

CONTENTS

Preface	v
Contributors	xi
Part I: Methods and Tools for the Study of the Genetics of Male Infertility	
1 The Genetics of Male Infertility in the Era of Genomics: <i>Tools for Progress</i>	3
<i>Douglas T. Carrell</i>	
2 The Use of cDNA Libraries to Demonstrate a Linkage Between Transcription and Translation in Male Germ Cells	29
<i>Norman B. Hecht</i>	
3 Considerations When Using Array Technologies for Male Factor Assessment	37
<i>Adrian E. Platts, David J. Dix, and Stephen A. Krawetz</i>	
4 Microarray Analysis of a Large Number of Single- Nucleotide Polymorphisms in Individual Human Spermatozoa	55
<i>Honghua Li, Xiangfeng Cui, Danielle M. Greenawalt, Guohong Hu, Nyam-Osor Chinge, Sreemanta Pramanik, Minjie Luo, Hui-Yun Wang, Irina V. Tereshchenko, Marco A. Azaro, Yong Lin, Qifeng Yang, James Y. Li, Yi Chu, Zhenwu Lin, Richeng Gao, Li Shen, Christina J. DeCoste, and Weichung J. Shih</i>	
5 Physiological and Proteomic Approaches to Understanding Human Sperm Function: <i>Prefertilization Events</i>	77
<i>Sarah J. Conner, Linda Lefièvre, Jackson Kirkman-Brown, Gisela S. M. Machado-Oliveira, Frank Michelangeli, Stephen J. Publicover, and Christopher L. R. Barratt</i>	

6	Genetics of Idiopathic Male Infertility: <i>The Power of a Cross-Species Approach</i>	99
	<i>Angshumoy Roy, Yi-Nan Lin, and Martin M. Matzuk</i>	
Part II: Meiosis and Errors of Meiosis		
7	The Immunocytogenetics of Human Male Meiosis: <i>A Progress Report</i>	115
	<i>Daniel Topping, Petrice Brown, and Terry Hassold</i>	
8	The Clinical Relevance of Sperm Aneuploidy	129
	<i>Renee H. Martin</i>	
9	DNA Repair Genes and Genomic Instability in Severe Male Factor Infertility	145
	<i>Francesca K. E. Gordon and Dolores J. Lamb</i>	
Part III: The Y Chromosome, Development, Spermatogenesis, and Sperm Maturation		
10	Germ Cell-Specific Genes and Posttranscriptional Regulation in the Testis	167
	<i>Mark S. Fox and Renee A. Reijo Pera</i>	
11	The Genetics of Cryptorchidism	185
	<i>Alexander I. AgoulNIK and Shu Feng</i>	
12	The Chromatoid Body and microRNA Pathways in Male Germ Cells	199
	<i>Martti Parvinen, Noora Kotaja, Durga Prasad Mishra, and Paolo Sassone-Corsi</i>	
13	Sperm Maturation in the Epididymis: <i>Role of Segment-Specific Microenvironments</i>	211
	<i>Gail A. Cornwall and Hans H. von Horsten</i>	
Part IV: Clinical Applications of the Study of the Genetics of Male Infertility		
14	The Structure of the Y Chromosome in Infertility	233
	<i>Leslie Ayensu-Coker, Collin Bishop and Jan Rohozinski</i>	

15	Y Chromosome Microdeletions and Haplotypes	239
	<i>Ken McElreavey, Celia Ravel, Brahim El Houate, Jacqueline Mandelbaum, Sandra Chantot-Bastaraut, and Jean-Pierre Siffroi</i>	
16	The Genetics of Male Infertility: <i>From Bench to Clinic</i>	251
	<i>David M. de Kretser, Moira K. O'Bryan, Michael Lynch, Anne Reilly, Claire Kennedy, David Cram, and Robert I. McLachlan</i>	
17	The Future of the Diagnosis of Male (In)Fertility	267
	<i>Christopher De Jonge</i>	
18	Polymorphisms and Male Infertility	275
	<i>Csilla Krausz</i>	
19	The Genetics of Abnormal Protamine Expression	291
	<i>Vincent W. Aoki and Douglas T. Carrell</i>	
20	Chromatin Damage and Male Infertility	303
	<i>Denny Sakkas, Davide Bizzaro, and Gian C. Manicardi</i>	
21	Clinical Evaluation of the Genetics of Male Infertility	317
	<i>Peter N. Schlegel</i>	
	Index	329