

## Collaborative Relationships & Foreign Components: When to Report to NIH

Scientific collaborations can range from general discourse with a colleague at a scientific conference to sharing resources and ideas to designing and performing experiments together. Detailed federal guidance on which collaborations to report as "in-kind" or "other support" is scant. Nonetheless, research investigators are required to report their collaborators in grant applications and annual progress reports. This matrix sets forth the spectrum of collaboration and gives researchers a basis for considering which activities and relationships to report to NIH.



General Indicators	No shared resources (materials, facilities, equipment, or personnel), no direct or measurable benefit to my research, no collaborative experiments	Co-authorship/Acknowledgement (see below); shared resources, financial or in-kind, including unique or high-value materials, facilities, equipment, or personnel; resources that benefit my research; collaborative experiments.	NIH: Significant element of a project performed outside the US: experiments, human or animal research, extensive data analysis
COLLABORATOR	DOMESTIC OR FOREIGN	DOMESTIC OR FOREIGN	FOREIGN
<b>General Scientific Discussions</b>	<ol style="list-style-type: none"> <li>1. I had discussions with colleagues at a Conference</li> <li>2. Open discussions about research on Zoom/phone call</li> <li>3. I gave a research talk or seminar at another university</li> </ol>		
<b>Sharing Resources</b>	<ol style="list-style-type: none"> <li>1. I received data, materials, reagents, etc. from my collaborator that <u>never</u> led to publishable results or an acknowledgment or authorship in a publication</li> <li>2. I received materials from my collaborator that were <u>not</u> "unique" or of high value.</li> </ol>	<ol style="list-style-type: none"> <li>1. I received data, materials, reagents, results, etc. from the collaborator that <ul style="list-style-type: none"> <li>• benefits/benefited my research</li> <li>• led to a publication where I gave co-authorship or acknowledgment to the collaborator</li> </ul> </li> <li>2. My collaborator visited my lab to perform experiments</li> <li>3. My collaborator sponsors a postdoc or graduate student in my lab</li> </ol>	<ol style="list-style-type: none"> <li>1. Unique materials, reagents, biological lines, etc. were created in a collaborator's foreign lab and provided to me for work on a federally funded project</li> <li>2. Experiments were performed in a collaborator's foreign lab, and data or results were provided to me in support of a federally funded project</li> <li>3. Human or animal subject studies were performed at a collaborator's foreign institution in support of a federally funded project</li> </ol>

