NCCR CHEMICAL BIOLOGY

RESEARCHERS' VIEWS ON SCIENCE COMMUNICATION IN SWITZERLAND

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Contents

Executive summary

Researchers conduct fascinating research they are passionate about but there is a gap between these dedicated researchers and the broad audience. While awareness of the importance of science communication exists, outreach is far from being understood by scientists as a constitutive part of the research process and the path forward is not entirely clear. What is clear is the mission of any research network or any academic entity to encourage openness and facilitate meetings between researchers and «the outside world», while supporting scientists the best possible way in their efforts to meet the public.

The present document is the result of a **research conducted by the NCCR Chemical Biology** to perform an objective analysis of the **situation on outreach from the point of view of researchers**.

We wished to identify and bring the attention of institutions and professionals in science communication on the critical questions they need to address when trying to engage scientists in outreach or establishing a science communication policy. We have conducted a survey and several interviews targeting researchers at different stages of their career and from different academic institutions in Switzerland.

This was possible thanks to the support from many NCCRs and we are grateful for it. The results obtained display both **qualitative and quantitative aspects** which provide coherent insights on **how scientists perceive outreach**, **what they need to be able to engage and how to motivate them**. Respondents were from a variety of Swiss academia (almost half from the University of Geneva) and 8 out of 10 from natural sciences.

Participating researchers feel in great majority positive about communicating research with the outside world. They seem to want to engage in communication with the outside world, especially with the general public, to a greater extent than they currently do but they are **hindered by both internal and external obstacles**. Too many other tasks that have higher priority and not being sufficiently equipped to communicate their research are perceived as the main internal barriers. Externally perceived barriers include a lack of clarity about dedicated resources on communication or training as well as difficulties finding suitable opportunities and target audiences to communicate with.

In most researchers' experience, there is little recognition or acknowledgement of communication efforts by peers, during recruitment of promotion, which highlights the crucial role played by the lab or even the institutional culture on outreach. Researchers seem to need to be solicited regularly on outreach events, be better informed on opportunities, meet different types of audiences or be better trained in communication by professionals at the institutions. In other words, **researchers need encouragement with concrete measures and actions**.

Practical guides on how to communicate are points that repeatedly come up in the discussions which accompanied the survey. A better way to coordinate the dialogue with the general public also seems necessary. Most scientists declare to want to respond to outreach requests but communication and outreach professionals in academia need to display proactivity: they should make the effort to identify various target audiences, nurture the interest of the scientists to communicate as well as seek a feedback from the audience and inform the scientists about it.

We hope the conclusions drawn will contribute to reshape the culture of the scientific community and give communication professionals at the institutions concrete directions towards **positively reshaping the dialogue between scientists and the outside world**.

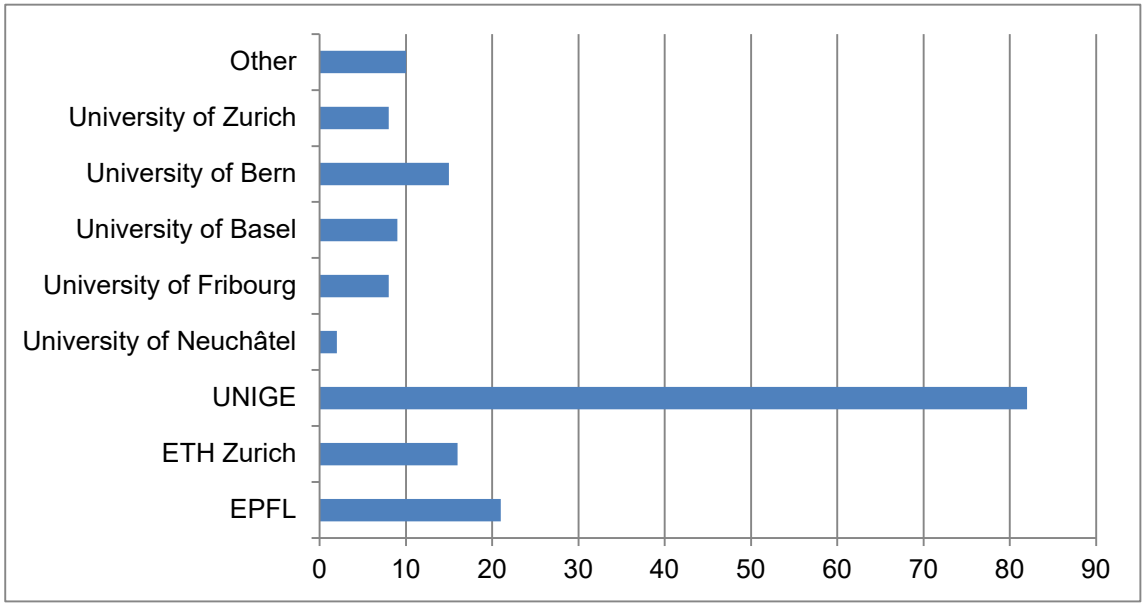
Phaedra Simitsek, PhD
COO of the NCCR Chemical Biology

Survey results

Respondents profile

1. Which institution do you belong to?

	Count	Gross percentage
EPFL	21	12,28 %
ETH Zurich	16	9,36 %
UNIGE	82	47,95 %
University of Neuchâtel	2	1,17 %
University of Fribourg	8	4,68 %
University of Basel	9	5,26 %
University of Bern	15	8,77 %
University of Zurich	8	4,68 %
Other	10	5,85 %
Total	**171**	**100,00%**

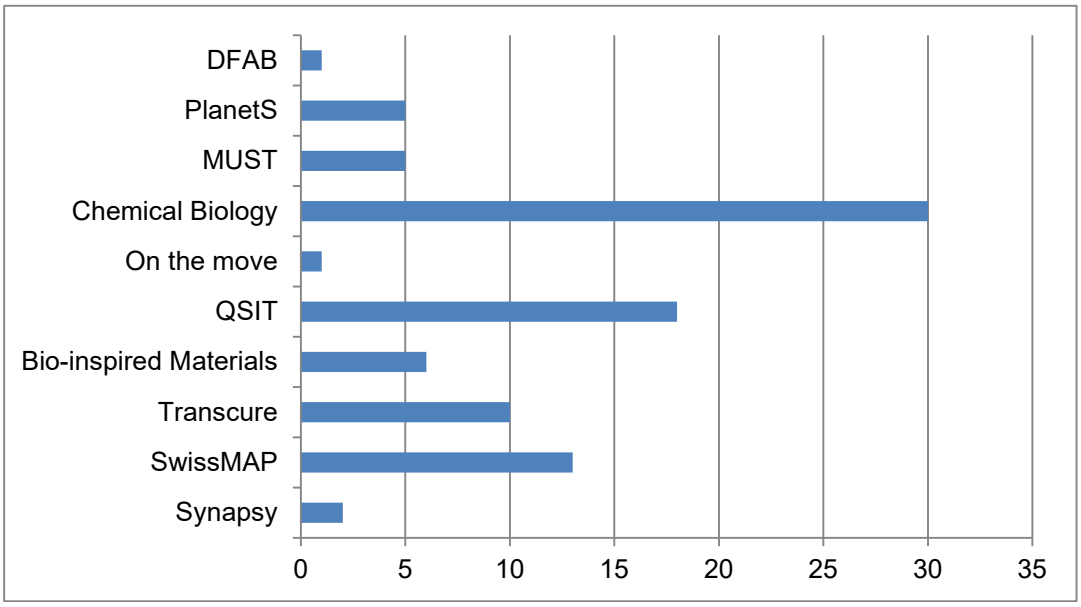


2. Are you part of an NCCR?

	Count	Gross percentage
No (A1)	52	30,41 %
Yes (A2)	119	69,59 %

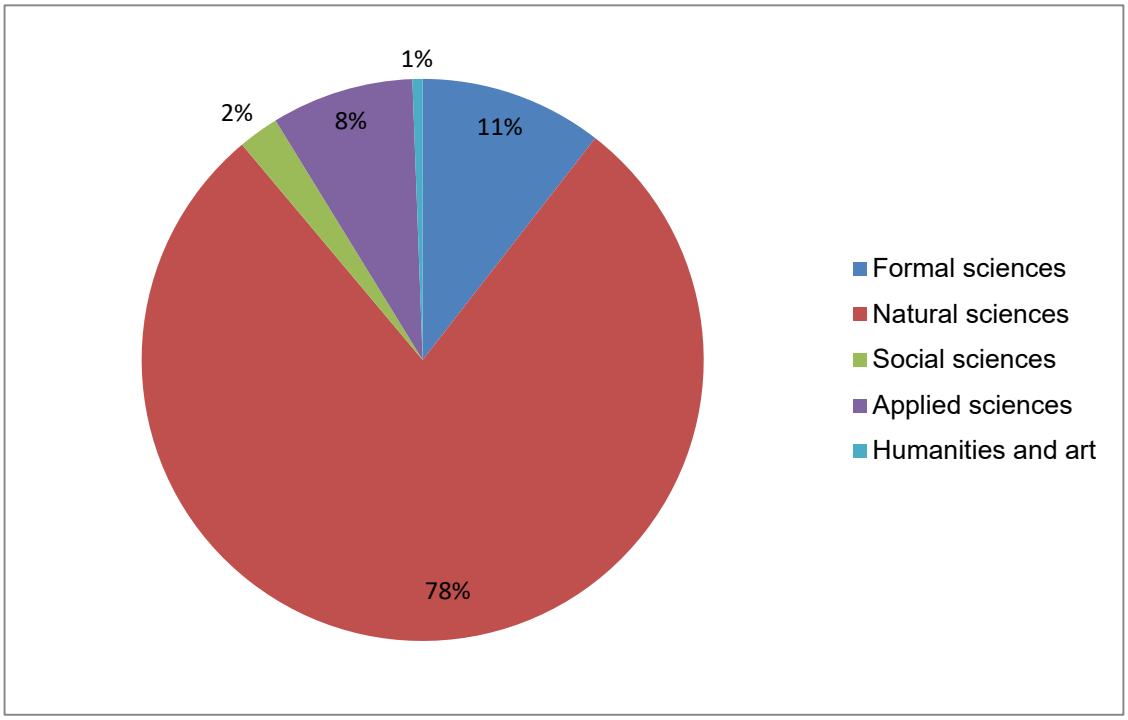
If your answer is yes, please indicate which one:

	Count	Gross percentage
Synapsy	2	2,20 %
SwissMAP	13	14,29 %
Transcure	10	10,99 %
Bio-inspired Materials	6	6,59 %
QSIT	18	19,78 %
On the move	1	1,10 %
Chemical Biology	30	32,97 %
MUST	5	5,49 %
PlanetS	5	5,49 %
DFAB	1	1,10 %
Total	**91**	**100,00%**



