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You <u>Can</u> Tell a Bug by Its Cover!

Image of Flea Showing "Crown of Thorns" on Exoskeleton Wins Worldwide Olympus BioScapes Photo Competition

CENTER VALLEY, Pa., November 18, 2009 – A glowing, eerily beautiful image of a water flea with its radiant green "crown of thorns" took top prize in the 2009 Olympus BioScapes Digital Imaging Competition[®], the world's foremost forum for showcasing microscope photos and movies of life science subjects. Dr. Jan Michels, a zoologist at the Christian Albrecht University of Kiel, Germany, took top honors for the image of a water flea, with its defensive "crown of thorns" to protect it against predators. The image reveals not only the exoskeleton, but also interior detail down to the nuclei within its cells, seen as tiny, glowing blue dots. This stunning and unusual depiction of a whole organism detailing both external and intracellular structures was selected from more than 2000 images and movies - a competition record - to earn First Prize, \$5,000 worth of Olympus equipment.



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Olympus BioScapes Winners Named / 2-2-2

Now in its sixth year, the Olympus BioScapes competition is the world's premier platform for honoring images and movies of human, plant and animal subjects as captured through light microscopes. Any life science subject is eligible, and entries are judged based on the science they depict, their aesthetics (beauty and impact of the image), and their technical merit. This year, in addition to Prizes 1-10, 65 other images and movies were recognized with Honorable Mentions. All images and the names of all honorees may be viewed online at <u>www.olympusbioscapes.com</u>.

This year's winning images reflect the latest advances in neuroscience and cell biology, including the Second Prize image by Chung-Ju Rachel Wang of the University of California, Berkeley. Her image of the nucleus of a corn plant cell shows a ladder-like protein structure called the synaptonemal complex, which forms between chromosomes during one type of cell division. According to Wang, this may be among the first high-resolution 3D images of this complex ever captured with a light microscope. The two parallel axes look like tangled, colorful threads as they twist around each other.



Tenth prize went to an important research image of motor neurons in Amyotrophic Lateral Sclerosis (ALS, also known as Lou Gehrig's Disease), captured by Gist Croft and Mackenzie Weygandt, of New York's Columbia University and Project ALS. The stem cells used to generate the motor neurons in the image were induced Pluripotent Stem (iPS) cells made from the skin cells of an 83-year-old ALS patient. Studying these ALS motor neurons may allow scientists to better understand and combat the disease.



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Olympus BioScapes Winners Named / 3-3-3

Dr. Albert Pan of Harvard University captured Seventh Prize with an image that uses the recently developed "Brainbow" imaging technique, one of the most advanced fluorescence imaging methodologies available today. In his image of long, slender nerve fibers covering a larval zebrafish tail, each cell glows a distinct, random color, allowing researchers to differentiate neighboring cells and follow their often-tangled paths.



Third Prize this year went to a movie called "Sexual Attraction in Spyrogyra," by Dr. Jeremy Pickett-Heaps of the University of Melbourne, Australia. It depicts reproduction in simple algae captured in time-lapse video over two hours. Other winning and honorable mention images reflect a never-ending fascination with the influence of science in everyday life, including surprising views of fossils, jellyfish, spiders, flowers, mosquitoes and dinosaur bones.

"These images and movies reflect some of the most exciting research being done around the world and reveal the art that exists in optical microscopy," said Osamu Joji, Group Vice President and General Manager, Scientific Equipment Group, Olympus America Inc. "They shed light on the intricacy of our living universe and provide us with a visual record of the science of our era. But just as important, they reflect the awesome grace, beauty and mystery of aspects of the natural world that can't be seen with the naked eye. There are extraordinary stories being told in science laboratories today, and the BioScapes Competition, with entries representing 62 countries and winners from five continents, allows Olympus to share those images and stories with the world."

Twenty of the 2009 winning and Honorable Mention images will be displayed at the San Diego Natural History Museum from mid-December to February 2010. The 2009 winners' tour will continue to venues in New York City; suburban Washington DC; Philadelphia, Baltimore, and other cities. Additional exhibits of winning BioScapes images will simultaneously be touring in cities across the U.S. and Canada throughout 2009-10.

Olympus selects outstanding authorities in microscope imaging as judges for the competition, which is open to users of any brand of light microscope equipment.

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Olympus BioScapes Winners Named / 4-4-4

This year's BioScapes panel of judges included four individuals renowned for their knowledge of microscope-based imaging. They are Thomas Deerinck, National Center for Microscopy and Imaging Research, University of California, San Diego; Kenneth N. Fish, Ph.D., University of Pittsburgh, Pennsylvania; Douglas Murphy, Ph.D., Howard Hughes Medical Institute, Janelia Farm Research Campus, Virginia; and Julie Theriot, Ph.D., Stanford University School of Medicine, California.

In addition to Jan Michels (1st), Chung-Ju Rachel Wang (2nd), Jeremy Pickett-Heaps (3rd), Albert Pan (7th) and Gist Croft and Mackenzie Weygandt (10th), the other Top 10 winners include: Charles Krebs of Issaquah, Washington, for his image of *Haematococcus pluvialis* (4th prize); David Domozych of Skidmore University, New York, for a photo of the unicellular alga *Penium* (5th prize); Alvaro Migotto of the University of São Paulo, Brazil for his depiction of a Portuguese Man o' War tentacle (6th prize); Heiti Paves, Tallinn University of Technology, Estonia for his *Arabidopsis thaliana* (thale cress) flower (8th prize); and Haruka Fujimaki of Mount Holyoke College, South Hadley, Massachusetts, for her image of Atlantic salmon embryos (9th prize).

To view all the winning images and see a complete list of winners and Honorable Mentions, visit <u>www.olympusbioscapes.com</u>. For free access to the images, media members and other noncommercial users may contact <u>ilene@edge-comm.net</u>.



(**Image captions**: Page 1: Jan Michels, water flea with "crown of thorns," 1st Prize. Page 2 Top: Chung-Ju Rachel Wang, synaptonemal complex in corn, 2nd prize. Page 2 Bottom: Gist Croft and Mackenzie Weygandt, ALS motor neurons, 10th Prize. Page 3: Albert Pan, "Brainbow" image of larval zebrafish tail axons, 7th prize. Above left: Alberto Migotto, tentacle of Portuguese Man o' War, 6th prize. Above center: Haruka Fujimaki, Atlantic salmon embryos, 9th Prize. Above right: David Domozych, unicellular alga *Penium*, 5th Prize. All are winners in the 2009 Olympus BioScapes Digital Imaging Competition. For high-resolution files of all honorees, contact Ilene Semiatin at <u>ilene@edge-comm.net</u> or phone 914-684-0959.)

About Olympus

Olympus is a precision technology leader, creating innovative opto-digital solutions in healthcare, life science and consumer electronics products. Olympus works collaboratively with its customers and affiliates worldwide to leverage R&D investment in precision technology and manufacturing processes across diverse business lines. For more information, visit www.olympusamerica.com.

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