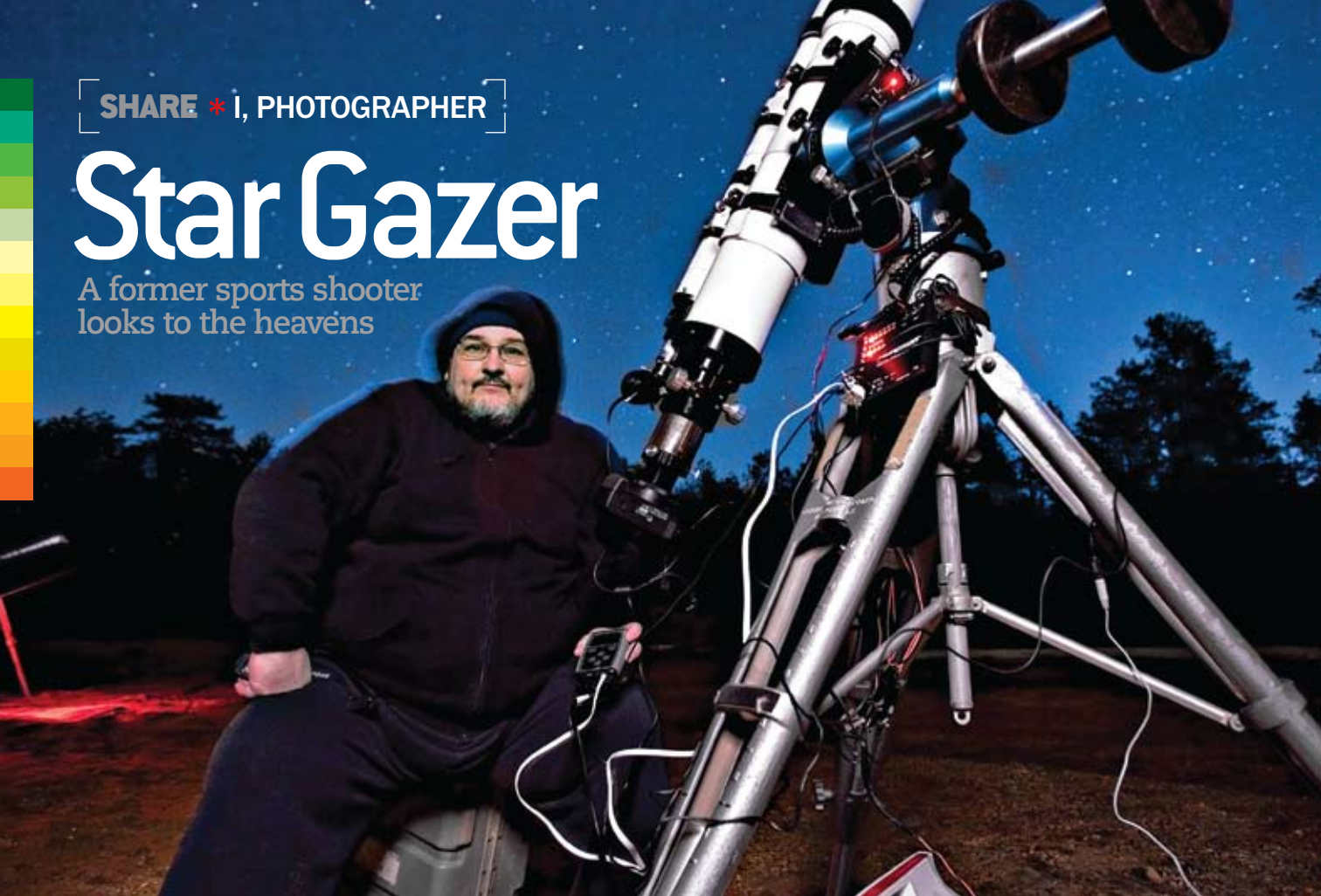


Star Gazer

A former sports shooter looks to the heavens



WHAT IS ASTROPHOTOGRAPHY?

Astronomical photography of the night sky—the stars, planets, comets, clusters, nebulae, and galaxies. It can reveal things that are too faint for the human eye to see, even through a powerful telescope.

HOW DOES IT DIFFER FROM OTHER NIGHT WORK?

For long exposures, you have to compensate for the Earth's rotation to avoid trailing. I use an equatorial mount to do this. When the focal length gets longer than about 400mm, you need to add a guide-scope with a special CCD auto-guider to precisely guide the main scope with camera.

WHAT GEAR DO YOU USE?

I shoot with a Canon EOS Rebel XS and an EOS 20Da, a DSLR made for astrophotography. For short focal lengths, I use the 18–55mm kit lens and old manual-focus Nikon

lenses with a Fotodiox adapter. My main imaging telescope is an Astro-Physics 130EDT StarFire refractor with a 1040mm focal length at f/8. I also have a Stellarvue SV70ED with a focal length of 420mm at f/6. Sometimes I use a telecompressor to reduce the focal length on both scopes for a wider view and faster f-stop. I use a Losmandy GM100EQ German-equatorial mount on a special tripod.

HOW LONG ARE EXPOSURES?

For deep-sky objects, usually one to several hours. You need longer exposures to gather more photons from these faint objects to improve the signal-to-noise ratio. But you can't usually shoot a single long exposure because of the thermal signal. You have to shoot a series of short ones and stack them. I'll shoot twelve 5-minute exposures and stack them in Images Plus, an astrophotography program.

New Jersey-based Jerry Lodriguss (www.astropix.com), 56, turned his fascination with the cosmos and photojournalism skills into a career teaching others how to take out-of-this-world pictures. Check out a gallery of his work at PopPhoto.com/Lodriguss.

THEN WHAT? I use Images Plus to automatically subtract a master dark frame from each light frame to remove the thermal signal, and then align and stack the images. In Adobe Photoshop, I adjust color and contrast, and enhance faint details.

WHERE DO YOU ESCAPE LIGHT POLLUTION?

There are a few dark places in the New Jersey Pine Barrens. I also shoot in a dark-sky preserve in Cherry Springs, PA.

ANY ADVICE FOR NEWBIES?

You can take beautiful photos of the night sky with any DSLR on a tripod. Twilight is good for the crescent moon or setting constellations. Use a wide-angle lens, focus on infinity, set ISO to 1600, and use the self-timer. Include a foreground element and take test exposures while experimenting with white balance to correct for light pollution. —Interview by Kathleen Davis