

# Robert Nemiroff: Communicating Astronomy 365 Days a Year

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## Summary

Few astronomy communication projects are as well known or as widely disseminated as the Astronomy Picture of the Day (or APOD for short). Since its creation in 1995, it has popularised thousands of images and helped to explain the cosmos through informative captions. Impressively, the site shows no signs of slowing down and has amassed many loyal supporters. This success can be attributed to the two astronomers behind the project: Robert Nemiroff and Jerry Bonnell. CAPjournal has interviewed Robert to discover his view of APOD, and the lesser known issues that surround it.



Figure 1. Robert Nemiroff and Jerry Bonnell at the meeting of the American Astronomical Society in 2007. Credit: Robert Nemiroff.

**Astronomy Picture of the Day is probably the most successful science outreach project on the web. How do you deal with that responsibility?**

Sometimes I imagine there is a football stadium filled with people who react at midnight when a new APOD is unveiled. I worry that they will jeer if I do a bad job, but more usually, and this is when I have completed an APOD that I think is really cool, I picture them cheering. Jerry and I are both extremely proud of APOD and are simultaneously delighted and humbled by its continued success.

**Back in 2008 you received 3.5 million page views per week on average. Has this number increased during 2009?**

It seems that APOD's page views have increased, but it is actually hard to say by how much. The local log files do indicate that the main NASA APOD site now typically serves over one million page views a day. Still, I wonder what fraction of this is really just search engine robots doing strange indexing runs and the like.

**APOD is setting the standard for quality and aesthetics of the astronomical pictures. Which are the main criteria for image selection?**

I appreciate the compliment, but I feel that APOD actually has little to do with the current high standards for quality and aesthetics in astronomy images. In my opinion, these standards are really related to amazing advances in digital image processing, size and stability advances in CCD technology, increased bandwidth, and price breaks on moderate-sized astronomical telescopes. APOD, in my view, just skims a little of that digital cream off

the top. Criteria for selection include me (or Jerry) exclaiming "WOW!" when a great new image appears. But yes, originality is important, as is topicality, artistry, and the ability to provoke curiosity. Also, I try to keep an eye on which images might become important to astronomy in the future, and so would likely appear in a next generation astronomy textbook.

**Do you try to keep up with on-going events, like meteor showers and eclipses?**

Yes. And even when I forget about some upcoming astronomical event, I am usually reminded soon afterwards by proud photographers submitting their images.

**The website look and feel is still old-school, resembling the basic ASCII HTML websites. Is this intentional?**

The old-school look of APOD is partly attributable to laziness. I guess we just try to fix things that are broken, and we don't consider APOD's look as broken. APOD is written and edited by only two people, and keeping our day jobs limits the amount of



Figure 2. APOD website.

time each of us can spend on APOD. Also, though, Jerry and I are fans of simplicity. We are indeed proud that APOD has kept the same look since it appeared in 1995, and now consider it part of our legacy. When I was a kid, I remember once admiring the Volkswagen Beetle because even as other cars changed their designs, the Beetle always looked the same and worked just fine. Now, perhaps, the same might be said about APOD.

**iPhone applications and other web aggregators “steal” some of your website traffic. Is that an issue for you?**

Like most people, I don’t like to see any content stolen or unattributed. However, I am neither a police officer nor a lawyer, and so I do not myself have the power to stop them. What we sometimes do is to “endorse” — and hence list as mirrors — sites that reproduce our content with proper attribution and without inappropriate advertising.

**How do you see the future of APOD? Are you planning any improvements?**

APOD is perhaps more of an idea than a website. My current grandest hope is that long after Jerry and I are gone and after the web itself is considered archaic, some version of APOD will still exist and inspire awe, curiosity, and interest in the next generation of humanity. So long as some concepts of “Astronomy” and “Day” remain intact and important, the APOD concept might survive even changes of medium. More realistically, however, the best guarantee that there will be an APOD even tomorrow is that the “Tomorrow” line of today’s APOD is not blank.

