

# SPACE PROFESSIONAL READING LIST

Academic Year 2023



PUBLISHED: JANUARY 2023

# NSSI

## SPACE PROFESSIONAL READING LIST

**The *NSSI's 2023 Space Professional Reading List* consists of six books on space-related topics. Readings are intended to foster traits highlighted in the Guardian Ideal, spur intellectual growth, enhance professional development, and promote lifelong learning. The *NSSI's* annual reading list is not all-inclusive, but provides a launching point for expanding existing knowledge, developing professional skills, and challenging conventional thinking about Space and our profession.**

**POC**

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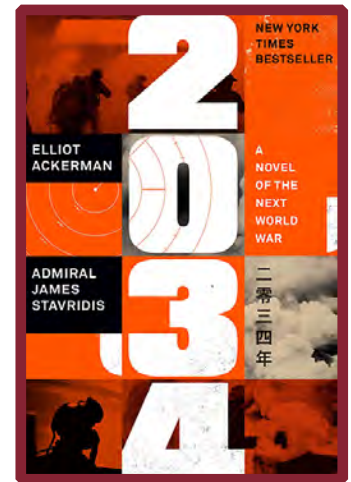
# #1 2034: A NOVEL OF THE NEXT WORLD WAR

This work is a chillingly authentic geopolitical thriller that imagines a naval clash between the US and China in the South China Sea in 2034—and the path from there to a nightmarish global conflagration. The conflict will involve the use of powerful new forms of cyber weaponry that render US ships and planes defenseless. In a single day, America’s faith in its military’s strategic pre-eminence is in tatters. A new, terrifying era is at hand.

So begins a disturbingly plausible work of speculative fiction, co-authored by an award-winning novelist and decorated Marine veteran and the former commander of NATO, a legendary admiral who has spent much of his career strategically outmaneuvering America’s

most tenacious adversaries. Written with a powerful blend of geopolitical sophistication and human empathy, *2034* takes us inside the minds of a global cast of characters—Americans, Chinese, Iranians, Russians, Indians—as a series of arrogant miscalculations on all sides leads the world into an intensifying international storm. In the end, China and the United States will have paid a staggering cost, one that forever alters the global balance of power.

-- *Random House*



## SIGNIFICANCE TO THE SPACE PROFESSIONAL

According to Random House, “Everything in *2034* is an imaginative extrapolation from present-day facts on the ground combined with the authors’ years working at the highest and most classified levels of national security. Sometimes it takes a brilliant work of fiction to illuminate the most dire of warnings: *2034* is all too close at hand, and this cautionary tale presents the reader a dark yet possible future that we must do all we can to avoid.”

Unlike many novels about past conflicts, this work envisions global war in the not-to-distant future. It will challenge Guardians and space professionals to think outside the box, consider “what if” warfare scenarios, and contemplate logical corollaries and precipitous outcomes. Reading this book will help the reader prepare for the next war, including implications for space forces, not the last conflict.

BY ELLIOT ACKERMAN & ADMIRAL JAMES STAVRIDIS



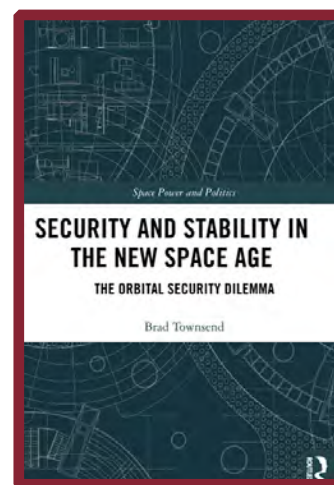
## #2 SECURITY AND STABILITY IN THE NEW SPACE AGE: THE ORBITAL SECURITY DILEMMA

This book examines the drivers behind great power security competition in space to determine whether realistic strategic alternatives exist to further militarization.

Space is an area of increasing economic and military competition. This book offers an analysis of actions and events indicative of a growing security dilemma in space, which is generating an intensifying arms race between the U.S., China, and Russia. It explores the dynamics behind a potential future war in space and investigates methods of preventing an arms race from an international relations theory and military-strategy standpoint. The book is divided into three parts: the first section offers a broad discussion of the applicability of international relations theory to current conditions

in space; the second is a direct application of theory to the space environment to determine whether competition or cooperation is the optimal strategic choice; the third section focuses on testing the hypotheses against reality, by analyzing novel alternatives to three major categories of space systems. The volume concludes with a study of the practical limitations of applying a strategy centered on commercialization as a method of defusing the orbital security dilemma.

