UAK Researcher School – Communication and Knowledge Transfer

Questionnaire to the participants

Replies received after the research school

1. Do you work in a community? With a community? In a remote location? In a lab? With end users of your data? Please explain.

2. Who are the end users of your data? What do they use it for?

3. How much translation of your data/findings do you need to do in order to make accessible to your end users? To a broader audience? What does this involve?

4. How do you engage with end users? Stakeholders? Rights holders?

5. Dissemination of research? Where, in what format(s), for which audience(s)?

6. Do you think your research is societally relevant? Why? How do you convey this relevance to a non-scientific audience?

7. Have you had experience talking about your research with different media? (newspaper, radio, film, television, podcast, etc.). How did this work out with respect to the way in which your work was covered? Was the outcome positive or negative? What would you do differently?

8. Have you ever taken a course in communication or been provided with any training on how to communicate scientific information to the public? Please explain.

9. Have your eve worked with a communications professional (for example University Relations or others).

10. Any other comments?

Replies

1. Do you work in a community? With a community? In a remote location? In a lab? With end users of your data? Please explain.

I work in a science community with both scientific topics and data management. I have some communications with the end user of our system.

In one project, AAOKH, I work in many remote Arctic Alaska villages, with specific people who make various environmental and other observations. I also work on other projects in which I collect data for people who will ultimately use the data for their research, while I will not use it for my research.

Our work in the earthquake monitoring network, provide information for the community e.g. earthqauke hazard maps. This is done in several separate sectors, gathering data about natural activity (remote locations), human made activity (in connections with mines,...),
how are the buildings are made in different parts (in connection with municipality and sometimes measurements in buildings) and how people are educated to react in case of catastrophic event (in schools or public venues,...).

I work with the communities of Kirkens and Vardø, Norway, and Nikel Russia, as well as previous work with Cape Dorset and Sanikiluaq, Nunavut. These are all remote locations, although the Canadian communities are only accessibly by plane or ship. Nikel and Kirkenes are all connected with the European highway system. End users are everyday citizens, as my work is on place perception and rights to the city/landscape as set out within the European Landscape Convention.

Seismological observations are usually done at remote places where "mechanical" noise level is low. We do interact with people while installation is being made. We expose our results to end users via web page (map with locations of recent earthquakes, yearly catalogues of observed seismicity, yearly reports on seismicity).

I am working in laboratory to develop the Arctic shipping route search system in the present climate status based on the dynamical forecast model in a laboratory. This study is moulded by several researchers, but the outcome can be practically used for the determination of shipping route by the end users who are operating commercial vessels as well as research vessels.

I work with local hunters in Ilulissat, Greenland in which the locals are collecting samples for us. I will also be collecting local and traditional ecological knowledge about Ilulissat Icefjord and will in that context, have public meetings where I will present my research.

Yes. I work in the community of Cambridge Bay (approx. 1800 people). My field area includes locations that are important to the locals for subsistence, recreation, and cultural activities. I work with a government lab as well; the CHARS research station.

I work in a community in a fjord called Fjærland with 300 inhabitants.

2. Who are the end users of your data? What do they use it for?

End users of the DM system span from scientific, SME's and private persons. They use the system for discovery and retrieval of Sentinel satellite data.

For the AAOKH project, the community whaling crews use our ice thickness data to determine areas where ice is thinner and might be more likely to melt through quicker or break under a heavy load. My group at UAF also uses the local observer data to compare environmental conditions, and various community activities, to observe changes in behavior and/or the environment.

The data is gathered normally somewhere far from city noise and transferred to office and it is available online which can be used by anyone. But in addition to random curious people, main end users of our data are either scientists want to understand more about earth, engineers who want to build infrastructures/ produce hazard maps, or most importantly decision makers (disaster management sectors) in case of big natural seismic activity.

Ethnographic materials are intended to map out the cultural landscape in terms of local knowledge and perceptions of place, and speculations and desires for the future. This contextually rich material is intended to be used as a living repository that can inform decisions of spatial development and design.

Oil companies: Monitoring is co-funded by Norwegian Research Council to which oil companies are contributing substantially. Reports to representatives of oil companies is done annually.
Scientists: Data are shared via web services immediately and therefore available for scientists globally.
Public: Information about felt earthquakes is collected online, results shared publicly on web page.

The end user may be ship operator in the field and/or also the planner of it. The optimum route based on the dynamical forecast model data can be used to make a decision of shipping route in the field and its planning (timing, etc).

Other scientist that wants to do research in Ilulissat Icefjord, but also for all interested Greenlandic citizens with interests about the ecosystem in Ilulissat Icefjord.

