The universe does not give up its secrets easily, but modern wonders of technology such as the NASA/ESA Hubble Space Telescope, the NAOJ Subaru Telescope in Hawai‘i, and the European Southern Observatory telescopes in Chile provide astounding images that drive our imagination. We will continue to hone the optics, interferometry, robotics, and remote sensing technologies that extend our vision. Soon-to-be-realized projects such as the James Webb Space Telescope will help us to recognize extrasolar planets, all the while helping to identify those with environments suitable for life as we know it.

Future generations of explorers will sense and analyze the atmospheres and map the surfaces of planets inside and perhaps outside our solar system with resolutions that would astound us today. These new pioneers will use technologies beyond our current imaginings to gain insight into the dynamics of galaxies and the expansion of the universe. They will continue the quest for new depths of understanding to the ages-old questions, What is out there? What does the past tell us about the future?

See Further
spie.org