3. Which of the following domains most closely describes your scientific field?

	Count	Gross percentage
Formal sciences	18	10,53 %
Natural sciences	134	78,36 %
Social sciences	4	2,34 %
Applied sciences	14	8,19 %
Humanities and art	1	0,58 %
Total	**171**	**100,00 %**

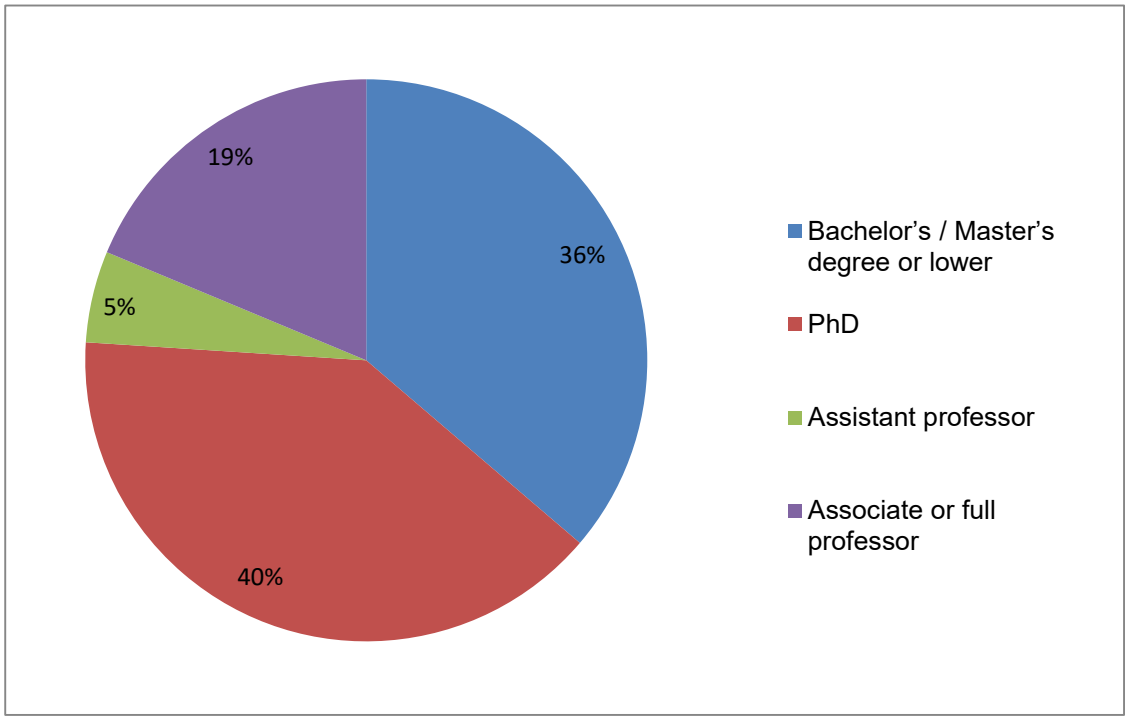


4. Sex

	Count	Gross percentage
Male	99	57,89 %
Female	71	41,52 %
Prefer not to answer	1	0,58 %
Total	**171**	**100,00 %**

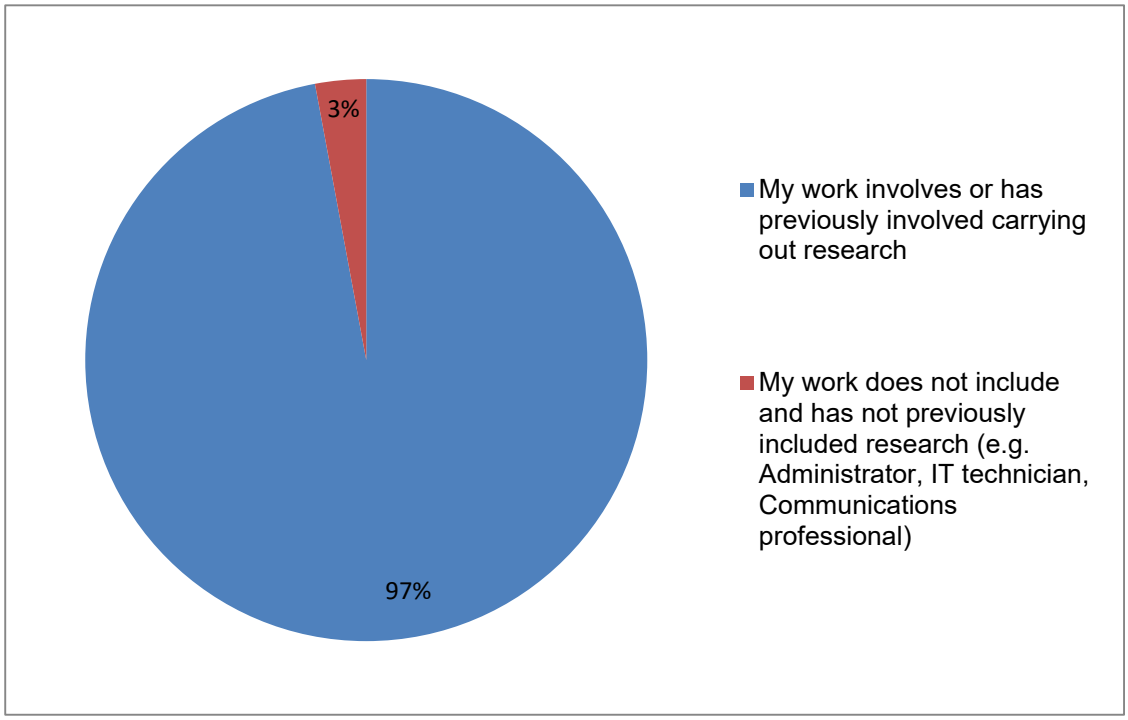
5. Academic qualifications (or equivalent)

	Count	Gross percentage
Bachelor's / Master's degree or lower	62	36,26 %
PhD	68	39,77 %
Assistant professor	9	5,26 %
Associate or full professor	32	18,71 %
Total	**171**	**100,00 %**



6. Which of the following is most appropriate to you?

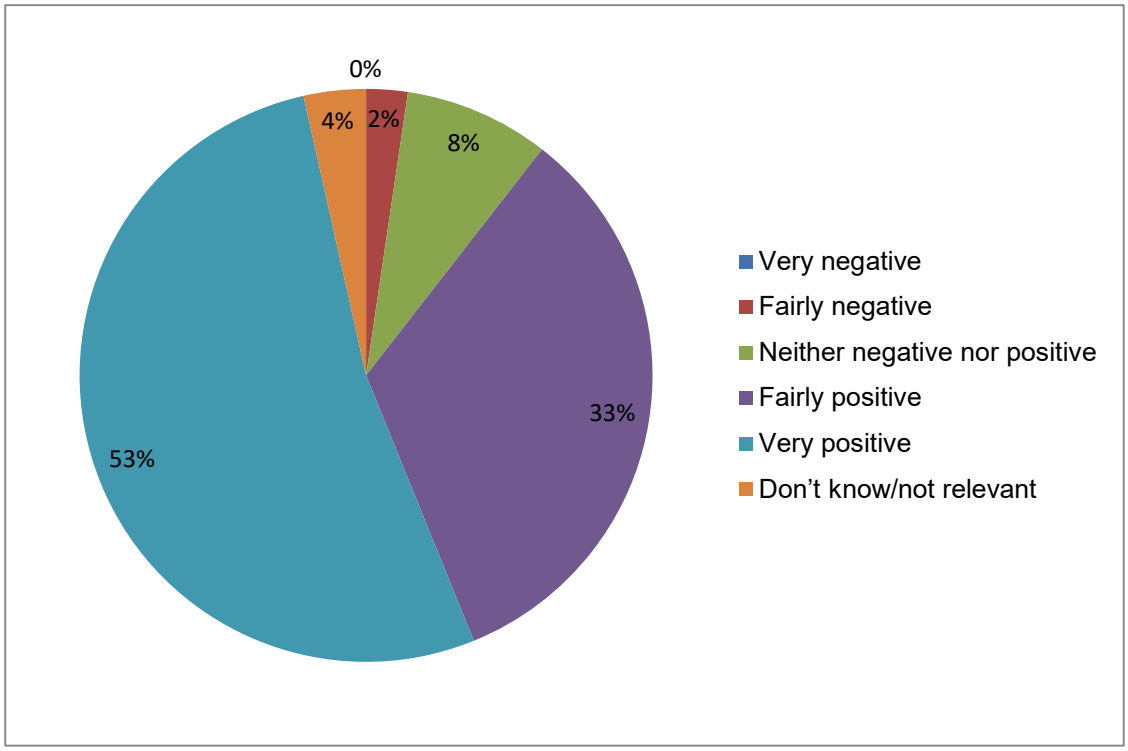
	Count	Gross percentage
My work involves or has previously involved carrying out research	166	97,08 %
My work does not include and has not previously included research (e.g. Administrator, IT technician, Communications professional)	5	2,92 %
Total	**171**	**100,00 %**



Views / Attitude towards outreach

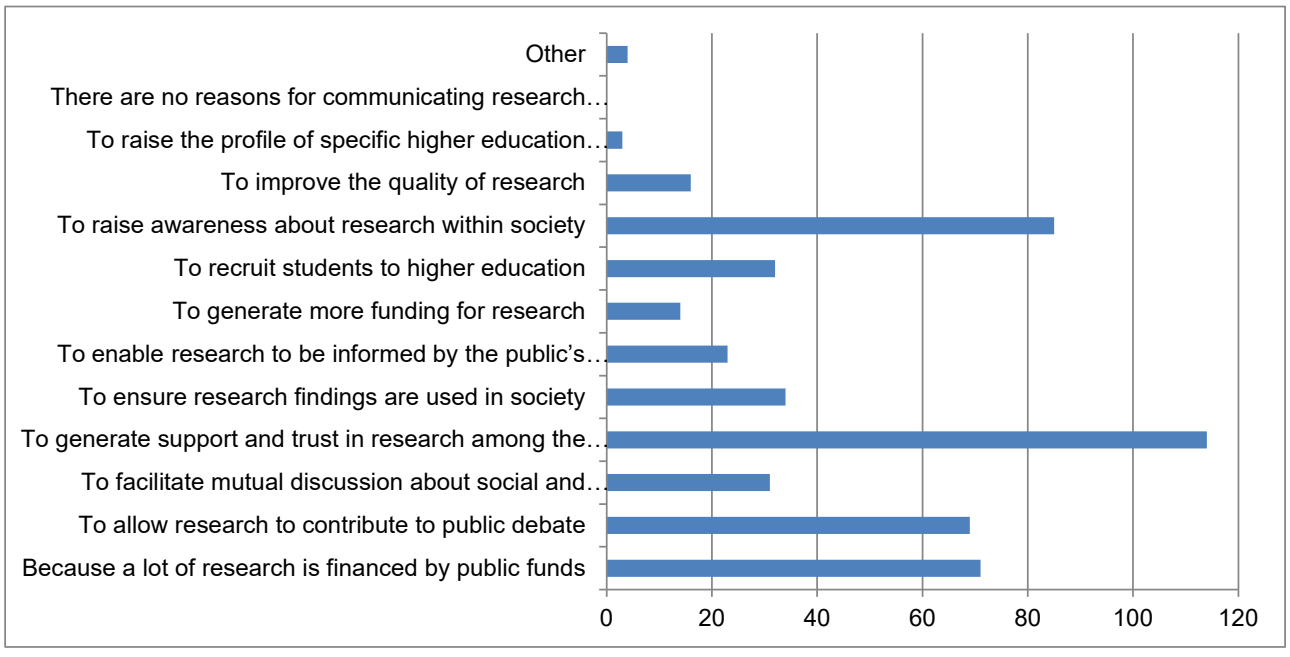
7. Overall, what is your personal attitude to communicating research with the outside world?