Potential end users of my data are:
- Other researchers who may use my data for context, constraints, and analogues for incorporation into bigger picture modelling or prediction initiatives
- Fisheries who may be interested in how global change affects habitat suitability in the coastal waters near the community.
- The municipality who may be able to use research outcomes to make decisions about wastewater release. Part of my work will focus on the way that late summer wastewater

discharge into the coastal waters impacts carbon cycling (and acidification in the bay). The municipality may choose to consider the results of my study in making future decisions about wastewater treatment.

All the data I am collecting will be used towards my PhD project that runs over 4 years. We have a cooperation with the glacier museum in this area. However, the project is small (only myself and my supervisors are involved). There is a future plan of making a fjordcentre in Fjærland, and the visions of the people in this planning process is that a lot of the information and data I gather will be presented here. I hope that a lot of the data that I collect, will help in better understanding flood and avalanche hazards within the fjord. The end users that will be able to benefit from this is therefore the local community, and hopefully companies that deal in avalanche and flood risk prevention.

3. How much translation of your data/findings do you need to do in order to make accessible to your end users? To a broader audience? What does this involve?

We make all our data available through our system

In some cases, the end users just need the processed data, i.e. ice thickness along a trail. In other cases, the end users need the data to be interpreted in the context in which they want to consider the outcomes. At the community level in the villages we work in, the data must be presented in such a way that non-scientist people can understand how the data that was collected is relevant to them.

This really depends on end user, scientist end users can use raw data, but if want to provide decision makers data required to be analyzed quite in detail to be able to provide trustable knowledge. To broad audience, general information can be transferred after some processing and it is normally available online and also in the several mobile applications, however in case of catastrophic event, normally knowledge transferred through municipality to public not the scientists.

The audience is multilingual, with Norwegian, Russian, Finnish, Swedish, and Saami being spoken and English often used as a lingua franca. Design resolutions are visual / image based and therefor transcend language, however all associated texts are in English. During outreach, translation in Norwegian, Russian and Finnish was undertaken, and the online map was also done in the four languages. This could be improved with better, holistic translation

Location of earthquakes is verified manually an published immediately on local web page (nnsn.geo.uib.no)

The search system of Arctic shipping route should be easily used for each user through the web-based application.

I am myself born and raised in Greenland, and therefore speak greenlandic, and have already had a couple of interviews in the Greenlandic radio where I presented my work, and plan on doing more, as I think it will benefit the locals to get more knowledge about the ecosystem.

I will need to identify immediate benefits/considerations for the community since many of my results and implications are long term.

So I work with understanding sediment transport. Major contributors to sediment transport is avalanches and floods, because the energy involved in these processes is large, and a lot of sediment is deposited. Why sediments? Because sediments can been mapped back-in-time (archive of events that has occurred), you can observe previous events, and therefore understand frequency and volumes. In order to translate that data into information that can be used by the community and hopefully companies that work in avalanche/flood prevention, it has to be applied to frequencies and sizes of events.

4. How do you engage with end users? Stakeholders? Rights holders?

Workshops and interactive through the contact form of the portal etc.

With the villages, I try to present the science as just a way of looking at something they may already know, not in the sense that we know more about something that they have been living with and observing for probably much of their lives. Or maybe just as putting numbers on something they have observed. For instance, the villagers/end users know that the reduced presence of landfast ice is allowing storms to erode their shores more than it used to. I would show them that, on average, the landfast ice is forming two weeks earlier and breaking up two weeks later. I think the village members are all three end users, stakeholders, and rights holders.

I engaged end users via social media pushes and posts, interviews with local newspapers that are published in paper and online, local tv interviews, and workshops organised with important local actors, as well as open house mapping events during popular local festivals. Interviews were also done with local miners and other actors, and participation in everyday activities also informed my ethnographic research. I also spoke with the local highschool in Kirkenes, and participated in local rejuvenation groups in Vardø. A design studio was also conducted, with international students based in Oslo learning ethnographic methods, and deploying a number of different strategies to engage with people in Kirkenes, or otherwise observe people via participant observation, to inform their designs, as well as taking previously collected material from my PhD research.

Stakeholders and annual meetings

We held some workshops with stakeholders to discuss our study and whether our outcomes are really needed or not.

Public meetings, radio, and press release.

I have not completed any independent engagement activities. My supervisor completed some engagement activities before I joined the lab. I would like to come up with some ideas to continue this relationship building myself.

Seeing as I have only been working for a year with the project, the only interaction has been with cooperation with the glacier museum in Fjærland

5. Dissemination of research? Where, in what format(s), for which audience(s)?

Conferences and workshops both national and international. Audiences span from scientists, governmental agencies, start-ups etc.

We submit papers to be peer reviewed for publication for the scientific audience. For the villagers, they like to have something in their hands that they can take home and look at or they attend community presentations/forums in which the research must be presented at really a non-technical level. For the oil companies that we work with, we provide the research in way that would allow them to assess the research and make their decisions based on that.