<p><b>Publishing/ Presenting Together</b></p>	<p>1. Dr. X is a co-author on a paper with me or is acknowledged on a paper where I am an author; HOWEVER:</p> <ul style="list-style-type: none"> <li>- I have never had a direct scientific exchange with Dr. X, and</li> <li>- Dr. X's contribution to the paper did not overlap with my research reported in the paper (e.g., we didn't design or perform experiments, Dr. X didn't contribute to the data analysis of my data), and</li> <li>- Dr. X's contribution to the paper did not benefit my research reported in the paper (See publication example, below)</li> </ul>	<p>1. Dr. X is a co-author on a paper with me or is acknowledged on a paper where I am an author; AND</p> <ul style="list-style-type: none"> <li>- Dr. X performed experiments in my lab, or</li> <li>- Dr. X's contribution to the paper directly benefited my lab's research that is reported in the paper, or</li> <li>- Dr. X contributed a key resource to my lab's research reported in the paper, or</li> <li>- Dr. X performed extensive data analysis on my lab's research reported in the paper.</li> </ul>	<p>1. Dr. X is a co-author on a paper with me or is acknowledged on a paper where I am an author; the paper reports research sponsored by a federal sponsor, AND</p> <ul style="list-style-type: none"> <li>- Dr. X performed experiments in her foreign lab</li> <li>- Dr. X's contribution to the paper directly benefited my lab's research that is reported in the paper</li> <li>- Dr. X contributed a key resource to my lab's research reported in the paper</li> <li>- Dr. X performed extensive data analysis on my lab's research reported in the paper</li> </ul>
<p><b>Working together on my research project where my collaborator is outside the US</b></p>	<p>1. Dr. Y is my former postdoc. He was not funded by any outside entity while at the University. We finished all experiments on a paper, wrote the paper, and submitted it before Dr. Y left to set up his lab outside the US. The paper was accepted with only minor edits. Dr. Y helped me finish those edits while outside the US.</p> <p>2. Dr. Z is a long-time colleague who is a professor outside of the US. We have monthly discussions about our research. I am a theorist, and Dr. Z is an experimentalist. We have not started or designed any experiments together.</p>	<p>1. Dr. Y is my former postdoc who left the University 2 years ago to set up a lab outside the US.</p> <ul style="list-style-type: none"> <li>- I will publish a paper that includes experiments conducted by Dr. Y when he was at The University. Dr. Y will not perform other experiments outside the US but will help with some data analysis and writing the paper. The federal funding used to support Dr. Y when he was in the lab is still ongoing.</li> </ul> <p>2. Dr. Z is a long-time colleague who is a professor outside of the US. We have monthly discussions about our research. I am a theorist, and Dr. Z is an experimentalist. Dr. Z sends a postdoc to my lab at the university to run the experiments. No experiments will be run outside the US.</p>	<p>1. Dr. Y is my former postdoc who left The University a year ago to set up a lab outside the US.</p> <ul style="list-style-type: none"> <li>- I will publish two papers with him, which include experiments conducted by Dr. Y when he was at the University.</li> <li>- For the first, all of the initial experiments were conducted at The University, but the manuscript reviewers requested another experiment. Dr. Y will conduct the experiment in his lab.</li> <li>- For the second, all of the experiments were conducted in the lab, but the manuscript reviewers have requested significant revisions to the paper, including extensive new data analysis. Dr. Y will perform the data analysis and edit the manuscript in the foreign country.</li> <li>- The federal funding used to support Dr. Y when he was in the lab is still ongoing.</li> </ul> <p>2. Dr. Z is a long-time colleague who is a professor outside of the US. We have monthly discussions about our research. I am a theorist, and Dr. Z is an experimentalist. Dr. Z offers to set up and perform experiments in his lab in a foreign country.</p>

<b>PHS/NIH Specific References to Collaborator</b>		<p>FAQ 27. I am key personnel on an NIH grant in the United States. I am collaborating with another scientist in the US, whose experiments have directly benefitted my research. Their experiments were conducted with funds awarded to their institution. Should this be reported as Other Support? <sup>1</sup></p> <p><i>Yes. Other Support includes domestic research collaborations that directly benefit the researcher's research endeavors.</i></p>	<p>Collaborator as Foreign Component: (NOT-OD-114 July 2019): For example, if a PD/PI of an NIH-funded grant has a collaborator outside of the US who performs experiments in support of the PD/PI's NIH-funded project, this would constitute a foreign component, regardless of whether the foreign collaborator receives funding from the PD/PI's grant.<sup>2</sup></p>
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### Identifying Collaborators from a Publication – Two Projects:

The University's position regarding reporting in-kind support is if a resource is significant enough to warrant acknowledgment or authorship in a presentation or publication, it should be reported to NIH as other/in-kind support.

*However*, where there may be many authors on a publication with whom you never interact and whose individual components of the reported research did not *directly benefit* you, you need not report these co-authors as collaborators or in-kind support.

Consider the following example:

Dr. Eucalyptus studies hunger triggers and uses a mouse model. Dr. Juniper studies hunger triggers and uses human subject studies. The two meet at a conference and decide that they want to publish their work together. Both have independent awards from NIH to study hunger triggers.

Dr. Eucalyptus has 5 collaborators who have contributed directly to the mouse work – providing mouse strains, performing experiments, and helping Dr. Eucalyptus analyze data. These collaborators will be either co-authors or acknowledged. Dr. Juniper has 2 collaborators who contributed directly to the human studies- recruiting and conducting surveys or running tests. These collaborators will be co-authors.