	Count	Gross percentage
Very negative	0	0,00 %
Fairly negative	4	2,34 %
Neither negative nor positive	14	8,19 %
Fairly positive	57	33,33 %
Very positive	90	52,63 %
Don't know/not relevant	6	3,51 %
Total	**171**	**100,00 %**



8. What do you think are the most important reasons for communicating research with the outside world?

	Count	Gross percentage
Because a lot of research is financed by public funds	71	41,52 %
To allow research to contribute to public debate	69	40,35 %
To facilitate mutual discussion about social and ethical questions around research	31	18,13 %
To generate support and trust in research among the public	114	66,67 %
To ensure research findings are used in society	34	19,88 %
To enable research to be informed by the public's views and needs	23	13,45 %
To generate more funding for research	14	8,19 %
To recruit students to higher education	32	18,71 %
To raise awareness about research within society	85	49,71 %
To improve the quality of research	16	9,36 %
To raise the profile of specific higher education institutions	3	1,75 %
There are no reasons for communicating research with the outside world	0	0,00 %
Other	4	2,34 %

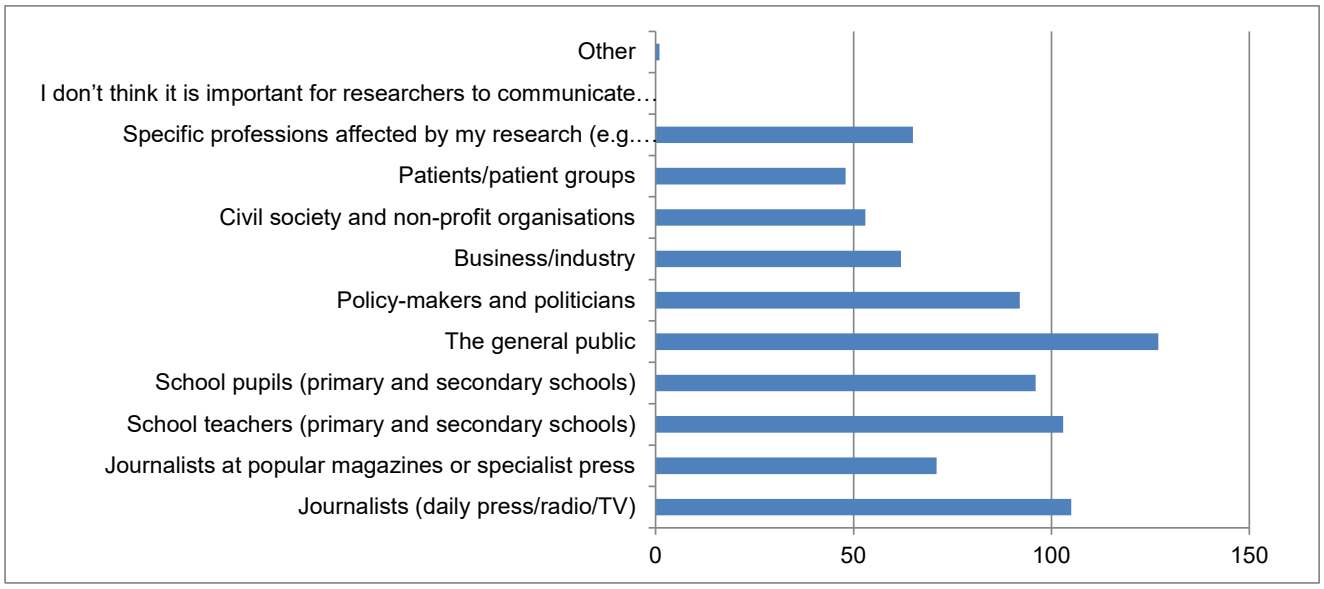


Comments in "Other":

- All of above really except for the last one.
- To fight fake news.
- Contribute to industry and economy.
- Because the research is interesting!

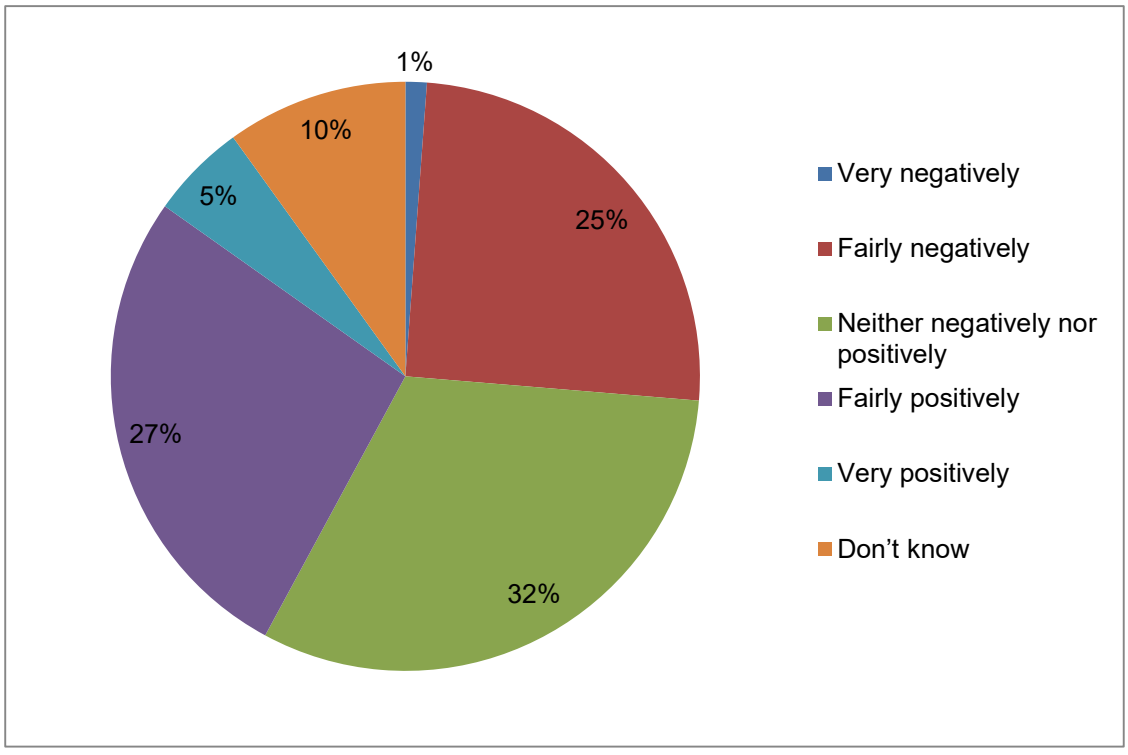
9. Which groups or parts of society (outside academia) do you think are relevant for you to communicate with about research?

	Count	Gross percentage
Journalists (daily press/radio/TV)	105	61,40 %
Journalists at popular magazines or specialist press	71	41,52 %
School teachers (primary and secondary schools)	103	60,23 %
School pupils (primary and secondary schools)	96	56,14 %
The general public	127	74,27 %
Policy-makers and politicians	92	53,80 %
Business/industry	62	36,26 %
Civil society and non-profit organisations	53	30,99 %
Patients/patient groups	48	28,07 %
Specific professions affected by my research (e.g. lawyers, engineers, doctors)	65	38,01 %
I don't think it is important for researchers to communicate with other parts of society	0	0,00 %
Other	1	0,58 %



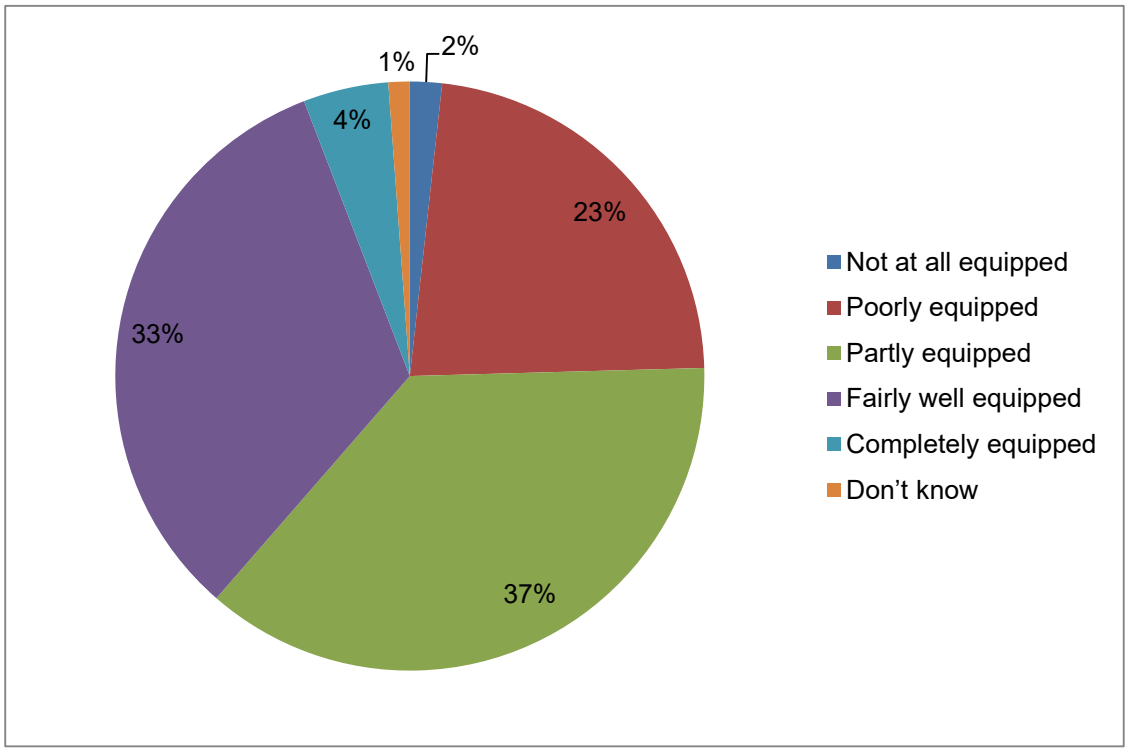
10. In your opinion, how are researchers who spend a lot of time communicating with the outside world valued by other researchers?

