



# Preface

## Introduction

Hello, my name is David Butler, and I created this video book. I'd like to tell you a little bit about the book and a little bit about myself.

## About me

I've recently retired after a 40 year career in computer software development, where I helped build operating systems, parallel operating systems, and massively parallel database systems that represent a foundation for today's social media and the internet.

It's been a very satisfying career. But my education was math and physics culminating in a masters degree from Oxford University studying the mathematical foundations of Quantum Mechanics out of the Math Institute attached to St. Catherine's College. So I've always been very interested in science, physics, astronomy, cosmology.

But I never had a lot of time to pay attention to it during my career. But now I have the time. And I did some research to try and come up to speed on what we've learned in the 40 years I was in the computer business. I was amazed by how much we've learned.

## About the Video Book

And I was particularly taken by the photographs and the knowledge accumulated by the Hubble Space Telescope over the last 20 years. And not just Hubble – Chandra, Spitzer, the large array ground based radars.



So I made this video book to bring the people I care about up to date on what we know about the Cosmos and how far away things are; how big the earth is; how high the atmosphere goes; the Moon; how far away are the planets; the Sun; and how do we know how far away these things are. The entire Solar System; and then a chapter on the Milky Way where we'll cover Cepheid stars; the local group; planetary nebula; supernova; the black hole at the center. Then, in the final chapter, we'll go into all the other galaxies, including a section on colliding galaxies where we'll see galaxies as far back as almost the beginning of the Big Bang.

But this isn't a repeat of what Carl Sagan or Brian Cox have done with their wonderful work with "Cosmos" series and "Wonders of the Universe". I'm taking a slice of physics and astronomy, and just talking about distances and how we know how far away things are.



## Conclusion

We'll come back at the end when we go over the credits and I'll show you where I got this information, and where you might go to find more information if you've got a mind to dig deeper into any of these subjects.

I hope you enjoy it. I trust you'll find it informative. Thank you.

**[Music:** *Johann Sebastian Bach's - Air 'on the G String'. The original orchestral suite was written by Bach for his patron Prince Leopold of Anhalt some time between the years 1717 and 1723. The title comes from violinist August Wilhelmj's late 19th century arrangement of the piece for violin and piano. Wilhelmj was able to play the piece on only one string of his violin, the G string.***]**