Assume Drs. Eucalyptus and Juniper have extensive discussions regarding which experiments they will include in the paper and agree to critically analyze each other's proposed body of work to include in the manuscript. They will likely include each other as in-kind support on their next annual grant report. However, neither will report the other's collaborators. Dr. Eucalyptus' collaborators' efforts did not benefit Dr. Juniper's research or *vice versa*.

<sup>1</sup> <https://grants.nih.gov/faqs#/other-support-and-foreign-components.htm?anchor=question56211>

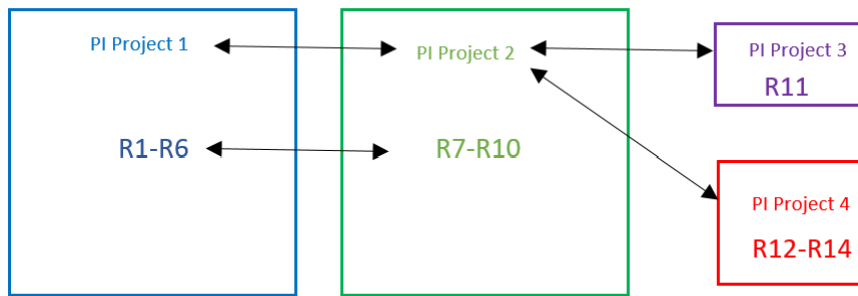
<sup>2</sup> <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-19-114.html>

## Identifying Collaborators from a Publication- A Complex, Multi-Project Case:

Consider a large project that includes 18 authors including 4 separate Principal Investigators (PI) and 14 Non-PI Research authors (R) performing 4 separate Projects (Projects 1-4). Projects 1 and 2 include experiments coordinated and performed together, sharing resources including personnel and equipment. Project 3 includes experiments in a mouse animal model. Project 4 includes experiments in a ferret model.

Which co-authors/collaborators should the PI of Project 4 include as Other Support for their NIH project that supported this work? How about the PI of Project 2?

The relationships between Projects are diagrammed here:



To begin, consider distinguishing the work/experiments/simulations contributed by the different labs as covering the same general topic, but distinct and non-overlapping or without a nexus between the authors.

Because the PI from Project 4 interacted with the PI from Project 2, the PI from Project 4 is likely required to list the PI from Project 2 as a collaborator on Other Support. Since the PI from Project 4 never directly interacted with PIs from Projects 1 or 3, he need not list those PIs as collaborators or Other Support.

On the other hand, the PI from Project 2, who coordinated all the work and the publication, and who likely participated in some data analysis for all of the projects, directly interacts with all of the lead PIs and therefore would likely have to list all the PIs as Other Support.

The application of this concept is a bit more difficult for the non-PI researcher (R) authors. R1-R6 and R7-R10 coordinated experiments and discussed data, while the only nexus to R11 or R12-R14 to the other researchers is through the PI of Project 2.

The PI from Project 4 should disclose researchers (R12-R14) that are not in his lab as collaborators, since their work directly benefitted this project, and the other Project PIs should do the same. In addition, all of the PIs should carefully review the facts, contributions and scientific exchanges between themselves and the other researchers to determine whether or not they need to disclose the other researchers as collaborators. For example, if the PI and Researchers from Project 2 had direct scientific interaction with the PI and Researchers from Project 1 (as indicated by the arrow between R1-R6 and R7-R10) including holding joint lab meetings, designing and performing joint experiments and sharing data, the PI from Project 2 might consider disclosing researchers (R1-R6) as collaborators. In contrast, there were no meetings or direct scientific interactions between the PI of Project 2 and R11-R14, so R11-R14 would not be collaborators.

Note that in addition to reporting collaborators, the PIs are also responsible for reporting other forms of Other Support such as materials, data and other in-kind support exchanges in carrying this large project.

It is important to note that the only likely scenario where a PI would *not disclose at least one co-author* as Other Support, is a situation where all the co-authors are from within one's own lab and none of those individuals has outside support.