	Count	Gross percentage
Very negatively	2	1,17 %
Fairly negatively	43	25,15 %
Neither negatively nor positively	54	31,58 %
Fairly positively	46	26,90 %
Very positively	9	5,26 %
Don't know	17	9,94 %
Total	**171**	**100,00 %**



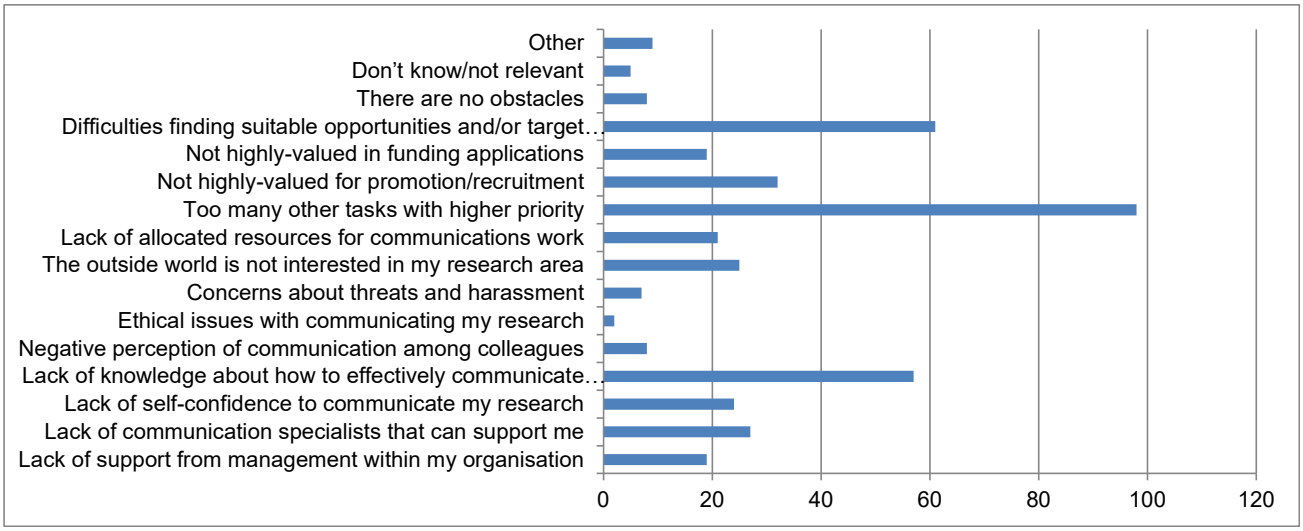
11. Overall, how well equipped do you feel you are to communicate research with the outside world?

	Count	Gross percentage
Not at all equipped	3	1,75 %
Poorly equipped	39	22,81 %
Partly equipped	63	36,84 %
Fairly well equipped	56	32,75 %
Completely equipped	8	4,68 %
Don't know	2	1,17 %
Total	**171**	**100,00 %**



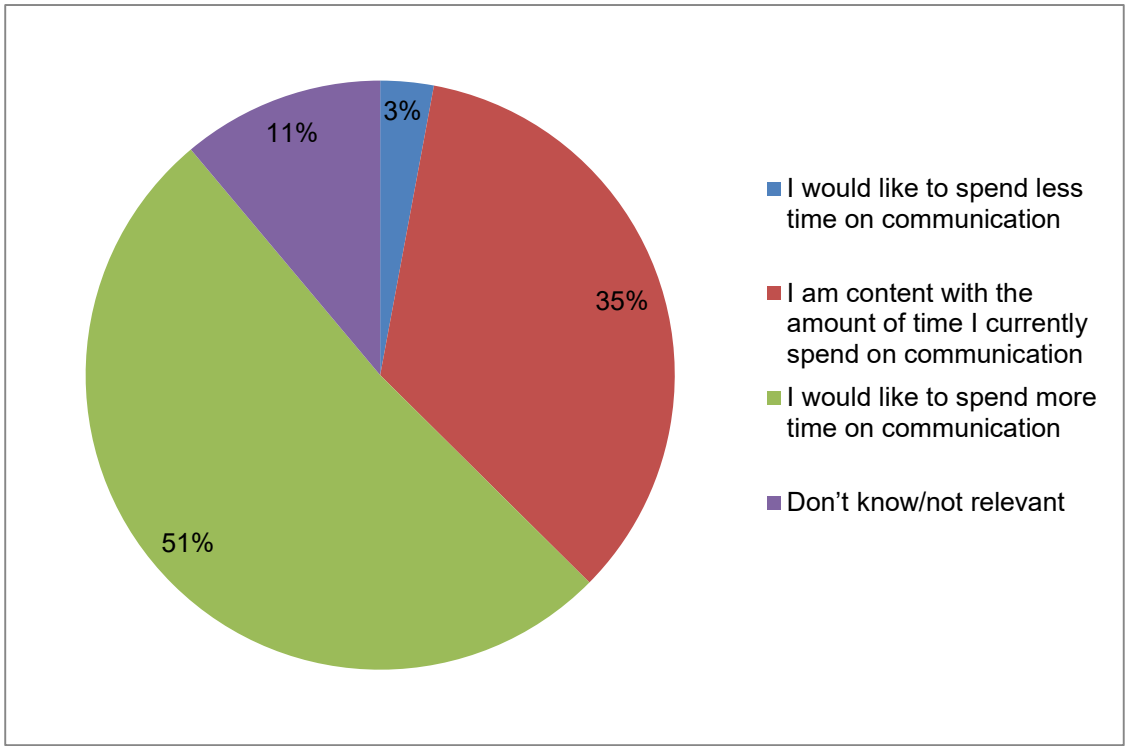
12. What are the biggest barriers you face when communicating research with the outside world?

	Count	Gross percentage
Lack of support from management within my organisation	19	11,11 %
Lack of communication specialists that can support me	27	15,79 %
Lack of self-confidence to communicate my research	24	14,04 %
Lack of knowledge about how to effectively communicate research	57	33,33 %
Negative perception of communication among colleagues	8	4,68 %
Ethical issues with communicating my research	2	1,17 %
Concerns about threats and harassment	7	4,09 %
The outside world is not interested in my research area	25	14,62 %
Lack of allocated resources for communications work	21	12,28 %
Too many other tasks with higher priority	98	57,31 %
Not highly-valued for promotion/recruitment	32	18,71 %
Not highly-valued in funding applications	19	11,11 %
Difficulties finding suitable opportunities and/or target audiences	61	35,67 %
There are no obstacles	8	4,68 %
Don't know/not relevant	5	2,92 %
Other	9	5,26 %



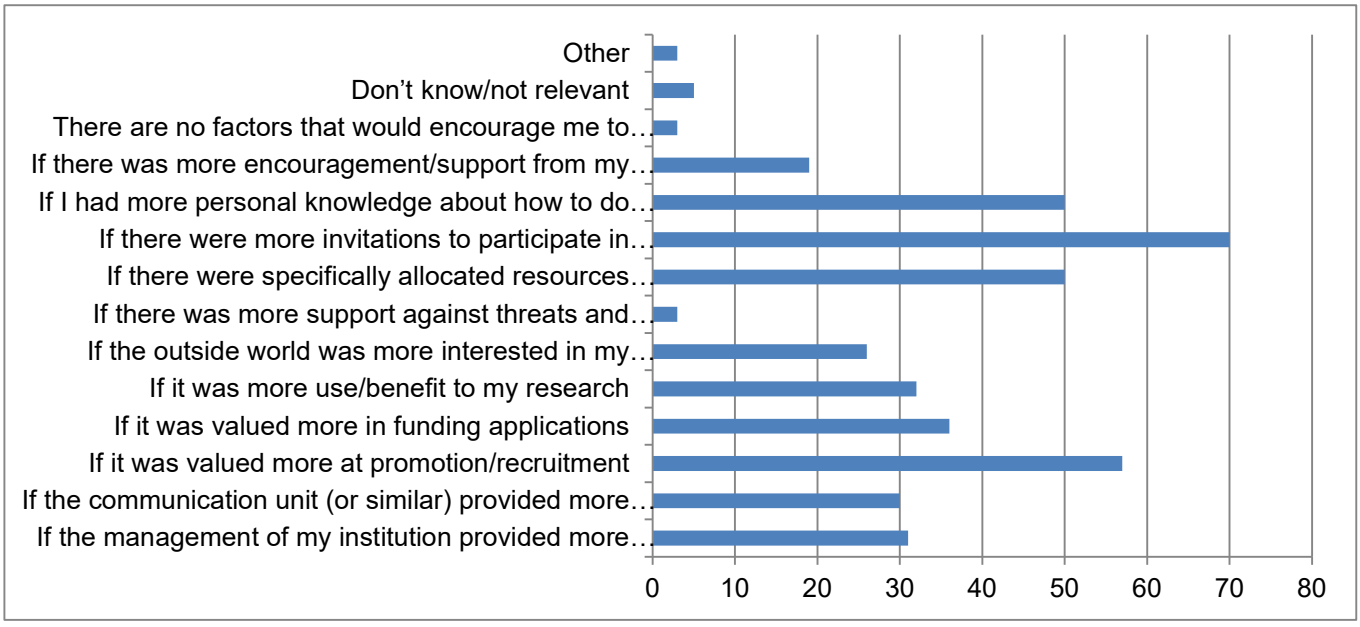
13. Would you like to spend more or less time than you currently do communicating research with the outside world?

