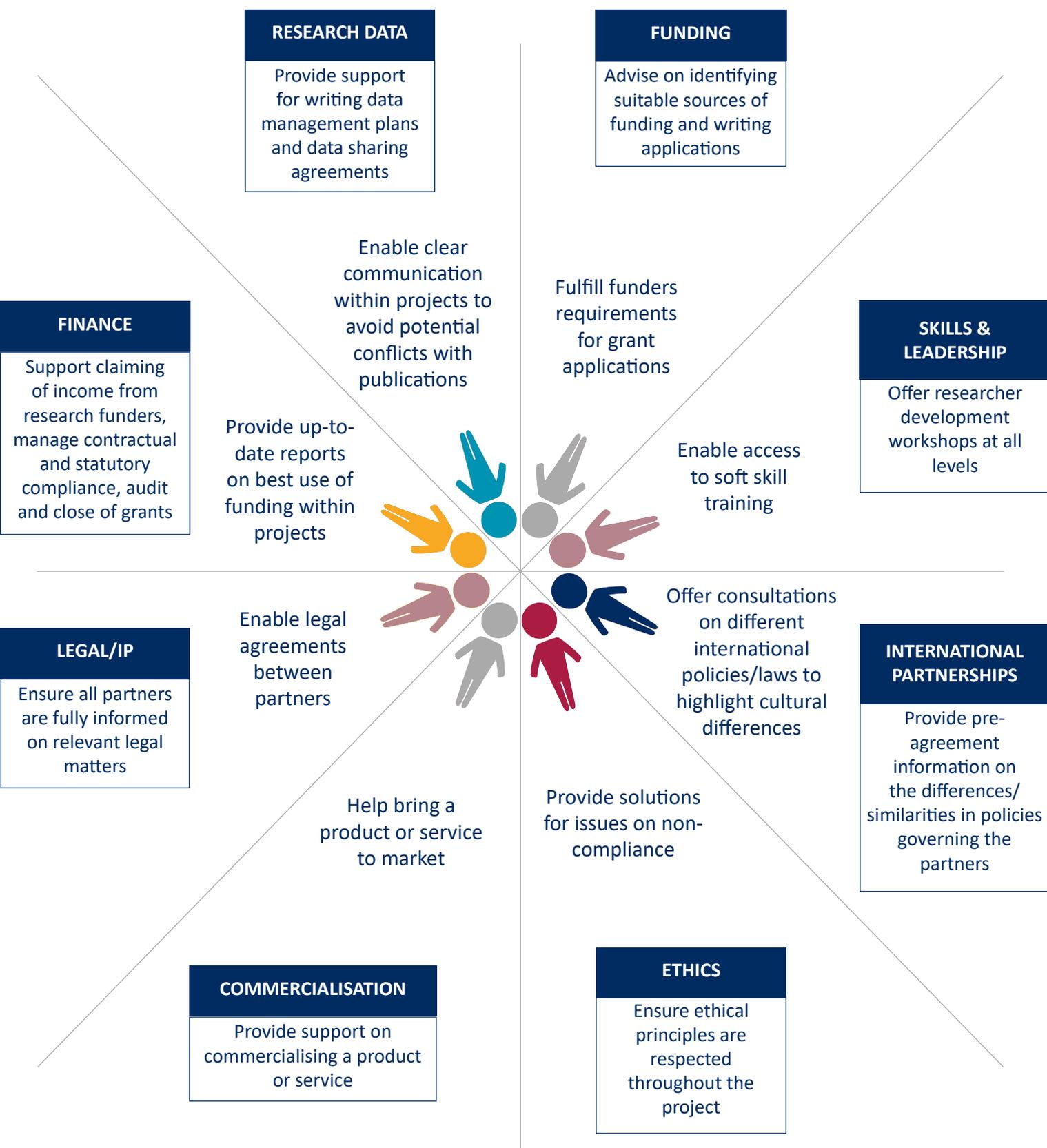
**Clash
of personality
and lack of
interpersonal skills**

