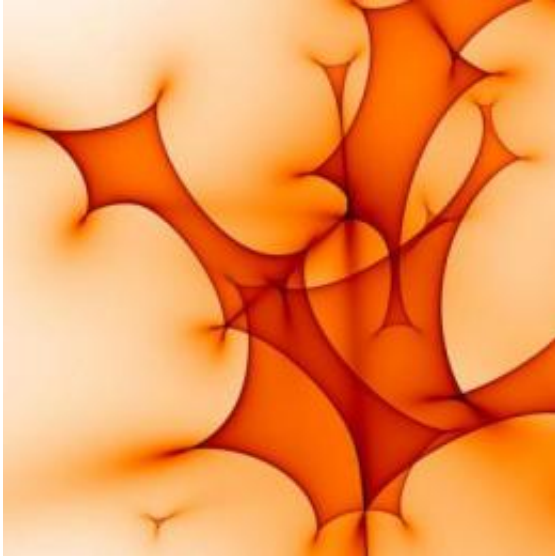


# Exhibition showcases the 'art of science'

May 14 2009

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According to Einstein's Theory of Gravity, a ray of light is attracted by a clump of matter. As a consequence of "gravitational lensing," the light ray changes its direction from a straight line by a minute amount when it passes close to a cosmic object. Stars and planets in our Milky Way or in other galaxies can act as "microlenses": They focus the light of a background source in a very characteristic way. This microlensing pattern indicates the magnification of a distant "quasar" as a function of its position; it is produced by the light deflection of many stars in an intervening galaxy. Credit: Joachim Wambsganss, Princeton Art of Science 2009

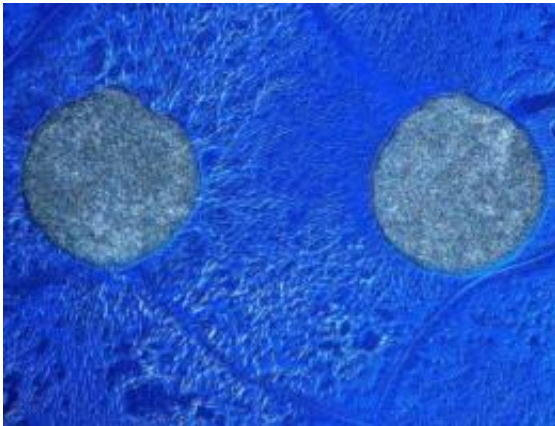
The online gallery for Princeton University's third Art of Science competition will go live Thursday, May 14, at noon EDT. An online site that allows members of the public to choose their favorite 2009 Art of Science image will go live at the same time.

The juried show features 48 works chosen from more than 200 submissions, and the online gallery can be found here:

[www.princeton.edu/artofscience/2009](http://www.princeton.edu/artofscience/2009)

The theme of this year's competition was "found art," with the organizers of the exhibit soliciting scientific images created during the course of an actual research project, rather than art inspired by [science](#).

"This show exuberantly supports the idea that images produced in the pursuit of science can have an aesthetic value that is on a par with art created for art's sake," said Andrew Zwicker, the head of Science Education at the Princeton Plasma Physics Laboratory (PPPL) and a lecturer in the Princeton Writing Program.



Organic electronics is an emerging field that holds promise for low-cost photovoltaic applications. This image of annealed organic solar cells was taken using an optical microscope with cross-polarizers and a Nomarski filter. The two moon-like circles are metal cathodes which define the active area of the device. Thermal annealing of these thin-film devices often leads to improved power conversion efficiency. In this case, however, annealing at a temperature near the melting point of one of the constituent components led to the formation of device-ruining ridges and valleys. Credit: R. R. Lunt, Princeton Art of Science 2009

"We hope that this exhibit will serve as a window through which the wider, non-technical audience can appreciate and understand the importance of scientific research," said Adam Finkelstein, associate professor of [computer science](#) and one of the exhibit organizers.

The top three prize winners for 2009 Art of Science competition were announced at a gallery opening on the Princeton University campus on May 8.