	Count	Gross percentage
I would like to spend less time on communication	5	2,92 %
I am content with the amount of time I currently spend on communication	59	34,50 %
I would like to spend more time on communication	88	51,46 %
Don't know/not relevant	19	11,11 %
Total	**171**	**100,00 %**



14. What would encourage you to spend more time on communication with the outside world?

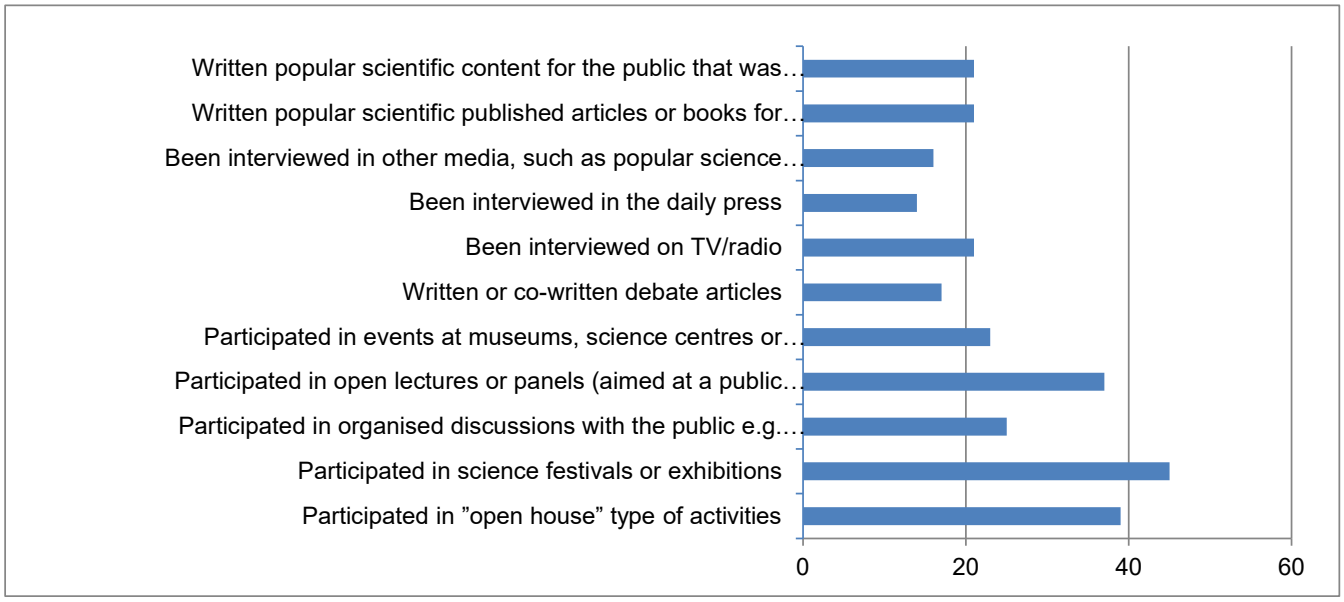
	Count	Gross percentage
If the management of my institution provided more support	31	18,13 %
If the communication unit (or similar) provided more support	30	17,54 %
If it was valued more at promotion/recruitment	57	33,33 %
If it was valued more in funding applications	36	21,05 %
If it was more use/benefit to my research	32	18,71 %
If the outside world was more interested in my research	26	15,20 %
If there was more support against threats and harassment	3	1,75 %
If there were specifically allocated resources available for communications work	50	29,24 %
If there were more invitations to participate in communication activities	70	40,94 %
If I had more personal knowledge about how to do communication	50	29,24 %
If there was more encouragement/support from my colleagues	19	11,11 %
There are no factors that would encourage me to spend more time on communication	3	1,75 %
Don't know/not relevant	5	2,92 %
Other	3	1,75 %



Engagement / Training / Support from HI

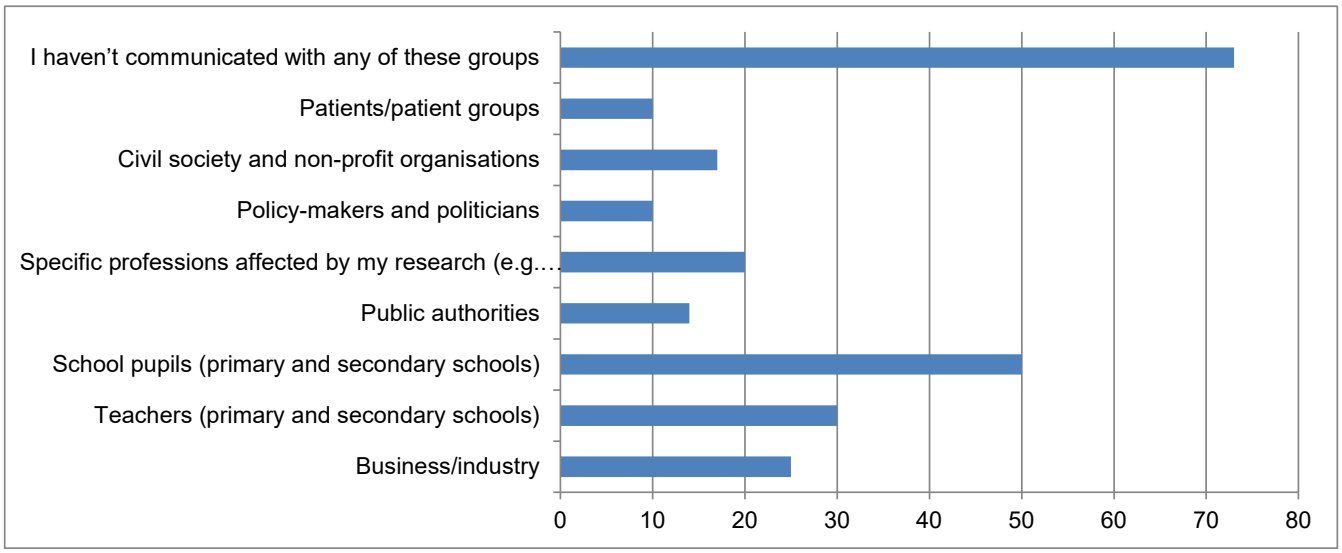
15. Have you done any of the following activities during the past twelve months?

	Count	Gross percentage
Participated in ”open house” type of activities	39	22,81 %
Participated in science festivals or exhibitions	45	26,32 %
Participated in organised discussions with the public e.g. science cafés	25	14,62 %
Participated in open lectures or panels (aimed at a public audience)	37	21,64 %
Participated in events at museums, science centres or arts centres	23	13,45 %
Written or co-written debate articles	17	9,94 %
Been interviewed on TV/radio	21	12,28 %
Been interviewed in the daily press	14	8,19 %
Been interviewed in other media, such as popular science magazines or podcasts	16	9,36 %
Written popular scientific published articles or books for the public	21	12,28 %
Written popular scientific content for the public that was mainly web-based (excluding social media)	21	12,28 %



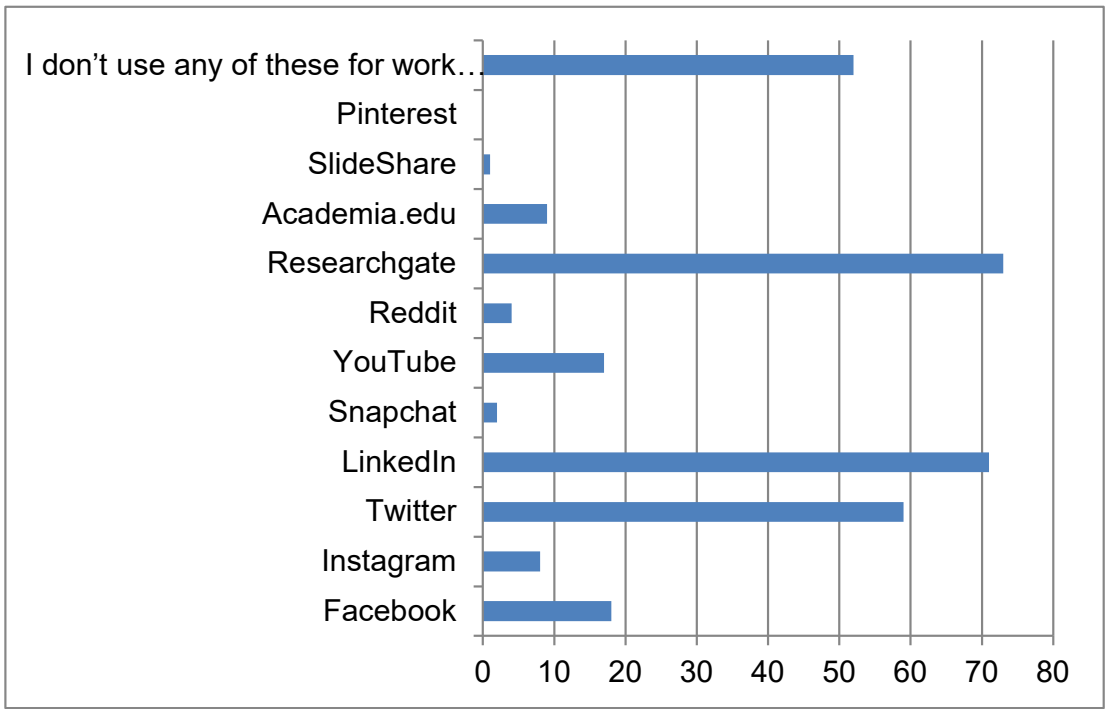
16. During the past twelve months, have you communicated research with any of the following groups?

	Count	Gross percentage
Business/industry	25	14,62 %
Teachers (primary and secondary schools)	30	17,54 %
School pupils (primary and secondary schools)	50	29,24 %
Public authorities	14	8,19 %
Specific professions affected by my research (e.g. lawyers, engineers, doctors)	20	11,70 %
Policy-makers and politicians	10	5,85 %
Civil society and non-profit organisations	17	9,94 %
Patients/patient groups	10	5,85 %
I haven't communicated with any of these groups	73	42,69 %



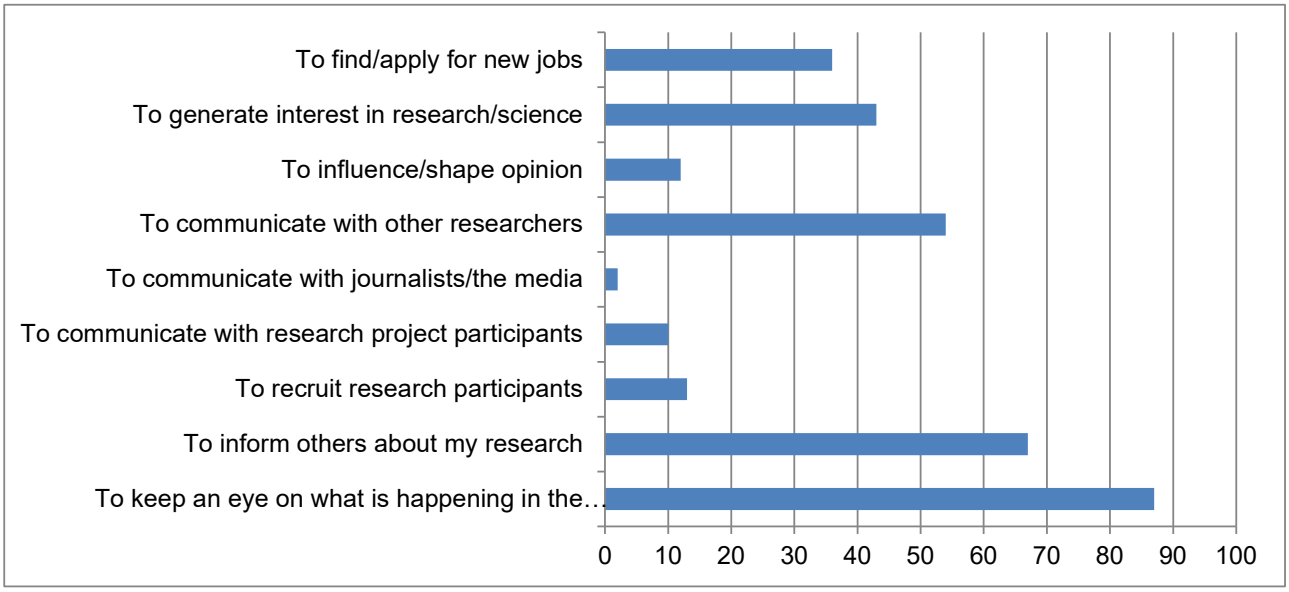
17. Do you use any of the following social media for work purposes?