Most of permanent recording data are available for public through some international webservices,. In earthquake data, normally general information (time-location, how big) gathered in each station reported as text files and can be dowloaded together with section of data which is relevant to earthquake. Continous data usually are not available online, and will be provide up on request. However, temporary projects usually don't share data to public.

The design studio research was disseminated via a month-long exhibition at the central public library, with student posters up alongside models and maps, and a published book of all their works as well as the teachers text-based articles on the course. Students also volunteered their time to a local festival to engage with local and visiting artists, and engage in conversation. Two peer-reviewed texts have so far been published (or are in print) that is directly resultant of the PhD research. Participation in local forums on the arctic, borders, migration, arts, occurred in Murmansk, Nikel, Vardø and Kirkenes. These include the Transborder café series organised by local arts group Pikene på broen, and Murmansk cultural producers Friday Milk, and were well attended. Also, I participated in the Kirkenes conference for two consecutive years that I lived in Kirkenes, which was mainly to an academic and political audience.

Research done on seismic observations is published in scientific journals mostly. Not much outreach for public audience is being made (except for the online maps).

At first, we wrote the scientific paper and after give the outcome in the form of press release. Finally, I will provide the application of shipping navigation system via web page. In this case, anyone can access this service

Public meetings, PhD thesis, publishing scientific articles, and communication through social media.

I will also need to create products that are in a form that is accessible to the community. For example, development of short podcasts that can be shared online to explain key results or introduce myself and the project. I would like to create some visual products as well to communicate key messages and findings to a broad audience. Visual and audio products will also serve to communicate with an audience in my absence, making the knowledge mobilization an ongoing process rather than a one-time event.

Dissemination will occur at internation conferences, but with peers, and not local community or non-researchers. Why? Because a PhD demands that you represent your work in that way. My wish is also to present my findings in Fjærland, and make an exhibition of it at the Glacier museum.

6. Do you think your research is societally relevant? Why? How do you convey this relevance to a non-scientific audience?

Yes, it is relevant. Our scientific output is operational sea ice charts in the area around Svalbard. Hence, fishermen, private persons, various companies use our products for e.g. ship navigation and route planning.

Yes, especially in the villages. We are researching the environment in which they live, and more often than not they are very interested to begin with. We try to engage and include them in the discussion and research itself as often as possible.

Yes. The research is in direct relevance to the safety of people leaving in the earthquake-tsunami, landslide,... posed areas. The research is also important in discovering activities like nuclear explosion which is quiet important for keeping our society safe. In addition, in building the infrastructures could be very useful.

I believe my research is mainly about social relevance, and including local voices in the participation and co-creation of the communities in which they live. This is conveyed in the many non-academic settings I found myself in to describe and engage in the research work.

Yes, people need to know what happened and whether other people (relatives) were injured/in danger. International agencies are disseminating such information.

Our outcome may contribute to the reduction of shipping accident due to the crash with sea ice or ice berg. In this meaning, our research is societally relevant. However, on the other hand, I am concerned about that the promotion of the usage for the Arctic shipping route leads to the pollution of Arctic Ocean.

Ilulissat Icefjord is on the UNESCO world heritage list, and knowledge about the ecosystem is therefore very relevant in that context, but also because the fjord system might have an important impact on the fishing industry in the area.

Yes. My work contributes to understanding both baseline conditions in the Arctic and the vulnerabilities to global change. This is important globally because of the influence that the Arctic system has on the climate system of the entire planet. I use the links between changes in the carbon cycle, the hydrologic cycle, and the increased frequency and intensity of extreme events as an entry point to talk about my research. I have also talked about the carbon cycle, acidification, and food security as a starting point. Both the impact of extreme events and the need for food security are issues that most people can relate to from their own personal experiences.

I think it is very socially relevant. It relates to avalanche and flood hazards, which is a frequent occurrence in Norway. The main way that hazard risk mapping is done, in relation to floods and avalanches, is by looking at history (what has previously occurred in that area). Therefore, by understanding avalanche and flood events far back in time (perhaps back to the last glacial maximum 10 000 years ago), we can better understand how the processes within this fjord has happened. People usually think of natural hazards as unusual events, but it is us that is the unusual factor, not the natural hazards. Example: A flooding event only becomes a hazard towards people, when we decided to build our houses on the FLOODplain.

7. Have you had experience talking about your research with different media? (newspaper, radio, film, television, podcast, etc.). How did this work out with respect to the way in which your work was covered? Was the outcome positive or negative? What would you do differently?

