German Research Foundation says that numbers aren't everything

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Last Tuesday the German Research Foundation (DFG) announced changes to the grant application process, going in effect in July. Researchers are no longer allowed to list all their publications in their grant proposals. The number of publications is limited to five per researcher and to two per year of planned funding (e.g. 6 papers for a 3-year grant). Publications submitted but not yet accepted for publication will no longer be allowed.

Flickr image by CarbonNYC.

Some of the reasoning behind this change was explained in the press conference where the policy change was announced. The DFG wants to put more emphasis on quality instead of quantity, in other words counteract the trend to publish several small pieces of incremental research findings (the least publishable unit or LPU). The DFG didn't say so, but this might also reduce the practice of "honorary coauthorship" with some researchers being coauthors of 20 or even 50 papers per year. And the DFG is not happy with the increasing use of the Journal Impact Factor and other metrics as a token measure for the quality of research output. And as a reaction to problems with publication lists in GÃ¶ttingen they want to stop the practice of including unpublished work in reference lists for grant applications.

These changes will decrease the administrative workload of the applicant, reviewer and the DFG. With much shorter reference lists in grant applications, reviewers will have it much easier to take a closer look at the research output of the applicant, instead of relying on an unfortunate proxy such as the Journal Impact Factor. Researchers seeking funding from the DFG will now probably be more likely to write fewer but more substantial papers. And research that doesn't have the potential for a substantial paper, but is nevertheless worth publishing, can be quickly published in a reasonable journal instead of going through several rounds of submissions to a number of journals.

But how do you select your five best publications (assuming you have written more than five)? Choices include:

- publication date, e.g. a list of the five most recent publications

- Journal Impact Factor
- citation counts, page views, downloads or other article-level metrics
- personal preference

Using my personal preference (and not too much thought), I picked four papers and one correspondence:

- Shioda T, Fenner MH, Isselbacher KJ Msg1, a novel melanocyte-specific gene, encodes a nuclear protein and is associated with pigmentation. PNAS 1996 PubMed Central
  The first paper from my postdoctoral research project. We identified and cloned a new gene thought to be involved in cancer metastasis, using a technology called differential display to compare the gene expression profile of two melanoma cell lines. This was before the mouse and human genomes were sequenced, and before microarrays became available. What took us two years of work 15 years ago can now probably be done in a few weeks.
- Sado T, Fenner MH, Tan SS Tam P, Shioda T, Li E X Inactivation in the Mouse Embryo Deficient for Dnmt1: Distinct Effect of Hypomethylation on Imprinted and Random X Inactivation. Dev Biol 2000 doi:10.1006/dbio.2000.9823
  I spent most of my time as a post-doc generating a knockout mouse for the gene identified in the previous paper. As the knockout mouse had no obvious phenotype, it took another post-doc (the first author) to finish the project.
- Krege S et al. European consensus conference on diagnosis and treatment of germ cell cancer: a report of the second meeting of the European Germ Cell Cancer Consensus group (EGCCCG): part I. Eur Urol 2008 doi:10.1016/j.eururo.2007.12.024
  This paper summarizes the conclusions of a consensus conference on the diagnosis and treatment of testicular cancer, and is the best review on the subject. I am one of over 80 coauthors, something I haven't done before or since. The journal published this as two papers because of length. This would have been a perfect paper for an Open Access journal, I hope I can convince the coauthors to do so when we update this in 2011.
- Fenner MH, Beutel G, Gruenwald V. Targeted therapies for patients with germ cell tumors. Expert Opin Investig Drugs 2008 doi:10.1517/13543784.17.4.511
  Testicular cancer is one of the few chemotherapy success stories, as most patients with advanced metastatic disease can be cured. Targeted therapies have become important treatment options in many cancers. This is the first review to look at the evidence for the use of targeted therapies in testicular cancer.
- Fenner MH. Duplication: stop favouring applicant with longest list. Nature 2008 doi:10.1038/452029a
  This is a Nature correspondence, included here only to show that comments made in a Nature Network forum can end up in Nature. And because it is relevant to this blog post, as I suggested to ask applicants to select their

best three, five or ten papers instead of giving grants or jobs to those with the longest publication list.

The Wellcome Trust last year announced a different change to they grant application process. Starting later this year, they will stop accepting proposals for project grants, and rather evaluate the reaseach output of the scientist asking for funding (Investigator Awards). They argue that researchers that alrady have shown excellence in the past shoudn't be burdened with the administrative overhead and restrictions of writing a detailed project proposal every three years.

It will be interesting to see how institutions and other research funders in Germany (e.g. Helmholtz or Leibniz) or elsewhere react to this DFG policy change. I would be happy if this is a step towards more reasonable publication policies. And I hope that the upcoming unique author identifier ORCID will not be used for even more complicated bibliometric calculations, but rather as a tool for researchers to showcase their most interesting work.