	Count	Gross percentage
Facebook	18	10,53 %
Instagram	8	4,68 %
Twitter	59	34,50 %
LinkedIn	71	41,52 %
Snapchat	2	1,17 %
YouTube	17	9,94 %
Reddit	4	2,34 %
Researchgate	73	42,69 %
Academia.edu	9	5,26 %
SlideShare	1	0,58 %
Pinterest	0	0,00 %
I don't use any of these for work purposes/to communicate research	52	30,41%



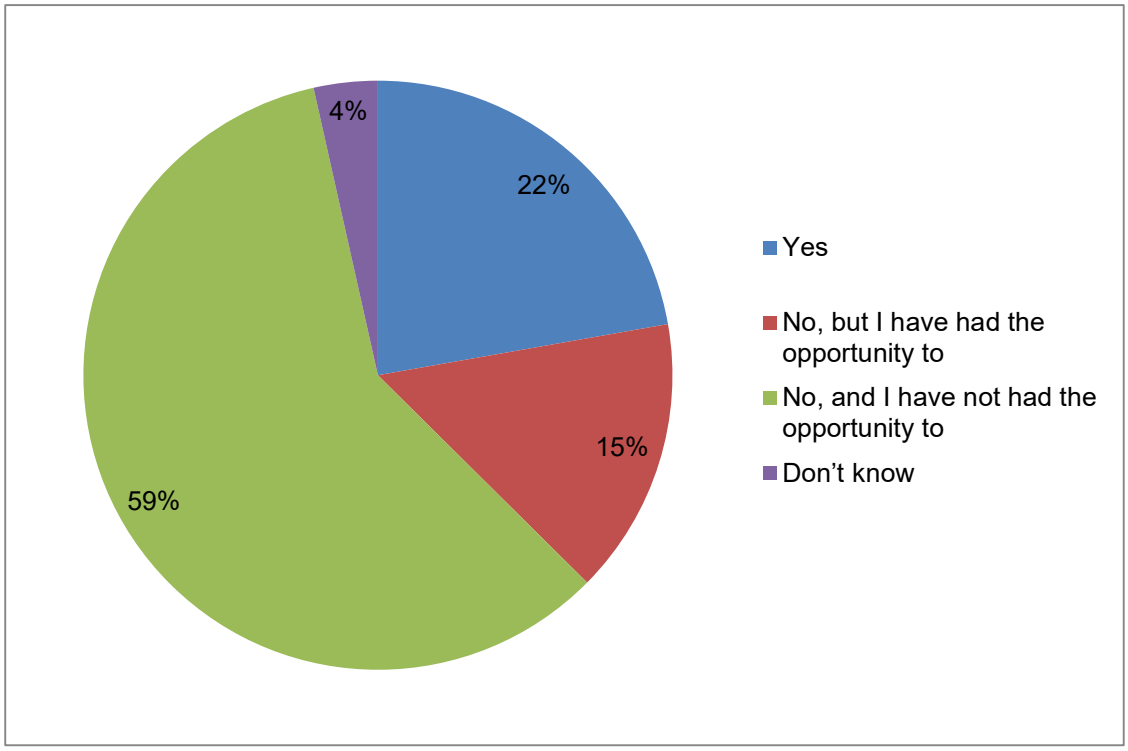
18. For what purposes do you use those media for work?

	Count	Gross percentage
To keep an eye on what is happening in the outside world	87	73,11 %
To inform others about my research	67	56,30 %
To recruit research participants	13	10,92 %
To communicate with research project participants	10	8,40 %
To communicate with journalists/the media	2	1,68 %
To communicate with other researchers	54	45,38 %
To influence/shape opinion	12	10,08 %
To generate interest in research/science	43	36,13 %
To find/apply for new jobs	36	30,25 %



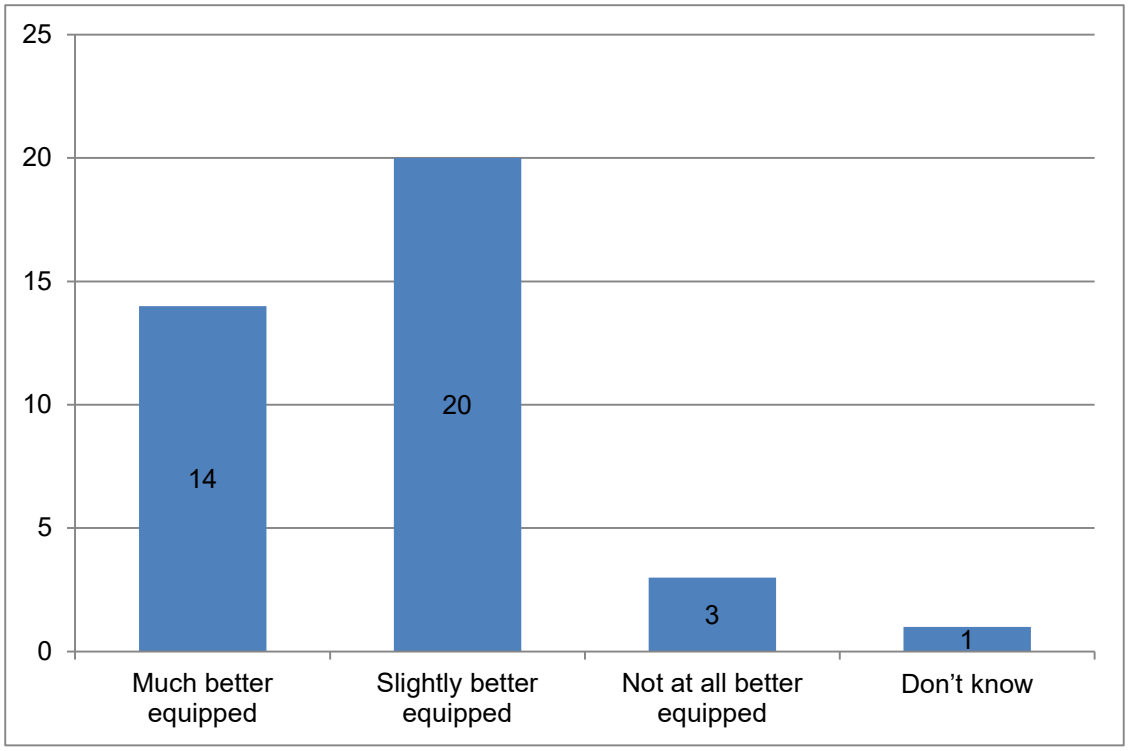
19. Have you ever undertaken any course/training on how to communicate research with the outside world?

	Count	Gross percentage
Yes	38	22,22 %
No, but I have had the opportunity to	26	15,20 %
No, and I have not had the opportunity to	101	59,06 %
Don't know	6	3,51 %
Total	**171**	**100,00 %**



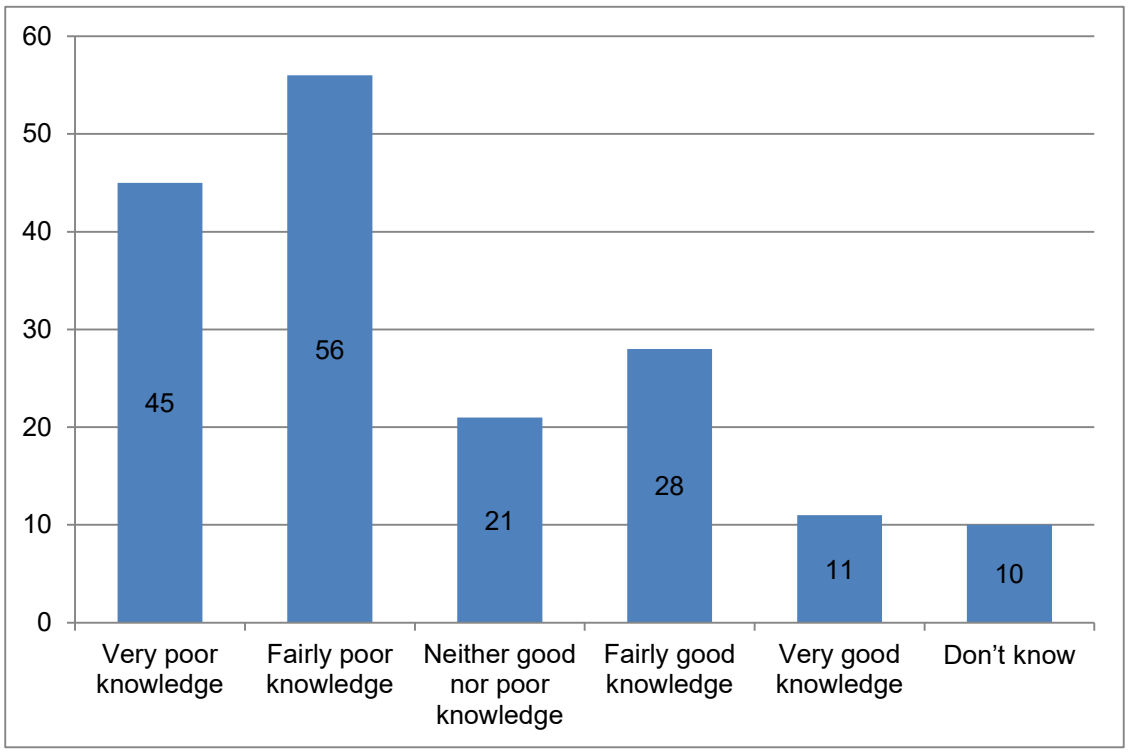
20. You responded that you have undertaken a course/ training in communication. Having done this, do you feel better equipped to communicate your research?

	Count	Gross percentage
Much better equipped	14	36,84 %
Slightly better equipped	20	52,63 %
Not at all better equipped	3	7,89 %
Don't know	1	2,63 %
Total	**38**	**100,00 %**



21. How much knowledge do you have about the type of support you can get from communication professionals at your institution?