**Differences
between
disciplines**



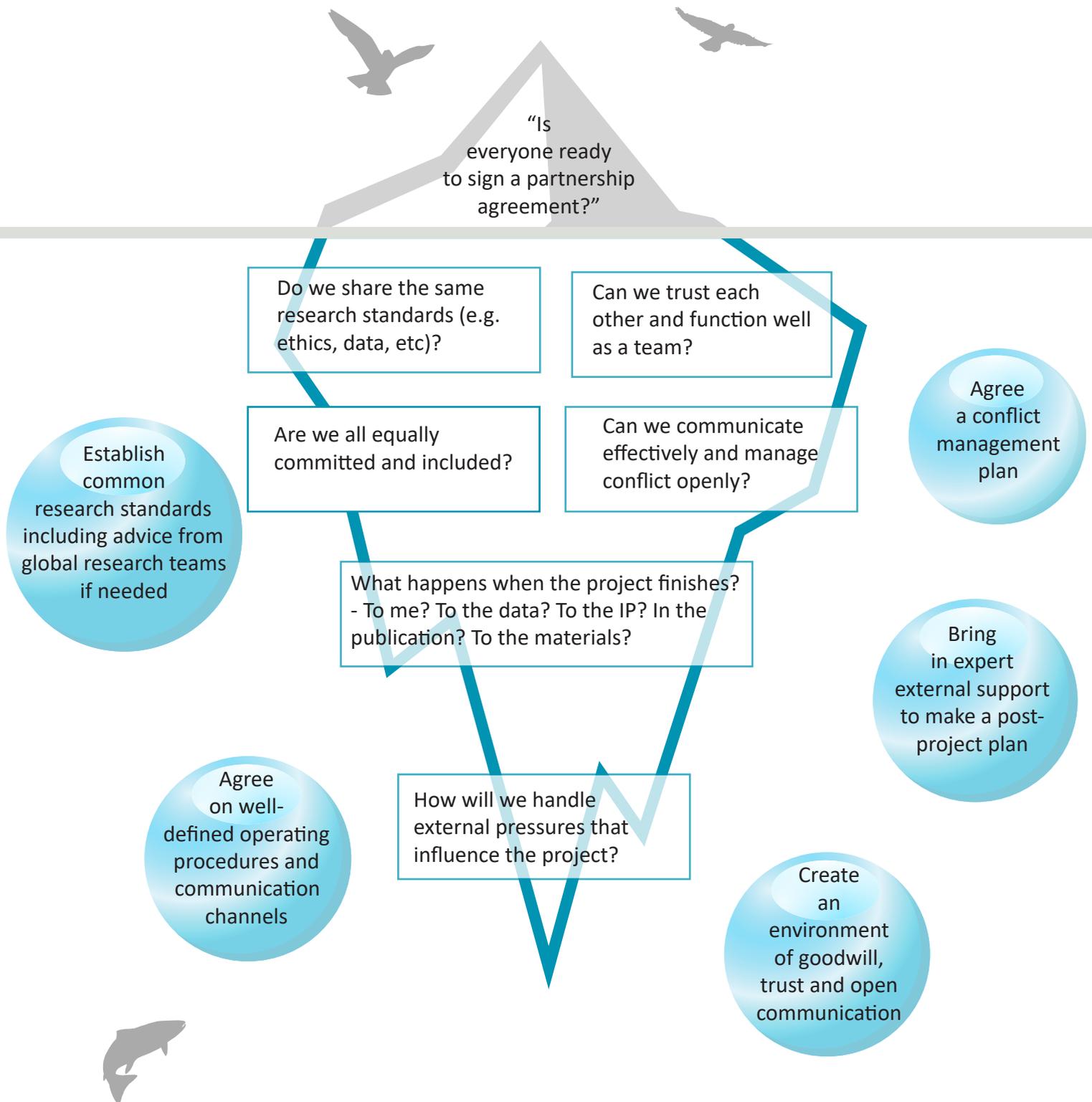
Support for Collaborations

Collaborations are built around the expertise of researchers to address a specific problem. Professional services can offer support in many areas while you are developing your ideas. Involving services early is essential for getting the best out of this support. The figure below illustrates the types of services you may have access to and benefit from (in box), including relevant examples of each (outside box).



Partnership Agreements

Diversity in collaborations brings many benefits, but also adds complexity. Increasingly funders and institutions are asking collaborative teams to work through partnership agreements to ensure that projects are set up effectively and with advance thinking about potential challenges. Although these agreements are designed to reduce problems, they can reveal certain sensitivities that lie beneath the surface. Recognising these and speaking honestly will help ensure the process of coming to agreement is positive and productive. The iceberg below summarises some of the underlying sensitivities that may be triggered when discussions about potential future problems take place. Success factors surrounding the iceberg can help reduce these tensions and keep positive engagement on track.