-- Amazon



### SIGNIFICANCE TO THE SPACE PROFESSIONAL

This book is the only peer-reviewed published volume that looks carefully at the intersection of military strategy, international relations, and practical theory application on the growing orbital security dilemma by an active-duty space officer. It offers a unique blend of all three to reach unique conclusions about the future of the space domain, space power, the growing security dilemma in space, and the nature of space warfare. It was based on research conducted as part of a dissertation at the U.S. Air Force School of Advanced Air and Space Power Studies and recommended for development into a published volume by the eminent scholar and author of *Astropolitik* and *Pure Strategy*, Dr. Everett Dolman because of its significant contribution to space power theory and military strategy. This wide-ranging book on space security looks closely at the growing arms race in space through the lens of realist interna-

tional relations and military strategy. It is written in a way that is accessible and informative for the space novice as well as to scholars of international relations and military strategy. This book makes a significant contribution to understanding the behavioral drivers on states in the space domain that are influencing national policy and strategy and may lead to the first ever conflict in space. No other volume in publication looks at the totality of space systems, strategy, and theory in the same manner as this book. While other volumes focused on space strategy with a bit of international relations theory as a framework exist, they do not take the detailed systems-level approach that this volume does. *Security and Stability in the New Space Age* is a unique volume by an active duty space officer and deserves inclusion in the *NSSI Space Professional Reading List*.

BY BRAD TOWNSEND



# #3 TAILORING DETERRENCE FOR CHINA IN SPACE

As the United States has become increasingly reliant on space-based capabilities, protecting them has become vital to national security, especially in the face of China's ambitions for superiority in space. Considering the application of classical deterrence theory to the space domain, the authors show how and why China's own objectives should be considered in building a tailored deterrence strategy for China in space.

-- Amazon



## SIGNIFICANCE TO THE SPACE PROFESSIONAL

China is an increasingly antagonistic near-peer competitor with the US, both internationally and regionally. China's rapidly expanding space capabilities, coupled with its commercial interests in space and on the moon, make friction with the west ever

more likely. Moreover, in the wake of Russia's incursion into the Ukraine, it's probable China will aggressively move against Taiwan. Guardians must be aware of China's space capabilities and the threat they pose to the United States and its allies.

BY KRISTA LANGELAND & DEREK GROSSMAN



## #4 THE APOLLO MURDERS

1973: a final, top-secret mission to the Moon. Three astronauts in a tiny spaceship, a quarter million miles from home. A quarter million miles from help.

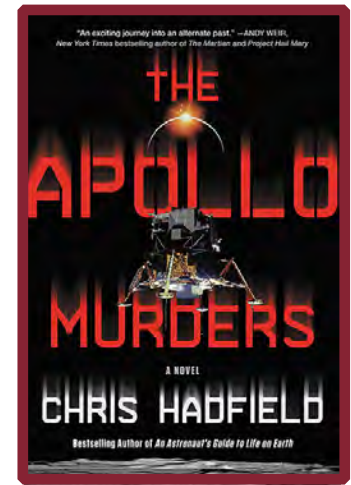
NASA is about to launch Apollo 18. While the mission has been billed as a scientific one, flight controller Kazimieras “Kaz” Zemeckis knows there is a darker objective. Intelligence has discovered a secret Soviet space station spying on America, and Apollo 18 may be the only chance to stop it.

But even as Kaz races to keep the NASA crew one step ahead of their Russian rivals, a deadly accident reveals that not everyone involved is quite who they were thought to be. With political stakes stretched to the breaking point, the White House and the Kremlin can only watch as their astronauts collide on the lunar surface, far beyond the reach of law or rescue.

Full of the fascinating technical detail that fans of *The Martian* loved, and reminiscent of the thrilling claustrophobia, twists, and tension of *The Hunt for Red October*, *The Apollo Murders* is a high-stakes thriller unlike any other. *Chris Hadfield* captures the fierce G-forces of launch, the frozen loneliness of space, and the fear of holding on to the outside of a spacecraft orbiting the Earth at 17,000 miles per hour as only someone who has experienced all of these things in real life can.

Strap in and count down for the ride of a lifetime.

-- Amazon



### SIGNIFICANCE TO THE SPACE PROFESSIONAL

By delving into historical fiction, the space community can have relevant discussions about case scenarios outside of a classified context, learn about elements of space history, and contemplate likely policy and process questions with the return to the Moon. Fictional stories provide a great mechanism to contemplate what if scenarios and how to plan for potential situations that could arise. With the coming Artemis missions returning Americans to the Moon, it is vital for the space community to understand the dynamics of cis-lunar space and the lunar surface. While NASA is tasked with human spaceflight, this book pursues a mission to the Moon for military purposes. Is that a possibility in the future?

