Adult Neurogenesis
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Adult Neurogenesis

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COLD SPRING HARBOR LABORATORY PRESS
Cold Spring Harbor, New York • www.cshlpress.com
We dedicate this monograph to the memory of Peter Eriksson, a good friend and colleague who passed away unexpectedly. He generously contributed to our knowledge of Human Adult Neurogenesis.
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THE TERM “ADULT NEUROGENESIS” IS USED TO DESCRIBE the observation that, in the adult mammalian brain, new neurons are born from stem cells residing in discrete locations and these new neurons migrate, differentiate, and mature into newly integrated, functioning cells. By virtue of this definition, adult neurogenesis is a process, not an event, and as such, can be dissected and examined in evermore discrete components. In general, researchers seek a complete understanding of not only the details of these separate components but also the purpose and function of this process as a whole. Once the tools became available to monitor and measure adult neurogenesis, the interest in this process grew enormously, not the least because the birth and integration of new neurons in the adult brain constitute the most extreme cases of neuroplasticity in the adult brain. While the phenomenon is interesting enough to investigate and understand in the normal, healthy brain, the fact that this process is also disrupted in many disease states adds substantially to the numbers of those studying adult neurogenesis. As a result, a new way of looking at brain therapy has emerged that incorporates the potential of generating new neurons in the context of aging and disease into the search for a strategy for “self-repair.”

The idea for this book originated from a meeting on adult neurogenesis in the adult brain held at the Banbury Conference Center at Cold Spring Harbor Laboratory in February 2006. In the secluded and intimate setting of this event, the organizers sought to assemble an overview of the field as it stood at the time. The likely impermanence of this contribution did not deter us because it seemed necessary to bring together a number of leading researchers to make an attempt to define our growing field. The great success of the conference made it clear that the conclusions from the meeting should be disseminated to a wider audience in the form of a book. This decision also allowed us to expand the range
of topics beyond those covered in the meeting and recruit more colleagues who had made important contributions to the field.

The 30 chapters in this volume provide an incomplete yet valuable overview of the field of adult neurogenesis research. Wherever possible, we teamed up authors on related topics who have either not yet worked together or did so long ago. Our aim was to help integrate the field by mapping its current scope and its diverging ideas, and we hope our selections do not reflect too much of our personal opinions and biases.

We would like to thank the staff at Cold Spring Harbor Laboratory Press for their advice and diligence, particularly John Inglis, Alex Gann, Denise Weiss, Kaaren Hegquist, Lauren Heller, Mary Cozza, and Joan Ebert. We would also like to thank the authors of all the chapters in the monograph for their thoughtful and scholarly presentations of often controversial and still emerging concepts surrounding this new field of adult neurogenesis.

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