
Melanoma

David E. Fisher • Boris C. Bastian
Editors

Melanoma

With 160 Figures and 55 Tables

 Springer

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To the memory of our son Samuel Fisher (1991–2016)

—David E. Fisher

To my children Lennart, Ingmar, Stella, and Juliet

—Boris C. Bastian

Preface

The scientific and clinical melanoma research communities have made tremendous progress over the last two decades, which produced a dramatic improvement in outcome for patients with advanced disease as well as remarkable insights into the biology of the disease. These advances were catalyzed by a quantum leap in techniques to interrogate the cancer genomes and in breakthrough discoveries into ways through which cancers evade eradication by immune cells. Massive parallel sequencing enabled the large-scale cataloging of genetic alterations and development of matching drugs that set the stage for therapies that target specific mutations in the tumor of the individual patient. Functional analyses of the interaction of immune cells with each other and with cancer cells have informed ways to block key mechanisms that tumor cells hijack to paralyze the immune system.

The field continues to move forward at high speed after this phenomenally productive period in research that is akin to the Cambrian explosion in the evolution of life on Earth. This book represents a systematic effort of many of the thought leaders in the field to comprehensively portrait the current understanding of key aspects related to melanoma. It is written with a broad audience in mind that we hope will include students and professionals from basic and translational research as well as the community of clinical caregivers. One of the most impactful aspects of this “melanoma revolution” has been the rapid deployment of similar tools and therapeutic strategies to other highly challenging human cancers. It is our hope that the revolution will continue, both for patients with melanoma who still require great advances due to unmet needs and for the broader cancer community which may continue to benefit from ongoing progress in melanoma science and clinical discovery.

July, 2019

David E. Fisher
Boris C. Bastian

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David E. Fisher, M.D., Ph.D., is chief of the Department of Dermatology at Massachusetts General Hospital (MGH). He also serves as director of Mass General's Cutaneous Biology Research Center, director of the Melanoma Center, and chair of the MGH Executive Committee on Research. A professor of dermatology and of pediatrics at Harvard Medical School, Dr. Fisher came to Mass General from the Dana-Farber Cancer Institute, where he previously directed the melanoma program. Dr. Fisher's research has focused on understanding the molecular and genetic events which underlie formation of melanoma as well as skin pigmentation. As a clinician, he has worked to translate these understandings into advances in diagnosis, treatment, and prevention of human diseases related to the skin and associated disorders.

A graduate of Swarthmore College with a degree in biology and chemistry, Dr. Fisher is also an accomplished concert cellist and graduated from the Curtis Institute of Music in Philadelphia. He received his doctorate under Nobel Laureate Gunter Blobel and Henry Kunkel at Rockefeller University and his medical degree at Cornell University Medical College. Dr. Fisher's specialty training in Medicine, Pediatrics, and Oncology were carried out at Dana-Farber Cancer Institute, Boston Children's Hospital, and Brigham and Women's Hospital, Harvard Medical School. His research contributions

include elucidation of the pathway through which UV radiation induces pigmentation, identification of MITF as master transcriptional regulator in melanocytes and melanoma oncogene, novel approaches to melanoma treatment and prevention, and discovery of the link between ultraviolet radiation and addictive behaviors.



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Boris C. Bastian, M.D., received his medical degree from the University of Munich, Germany. He completed his residency in dermatology at the University of Würzburg, Germany. He did a postdoctoral fellowship at the Cancer Genetics Program at the University of California, San Francisco, and joined the UCSF faculty in 1999 with appointments in dermatology and pathology. He served as the chair of the Pathology Department at Memorial Sloan-Kettering Cancer Center and was president of the Society of Melanoma Research from 2010 to 2013. In 2011 he returned to UCSF, where he now leads a research laboratory focused on the genetic underpinnings of skin cancer with the goal of improving disease classification and diagnosis, therapy, and prevention.

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