

GUIDE FOR FRUITFUL COLLABORATIONS

Abstract

We present here a ‘Guide for Fruitful Collaborations’. This guide is a result of a yearlong effort by an Association of Polar Early Career Scientists (APECS) Project Group called *Collaboration Guide*, that spent the 2018/19 term collecting necessary data, and inquiring among APECS National Committees and Council members. Through this process we learned about and documented their experiences. We offer this guide in the hope that it will inform and enhance future collaborations. As a result we present a concise overview of the main aspects of collaborations starting with the basics:

- an introduction to collaborations; and
- the types of collaborations APECS members engage in?

Then, we outline key strategies for :

- initiating collaborations,
- maintaining, and
- ending collaborations in ways that aid in the endeavors of all APECS members.

We finish the guide with one providing direct insight into the process of collaborating.

We express our sincere gratitude to all those who have contributed to this work, without whom this guide could have not been created.

Happy reading!

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Collaboration Guide

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Collaboration is a key component of a successful career, whether scientific or organizational. Achieving ambitious goals is often impossible without a group's combined efforts; where each member has their own targets leading to a common objective. The often complicated nature of collaborations may be somewhat daunting, especially for people with either little or no experience in collaborating. Yet the outcomes of group work are clearly something to be sought after. The subsequent sections of this guide will help the reader to better plan and understand how to participate in collaborative projects, how to get involved in them, or even to start one by themselves.

The collaborations of APECS members

APECS members could potentially collaborate with: university and/or science institutes, other APECS National Committees, government, public organizations, individuals ranging from universities to artists, communities and community representatives. Here community refers to a group of people living in the same place or a group of people with a particular characteristic in common.

There are many instances and initiatives that lend themselves well to collaboration. These include, but are not limited to:

- Research projects, field work and field courses (for instance a research cruise or an Arctic science field course);
- Skills and capacity development, training and education events including symposia;
- Event organization;
- Securing funding;
- Knowledge sharing (for instance disseminating diversity, equity, and inclusion related resources to the larger polar science community); and
- Sharing research results (for instance connecting scientists with artists).

Collaborations can also aid in:

- Expanding awareness of initiatives (for instance collaborating with institutes to reach more middle- and high school students to join polar clubs);
- Identifying ongoing projects and developing new projects;
- Developing opportunities for early-career researchers (ECR) and recruiting ECRs;
- Coordinating National Committees for agreement renewals; and
- Forming a bridge between National Committees and APECS.

There are many benefits of collaborations. For instance:

- Collaborators may contribute skills (e.g. science communication skills) and contacts that would otherwise be missing in initiatives;
- Collaborators may have extensive knowledge of logistics and bureaucracy in a different country that can greatly facilitate a project;

- Collaborations may widen the reach of an existing project for example by setting up an exhibit in a different country; and
- Collaborations may result in having a wider, diverse team with various skills and experience to successfully solve problems when they arise

Initiating collaboration

It is always challenging to start a new collaboration, especially when little is known about the potential collaborators. Here are some recommendations on how and where to potentially establish new collaborations.

- One way to get to know and identify potential collaborator(s) is to get involved in community services. This can include co-organizing workshops, attending conferences, or reviewing papers for relevant journals. During voluntary services collaborators can be identified.
- Co-authorship of a review paper or perspective paper can also help in identifying potential collaborators.
- A collaboration can be started by writing a paper or a research proposal. If the first attempt at collaborating is successful, then, the collaboration and team could be expanded.
- For interdisciplinary collaborations it is necessary to know what other groups are working on and how their work relates to the focus of the collaboration (i.e. the research topic, or event objective etc). Thus, attending meetings and conferences on other disciplines is a must, in order to learn about other disciplines and interdisciplinary interactions.
- In case of external collaborations it is also of great importance to verify internal policy regarding such endeavours at the lead organization, especially those with regard to external funding, ahead of starting a collaboration.

Maintaining collaborations

The time between contacts varied for different collaborations, and depended on the nature of the collaboration. For collaborations which involved in organizing events, the duration between contact became more frequent the closer it got to the event.

In general, most collaborators reported weekly to monthly contact. Some projects had less frequent interactions, but almost all were at least every 3 months. One suggestion was to ensure contact is maintained at least once a month to keep the momentum going within a project. This is important, particularly as there can be a long time period between a collaboration beginning and an event or the outcome.

The most common method of maintaining contact was via telephone or Skype call and email. Other options reported were a WhatsApp group or an in person meeting. Some collaborators suggested the use of software tools such as Slack (or similar) to enhance the collaboration when it is ongoing. Issues with emails included a large number being sent, especially in a project with a large number of collaborators, however, others reported that sometimes not being included within email chains meant that they missed out on important

information. Therefore, it is important to consider the number of people within your collaboration and how much information is shared within emails. Regardless of the method used, one of the most important suggestions for maintaining collaborations was making sure there was frequent enough communication to maintain enthusiasm within the project.

