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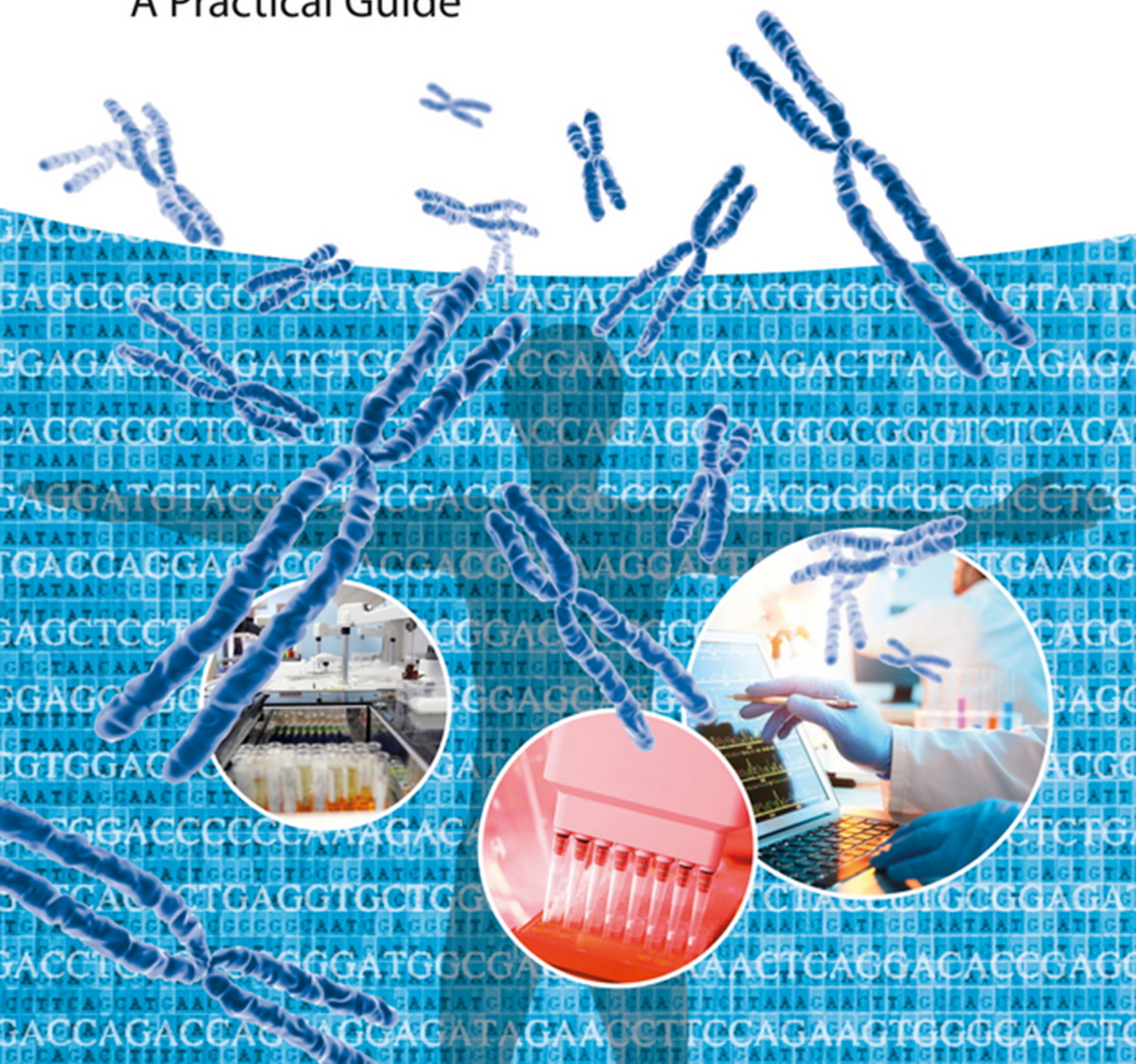
A Practical Guide



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A Practical Guide

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For Irmak, Emir, Muharrem Güder and Cem, Remziye Taneri - BT

For Rüzgar and my family - EA

For the loving memory of my beloved father Retired Major Derviş Delikurt - TD

For Vildan Naz and my family - PS

For my father Tözüm Targen, mother Bilge Targen and sister Neşe Targen - ST

For my mother Necla Esemen and my family - YE

and for all our students.

