

## **A conversation with Dr. Christopher Pickett, November 16, 2016**

### **Participants**

- Dr. Christopher Pickett – Director, Rescuing Biomedical Research (RBR)
- Alexander Berger – Program Officer, U.S. Policy, the Open Philanthropy Project

**Note:** These notes were compiled by the Open Philanthropy Project and give an overview of the major points made by Dr. Christopher Pickett.

### **Summary**

The Open Philanthropy Project spoke with Dr. Pickett of RBR as an update on an Open Philanthropy Project grant. The grant was awarded in January 2016 to support RBR's staff and activities over the course of two years. Conversation topics included an update on RBR's working groups, Dr. Pickett's day-to-day activities and projects, and additional sources of funding.

### **RBR working group updates**

#### **Accelerating Science and Publication in Biology (ASAPbio)**

RBR's working group focused on encouraging the publication of preprints in biological research has now become a separate organization. ASAPbio is directed by Dr. Jessica Polka, a member of the RBR steering committee.

RBR has discontinued its working group in this area and is collaborating with ASAPbio. Drs. Ronald Vale, Harold Varmus, and Daniel Colón-Ramos are on the steering committee of RBR and serve on the advisory board of ASAPbio.

#### *Genesis of the organization*

ASAPbio formed as a result of a large meeting of junior and senior scientists, administrators, publishers, and funders. After subsequent meetings, it was decided that a separate organization focused on the publication of preprints should be formed.

#### *The National Institutes of Health (NIH) request for information*

The NIH has recently released a request for information on the use of preprints. ASAPbio has published a response to this request. RBR is also planning to submit a response based on ASAPbio's model.

#### **Ph.D. alumni career trajectories working group**

This working group is focused on encouraging universities to collect and publish data on the careers of their Ph.D. alumni.

#### *Barriers*

The major roadblock to collecting these data is deciding how to categorize the different career paths – e.g., should the “science policy” career category be broken down into work for nonprofit organizations, governments, etc.? RBR would like to have a discussion with the National Institute of General Medical Sciences (NIGMS) and the NIH’s Broadening Experience in Scientific Training (BEST) Consortium about how to solve the categorization problem. It may not be possible to create an ideal categorization system, but RBR would like to see a system implemented and adjusted as needed in a few years. Having the support of NIGMS would be especially helpful on this project.

In addition, sometimes there can be resistance from some universities to publishing certain types of career information.

#### *Organizations collecting these data*

- **Universities** – RBR has met with some universities that already collect and publish these data.
- **LinkedIn** – RBR has also met with LinkedIn, which many universities use to track their alumni. It is possible that LinkedIn could provide RBR with a dataset.
- **NIGMS** – Dr. Pickett will meet with NIGMS, which issues the largest number of institutional research training grants. Organizations issuing these grants are required to track and report the job title of those who receive the grant for up to ten years after the grant is awarded.
- **BEST Consortium** – Several years ago, the BEST Consortium issued grants within 17 universities. These universities are required to track the career trajectories of their alumni and collect a large amount of data. However, they are also facing a problem with categorizing different types of careers.

#### **Core facilities/staff scientists working group**

RBR is collaborating with Ronald Daniels, president of Johns Hopkins University, on this working group. In the past, President Daniels wrote a proposal to the Association of American Universities, encouraging experimenting with training models and laboratory staffing, as well as tracking data to monitor the success of the experiments. RBR has taken over this proposal and added a focus on staff scientists.

RBR has discussed sponsoring a staff scientist program with various funders. A two to four year grant would be the right timeframe for launching the program and securing subsequent funding.

#### *Experimentation within universities*

Different universities have different models for running core research facilities that would be useful to analyze and learn from. RBR is working on a proposal targeted at universities, encouraging experimentation in the following areas:

- Speeding up graduate training.
- Reducing time spent in post-doctorate training.

- Bringing staff scientists into laboratories.
- Administrative experiments – e.g., consolidation within administration, a central administrative office for core research facilities, and other efficiency improvements.