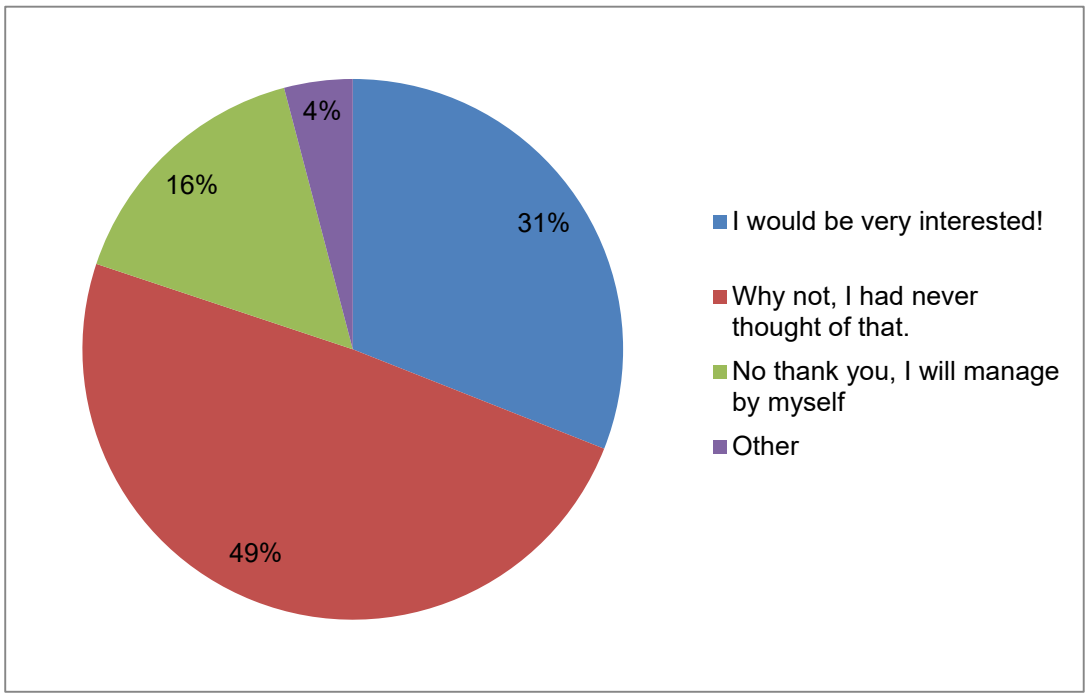
	Count	Gross percentage
Very poor knowledge	45	26,32 %
Fairly poor knowledge	56	32,75 %
Neither good nor poor knowledge	21	12,28 %
Fairly good knowledge	28	16,37 %
Very good knowledge	11	6,43 %
Don't know	10	5,85 %
Total	**171**	**100,00 %**



A digital solution

22. How would you welcome a digital platform that would provide inspiration, ideas, and practical advice to better communicate with the outside world?

	Count	Gross percentage
I would be very interested!	53	30,99 %
Why not, I had never thought of that	84	49,12 %
No thank you, I will manage by myself	27	15,79 %
Other	7	4,09 %
Total	**171**	**100,00 %**



23. What would you like to find on such a platform?

I can share and discuss my research ideas also I can get feedback from other researchers.
Examples of presentations, posters as well as videos.
Communication tools to explain very complicated topics. Reports of scientists on their experiences with science communication. Reports of non-scientists on experiences with science communication.
Some motivation to do communication, either financial or social recognition.
Simple and concise advice.
A database of requests from surrounding museums/schools for outreach opportunities, something similar to https://www.stem.org.uk/stem-ambassadors.
A short list with max 10 important points.
Examples of 'bad' and 'good' communication. Clear ethical guidelines for such communication (how to talk about research to interest the public, but be accurate and not blow things out of proportion at the same time).
Contact info for communication professionals in my institution or nearby. Forum/chat to interact with other people who share an interest for science communication.
Team staff announcements for science communication projects and networking opportunities.
How to set up slides accompanying the oral presentation.
How to avoid 'scientific' jargon.
Communication opportunities. Cross-disciplinary networking for science communication. Stronger communication to public and policy decision makers.
Advises how to explain something clearly.
Instead of spending money on a platform, it would be better to reinforce the practical courses e.g. about social media that are provided by the SNF. Currently this offer is quite expensive and limited to a small number of participants. We do not need more advice but we need more and constructive feedback on what we have done.
Prefabricated slides. E-mail addresses of weekly & monthly journals that accept scientific updates, eg. Sci American, New Scientist, perhaps also Der Spiegel, Die Zeit.
A general infrastructure that regulates all the administrative details of science communication (where, to who, what topic,....). Unfortunately, the time left for outreach is very limited. I am always happy to participate to events if available, but just not have time to organize them.
Video tutorials.
Take home messages how to convey a complex concept to a lay audience.
Knowledge about science communication. Platforms that can be used to communicate science. Events/activities to get involved in for science communication. Job opportunities in science communication.
Book chapters/Blog on how to effectively communicate science to the general public. Calendar with activities such as symposiums/seminars from different institutions that are specific to science communication. Workshops/virtual meetings with experts in the area.
Des exemples ou des clés pour présenter de façon générale versus de manière pointue un thème, dans une conférence publique, une émission radio. Par exemple, comment répondre en direct, comment préparer une interview, etc.
Press contacts, associations and public organisations interested in inviting scientists. Contact with public communication experts at the UNIGE or abroad.
Local/online events in which one can participate. Chat function (like Slack, etc.) to find like-minded people and come up with ideas together. Opportunity to propose events and more easily gather support/money.

Guides on how to visuals/contact person for making visuals. Guides on events advertising. Guides on contact to journalist/magasine/people interested in broadcasting sciences.
Links to existing outreach projects. Resources on how to communicate effectively. Space where people can share their ideas on how to communicate with the outside world outside of organised outreach events.
Support, practical guidelines, community of people interested in communicating research.
Online tutorials. Exemples of outreach in science. Links to useful tools to promote research. Contacts of people whom can help us.
A list of initiatives (e.g., blogs, science platforms, organisations that visit schools, etc.) that provide an opportunity to contribute and communicate science to the open public. That list could be classified by research domain (psychology, biology, neuroscience, etc.). Tips on how to effectively communicate research to different target groups (i.e., young children at school, patients, practitioners).
Information about how or whom to contact to communicate with the outside world.
Practical information on how to use selected social media and on how to communicate efficiently.
Advises and tips on how to talk to the people of different culture/ nation (allowed topics, etc).
List of events, links to past events, list of activities at those events and list of contact persons (in case one wants to ask, how things were organized).
Agenda of events that will take place and to which we can subscribe. Classes to teach researchers how to teach and communicate their work (could it be for proper University classes, or for outreach activity!).
Small contests... otherwise no motivation.
It would be useful to me if there was one place where I can see many different examples of how other scientists in my field (physics, astronomy) have communicated with the outside world. Then from these, I could see which kinds would fit with my situation. It would be much easier to communicate based on some model that has previously benn worked by others.
A wide range of content levels that targets a wide range of audiences (something for children, something for school pupils, something for general public, something for general public with more technical background, something for researchers from other disciplines, etc).
The possibility of sharing our experiences.

24. What should absolutely be on that platform, to make it useful to you?

An event calender.
A newsletter that invites to outreach events.
I think if its has different specific domains so it will be easy for find out which I need.
Examples of presentations, posters as well as videos.
A tool to get in direct contact with people interested in my research.
A program of when and where one could go. Assistance to start an event for specific research fields.
Opportunities to present things.
Examples of successful and failed communication plans.
Easy to use, professional appearance.
Articles of people's previous experiences in outreach.
Contact lists.
Event calendar with events related to improving communication skills and/or media events.
It should be specific and not "one size fits all" kind of generic thing.
Advice and templates/examples of how to communicate effectively.
Do's and dont's.
Reports of non-scientist on experiences with science communication.
Specific opportunities to communicate with the outside world.
New ideas or recent paper publications that might be of interest to the outside world.
Written templates/examples/... that fit my field (natural sciences).
Examples on how to communicate the newest research papers to the public.
Advice or support or tips from people from my own field participating in such activities.
Make it easier to find people alike and with the same goal.
Recorded video lessons prepared by communication specialists.
How to structure such an exchange.
How to simplify complex ideas.
How to generate interest.
Guide on how to write an article and where we can share it.
New ideas and material to use to communicate.
A search option.
To link people/bars that are looking for someone to explain science and the scientist.
Examples of science communication, in-depth classes on important aspects of communication, lists of opportunities for communicating science.
Science cafe, science art, workshop for youngsters of secondary school.
Tools to create videos!
Factor in language of communication.
Clear and practical tips.
List of reliable journalists for communicating new scientific results.
A database of requests from surrounding museums/schools for outreach opportunities, something similar to https://www.stem.org.uk/stem-ambassadors.
A guide on how to translate my research for a public audience.
Resources of platforms where research can be communicated.
Some templates and introductory material for presenting the world to the public.
It should not be to general, but should address the specific needs of communicating fundamental life sciences research to the public. Every domain needs tailored communication. No one-size-fits-all!
Examples and training.

Moderated scientific debate, discussing ideas.
Examples, good and bad ones
Tutorials.
Specific examples relating to my specific field of research.
Communication specialists providing advice.
Tips and media insights to help us reach our target audience.
A selection of venues where communication with the public is possible.
For me, the problem is not to talk about science or my research but that I have no time to organize such events. If the event was already organized and I could just show up, I would be happy.
Network of established communication outlets where you can contribute.
Tutorials, threads of topics, interaction with public, inter-department and scientists collaborations
Accessible courses on communication
Real people with established academic records who are active in sharing their minds, e.g. Twitter.
It should be easy to use and intuitive. It is very difficult to find time to dedicate to an activity that is not regarded as essential (or productive) for a researcher, and if the platform is not easy to use and to explore, it will be more difficult to motivate people to use it.
The latest publications of each group/institution or departement.
A tool to find a good target audience, especially if this audience has no scientific background or has a bad (pessimistic) perception of a science field or research area.
Suggestions on how to fight fake news.
Examples (as videos or presentations) showing how to simplify research topics, to make it understandable to the target audience.
List of events offering opportunities to communicate my research.
Practical advices depending on the targeted audience.
Digital resources for disseminating information.
Projects examples from planning to conclusions.
Opportunities for science communication, examples of how to structure this.
Videos how to communicate.
Advises.
The phone number for calling a person who can help.
Guides on how to start communicating more with the public.
How to write compelling press releases.
Contacts of professional consultants specialised in scientific knowledge transfer, as well as sources of information on sources of funding to pay them.
Specific events that I can attend to help with communication or to present my own work to the public.
A way to get content out in the world and make sure it gets watched?
Information about how to communicate.
Announcements of upcoming 'get-togethers' and where to communicate the research.
A basic information and training platform including: tips, tutorials, links, etc.
Events for sharing research and course opportunities to learn more about how to communicate.
Information about opportunities.
Practical advice and information about events.
Good examples.
Good organization.
Similar research groups.
Simple to use platform; useful, simple to apply, advises.
We do not need more advice but we need more and constructive feedback on what we have done.
Contact links to help science communication.
Online training courses.

