

Editorial

Collection Overview: Ten Years of Wonderful Open Access Science

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Abstract: To mark our tenth Anniversary at *PLOS Biology*, we are launching a special, celebratory Tenth Anniversary *PLOS Biology* Collection which showcases 10 specially selected *PLOS Biology* research articles drawn from a decade of publishing excellent science. It also features newly commissioned articles, including thought-provoking pieces on the Open Access movement (past and present), on article-level metrics, and on the history of the Public Library of Science. Each research article highlighted in the collection is also accompanied by a *PLOS Biologue* blog post to extend the impact of these remarkable studies to the widest possible audience.

As we celebrate 10 years of *PLOS Biology*, 10 years of the Public Library of Science, and 10 years of strong advocacy and trail-blazing for the Open Access movement, we mustn't forget the real star of the show – the fantastic science that we've published.

It's hard to cast one's mind back 10 years and recall the scepticism with which open access publishing was initially received. A key concern at the time was that the model would be tainted with the stigma of "vanity publishing," and that this model, in which the author pays to publish, is incompatible with integrity, editorial rigour, and scientific excellence. As also discussed in the accompanying editorial [1], the sheer quality of the science that has appeared in *PLOS Biology* has been vital for dispelling this myth.

Our tenth anniversary provides us with a great opportunity to celebrate all of the 1800 or so research articles published in *PLOS Biology* since our launch in 2003. Unable to showcase each one in turn, we turned to our Editorial Board to help us pick the top 10 research articles to feature

in a special Tenth Anniversary *PLOS Biology* Collection (www.ploscollections.org/Biology10thAnniversary). During the month of October, we will also publish a *PLOS Biologue* blog post (<http://blogs.plos.org/biologue/>) for each of these selected research articles, trying to capture and convey what it is about them that the staff editors, the editorial board, and the authors feel is special.

By now, you're probably wondering which papers we selected. The selection is detailed in Box 1, with links to each article. If you haven't read these articles before, we urge you to read them now and to judge for yourself. As Editorial Board Member Steve O'Rahilly put it, "I think a common theme in many of the best *PLOS Biology* papers is that they are rich in data that is analysed very carefully and self-critically and presented without hype. However the conclusions are important for the biological community and their insights are likely to stand the test of time."

As well as publishing research articles, *PLOS Biology* has a thriving Magazine section that has hosted scientific and policy debates, aired polemical and provocative views, celebrated scientific lives in obituaries, reviewed interesting books, and explored unsolved mysteries. One example of how this section has triggered productive community debate is Rosie Redfield's Perspective on how genetics should be taught to undergraduates [2]. Yet we don't seek just to provoke debate, but also to enlighten; take a moment to read Georgina Mace's editorial on the current

issues and debates in the sustainability sciences [3]. We also try to break down barriers between fields [4] and to promote public engagement with science [5,6].

We feel strongly that our role doesn't end with publishing the research article itself. Instead, we aim to unpackage the fascinating discoveries published in *PLOS Biology* by commissioning articles that explain the significance and impact of the research we publish to audiences of varying expertise. These companion articles range from Primers, which are written by experts who contextualise research articles for those in the field; to Synopses, which are written by science writers who digest an article for our wider readership of biologists; and finally, to *PLOS Biologue* blog posts, which distil research discoveries for a more general scientifically engaged public. We also use social media to bring these findings to the attention of a global online audience.

Of course, the continued success of *PLOS Biology* doesn't rest solely on the amazing research we've already published; it also hinges on the ground-breaking science we strive to publish in the future. Maintaining the high quality of the biology that we publish is of vital importance to us, not least because, as Editorial Board Member Robert Insall reflects, "What I like about *PLOS Biology* is that it avoids other journals' fixation on fashion and the biggest names. This means the papers *PLOS Biology* is publishing now will last longer and mean more in a generation's time."

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Box 1. Research Articles Featured in the Tenth Anniversary *PLOS Biology* Collection

Our Editorial Board Members helped us select 10 articles from the great science published during *PLOS Biology's* first decade to feature in our Tenth Anniversary Collection. Please access these articles from the list below and from our Collection page. To read the PLOS Biologue blog posts that accompany them, please go to <http://blogs.plos.org/biologue/> for more information.

Carmena J et al. (2003) "Learning to Control a Brain–Machine Interface for Reaching and Grasping by Primates"

Primer: "Current Approaches to the Study of Movement Control"

Synopsis: "Retraining the Brain to Recover Movement"

Brennecke J et al. (2004) "Principles of MicroRNA–Target Recognition"

Synopsis: "Seeds of Destruction: Predicting How microRNAs Choose Their Target"

Voight BF et al. (2005) "A Map of Recent Positive Selection in the Human Genome"

Synopsis: "Clues to Our Past: Mining the Human Genome for Signs of Recent Selection"

Palmer C et al. (2007) "Development of the Human Infant Intestinal Microbiota"

Synopsis: "Microbes Colonize a Baby's Gut with Distinction"

Levy S et al. (2007) "The Diploid Genome Sequence of an Individual Human"

Synopsis: "A New Human Genome Sequence Paves the Way for Individualized Genomics"

Illingworth R et al. (2008) "A Novel CpG Island Set Identifies Tissue-Specific Methylation at Developmental Gene Loci"

Silva J et al. (2008) "Promotion of Reprogramming to Ground State Pluripotency by Signal Inhibition"

Synopsis: "A Shortcut to Immortality: Rapid Reprogramming with Tissue Cells"

Coppé J-P et al. (2008) "Senescence-Associated Secretory Phenotypes Reveal Cell-Nonautonomous Functions of Oncogenic RAS and the p53 Tumor Suppressor"

Shu X et al. (2011) "A Genetically Encoded Tag for Correlated Light and Electron Microscopy of Intact Cells, Tissues, and Organisms"

Bonds MH et al. (2012) "Disease Ecology, Biodiversity, and the Latitudinal Gradient in Income"

Synopsis: "Which Came First: Burden of Infectious Disease or Poverty?"

References

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