

Featured Participants

Arizona State University
www.asu.edu

Breast Cancer Surveillance Consortium
breastscreening.cancer.gov

ETH
www.ethz.ch/index_EN

European Research Council
erc.europa.eu

Group Health Research Institute
www.grouphealthresearch.org

Michigan Technological University
www.mtu.edu

University of California Davis
www.ucdavis.edu

University of Oklahoma
www.ou.edu

University of Washington
www.washington.edu

Yale University
www.yale.edu

Additional Resources

European Research Council Synergy Grants
erc.europa.eu/funding-schemes/synergy-grants

Grant Forward
www.grantforward.com/index

Grants.gov
www.grants.gov

National Institutes of Health: Multiple Principal Investigators
www.grants.nih.gov/grants/multi_PI

National Organization of Research Development Professionals
www.nordp.org/funding-opportunities

National Science Foundation
www.nsf.gov

Pivot
pivot.cos.com

SciVal Funding
www.funding.scival.com



The goal is “encouraging a small group of researchers to jointly address challenging and interdisciplinary research and unconventional approaches, to see what breakthroughs or even new fields of research emerge.” —Agnes Kulcsar

that at the ERC, reviewers want to feel that “no matter what, it will be interesting to see what comes out of the project. Even if it is not exactly what is planned, something groundbreaking will result from this collaboration.”

Kulcsar and Aebersold both say that professional EU grant consulting companies are not necessary. Although these companies help navigate the exceedingly complex EU applications, says Aebersold, universities and research institutions often have their own experts who can help, saving the expense and time demands of outside consultants. However, if your university or institution does not have the infrastructure and personnel to manage large, multisite grants, start hiring. You simply must have a project manager to guide proposal development and herd the various PIs once you get funded. Knoedler says, “You’re foolish if you don’t. In fact, if you don’t write a manager into your grant, it’s a sign to reviewers that you don’t know what you’re doing.” However, scientists are often reluctant to spend money on a manager.

Well, most scientists. The Katze group has so many collaborative grants involving hundreds of people that it has its own administrative hub for finances, writing, and administration. **Lynn Law**, a research scientist in the Katze group, moved from doing bench science to

managing collaborative projects. “I hold people accountable, get everybody on same page, and make sure they have same goals,” she says. “The PIs that Michael brings in are used to being their own bosses so working as team doesn’t always come easily to them.” Many scientists have poor management skills, says Katze, but these skills are essential to running big collaborative projects. His advice: “Learn to delegate, trust people, and don’t micromanage them. Let them grow into their job.”

Success at large collaborative projects, says Katze, requires being good at all the things scientists are often bad at. “You have to be outgoing and entrepreneurial and take risks,” he says. “As the PI, if people don’t come through, you have to make hard decisions and cut them from the project.” Katze trains his students and postdocs to be collaborators and leaders of multi-investigator projects. But most of the scientific world is still adjusting to collaborative science, especially when evaluating people for hiring, promotion, and tenure.

Collaborations and Careers

Early career scientists considering a multi-investigator project should weigh the experience, networking opportunities, and prestige of a high-profile national or international collaboration against the disadvantages. For example, being on a multiple-PI grant could affect NIH New Investigator status, which gives special consideration to researchers applying for funding if they have not previously received major NIH grants. Another disadvantage is being author number 53 in publications from the project, since first authorship is used to evaluate job and tenure candidates. Says Aebersold, “Personally, I value someone who can operate in a collaborative environment, but when we advertise for a position, we get hundreds of applications. It’s flawed, but we focus on first authorship because it’s hard to evaluate contribution to a consortium.”

But **Mark Gerstein** has a collaborative career strategy. Among other initiatives, his group contributes to ENCODE (Encyclopedia of DNA Elements), supported by NIH to define functional genomic elements; the DOE Systems Biology Knowledgebase (KBase) for data sharing and analysis; and the internationally funded 1000 Genomes Project on human genetic variation. “I’m used to being a cog in a big machine,” says Gerstein, a professor of biomedical informatics and computer science at Yale University. Collaborating, he says, lets him contribute to research that has a greater impact than single-laboratory studies. Gerstein recognizes that this work doesn’t fit in the tenure-track groove, though. “Most universities expect you to bring in your own money and publish your own papers, so I do that as well.” Gerstein first puts students and postdocs in his lab on large collaborations, then gives them smaller follow-up projects for their own first-author papers. This strategy has placed lab members in faculty positions around the world. Early career scientists should also keep department chairs, deans, and other administrators informed about their participation in large collaborations so those contributions are recognized and valued.

Collaboration has pros and cons, says Gerstein. “Sometimes you have to wait to publish until the consortium is ready, and you can’t always do things the way you want to. But the benefit is being on high-impact publications and highly connected work. For these projects,” he says, “the whole is greater than the sum of the parts, and I’ve profited from being part of the whole.”

Chris Tachibana is a science writer based in Seattle, USA and Copenhagen, Denmark, and is a part-time employee of Group Health Research Institute.

DOI: 10.1126/science.opms.r1300136