

TOGETHER WE ARE STRONGER: SYNERGIES IN ASTROPHYSICS AND AI TO ADVANCE OUR UNDERSTANDING OF THE UNIVERSE

F. Bianco

*Department of Physics & Astronomy, University of Delaware,
Newark, DE 19716, USA*

E-mail: fbianco@udel.edu

The Vera C. Rubin Observatory will capture the night sky in a way never before possible – in four dimensions – and will offer insight into more of the universe than any previous mission. Over the course of ten years, it will track changes in the universe over time, from objects in the Solar System and stellar explosions to the most distant galaxies. This unique dataset will become a kind of legacy of humanity – a record of the night sky as it appears today, before numerous artificial satellites change it forever. The project has spurred numerous technological innovations, including the construction of the largest camera ever built. This camera will capture up to 1,000 images every night, each containing more than 3 billion pixels. To display just one of these images in full resolution, it would take as many as 3,500 HD televisions. Alongside engineering feats, the scientific community is increasingly applying artificial intelligence to enhance the understanding of the night sky and open the door to new discoveries about the universe.