

# Contents

---

|   |                                                                                                                                                                                                                                                                                                              |    |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 1 | The Role of Histone Modifications in Epigenetic Transitions During Normal and Perturbed Development<br><i>S. Kubicek, G. Schotta, M. Lachner, R. Sengupta, A. Kohlmaier, L. Perez-Burgos, Y. Linderson, J.H.A. Martens, R.J. O'Sullivan, B.D. Fodor, M. Yonezawa, A.H.F.M. Peters, T. Jenuwein</i> . . . . . | 1  |
| 2 | Nucleosome Structure and Function<br><i>J.V. Chodaparambil, R.S. Edayathumangalam, Y. Bao, Y.-J. Park, K. Luger</i> . . . . .                                                                                                                                                                                | 29 |
| 3 | The Role of Snf2-Related Proteins in Cancer<br><i>T. Owen-Hughes</i> . . . . .                                                                                                                                                                                                                               | 47 |
| 4 | Imitation Switch Complexes<br><i>J. Mellor</i> . . . . .                                                                                                                                                                                                                                                     | 61 |
| 5 | How Is Epigenetic Information on Chromatin Inherited After DNA Replication?<br><i>Y. Nakatani, H. Tagami, E. Shestakova</i> . . . . .                                                                                                                                                                        | 89 |
| 6 | Polycomb Silencing Mechanisms and Genomic Programming<br><i>V. Pirrotta</i> . . . . .                                                                                                                                                                                                                        | 97 |

|    |                                                                                                                                                                                     |     |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 7  | CpG Island Methylation and Histone Modifications:<br>Biology and Clinical Significance<br><i>M. Esteller</i> . . . . .                                                              | 115 |
| 8  | Histone Post-Translational Modifications Regulate<br>Transcription and Silent Chromatin<br>in <i>Saccharomyces cerevisiae</i><br><i>N.C. Tolga Emre, S.L. Berger</i> . . . . .      | 127 |
| 9  | Histone Acetylation-Mediated Chromatin Compaction<br>During Mouse Spermatogenesis<br><i>J. Govin, C. Lestrat, C. Caron, C. Pivot-Pajot,<br/>S. Rousseaux, S. Khochbin</i> . . . . . | 155 |
| 10 | Role of Ubiquitin-Like Proteins<br>in Transcriptional Regulation<br><i>R.T. Hay</i> . . . . .                                                                                       | 173 |
| 11 | Interplay of the SUMO and MAP Kinase Pathways<br><i>S.-H. Yang, A.D. Sharrocks</i> . . . . .                                                                                        | 193 |
|    | Previous Volumes Published in This Series . . . . .                                                                                                                                 | 211 |