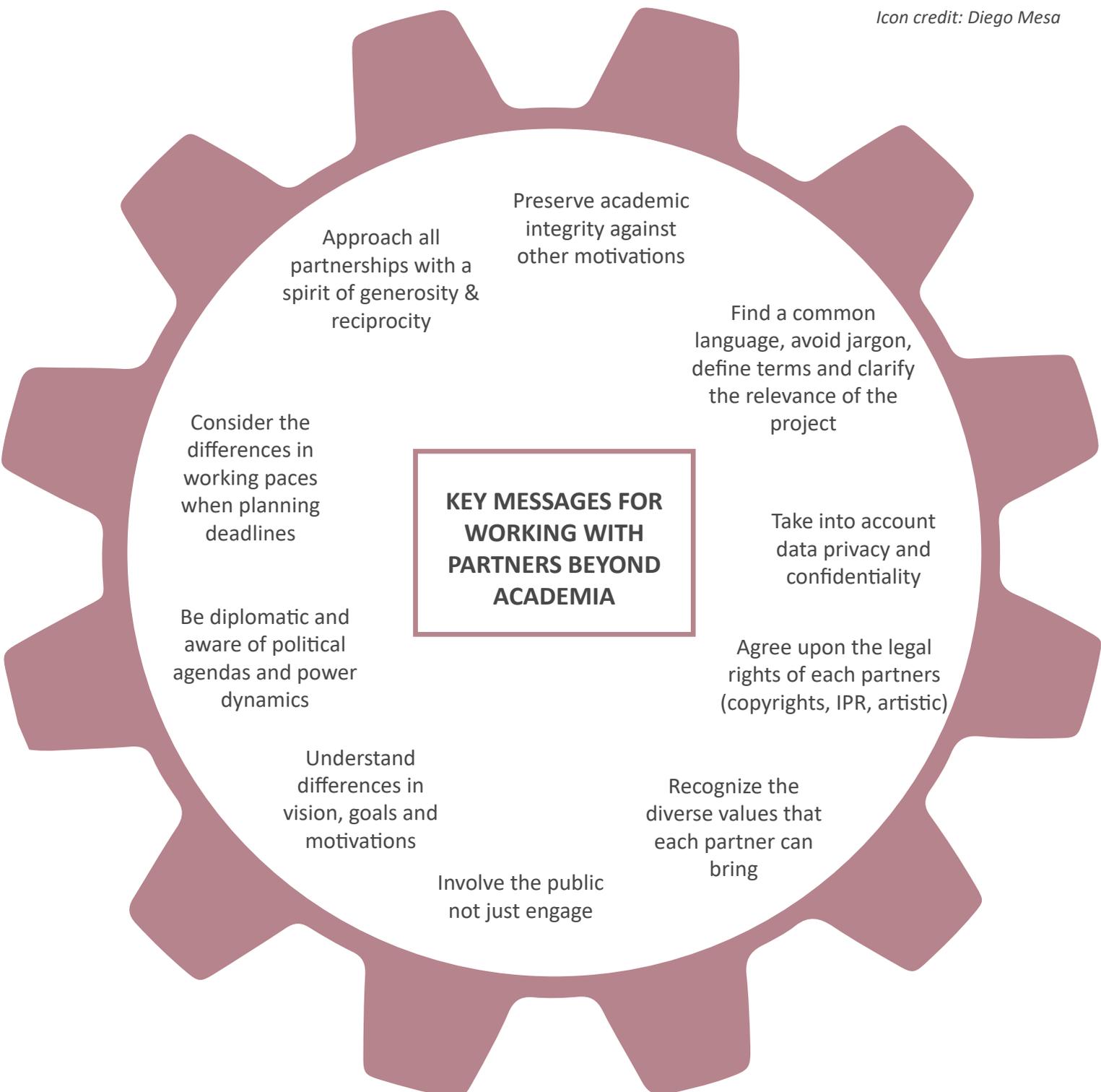
Partners Beyond Academia

If your partners are from outside higher education institutions, you should expect them to approach research and collaborations with different motivations and viewpoints. If you understand these it can help avoid misunderstandings and build a shared vision for the project shared by all partners.

Researchers may collaborate with various partners beyond academia – **government, industries, charities, NGOs, health care, creative sector and the public.**



Icon credit: Diego Mesa



Cultural Dimensions

“Culture is the collective programming of the human mind that distinguishes the members of one human group from those of another. Culture in this sense is a system of collectively held values.”

