Preface

Why Read a Book About Getting a PhD?

PhD students and their supervisors tend to focus only on the content of the research that leads to the doctoral thesis. All other issues are often taken for granted: how to organize your work, give a presentation, work in a team, cope with your supervisor, and effectively manage your time. When asked, former PhD students usually claim that the general experience of being a graduate student, which includes learning how to solve complex problems and work well with others, were of greater value to their careers than the actual content of their thesis. The goal of this book is to use some of the skills shown to be effective outside the world of academia to help PhD students master all the non-scientific aspects of getting a PhD. Hopefully it will help graduate students get the most out of (and fully enjoy!) their PhD years, as well as offer some much-needed support as they prepare for their post-PhD careers.
Sink or Swim

After hearing about this project, a professor in the UK had this to say: ‘This book should not be published. Obtaining your PhD is like swimming across a big lake. Some students cannot swim, so they’ll sink. That is the way the academic system selects those who will win. By providing students with a book on how to swim, they will pass and ruin the system.’ We can’t think of a better endorsement for this book. And we believe, of course, that it is indeed possible to learn to swim and survive the course. In fact, we think that mastering certain skills along the way is just as important as getting across the lake to get the prize (your PhD) on the other side.

The Problem: Saving an Old Master Painting from the Ravages of Time

To help illustrate some of the principles and suggestions we’ve outlined in this book, we’ve decided to follow a team of graduate students as they work together on an important project: saving a priceless Old Master painting from further deterioration. The robe of the Virgin Mary in the middle panel of The Coronation of the Virgin by Lorenzo Monaco (ca.1414) is currently white. Technical examination has shown, however, that the robe was originally a deep pinkish mauve. A restorer can retouch the painting with red paint, but if the robe is still fading a colour difference will occur, so elucidating the correct composition of the original paint, plus understanding the exact nature of the fading process will be critical for a proper restoration to be carried out.

Isabel, a chemistry PhD student, will be analyzing the chemical composition of the paint. Her challenge will be to use the
analytical techniques currently available to study a sample from
the painting, typically a tiny sample that is barely visible to the
human eye.

**Yousef** is a PhD student in physics who will be focusing on
calculations of the rate of fading of certain paint compositions,
as well as the important issue of whether it will be possible to
reconstruct the original colour of the painting. Another aspect of
Yousef’s project will be to develop new analytical techniques for
gaining more information from the precious paint samples.

**Peter** is working on his PhD in art history. His project will
include the interpretation of the painting based on its use of
colour, particularly when the colour is thought to have a religious
or symbolic significance. The use of colour may also be char-
acteristic for this particular artist. The Virgin’s white robe, for
example, is symbolic of her purity as the mother of Christ, while
purple is symbolic of her royal nature as the queen of heaven.

In order to solve the problem of the painting’s degradation
the team will have to work together and rely on each other’s
data. Communication, planning, and cooperation will be key to
their success. The three are graduate students at the same uni-
versity, albeit in separate research groups. Isabel has joined a
well-established group run by a senior professor. Yousef works
for a world-renowned professor in a large group with many
PhD students and several Post-docs. Peter works as one of two
graduate students for a young assistant professor.

To finish the project successfully, the team will have to draw
on many skills they hadn’t really counted on using including
good communication, proper planning, and effective time
management.

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September 2010
Mastering Your PhD
Survival and Success in the Doctoral Years and Beyond
Gosling, P.; Noordam, L.D.
2011, XII, 240 p., Softcover
ISBN: 978-3-642-15846-9