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About the Authors

Bahar Taneri is a Professor of Molecular Biology and Genetics at Eastern Mediterranean University (EMU), Famagusta, Cyprus. After obtaining her PhD degree in Biomedical Sciences from The Rockefeller University, New York, USA, in 2005, she has taught several Genetics and Genomics modules at EMU, where she has founded the Molecular Biology and Genetics undergraduate program. At EMU, she has served as the editor-in-chief of the University Research Newsletter for two years. She has also been chairing the Department of Biological Sciences since 2013. She has been an affiliated researcher of the Institute for Public Health Genomics, Department of Genetics and Cell Biology, Faculty of Health, Medicine and Life Sciences at Maastricht University, Netherlands, since 2011. She has authored several publications in the fields of genome biology and personalized medicine. Currently, her main research interests include human genomics, epigenomics, and efficient translation of personalized genome-based findings into healthcare and medicine, for prediction and prevention of common complex diseases. She is a founding member of the Medical Biotechnology Master's program at EMU, where she teaches modules including Genome Editing.

Esra Asilmaz is currently a Locum Consultant in Gastroenterology and General Internal Medicine at Homerton University Hospital in London, UK. She obtained her PhD degree in Molecular Genetics from The Rockefeller University, NYC, USA, in 2004. She subsequently obtained her Bachelor of Medicine, Bachelor of Surgery degree in 2009 from St. George's University of London, UK. Between 2009 and 2011, she completed an academic foundation program at St. Thomas' and Guy's Hospital, London, UK. During this time, she worked at Professor Trembath's Laboratory of Human Genetics and was involved in the identification of Notch2 mutations in Hadju–Cheney Syndrome, a rare genetic condition. She was an Academic Clinical Fellow at University College Hospital, London, UK, between 2011 and 2014 and was a member of Dr. Oben's laboratory at the Institute of

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Turem Delikurt is a registered genetic counselor. She graduated with a BSc in Biology from the University of South Dakota, USA, in 2003. She completed her MSc in Genetic Counseling with merit from the University of Manchester, UK, in 2006. She has been working as a genetic counselor in Cyprus since 2006. In 2015, she was registered by the European Board of Medical Genetics. Her main research interest is the exploration of genetic counseling within the context of culture. She is dedicated to increasing awareness about genetic conditions and genetic counseling, in Cyprus. She penned a weekly column titled "Genetics Today" at one of the main newspapers in Cyprus from 2004 until 2017. Over the years, she has been continuously involved in various civil society activities aimed at increasing the quality of care and life of patients and families at risk of or affected by genetic conditions in Cyprus.

Pembe Savas obtained her undergraduate degree in Medical Biochemistry from the University of Leicester, UK, in 2011 and further received an MSc degree in Reproductive Science and Women's Health at University College London, UK, in 2012. She has completed her project on pre-implantation genetic diagnosis of beta-thalassemia at Cyprus Institute of Neurology and Genetics, Nicosia, Cyprus, in 2012, where she gained hands-on laboratory experience. Since 2013, Pembe Savas is working as a senior instructor at the Department of Biological Sciences, Eastern Mediterranean University, Famagusta, Cyprus, where she is responsible for teaching numerous modules for the Molecular Biology and Genetics program, including Human Genetics. Her research interests include genetic testing in common complex diseases. Furthermore, since 2017 she has been actively involved in the Cyprus Women's Health Research Initiative.

Seniye Targen obtained her undergraduate degree in Human Genetics from Newcastle University, UK, in 2009 and further specialized in the field of Human Molecular Genetics at Imperial College London, UK, in 2010, where she completed a project on X-linked cataract and Nance–Horan Syndrome. Upon completing her graduate degree, she gained experience in private medical diagnostic laboratories. She had been employed as a laboratory instructor in the Department of Biological Sciences at the Eastern Mediterranean University, Famagusta, Cyprus, from 2013 to 2015. Currently, she is working toward a PhD degree in Molecular Biology and Genetics Department with particular focus on breast cancer biology at Bilkent University, Ankara, Turkey.

Yagmur Esemen is currently working as a Foundation Year Two Doctor at Charing Cross Hospital, London, UK. In 2013, she completed her undergraduate degree in Neuroscience and Biology with honors at Lawrence University, WI, USA. As an undergraduate, she has been involved in various research projects in the fields of neuroscience, molecular biology, and genetics. In 2011, she spent a summer at Mayo Clinics, Rochester, MN, USA, studying the effects of Bro1 family members on Vps4 activity. Her senior thesis, completed in 2013, was on investigating the neural targets of DAF-19 in *Caenorhabditis elegans,* which was awarded Summa Cum Laude honors. She has received several awards including the Howard and Helen Russell Award for Excellence in Biological Sciences. Between 2013 and 2014, she worked as a laboratory instructor at the Department of Biological Sciences, Eastern Mediterranean University, Famagusta, Cyprus. She obtained her Bachelor of Medicine, Bachelor of Surgery degree with distinction from St. George's University of London, UK, in 2018.