

Preface

This textbook attempts to tackle the many academic concepts and theories that guide our thinking about the search for extraterrestrial intelligence (SETI), using Fermi's Paradox as a lens. While writing it, I have aimed at two objectives:

1. Provide an exhaustive list of solutions to Fermi's Paradox as of the time of publication, and
2. Provide context to this list of solutions, by describing and explaining their theoretical/numerical/observational underpinnings.

This is no mean feat, and the lack of graduate-level textbooks which attempt to achieve both objectives is probably an indication. We will see that the question raised by Fermi's Paradox requires an extremely broad swathe of academic disciplines to formulate a complete set of solutions. In fact, it could be argued that *all* academic disciplines have contributions to make, and that SETI is a study of the human condition, generalised to include all sentient beings.

Obviously, a textbook that requires contributions from the entirety of academe will be necessarily abbreviated, and in the interests of focus I have been forced to edit out or ignore aspects that would otherwise merit more attention. As such, this book should be seen as an introduction to the most pertinent facts and concepts. For example, in the Introduction I give a brief account of the observational aspects of SETI, but the field is worthy of far more discussion. This can be found in a range of excellent textbooks on observational SETI and radio astronomy in general (see References).

This book is dominated by astronomy in its make-up, principally because SETI remains an astronomy-dominated discipline. What should hopefully be clear upon reading this textbook is that SETI's accounting of other disciplines is quite uneven, and there are many topics highly deserving of further study. I will do my best to highlight areas where I believe that further work is necessary, to encourage the reader to help fill in these gaps, so that subsequent editions of this book can display our more developed understanding of life and intelligence in the Universe.