Nowadays, research partnerships between myriad stakeholders characterise a large proportion of scientific projects. But a complex web of factors often prevents intended impacts from being achieved. How can project leaders ensure expectations are met?
Indeed, many research partnerships involve complex interactions. Each stakeholder will have their respective needs, and demands are sometimes conflicting. The key task of a leader is to find a common point that ensures interests are met. The lens of the leader needs to see across the underlying interests of the stakeholders, requiring a unique set of leadership skills to ensure that expectations are met; this includes the ability to unite people, balance conflicting needs, and see a fine fault line and rectify it, as well as the possession of great communication skills.

Members should be kept active to feel part of the project, with regular communication and transparency. However, the key is to always keep the original project objectives in mind and have everyone working towards these common goals. It is very easy to go off on tangents and lose sight of the main aim. The team should exploit the strengths of individuals but try to keep others close to the activities so that knowledge can be transferred and skills extended.

BIG IS BEAUTIFUL

Often, the biggest questions demand the most resources, and close and well-managed collaboration between various stakeholders. Two recent and important projects were set up by the US and EU in 2013 – The BRAIN Initiative and Human Brain Project. The aim of both is to answer many important outstanding questions about the brain, adding to our knowledge of what it means to be human and potentially providing new solutions for neurological disorders.

THE BRAIN INITIATIVE

**Funding:** $232 million (€170 million) initially

**Duration:** 2013-?

**What they say:**

“The Brain Research through Advancing Innovative Neurotechnologies Initiative (BRAIN Initiative) is a broad, collaborative research initiative to advance the science and technologies needed to unlock the mysteries of the human brain. Its goal is to accelerate the development and application of new technologies that will enable researchers to produce dynamic pictures of the brain that show how individual brain cells and complex neural circuits interact at the speed of thought. These technologies will open new doors to explore how the brain records, processes, uses, stores and retrieves vast quantities of information, and shed light on the complex links between brain function and behaviour.”

**On research partnership:**

“Given the cross-cutting nature of this project, the National Institutes of Health (NIH) Blueprint for Neuroscience Research – an effort spanning 16 NIH Institutes and Centers – will be the leading NIH contributor to its implementation in FY 2014. Of course, a goal this audacious will require ideas from the best scientists and engineers across many diverse disciplines and sectors. Therefore, NIH is working in close collaboration with other government agencies, including the Defense Advanced Research Projects Agency (DARPA) and the National Science Foundation (NSF). Private partners are also committed to ensuring success through investment in the BRAIN Initiative.”

For more information, please visit: [www.nih.gov/science/brain](http://www.nih.gov/science/brain)

HUMAN BRAIN PROJECT

**Funding:** $1.3 billion (€1 billion)

**Duration:** 2013-2023

**What they say:**

“Understanding the human brain is one of the greatest challenges facing 21st Century science. The Human Brain Project (HBP) should lay the technical foundations for a new model of ICT-based brain research, driving integration between data and knowledge from different disciplines, and catalysing a community effort to achieve a new understanding of the brain, new treatments for brain disease and new brain-like computing technologies.”

**On research partnership:**

Professor Henry Markram, co-Director, speaking to International Innovation: “We need to coordinate the efforts of 80 partners from all over the world. The most important requirement is a unifying goal and several subgoals, with carefully defined and closely-monitored milestones and deliverables, to ensure that each part of the project contributes effectively. We are all contributing to a common set of ICT platforms that we will all use in a coordinated manner – in fact, this will be our main mechanism for global collaboration. The platforms will be available not only to HBP partners, but to the wider scientific, medical and engineering communities.”

For more information, please visit: [www.humanbrainproject.eu](http://www.humanbrainproject.eu)
Professor Stephen Hart  
(University College London):

Problems usually stem from poor communication, differences in expectation at the outset of the project and a general lack of strong leadership. Funding bodies often require milestone decision points in the project but these are rarely enforced or even closely monitored by the funder. This can lead to partners losing focus.

To tackle this, I would suggest that projects should be assigned an independent project manager (PM) to work closely with the overall project leader and partners. Partners and their host organisations should sign a contract laying out the terms and conditions of their funding, as well as procedures for conflict resolution, possible sanctions for partners failing to meet milestones and objectives, and appeal procedures.

The PM should ensure regular meetings and reporting in relation to the milestones and objectives for each partner. These reports should be considered by an independent scientific advisory board (remunerated for their time) in conjunction with an oral presentation or interview with the project leader and partners to consider whether progress for each partner and the project overall is satisfactory, and to provide advice where necessary.

Most of these activities already happen and so would be simple to implement, but with the difference that the roles of the PM and the scientific advisory board should have more bite. Financial sanctions should be available to the PM if the board advises these are justified, ranging from curtailing to complete termination of funding. If these conditions are understood from the beginning, and partners see that the PM and project leader are providing the appropriate leadership, then focus might be better maintained and projects more productive.

Dr Naoki Masuda  
(University of Tokyo):

Even though Dr Takamitsu Watanabe, my collaborator, and I are from different fields, we have a common goal; to use a method – maximum entropy models – to infer resting-state networks. We both value this goal, so there is no conflict between us. The rest of the authors have also been happy that their data, recorded for different purposes, were utilised for something interesting and meaningful.

In general, such a situation occurs often. But I also have experiences working with other stakeholders who have different intentions and aims. I believe that there are two different ways to overcome such conflicts. First, details should be discussed before conducting serious physical work. Partners should understand each other’s goals and negotiate and discuss how to set common goals. If collaboration becomes too difficult at such an early stage, it is better not to pursue it.

A second, alternative way is to contribute something minor to the other party and then wait for their response. They may ignore it, take it as it is or even transform it into a much greater result, and they may respond in a minute, a week or a year. Experimentalists work on much longer timescales than theorists in general, because experiments require a lot of time and money. So, if the common goal is too big from the beginning, it may be difficult to realise the collaborative project in a satisfactory manner. Hence, to begin with something small may work.

Professor Kathryn Cheah  
(The University of Hong Kong):

The key to the success of our programme lies in a simple but clear management structure and maintaining good communication, collegiality and trust. The programme is overseen by a Management Board (MB), comprising six co-Principal Investigators (co-Pis) that oversee the overall research direction, progress, resource allocation, human resources, financial control and management of shared facilities, postgraduate education and knowledge exchange.

The MB monitors the progress of the different portions of the programme at six-monthly intervals (informally) and formally at an annual retreat and when budget is dispersed. In the process, by critical self-review and with discussion and input from members of the MB, PIs can assess/reassess priorities and overcome setbacks.

Nicky Mulder  
(African Society for Bioinformatics and Computational Biology):

The most important thing is to select project members for the correct reasons, ie. because they have something specific that they contribute due to their experience, and project members should have complementary skills. In this way, they can all contribute and thus feel like they are a valuable part of the project.