My only experience is using twitter - but there was a lack of comments ;) The tweet itself was about detecting oil spill outside Oslo from satellite imagery. However, it was more a proof of concept in terms of advertising all free satellite data available than quantifying the outcome of the oil spill itself.
We are about to send out a newsletter to the villages, so we have yet to see that will be received. I think it will go over well, and folks will like to have more in the future. I have been interviewed on the radio alongside one of our local observers. I think it the outcome was pretty positive, it helped having a local community member who is a part of the research participate in the interview.

No

Yes, as noted above, I presented my research intentions and opened it up for feedback and adaptation to local concerns via newspaper articles, online social media, and local television stations, in addition to participation in locally held conferences and popular festive events. All discussions tended to positively view the direction of the research, with critical feedback on concerns about outreach, motivation to participate, resistance or acquiescence to authority, etc…
I would, in the future, work even more closely in determining research questions and organisation or documentation. I would also work better with translators, both in clearly outlining my research goals and intentions prior to recorded questioning and publication, as well as in establishing a two-way dialogue with communities via the various media being utilised.

Yes, television (documentary). Positive, informing public about scientific monitoring, natural phenomena. In that region the seismic hazard is low.

I have talked about my research with newspaper and television.

I have been both in greenlandic newspapers and radio and for now this has been a good experience as I have gained local contacts and I have been told that it is good that I share my research with the Greenlanders, in Greenlandic and in a language that wasn't too scientific.

No

I have not had the experience of talking about my research with different media. However, by arranging "Geology day" and attending "Forskningsdagene" I have had some experience in how to convey what I am looking at, to people that have never heard of these things before. Also through writing grant applications I have had experience with explaining what I want to do, in simpler terms.

8. *Have you ever taken a course in communication or been provided with any training on how to communicate scientific information to the public? Please explain.*

No, but they plan to offer locally at my working place.

No, not really. But I have worked a lot with community members where we do research and have learned productive ways to communicate with other community members who may not be as personally involved.

Yes. one-week workshop in natural disaster management. The workshop was done in a very interactive way in two groups of people including scientist from different disciples and management sectors. We have given a data from past real situation on volcanic acticity in Etna and we required to analyze data and provide information to managers to decide about evacuation. It was very interesting because in addition to lectures we really required to interact with other scientists in different disciples than us and confirm our understanding of data with them and give a consistent report which should have been sending information to people how to react in case of eruption.

I have taken one seminar on how to communicate scientific information at an APECS conference in Whitehorse, where I won one of the poster awards. This was about how to organise posters to bring people through the research process and findings, however this was still far away from communications skills learned in design schools. There could be better bridges to connect the graphic design schools and natural and social sciences.

Not directly. Learning by doing.

I have not taken some courses related to the communication with public. I think we has the responsibility to tell the meaning of our research for public people through the social media. Therefore, we make an effort to show our research in a plain text as press release. To make a plain text for our research, we are often supported by the group of public relation in our institute.

I attended a course called "communicating scientific research" – how to communicate to a broader audience and not just scientists, which helped a lot as I realised that you should leave out scientific terminologies and phrases when communication to people outside of the research environment, and how you can communicate so that the interviewer can understand your research.

I have completed formal science communications training. I attended an intensive, multi-day science communications workshop (Beakerhead SciComm School at the Banff Centre) and have attended science communications training through on of my project funders. These sessions have provided tools and inspiration for me to start framing ideas for disseminating results.

9. Have you ever worked with a communications professional (for example University Relations or others).

Yes. Part time job under my studies for sci-com for elementary schools up to high-school for encouraging them to study science.

Yes, a communication professional produced the newsletter with the help of the science researchers.

Only in workshops and short courses as mentioned in point 8.

I have not.

Not directly.

Yes, I have worked with the group of public relation in our institute to make the press release document of our research in plain text.

No

No, I have not had communication training.

10. Any other comments?

Communicating science to in cross-disciplinary and non-scientific environments are kind of seldom events. Hence, I think prioritizing these types of events are very important for getting

even more people aware of the research and topics that we work on - and for them to see the relevance.

I might misunderstand some of questions but I tried to contribute according to my experience. I may add that I know scientists (not few) that are believe in climate change, but also believe that considering interdisciplinary research should not limit the pure science. Therefore there is believe in that there should be specifically educated people dedicated to interdisciplinary science.

Thank you for this questionnaire. It allows me to quickly distill and analyse me methods, look for areas of improvement, and also understand the multiple modes of engagement and data/material sharing.

As the ability of researcher, I think that the communication ability with public people as well as the research ability is important. I suppose that this kind of discussion has been continued since about 10 years ago. On the other hand, the translation into plain text sometimes makes some errors on the interpretation of the research content. Therefore, we have to make an effort to tell the research content in a plain way without the precision, although this process seems to be difficult for most of researchers.

Good questions!