### **Age at Independence working group**

This working group focuses on ensuring that young faculty members receive grants early in their careers. Faculty members often need to apply for many small grants before securing their first Research Project Grant, such as an R01, which impedes their creativity in the laboratory. RBR would like to establish a source of funding dedicated to supporting young scientists' creativity and allowing them to focus on their research instead of grant applications. Dr. Bruce Alberts, Dr. Tony Hyman, President Ronald Daniels, and Dr. Judith Kimble lead this working group.

#### *Funding models for young faculty*

- **European Research Council (ERC)** – RBR is interested in the ERC's funding model. The ERC issues Starting Grants for researchers with 2-7 years of post-doctorate experience, Consolidator Grants for those with 7-12 years of experience, and Advanced Grants for established researchers. The ERC funds all of the sciences and offers grants of several hundred thousand euros per year for five years, which is comparable to an R01.
- **The NIH Director's New Innovator Award (DP2)** – This is a similar funding mechanism to the ERC's Starting Grant. Started in 2007, the DP2 grant program provides \$300,000 a year for five years. It is a small and highly competitive program, with about 50-60 grants awarded a year. RBR would like to see this program expanded to about 500 grants a year.

#### *Analyzing outcomes of funding younger faculty*

- **RBR** – has analyzed some data on the DP2 program and is interested in learning more about the outcomes of the recipients. However, because only the top researchers receive these awards, RBR suspects the recipients tend to be more successful than the average researcher. After five years, more than 50% end up receiving an R01, and the rest received some other type of research project grant funding. RBR has written about these findings and would like to incorporate data from the DP2 program in subsequent papers.
- **Other analyses** – There are a few papers on this subject, including a recently published paper that suggests earlier funding may not have a substantive effect on the age demographics of the research enterprise. However, RBR feels that this should not prevent the NIH from expanding its support for young researchers.

### **New working group**

RBR is interested in starting a new working group focused on post-doctoral research fellows. A meeting on this will be held in September, and Dr. Pickett has discussed this with various people, including members of Future of Research.

## **Dr. Pickett's other projects and activities**

### **Analysis of post-doctoral researcher populations**

Dr. Pickett is working with Dr. Gary McDowell of Future of Research on an academic paper analyzing post-doctoral researcher populations.

#### *Current research in this area*

A 2015 paper claimed that the population of biological and medical sciences post-doctoral researchers was no longer growing. Dr. Pickett and Dr. McDowell believe that the statistics reported in the paper are misleading. The decline of the overall population could be attributed to people leaving the field after the U.S. economic recession, rather than long-term declines in the number of post-doctoral researchers.

This interpretation is reinforced by data from the National Science Foundation (NSF), which suggests that the interest in pursuing post-doctorate research has not declined. However, these data may also not be reliable, due to differences in the universities sampled and definitions for post-doctoral researcher in the different surveys NSF has administered. According to the NSF, 50% of the reported increase in post-doctoral candidates in 2007-2010 could be due to data collection changes and not population changes.

RBR wants to ensure that conclusions are not drawn from inadequate data, because these types of papers may lead to policy directives from the NIH. The data from 2014 showed an increase in the post-doctorate population, and it may be better to wait for data from 2015 before drawing conclusions.

### **Day-to-day activities**

Dr. Pickett works on moving the three working groups forward – e.g., convening meetings of the groups, creating reports, and taking action based on what has been learned.

- **Career trajectories** – After the last convening of the career trajectories working group, Dr. Pickett reached out to others around the ideas that were discussed. He will reconvene the group and report back on these efforts.
- **Young faculty training session** – Dr. Pickett would like to organize a larger meeting of 30-40 people, in order to discuss applying for post-doctoral and faculty positions. He is interested in bringing together people who have focused on this to discuss implementing the various ideas for change that have been proposed in this area. However, work on this has been paused due to Dr. Pickett's work with the Next Generation Researchers commission.

### **Next Generation Researchers commission**

RBR has been working with the National Academies of Sciences (NAS) on this commission, which was authorized by the U.S. Congress last summer, and is in the provisional phase. RBR is consulting with NAS on the framing. 6 of the 16 people

currently serving on the committee are RBR members. President Daniels is chairing the committee.

### **Additional funding source**

RBR has requested funding for a steering committee meeting in September and has received a grant from the Kavli Foundation to support this.

*All Open Philanthropy Project conversations are available at  
<http://www.openphilanthropy.org/research/conversations>*