

## Preface

This book is a direct reflection of the experiences of the authors who are scientists, not professional writers and so, to help the reader place the book in context, we introduce ourselves.

**Federico Rosei** was born in Rome (Italy) on March 27th, 1972. He received a “Laurea” degree in Physics in February 1996, and a Ph.D. in Physics in February 2001, both from the University of Rome “La Sapienza”. From October 1996 to December 1997 he was an Officer in the Italian Navy. He continued his scientific career as a Post-doctoral Fellow and Marie Curie Fellow at the University of Aarhus (DK), from November 2000 to April 2002. In May 2002 he joined the faculty at Institut National de la Recherche Scientifique (INRS) Énergie, Matériaux et Télécommunications, University of Quebec in Varennes, as Assistant Professor. After two years, he has been promoted to Associate Professor with tenure (since June 2004). Since October 2003, Dr. Rosei has held the Canada Research Chair in Nanostructured Organic and Inorganic Materials. He has co-authored over 25 papers and has given over 40 Invited, Keynote and Plenary Talks at international conferences. His research is on nanostructured materials, and on controlling their size, shape, composition, stability and positioning, when grown on suitable substrates. He is also known for his studies on the assembly and dynamics of molecular aggregates on surfaces.

**Tudor Johnston** was born in Montreal (Canada) on January 17th, 1932. Graduating from McGill University in 1953 in Engineering Physics, and obtaining a Ph.D. (in Engineering) at Cambridge University in 1958, he transformed himself into a plasma theorist at the RCA Research Laboratories in Montreal, where he remained for ten years. After a short stint in Texas at the University of Houston, he returned to Montreal to INRS Énergie, Matériaux et Télécommunications at Varennes. He has published over 150 papers and co-authored one monograph in plasma physics, on many plasmas (ranging from space plasmas with 30 kilometer wavelengths to solid-density plasmas with

wavelengths of 10 nanometers). In this way he has become familiar with industrial research, the Canadian scientific establishment structures and operations, both English and North American academia, and acquired some informal acquaintance with several science establishments in France and in England.

As one can immediately infer, this book is the result of collaboration between two people, one who is beginning to open into full flower and the other who has most of the best years behind him. In this partnership we intend to combine the best of the points of view of the young professor (Rosei) who has recently experienced many of the early rites of passage of science recently (and so remembers them clearly) with the more reflective and experienced viewpoint of the other (Johnston) who has watched and played a part in many such events over more than forty years.

The usual “voice” of this book is the combined consensus voice of the two. Sometimes, however, we have agreed to disagree, putting both points of view and leaving the choice to the reader, in which case the reader is explicitly told (identified there as **Federico** or as **Tudor**). Sometimes one of us (usually, but not always, Federico) launches into a personal comment or an anecdote. (Most of Tudor’s anecdotes would be somewhat dated.) Finally, with respect to voices, unless specifically stated to be otherwise, the illustrative personal anecdotes relating to events fairly early in a scientist’s career are all contributed by Federico Rosei, and so the pronoun “I” will make an occasional appearance there.

To sum up, when the voice is not of us both together, that voice will be explicitly identified; when no voice is explicitly identified it is our common voice. (In computer jargon, the common voice is the “default option”.)

We have both looked at everything that is set down here, so this whole book does legitimately bear the overall imprimatur of both intense youth and more reflective experience.

## Disclaimer

The advice and opinions contained here naturally reflect solely those of the authors and we take full responsibility for them. Being our personal ideas and recipes for success, we naturally do not claim that they are universal. They are certainly not to be intended as scientific laws or as infallible pronouncements *ex cathedra*.

We do hope that, fallible though it may be, the advice to be found here will prove useful to the readers, if only to provoke them into formulating their own views and responses. In either case our principal goal will have been attained. That goal is to help our readers to navigate the unavoidable difficulties that most young scientists encounter, to evade the more obvious pitfalls and to avoid most common mistakes in situations that all of us will encounter or have encountered in one form or another in our careers in science.

The illustrative anecdotes are not invented and do treat actual events. For this reason it was decided to use for each just a one-letter “name” (rather than using actual initials), to better protect the identity of the people involved. The point of view in the anecdote is that of the narrator, who thus accepts the responsibilities for any misinterpretation there may have been.

## Acknowledgements

The idea of writing this book was conceived during the preparation of a graduate course on Survival Skills for Science, offered at INRS-EMT in the fall term of 2003, by Federico Rosei together with our common colleague, Alain Pignolet. We are extremely grateful to Alain for his key contributions in that course. Elements of this work were presented at various times in various places and we are grateful to those who proffered advice, comments and encouragement.

Professor Peter McBreen was kind enough to read this book in manuscript form and offer some invaluable suggestions.

In addition to these acknowledgements Federico Rosei has his own individual acknowledgements.

**Federico:** — I am grateful to Peter J. Feibelman for the great advice I found in his book, since I am confident that it helped me significantly in the early stages of my career. I hope the present book will serve as a complement to his excellent perspective. I thank colleagues Roberto Morandotti and Mohamed Chaker for very helpful discussions, and also Travis Metcalfe for introducing me to Feibelman's book, and for many entertaining and stimulating discussions on professional development and on how to survive in science. I acknowledge Sabine and Chantal Minsky as well as my parents, Silvana and Renzo Rosei, for reading this manuscript thoroughly and critically, and for many suggestions on how to improve it.

We welcome your comments!

In case there is going to be a further edition, we would greatly benefit from the reader's (constructive) comments and criticism. Thus we encourage you to send us your thoughts (as well as lists of typos), using various options, such as:

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