Online tools for edition/diffusion.
Links to websites.
A precise agenda of event with exact topics/skills looked for in each event.
Contact/chat.
List of target audiences.
Concrete opportunities to share research with the public.
Platforms that can be used to communicate science.
Events/activities to get involved in for science communication.
Practical example of how to build presentations and video instructions.
Interviews with professors and researchers who are committed to science communication in which they talk about their experiences.
Events giving you the opportunity to communicate if wanted.
Des outils, des exemples, peut-être une feuille de route pour mener à bien un interview par exemple.
Interactive features.
Innovative media support.
Feedback tools (i.e. forums, topics).
Comments (probably moderating service is important).
Press contacts, associations and public organisations interested in inviting scientist.
Contact with public communication experts at the UNIGE or abroad.
It could be interesting if there is a way to practice to communicate with some voluntary citizens interested in science in general (but outside on the field) to have a feedback about what they understand when we communicate.
Network of colleagues.
Tutorials on tools for communication.
Open debates on communication.
The ability to quickly find like-minded people, interested in organizing events. So perhaps people should create a profile before logging into the system.
Events advertising.
Contact to journalist/magasine/people interested in broadcasting sciences.
Besides learning material, info about events (to check it out) and contact to people that are at the receiving end (like journalists or event organizers that are looking for scientists to talk to).
Links to existing outreach projects .
Resources on how to communicate effectively.
Videos.
Practical advice for communicating research better.
A section where people from outside can comment on our researches or projects and we can give those feedback.
The informations of my interest s of the "outside" fields.
Resources to help researchers develop skills useful for communication.
Online tutorials.
How to communication results to patients.
Examples.
Feedback from general public.
Examples of recent articles, interviews, etc. that showcase effective communication of science to the general public.
Having this organized by scientific field would be very useful, to make it easier to search for examples relevant to one's type of research.
Examples of successful science communication events.
Resources that help to find/directly connect researchers and interested public.
Propositions of training and courses.

A list of initiatives (e.g., blogs, science platforms, organisations that visit schools, etc.) that provide an opportunity to contribute and communicate science to the open public. That list could be classified by research domain (psychology, biology, neuroscience, etc.). I believe that it is currently difficult to understand in which areas we could communicate our research, and creating a platform that gathers all communication options will make it easier for researchers to reach out and contribute.
To know better which media to chose depending on the the target audience.
E-learning courses to feel more comfortable.
Advises and tips on how to talk to the people of different culture/nation (allowed topics, etc.).
Advices on how to communicate efficiently.
Examples of research communication, links to seminars/interested parties.
Concrete examples of how researchers have used various communication platforms.
Information on new communication tools.
A way to connect to other researcher willing to organize something.
List of past and upcoming events.
Advice on different type of public communication, useful contacts when help is needed, useful contacts of good communicators when they are needed.
How to communicate effectively with social media.
Agenda of events that will take place and to which we can subscribe.
A forum to put in contact people interested in coordinating/planning together outreach activities.
A system where people can give tips and/or constructive criticism on work meant for the layman. I find it quite difficult to write articles accessible to the layman.
Tips to increase reach would also be useful. I can write an article, put it on my website and maybe some social media platforms, but ultimately it's hard to make more than a dozen or so people read it.
List of personal contacts within target groups (medias, businesses, political parties, professional associations).
People who would be interested to discuss and interact, not a generic combox number.
A list of possible target audiences, media houses, to communicate with.
A list of reasons to communicate with the outside world and how it would be useful in the future research.
I think it is very important that there are aspects of the platform that are specific to different fields of science. For example, with my research it seems more difficult to communicate research with the public because much of it is very mathematical, and it would help me to see good examples of how others have dealt with communicating in these kinds of research areas.
A forum where I can write small articles which will explain components of my research and which can be made available online after some peer review to the general public.
I think many researchers would appreciate some sort of templates. I understand this may be a difficult ask, but I often feel that researchers find the biggest obstacle is "where do I begin?" even if they'd like to create something interesting about their research. If they had at least some kind of 'ready-made' template such that they really only need to worry about the content.
Contacts.
Possibly infos on how to be able to convey abstract.
Info without prerequisites.
An help to better interact with other researchers for outreach.
Well structured, high quality, easy-to-access content as downloadable files, eg. access to public presentations by researchers (pdf, ppt, etc.).
This kind of offer will be especially helpful for pupils and teachers in the near future, as part of teaching will stay online.
Tips and informations about where to publish research.
Contacts to scientific communication professionals.

25. Do you want to share anything else about science communication?

Most of my science communication occurs on social media, explaining research to friends and family. There are not many incentives to spend time on it otherwise.
I believe the issue is really about finding time and what is the perception on outreach among work colleagues. We need to slow down the rush to publish and engage in activities like science communication and try to have a broader aim of reaching the society while being better informed of the issues.
Ethical and civil contents.
Current communication is very obscure. Public is so used for WOW-news that journalists blow scientific results out of proportion, making every news about any scientific article look like next panacea/revolution. As a result, scientist start themselves to believe in that narrative and feel bad for not being able to provide that level of ex-pectations, which further leads to impostor syndrome and career disappointment, and provoke deterioration of the whole community as well as of any particular organization.
The public becomes disappointed in science since it rarely brings the changes promised in the press (take graphene for example). This reduces trust in science and lowers public support.
We need more honest journalism, that will bring us reflection on real world situation, that will give credit to scientists for incremental work and that will highlight the risk, the uncertainty, the struggle that scientist face as well as importance of scientific struggle. In the fight for the audience attention, we need to find the way to make the news in a way that is not the loudest or brightest, without empty promises, but instead where real life is valued. In short, we need to cut the bullsh*t, and we need to do it by establishing positive feedback for honest journalism.
The largest difficulty for me is the lack of any outreach opportunities that are not in German.
Having a place where I can easily browse through outreach opportunities that fit my skills would be very useful.
Communicating information in a simplified manner and in broad terms to a wide audience is important for supporting science.
I think a common platform for "everyone" would be useful - but also very difficult to implement effectively. Due to the broad nature of audiences, stakeholders and the differing types and emphasis of communication used in different disciplines - this is a very broad topic and one that will be difficult to solve for a wide range of scientists.
It is a pity that science communication tasks are often assigned to female and other minority scientists but are very poorly valued by funding institutions or for promotions. This contributes to the gender (and other minority) discrimination in sciences. For example, events for kids organized at our institution are practically automatically assigned to female scientists. On the one hand this is good because kids need female and other non-stereotype role models in science, but on the other hand, it takes a lot of time away for these scientists which is not rewarded at all. In the end, as a scientist all that counts to get promoted is to publish in high impact papers. Even if such articles are poorly cited it is still better than having participated in 10 outreach activities per year (which in my opinion and the current situation of the world are much more meaningful).
In my experience, one of the largest issue in science communication is coordination. There are central initiatives of the universities, initiatives by institutes and teaching programs, NCCRs, interested PI, non-profit organizations, but none of that is coordinated, resulting in a huge loss of energy and low impact. A second issue is that communication to the broad public, in particular children, asks for much more professionalism of what I naively thought. In chemistry for example, the experiments suitable for broad audience are very different from the one done in research, and need special training/staff.
There is a need to receive support from professionals so that researchers can get involved in outreach with good impact.
One missing argument, I think, is that while Science is relatively present in the media because of the ongoing crisis (climate change, covid, to cite only two issues), the general education of people in scientific methods is quite poor. I have often noticed that people confuse science and opinions, and are unable to distinguish facts.
The most important thing remains to do science, and it make non-sense for me to force people to communicate if they are not made for this.
I used to work in the UK in an institute which was really big on sciences communications with the general public and schools. My former institute had a dedicated communication officer and she was very active to gather researchers when events were happening, organise workshops or write short pieces/interviews about published sciences. Obviously in that institute it was extremely valued to participate in sciences communication and events and not very well perceived to not do it.

Everyone should be encouraged to do some science communication to a broader audience or the general public. I think it would be healthy for scientists to leave their bubble once in a while.
Science communication to the public is very important because we are paid by the public largely, there is too much nonsense in public discussions not only about science we need to rectify, there are in general too few scientists in the media who get (political, etc.) discussions straight, there is too much nonsense about science wrongly conveyed by journalists and unfortunately also by scientists. There is a danger: often scientists claim bold things in the public about their science, which they cannot do in science itself to foster their career and/or ego.
I believe that if science communication was more valued and encouraged (also already among students during their academic studies), we could really improve the interaction between science and the general public. This means making science communication options (online or live) more readily accessible for researchers to understand where they can contribute, but also increase recognition of this type of effort (in recruitment settings, funding options, support from pears).
The average quality of communicating results of scientific research to the public is becoming more and more abominable. Three reasons immediately come to mind: Too many people (journalists, communication specialists, etc.) who do not know or understand much about science decide on the type of results of scientific research that should be communicated and on the form in which they are communicated to the public. Too many scientists appear to be interested in making publicity for their (often times rather mediocre) research efforts and in playing some kind of public role. Too many scientists and too many journalists appear to be quite dishonest about the significance, impact and importance of their (often times very insignificant) research.
For me, the biggest thing that keeps me from putting more effort in this area is that it is not at all rewarded when big decisions are made that affect the progression of young people's careers in science. I have previously written many applications for postdoctoral fellowships, for example, and I have never had any application or interview that asked about science communication activities. For young researchers, the message may not be directly stated in public, but it is nevertheless very clear, that science communication will not help you advance your career.
I think that, more than communicate cutting edge research, it is important to communicate scientific reasoning to the public and to counter the rise of pseudo-science.
I think this questionnaire would have deserved more input by people who are methodologically well-versed in developping tests, surveys, etc., as much as science communicators should collaborate much more intensely with researchers in the area of science communication.

NCCR CHEMICAL BIOLOGY

Initiated in 2010, the National Centre of Competence in Research (NCCR) Chemical Biology develops new tools and approaches derived from chemistry in order to understand, visualize and control biological processes.

Over 100 researchers from four different academic disciplines (chemistry, biochemistry, physics and cell biology) collaborate to a better understanding of life at the molecular level. Together, they develop novel chemical tools and pursue innovative techniques based on small molecules and proteins to obtain new information about cellular processes and control them in situ. Their research allows Switzerland to become one of the leading scientific centers in the relatively new discipline of chemical biology and train the future leaders in the field. The NCCR is also engaged in a platform for chemical screening (ACCESS) aimed at developing a new generation of molecules with biological effects.

Alongside its scientific goals, the NCCR Chemical Biology is also active in knowledge and technology transfer activities, education of the next generation of interdisciplinary scientists, while promoting gender equality and outreach activities to the wider society.

Hosted at the University of Geneva (leading house), the NCCR Chemical Biology is partnered with EPF Lausanne (co-leading house) and involves a wide range of academic and industrial collaborators. NCCRs are cross-disciplinary research networks funded by the Swiss National Science Foundation (SNSF). They support research in areas of strategic importance for the future of Swiss science, economy and society.

www.nccr-chembio.ch

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Disclaimer

This study gave voice to a certain number of researchers cited as testimonies or illustrations. For confidentiality reasons, their names are not mentioned.