Things to remember when collaborating

There are several methods that can help during collaborations. These include:

- Initially contacting a prospective collaborator in person, reaching a verbal agreement, and then following up by email;
- Having in-person meetings early on to really get to know each other and build relationships and trust;
- Having phone calls instead of email (unless people were in the field and did not have phone access);
- Limiting the number of emails and listing information in emails;
- Having a main contact(s) or go-to person at the collaborating organization to help with whatever is needed;
- Listening to others' opinions;
- Keeping in touch often and maintaining communication regularly so that people stay engaged and to check that everything is going well;
- Having highly motivated collaborators who provide feedback;
- Keeping a good record of meetings;
- Sharing information;
- Discussing mutual goals and ways to achieve them;
- Using multiple social media platforms; and
- Engaging communities through collaborator outlets.

'Ending' collaborations

It is important to note that in many cases collaborations do not end when the initial project ends. Most (67%) of respondents indicated that they continued to collaborate with the other group following the conclusion of their joint project, with only 33% suggesting the collaboration ended then. Nevertheless, the end of the initial project may come with some responsibilities, for instance:

- The collaborator themselves may require the lead organization to write a report about the project, or what actions were accomplished together; and
- The agency that funded any research or other project carried out in collaboration may require a report, letter of collaboration or other document.

Overall the most important factor at the end of any collaboration is often how to keep the collaboration going after the conclusion of a project. This can involve following up via email a few months later, exchanging contact details, or simply passing details of the collaboration on to next year's committee. A project report that includes initiatives for maintaining future collaboration usually helps as well.

Best practices for collaborations and lessons learned

Respondents reported a number of different lessons learnt and advice for future collaborators, with the key being to maintain good communication. Collaborations are an excellent means for groups or even individuals to learn new skills and expand the scope of their projects. They can however lead to frustration when objectives are not clearly defined, or one side is not in touch with the other.

The main recommendations are to:

- Have a dedicated meeting at the start of the collaboration in order to both set out what the objectives are, and make sure they are set out in writing for future reference. This provides a guiding document to direct the collaboration
- Maintain regular contact with the collaborators, perhaps through monthly email in order to make sure both sides remain on the same page, and remind each other of the work. However the communication should not be too regular in order to not overload each other with emails
- Ensure that no one is left out of communication
- Alternative methods of communication to emails can be more convenient- for instance Slack or forums
- Ensure that administrative requirements are made clear from the beginning in order to not run into later issues
- Make sure that each group is properly acknowledged in any resulting work, whether it be talks, presentations, publication, outreach or any other output. This is true even if the collaboration has come to an end
- Ensure that the collaboration is an engaging and beneficial experience for all parties!

Case study: UK Polar Network and APECS Russia collaboration

This was a collaboration between two national committees of APECS to run an Arctic science field course, with the aim to facilitate the collaboration and skill development of the United Kingdom (UK) and Russian ECRs.

The initial contact between the two committees was made about one year before the event, via email. Following this, there was a call through Skype, and then regular contact throughout the project. In general, the group communicated weekly, mostly via email but also through Skype.

Initially the collaboration began in order to develop a joint proposal for the field course, which was successfully funded by the UK Foreign and Commonwealth Office. Following this, the organizers designed the schedule, advertised the event, selected participants, organized visa documents and forms, invited lecturers for the course, planned the logistics, and ensured all of this was within budget. Following the event the groups also reported back to the funding agency on the project.

The field course was a great success, with fantastic feedback from participants and lecturers and a good response from the funding agency on the levels of progress and communication.

Specific pieces of advice from organizers of this workshop were:

“Collaborations are driven by extremely motivated people with good organizational and communication skills. We were lucky that our collaborators were a pleasure to work with and this has led to our collaboration being sustained with future plans in place”.

“Find a good dedicated team who are all working towards the same goals. Communicate often, figure out if people need help to finish tasks, or if things are not going the way you expected then you can change your expectations or outcomes. Also, give people responsibility, so that they feel attached to the project”.

Conclusion

The likelihood of success and the resulting impact of many types of initiatives can be enhanced through collaborating. In many situations a variety of skills and knowledge are required. APECS members engage in a wide variety of collaborations and their experiences are presented here. Many considerations are involved in initiating, maintaining, and ending collaborations in ways that support initiatives and strengthen working relationships. Collaborations are an excellent means for both groups and individuals to learn new skills and expand the scope of their projects. Frequent communication (in a variety of ways), and clearly defined objectives are particularly important for the success of a collaboration. The often complicated nature of collaborations may be somewhat daunting. This guide is offered with the objective of continuing the conversation around successful, respectful collaboration, and in the hope that it will be helpful, and inform and enhance future APECS collaborations.

Additional resources

Chen K., Zhang Y., Fu X. 2019. International research collaboration: An emerging domain of innovation studies? *Research Policy* 48: 149-168

Gewin V. 2018. Top tips for building and maintaining international collaborations. *Nature* 560: 401-402

International Resources Management Association 2017. Remote work and collaboration: Breakthroughs in Research and Practice. (Two volumes) IGI Global, Hershey, USA