- Hofstede, 1991

Although we have discussed many systems and processes to support collaborations, it is important to recognise other factors. Culture can influence behaviours and attitudes in many ways. Research collaborations will benefit from diverse cultures if time is invested in building understanding. When embarking on a collaboration, ask yourself key questions about how culture will affect your collaboration.

- Who is in charge and what does this mean?
- What might cause conflict in this work?
- What are the levels of (administrative) support for collaboration in your institution?
- What inspires you in this collaboration?
- What are the core principles, standards and ethics of your work?
- What is your view of the world?
- Are there any common misconceptions about you or your research that you've faced?
- How do you feel about challenging leaders?
- Are there any words that you use which might not mean what I think they mean?
- How do you deal with conflict?
- Who would be involved in writing the proposed published outputs, and what would these look like?
- How important are deadlines to you?
- What will you take responsibility for?
- What value does this project have to your career?
- What does rigour look like in your field?
- What worries you about the project?



Reference

Hofstede, G. (1991), *Cultures and Organizations: Software of the mind*, London: McGraw-Hill

Key Insights

The interviewees provided deep insights into their experiences of collaborations and main themes were extracted on communication, motivations, benefits, team dynamics and challenges.

Example quotes are presented below to illustrate the themes.



“It’s very valuable to have a lot of people working on one particular project with different expertise [...] because one person cannot know everything so it’s good to have experts in their own fields coming together to advance whatever resource or primary research project.”
- **Dr. Marta Costa, University of Cambridge**

“It is also difficult when you work with people who don’t think like you. So it’s always important to focus on the science, the project and the people equally.”
- **Dr. Makoto Miyara, Sorbonne University**

“In order to sit at the same table, you have to be interested what the others are doing and where they come from.”
- **Dr. Karoliina Snell, University of Helsinki**

“Who is into research is driven by curiosity in the first place, but also needs to consider that the ultimate task is to produce something more than personal knowledge, which is “shared knowledge”: in other terms as researchers we produce publications. Authorship and author’s position are important themes and have to be discussed.”
- **Dr. Thomas Langer, The University of Milan**

“[A key challenge is] finding ways to improve together even when this implies having to accept partners’ conditions (i.e. study design, distribution of funds, dissemination of the results) or having a strong position to establish your own to reach a win-win collaboration.”
- **Dr. Esteve Fernández, University of Barcelona**

“What you have to do when you work with the collaboration is work out where you rub up against each other and try to make that a creative, positive thing rather than negative.”
- **Prof. Carol Brayne, University of Cambridge**

“Collaboration projects have been the most interesting and rewarding pieces of work I have ever been part of, but also, some collaborations have been the biggest frustrations of my career.”

- Prof. Mark Rehkämper, Imperial College London

“Everything is bounded on good interpersonal relationships. That’s where it has to start. It’s driven by people and the right people.”

- Prof. Jane Ohlmeyer, Trinity College Dublin

“The collaboration enabled the access to various courses and conferences.”

- Dr. Cristina Staub, Service Sans Soucis

“There are some unwritten rules for collaborations in different cultures and you can’t fulfil them if you don’t know them. You have to discover those rules through conversations.”

- Dr. Zsuzsa Kovács, Eötvös Loránd University

“Insights from more than one place...Two bits of information together are more powerful than separately and may help solve real-world problems.”

- Dr. Isabel Fletcher, The University of Edinburgh

“I’ve learned a huge amount about a completely new area which has been really good fun! [...] It has allowed me to diversify potential funding streams.”

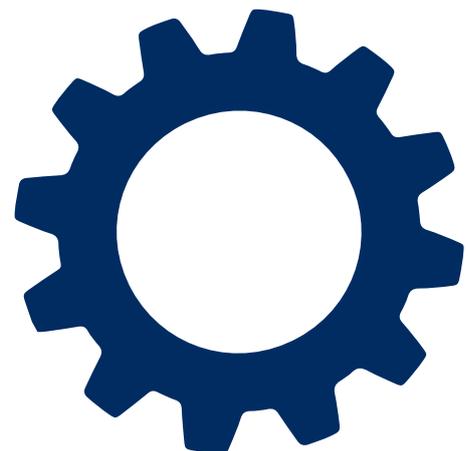
- Prof. Peter Nellist, University of Oxford

“You learn to know people. You learn to know yourself, your limits, how much work you can handle. You learn to say “no”, when it’s not possible. And, you learn to be involved with others, that’s a key issue.”