Within a generation, Space Force involvement on the lunar surface is highly likely. Educating Guardians and space professionals about the Moon is an essential task now to prepare for the future. We are in a race back to the Moon as the Chinese and Russians plan to team up with a base at the lunar south pole. They intend to control resources and locations, which not only could control access to deep space but also propel them to space superiority. We need U.S. space professionals inspired, educated, and collaborating about the opportunities and threats ahead when it comes to the Moon and beyond. *The Apollo Murders* is an ideal way to discuss ideas both factually and fictionally.

BY CHRIS HADFIELD





## #5 THE UNITED STATES SPACE FORCE: SPACE, GRAND STRATEGY, AND U.S. NATIONAL SECURITY

This book argues that America's newest branch of the armed forces, the United States Space Force, will soon play a key strategic role in American foreign policy, military and economic expansion, and technological innovation. Written by a leading expert on and member of the Space Force, the book offers an introduction to the Space Force, explains the urgent need for it, and walks readers through what exactly the Space Force is and is not. Drawing on dozens of interviews with high-ranking members of the armed forces, the author claims that, in the future, space will be the geopolitical center

of world politics, as such countries as the U.S., Russia, and China jockey for control of it. America must therefore set aside partisan politics to make space a top priority, as a failure to do so will leave the U.S. and its citizens in a dangerous and vulnerable position on the world stage.

-- Amazon



### SIGNIFICANCE TO THE SPACE PROFESSIONAL

The book focuses on how the newest branch of the U.S. Military, the Space Force, fits into the overall national security and grand strategy of the United States. It also puts space and spacepower into a geo-

political and strategic context. Finally, it advocates a future for the U.S. Space Force from a national security perspective.

BY LAMONT C. COLUCCI



## #6 THINK LIKE A ROCKET SCIENTIST: SIMPLE STRATEGIES YOU CAN USE TO MAKE GIANT LEAPS IN WORK AND LIFE

One of Inc.com's "6 Books You Need to Read in 2020 [According to Bill Gates, Satya Nadella, and Adam Grant]"; Adam Grant's # 1 pick of his top 20 books of 2020.

A former rocket scientist reveals the habits, ideas, and strategies that will empower you to turn the seemingly impossible into the possible.

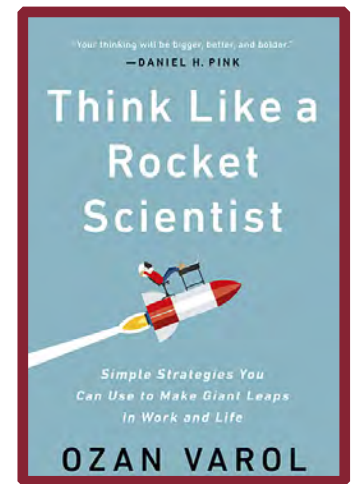
Rocket science is often celebrated as the ultimate triumph of technology. But it's not. Rather, it's the apex of a certain thought process -- a way to imagine the unimaginable and solve the unsolvable. It's the same thought process that enabled Neil Armstrong to take his giant leap for mankind, that allows spacecraft to travel millions of miles through outer space and land on a precise spot, and that brings us closer to colonizing other planets.

Fortunately, you don't have to be a rocket scientist to think like one.

In this accessible and practical book, Ozan Varol reveals nine simple strategies from rocket science that you can use to make your own giant leaps in work and life -- whether it's landing your dream job, accelerating your business, learning a new skill, or creating the next breakthrough product. Today, thinking like a rocket scientist is a necessity. We all encounter complex and unfamiliar problems in our lives. Those who can tackle these problems -- without clear guidelines and with the clock ticking -- enjoy an extraordinary advantage.

*Think Like a Rocket Scientist* will inspire you to take your own moonshot and enable you to achieve liftoff.

-- Amazon



### SIGNIFICANCE TO THE SPACE PROFESSIONAL

As the NSSI develops a course in Design Thinking, some are wondering how this is relevant to the Space Force and the space community. It's an effective and highly collaborative way to problem-solve. Thinking about our thinking is critical to strategy development and enhancing capabilities in the space domain. It will help evolve mindsets when it comes to approaching problems from new perspectives and with teams. The book provides relevant space problems solved by leaders thinking differently. Design thinking weaves through

these examples, which provides narratives that move a reader from comprehension and understanding of concepts to application, synthesis, and evaluation. From first principles to thought experiments and moonshots, we can learn to reframe problems and deal with uncertainty. In order to defeat the threats posed by adversaries, space professionals need to approach problems in a new way. Thinking like a rocket scientist will empower individuals with strategies bolstering creativity, critical thinking, and collaboration.

BY OZAN VAROL





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## NATIONAL SECURITY SPACE INSTITUTE

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<http://nssi.space>



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<https://www.linkedin.com/school/thenssi>