



INTRODUCTION

I fell in love with the night sky when I was 6 years old. It was the summer of 1957 and our family had just moved from a suburb of Detroit, Michigan to a rural farming community called Ortonville. My father was an executive at Ford Motor Company but always wanted to own a farm. He purchased a small 80-acre farm a few miles north of town and soon had a shed full of Ford tractor equipment. One of the first clear nights I wandered outside shortly after evening twilight and found a sky full of countless stars. This was a big change from the dozen or so stars you could see from Detroit. Over the western horizon tree line I spied an object that was clearly not a star. I had no idea what it was so I ran inside and grabbed my Dad. He soon saw the object of my fascination and exclaimed, "Oh my gosh, it is a comet!" It turned out that Comet Mrkos had just been discovered the day before and had yet to be reported in the newspapers.

This event was my inspiration to observe and study the night sky. My parents bought me a field handbook about the constellations and the celestial objects within them. One of the images in that book showed a domed observatory. I looked at our unused silo that had a metal domed top and requested we use it for our very own observatory. It made perfect sense to me!

I continued to read about astronomy and started subscribing to Sky and Telescope magazine. I dreamed about obtaining my very own telescope but, as life progressed, I never acted on this desire. It was now 1985 and the upcoming encounter with the Great Comet Halley gave me the perfect excuse to purchase my first telescope. An 8 inch Schmidt-Cassegrain was obtained and I started observing and taking pictures. An old Olympus OM 1 was used with a variety of lenses. I found that the most interesting pictures not only had the comet but foreground objects as well. This gave the comet a sense of scale since you could compare the comet size to the terrestrial objects plus it made the image more aesthetically pleasing. However, Comet Halley never got brighter than 4th magnitude which is just barely visible to the naked eye from a dark site. I had to wait until 1996 to photograph a Great Comet. During the summer of 1995 a comet, Hale-Bopp, was discovered beyond the orbit of Jupiter by two amateur astronomers. It turned out to be one of the most spectacular comets of all time. Due to its distance, it took one and a half years from discovery for it to come into the inner solar system. Six months later, in January of 1996, another Great Comet was discovered by an amateur astronomer, Comet Hyakutake. We were going to be blessed with two Great Comets in one year! I was

at an event called the Winter Star Party in the Florida Keys planning two expeditions to photograph these comets when I remembered that my Grandfather had what is called a stereoscope. This was a very old device where stereo cards would be placed in it and it would fuse the two images on the card into one 3-D image. I pondered: since I incorporate the foreground into my images and Great Comets come around only a few times during one's lifetime, why not take my pictures in 3-D? A second camera and set of lenses were purchased along with a stereo bar that holds the two cameras in alignment.

Comet Hyakutake was discovered close to the orbit of Mars so it took only a month to approach the earth's orbit. In March of 1996 I traveled to North Carolina to start photographing this Great Comet with my new 3-D set up. This Comet did not disappoint and became an incredible sight with over a 70 degree tail. However, my cameras were a disappointment. In Florida, they never experienced freezing weather. In North Carolina every night approached or fell below freezing. The OM 1's had the unfortunate trait of locking up, that is, once a time exposure started the shutter would not close. Needless to say, this was extremely frustrating so I went to a local used camera dealer and purchased two Olympus OM 2 camera bodies. From then on, I never had any problems with these cameras, even when the temperature exceeded 45 below zero in Yellowknife, NWT.

In 1997 I took five weeks off from work and traveled to the Winter Star Party for a week, then out west for three weeks and finally back to North Carolina for the final week to photograph Comet Hale-Bopp. Over 1,500 3-D images of this Comet were taken during these trips. This book has several of these pictures to show the evolution of the 3-D astrophotography technique.

As a part of the night sky, I have always been fascinated by the Aurora Borealis or also known as the Northern Lights. My first encounter was in the 1970's from my parent's house in Algonac, Michigan. I was out in the back yard doing some binocular observing when I began to see a strange green glow from the north. Initially I thought it was lights from Port Huron but they soon progressed to the south and become brighter. It became clear that this was my first sighting of the Northern Lights. It was particularly spectacular when the Aurora moved overhead

which is called a corona. The next sighting was in 1988 when I lived in rural Manatee County, Florida, which is south of Tampa. I received a phone call in the evening from an astronomy friend, Tom Clark, who said, "Go outside, look to the north, you won't believe it" and hung up the phone. I grabbed my two year old son, Wil, and headed outside. To my amazement, the entire northern sky, from the horizon to the zenith was intense red with a couple of white spikes.

In 2001, I decided to go to the far north to where the Aurora can be seen nightly. The first location that came to mind was Alaska in the Fairbanks area. I always travel using my van which can hold all my cameras, lenses and telescopes. Plus, I am a "road person" who enjoys traveling by car and seeing the sights. I soon realized that it was 3,300 miles just to the Alaska border and then a significant additional trip to Fairbanks. Consequently, most of my two weeks were going to be spent traveling. This did not make sense so I got out a map of North America to determine the closest, most northern site where one can observe and photograph the Aurora. It became clear that a place called Yellowknife is directly north of Denver and sits at 62.5 degrees north latitude was the best site. I planned three trips to Yellowknife, in October 2001, January 2002 and March of 2002. I also went to Yellowknife in March of 2004 and February of 2006. At the time of my first trip, I had no idea that Yellowknife is considered the Aurora capital of the world. The month after I got back from the October 2001 trip, National Geographic had an article about Yellowknife. Last year the History Channel had a series called "Ice Road Truckers" which tells the story of the truckers who travel over the frozen lakes to supply the diamond mines hundreds of miles north of Yellowknife. On the way back from Yellowknife in October 2001, I spun out and landed in the ditch. A truck stopped to help and the driver turned out to be the foreman of the ice road truckers.

Most children grow up in an urban environment and never get the chance to experience the beauty of the night sky. Over the last 7 years I have developed a digital 3-D slide show which I take to schools, museums, etc. This show allows the viewer to experience the majesty and splendor of a dark sky at night. I hope the images in this book can also help to convey this beauty and inspire the readers to take the initiative to personally travel to a dark site and observe the night sky first hand.