



UNEXPECTED
CARLO C. MALEY

Education: MIT, Cambridge, Mass., Ph.D., 1998, Computer Science; Harvard University, Cambridge, Mass., Postdoc, 1998, Evolutionary Biology; University of New Mexico, Albuquerque, NM Postdoc, 1998–2000, Computational Biology. Professional Experience: 2000–2005, Staff scientist and member of the Program in GI Oncology, Cancer Research Center, Seattle, Wash.; 2005–2010, Assistant Professor, The Wistar Institute; 2005–2010, Genomics and Computational Biology Graduate Program, University of Pennsylvania; 2007–2010, Cell and Molecular Biology Graduate Program, University of Pennsylvania; 2010–present, Associate Professor, Department of Surgery, University of California San Francisco; 2011–present, Director, Center for Evolution and Cancer, University of California San Francisco. – Address: Helen Diller Family Comprehensive Cancer Center, UC San Francisco, 2340 Sutter St. Box 1351, San Francisco, CA 94115, USA.

E-mail: carlo.maley@ucsf.edu

I suppose that I have had a typically unexpected year at Wiko. That is, I made no progress on the book I had hoped to complete, but made tremendous progress on a multitude of other projects, many with hope of completion. As a biomedical research scientist, I am often evaluated based on the bottom line – how much grant money I’m bringing in (and secondarily, the papers we are producing). By these accounts, it has been a great year. My collaborators and I wrote two grants in the fall, both of which were funded. For that alone, I would call the year a success. The prospect of the research that those grants will fund is both exciting and satisfying. Of more emotional importance to me has been the opportunity to bring to (near) completion a book of collected chapters on the open

questions in cancer research and how to make progress on them. I think this will be a unique type of book that I hope will support the nascent research programs of many young scientists.

This year has also been wonderful for the opportunity to meet weekly with the other Fellows in our study group on evolution and cancer. It has provided that rare opportunity to step back, survey the field, and discuss what the most important questions are and where the best opportunities lie to make progress. That much was expected. What was unexpected is the resulting project of the group: to survey the nature of cancer-like phenomena across all of life. This has never been done before and I expect that the results will be the definitive comparative oncology review of its time.

I was also astonished by the results of our workshop on evolutionary medicine. We had planned to develop a white paper on the important open questions in evolutionary biology; but halfway through the workshop, a consensus emerged that we should write a paper focusing on just one of those questions, one on which we could make an immediate contribution: How can we identify when a symptom or abnormal vital statistic of a patient is problematic and should be treated to return it to the normal range of a healthy person, versus part of the body's natural healing response to the challenge of the disease? In the latter case, intervention can be counterproductive, interfering with the body's healing response, and in some cases has been shown to kill patients. We developed a set of heuristics, based on evolutionary principles, for distinguishing pathological from functional responses. I'm excited by the possibility that this paper may result in saving lives.

I feel a pervasive sadness, facing the end of our time here and the prospect of losing daily contact with this community. Wiko provides a wonderful environment, making it amazingly easy to live in a foreign country and providing the intellectual stimulation of so many brilliant, interdisciplinary scholars. I like to think of Wiko as a liberal arts college (in the American tradition) of top professors without any students or significant obligations.

There is one recent innovation at Wiko that was particularly important to our family's happiness: the provision of babysitters to care for the group of Wiko children during the Thursday night dinners. This provided an instant community of friends for our children, who spent the majority of their afternoons thereafter with other children of Wiko Fellows. Rather than dreading being abandoned by their parents every Thursday night, our children looked forward to the party with their friends and protested us driving them to bed when we were able to pull ourselves away from our own dinner party.

Thank you for the friends, community, intellectual stimulation and adventure.