- Dr Elio Shijaku, University of Barcelona

“There’s a very big gap between doing something for someone, or doing things together and just discussing things together.”

- Dr. Karolina Piracs, Lunds Universitet



“Throughout my career, I can say that the most fruitful moments of collaborations have been unorthodox formats like writing retreats, so everybody goes away for three or four days.”
- **Prof. Stéphanie Hennette-Cachez, University Paris Nanterre**

“Usually international collaborations have higher impact and have been shown to be more citable.”
- **Prof. Sir Peng Tee Khaw, University College London**

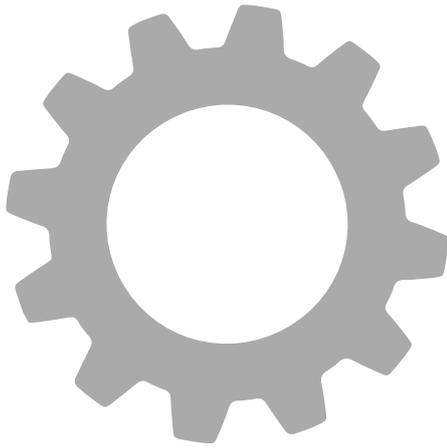
“You also have to feel that this is something that is beneficial for both partners. We get resources and possibilities to do other things. They also get a relevance and have the possibility to be in another context.”
- **Prof. Fredrik Tufvesson, Lunds Universitet**

“Perhaps most difficult things in collaborations are both the personal and methodical challenges: conceptual confusion can easily arise, whereas you both have to be clear with the other as well as flexible enough to keep a proper working relationship.”
- **Dr. Anniek de Ruijter, University of Amsterdam**

“We do science not because we are paid a lot of money for it, but because we actually enjoy it. And this includes people. So don't make your life more difficult working with people you don't like and find another way.”
- **Prof. Dr. Burkhard Becher, University of Zurich**

“Researchers should follow their interests. Ask themselves: ‘Who are the people at the edges of those disciplines that I could pull together?’ Develop an idea over a period of time and write a grant proposal.”
- **Dr. Keven Mitchell, Trinity College Dublin**

“The most important thing is to value the contribution of everyone, because progress sometimes comes in unexpected ways, from unexpected people.”
- **Prof. Michele Vendruscolo, University of Cambridge**



Top Tips



Be open, visible and actively search for opportunities



Choose partners wisely (personally and professionally)



Choose a small number of collaborations and commit effort and time to them



Establish a joint vision from the start



Clarify the benefits for yourself and your collaborators



Find a common language and ask questions



Develop a clear sense of your role and responsibilities



Develop resilience and patience; don't take things personally



Appreciate other ways of researching



Be prepared for changes and endings in the project

Do It Yourself

The advice in this guide was gathered through over 50 interviews with experienced researchers from a wide range of disciplines and countries who were all happy to talk to doctoral researchers about their work. We hope this encourages you to have similar conversations with researchers in your own area of interest. To help, here are the questions our authors used.



1. Please state your name, current position and University
2. Please can you briefly describe your current research focus
3. What has been the value of collaboration to your career and your research?
4. What has been challenging about collaborating with others?
5. What did you do to help your collaborations be successful?

These could include examples around trusting partnerships, shared goals and visions, communication, management systems, handling of conflicts or use of support services within your university.

6. What did you learn from your experiences?
7. Any particular advice you have for PhD students on how to get started?

Additional questions that were not included in the interview protocol, but authors found useful to ask.

- How do you measure the success of a collaboration?
- What have you learnt from collaborations that have failed, and what would you do differently?
- How do you remain resilient when collaborations fail despite significant investment of time and effort?
- How does funding influence how you start a collaboration and its scope?
- What have you done to help young researchers start a collaboration?
- Reflecting on past collaborations, how did your view of collaboration evolve?
- Do you have specific advice for underrepresented academics (gender, disability, social background, race/ethnicity)?
- How do you say NO to collaboration opportunities without jeopardising the connection?
- How do you address conflicts when they emerge?
- What advice can you offer PhD students on how to handle conflicting messages from more senior individuals within the collaboration network?
- Can universities do more to foster early career collaboration?
- How do you end a collaboration?

We hope that this guide gives you the confidence to ask the researchers around you for their advice and encouragement for research collaborations.

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Interviewees

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Prof. Carol Brayne, University of Cambridge
Prof. Catherine Lyall, University of Edinburgh
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