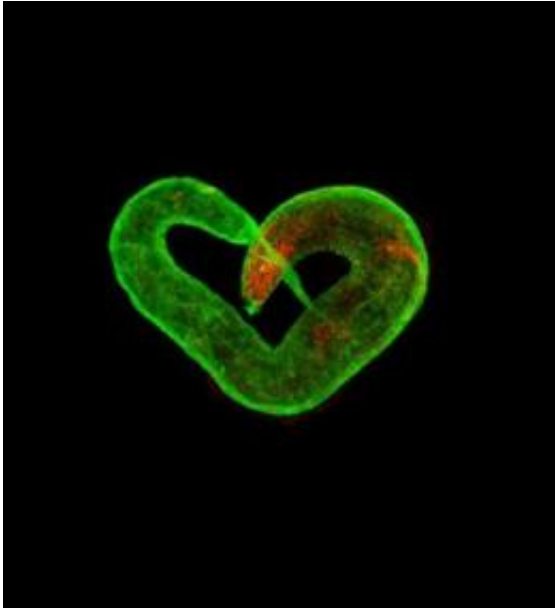
First prize went to Celeste Nelson, assistant professor chemical engineering, for baby squid, an image of squid embryos taken using bright field microscopy. Second prize went to Pat Watson, Mike Gaevski, Joe Palmer, and Conrad Sylvestre of Princeton's Micro/Nanofabrication Laboratory (MNFL) for their entry Desert Butte, a [scanning electron microscope](#) image. Third Prize went to Maria Ciocca, a 2005 alumna now at the University of Pennsylvania School of Medicine, for Worm Love, an image taken using immunofluorescence microscopy.

The jurors for the top prizes were Shirley M. Tilghman, president of Princeton University and a renowned molecular biologist; the internationally acclaimed photographer Emmet Gowin, who is a professor in the Program in Visual Arts at Princeton; David Dobkin, dean of faculty and a professor of computer science at Princeton whose research focuses on computer graphics, and the Pulitzer Prize-winning poet Paul Muldoon, chair of Princeton's Lewis Center for the Arts.

"It was an invigorating and inspirational experience for me, I must say, to be reminded of the extent to which the structures and patterns of the natural world anticipate the structures and patterns we describe as art," said Muldoon after finishing the judging last week. "It was particularly striking, too, given the alacrity with which we agreed on the top pieces, to be reminded moreover of how art chooses us rather than our choosing

it."

Emmet Gowin, who has served as a judge for all three Art of Science competitions, said that it "is always a joy to see and study the amazing images that 'Art of Science' brings together."



"Worm Love" was submitted by Maria Ciocca, a graduate student at University of Pennsylvania who works in a lab that studies the process of asymmetric cell division in the development of model organisms, such as the nematode *Caenorhabditis elegans*, pictured here. In the process of using immunofluorescence microscopy to study the one- and two-cell stage embryo of this organism, occasionally the slides will contain fully developed worms that were not properly removed in the fixation process. Typically these worms are not imaged and processed -- in fact, they do not usually retain a recognizable form. Credit: Maria Ciocca, Princeton Art of Science 2009

"Nature is obviously full of amazing forms and surprises and so is the human imagination," Gowin said. "It seems to me that the collaboration

between photography, in its many forms, and the natural sciences has been of one of the most fruitful meeting places of our modern world. The 'Art of Science' is one of those lovely projects with which we should never be finished."

Cash prizes were given to the top three entrants in amounts calculated by the golden ratio (whose proportions have since antiquity been considered to be aesthetically pleasing):

1st Prize -- \$250.00

2nd Prize -- \$154.51

3rd Prize -- \$95.49

The Art of Science "People's Choice" award of \$196.53 (the geometric mean of the first and second prizes) will be awarded to the artist of the piece that receives the most online votes as of July 1, 2009 at noon EDT.

Viewers can vote for their favorite Art of Science images at:

[www.princeton.edu/artofscience/2009/vote](http://www.princeton.edu/artofscience/2009/vote)

The Art of Science voting gallery was created by a team headed by Matthew Salganik, an assistant professor of sociology at Princeton. The site builds upon an existing project called Photocracy, which draws on ongoing research at the Center for Information Technology Policy combining sociology, systems engineering, and theoretical computer science.

"The platform we have built is essentially a suggestion box for the digital age, a tool that will enable groups to collect and then collaboratively evaluate new information such as ideas or photos - or in this case, the art

of science," said Salganik.

David Dobkin, one of the official judges for the competition, noted that, "as in past years, the quality of submissions to the [Art](#) of Science exhibit this year made judging almost impossible."

"The committee felt that many of the entries were worthy of recognition and it was difficult to narrow our selections down to three favorites," said Dobkin. "It will be interesting indeed to see whether the viewing public echoes our choices or offers a different opinion altogether."

Source: Princeton University ([news](#) : [web](#))

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