**How much does APOD impact your careers as professional astronomers? Do you find it helps or hinders?**

I believe that APOD has both helped and hindered my career as a professor and an astrophysicist. Through APOD, some of my

most productive graduate students have found me and have thus greatly helped my research career. Conversely however, although rarely explicitly stated, being associated with APOD appears to paint me, to some, as a fluffy populariser incapable of doing real science. This seems to be true mostly for people who are not in my sub-fields of research. Oddly, inside the astrophysical sub-specialties in which I have worked the longest, APOD appears to have had little effect on my research reputation. I guess this is because some people in my sub-specialties have expressed surprise on finding out that I am associated with APOD. (As do most people — I am not a celebrity.) After finding out my association, though, their citation patterns for my scientific works appears unchanged.

In terms of tenure, I did not focus on APOD in my tenure dossier. I have always been interested and active in research, and so it was possible for me to publish and win sufficient research grants to become promoted to full professor without it. Conversely, I have always felt that my professorial activity has given me a stable platform and a broad student-oriented perspective that has bolstered APOD.

In terms of teaching, I think APOD has the effect of causing people to think I am a better teacher than I really am. In my opinion I am a good astronomy teacher, but not great. My teaching evaluations reflect this. I frequently teach introductory astronomy, and am now proud to put my lectures freely online. Anyone who wants to see for themselves can check here<sup>1</sup>. However, writing APOD has actually caused me to be a better astronomy teacher than I used to be. That is primarily because writing APOD has caused me to keep up to date — and think through — current astronomy events better than I used to.

**Given your experiences with APOD, do you have any advice for people wishing to start their own online astronomy communication venture? What’s the best way to engage the community?**

Currently I am trying to bolster APOD by creating a surrounding community called the Asterisk that is meant to encourage people to comment (like an \*asterisk, get it?) on APODs. The Asterisk has recently expanded to include a rapidly updated user-generated forum of astronomy-related bookmarks, a forum of new and user-submitted space pictures that might anchor future APODs, a place where any astronomy question can be asked no matter how easy or hard, and my entire introductory astronomy course, including video lectures and PowerPoint slides, which is free and leverages the freely available

Wikipedia instead of a costly textbook. In terms of the questions — and we do get a few — I invite knowledgeable astronomy enthusiasts to help us answer them! Although the Asterisk does have a positive effect on APOD, it really has only a very small following compared to APOD, which gives me a feel for how hard it is to develop and engage a large community.

Therefore, my advice for people wishing to start their own online astronomy communication venture would be twofold: be first and be simple. APOD started in 1995 and this gave it a huge “first mover” advantage. So if you have a new and great idea about how to communicate astronomy, be the first to implement it, and make your implementation so simple that new viewers can understand it intuitively. Past that, a low cost structure, a decade of perseverance, and dumb luck might also be useful.

**Notes**

<sup>1</sup> <http://bb.nightskylive.net/asterisk/viewforum.php?f=24>

APOD can be viewed online here: <http://apod.nasa.gov/>

**Biographies**

**Robert J. Nemiroff** is an astrophysicist at the Michigan Technological University and NASA Goddard. His research interests include the investigation of gamma-ray bursts, gravitational lensing, terrestrial gamma flashes, cosmology, the generation and use of the digits of irrational numbers. Robert’s personal website can be viewed here: <http://antwrp.gsfc.nasa.gov/htmltest/rjn.html>

**Lee Pullen** puts his astronomy background to good use, engaging a wide range of hard-to-reach audiences. He specialises in science education and journalism, having taught several thousand people about the cosmos and regularly writing planetarium shows. His enthusiasm is legend, as is his website: [www.leepullen.co.uk](http://www.leepullen.co.uk).

**Pedro Russo** is the Global Coordinator for IYA2009 working at the European Southern Observatory for the IAU. He is a member of the Venus Monitoring Camera/Venus Express Scientific Team and has been working with Europlanet, IAU Commission 55: Communicating Astronomy with the Public, EGU Earth and Space Science Informatics Division and the IAF Science and Society Committee.