ORAL MICROBIOLOGY AND IMMUNOLOGY
SECOND EDITION
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ORAL MICROBIOLOGY AND IMMUNOLOGY

EDITED BY

Richard J. Lamont
Center for Oral Health and Systemic Disease
University of Louisville School of Dentistry
Louisville, Kentucky

George N. Hajishengallis
Department of Microbiology
School of Dental Medicine
University of Pennsylvania
Philadelphia, Pennsylvania

Howard F. Jenkinson
School of Oral and Dental Sciences
University of Bristol
Bristol, United Kingdom

ASM PRESS
WASHINGTON, DC
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Contributors

Wilson Aruni
Division of Microbiology, School of Medicine, Loma Linda University, Loma Linda, CA 92350

J. Craig Baumgartner
322 Aoloa St. Apt. 207, Kailua, HI 96734

Clifford J. Beall
Division of Oral Biology, College of Dentistry, The Ohio State University, Columbus, OH 43210

Richard D. Cannon
Department of Oral Sciences, University of Otago, P.O. Box 647, Dunedin, New Zealand

Michael F. Cole
Department of Microbiology and Immunology, Georgetown University School of Medicine, 3900 Reservoir Rd. NW, Washington, DC 20007

Massimo Costalonga
Department of Developmental and Surgical Sciences, 18-226 Moos Tower, University of Minnesota, 515 Delaware St., SE, Minneapolis, MN 55455

Yuetan Dou
Division of Microbiology, School of Medicine, Loma Linda University, Loma Linda, CA 92350

Paul G. Egland
Department of Biology, Augustana College, 2001 S. Summit Ave., Sioux Falls, SD 57197

Jingyuan Fan
Division of Periodontics, Eastman Institute for Oral Health, University of Rochester, 625 Elmwood Avenue, Rochester, NY 14620
xx Contributors

**J. Christopher Fenno**
Department of Biologic and Materials Science, School of Dentistry, University of Michigan, 1011 N. University, Ann Arbor, MI 48109-1078

**Norman A. Firth**
Department of Oral Diagnostic and Surgical Sciences, University of Otago, P.O. Box 647, Dunedin, New Zealand

**Hansel M. Fletcher**
Division of Microbiology, School of Medicine, Loma Linda University, Loma Linda, CA 92350

**Kohtaro Fujihashi**
Department of Pediatric Dentistry, University of Alabama School of Dentistry, BBRB 713, 1530 3rd Avenue South, Birmingham, AL 35294-2170

**Ann L. Griffen**
Department of Pediatric Dentistry, The Ohio State University, 305 W. Twelfth Ave., Columbus, OH 43210

**Susan Kinder Haake (deceased)**
Department of Periodontics, UCLA School of Dentistry, Los Angeles, CA 90095-1668

**Evlambia Hajishengallis**
Department of Preventive and Restorative Sciences, Division of Pediatric Dentistry, School of Dental Medicine, Philadelphia, PA 19104

**George N. Hajishengallis**
Department of Microbiology, School of Dental Medicine, University of Pennsylvania, 240 S. 40th St., Philadelphia, PA 19104

**Mark C. Herzberg**
Department of Diagnostic and Biological Sciences, 17-164 Moos Tower, University of Minnesota, 515 Delaware St., SE, Minneapolis, MN 55455

**Howard F. Jenkinson**
School of Oral and Dental Sciences, University of Bristol, Lower Maudlin Street, Bristol BS1 2LY, United Kingdom

**Toshihisa Kawai**
Department of Immunology, The Forsyth Institute, Cambridge, MA 02142

**Mogens Kilian**
Department of Biomedicine, Wilhelm Meyers allé 4, Aarhus University, DK-8000 Aarhus, Denmark

**Hyun Koo**
Box 611, Center for Oral Biology, Eastman Institute for Oral Health, Department of Dentistry, University of Rochester School of Medicine and Dentistry, Rochester, NY 14642
Contributors

Dorota T. Kopycka-Kedzierawski
Box 683, Community Dentistry and Oral Disease Prevention, Eastman Institute for Oral Health, University of Rochester School of Medicine and Dentistry, Rochester, NY 14642

Richard J. Lamont
Center for Oral Health and Systemic Disease, University of Louisville School of Dentistry, 501 S. Preston St., Louisville, KY 40292

Donald J. LeBlanc
424 Battle Flag Lane, Mount Juliet, TN 37122

José Lemos
Box 611, Center for Oral Biology, Eastman Institute for Oral Health, Department of Microbiology and Immunology, University of Rochester School of Medicine and Dentistry, Rochester, NY 14642

Janina Lewis
Philips Institute of Oral and Craniofacial Biology, Virginia Commonwealth University School of Medicine, Box 980566, 521 North 11th Street, Richmond, VA 23298-0678

Eugene J. Leys
Division of Oral Biology, College of Dentistry, The Ohio State University, Columbus, OH 43210

Dennis E. Lopatin
Department of Biologic and Materials Science, School of Dentistry, University of Michigan, 1011 N. University, Ann Arbor, MI 48109-1078

Peter M. Lydyard
Division of Infection and Immunity, Department of Immunology, University College, London WC1E 6BT, United Kingdom

Mark F. Maiden
Department of Molecular Genetics, The Forsyth Institute, 140 Fenway, Boston, MA 02115

Robert E. Marquis
Department of Microbiology and Immunology and Center for Oral Biology, University of Rochester, Rochester, NY 14642

Panos N. Papapanou
Division of Periodontics, Section of Oral and Diagnostic Sciences, Columbia University College of Dental Medicine, New York, NY 10032

Jan Potempa
Center for Oral Health and Systemic Disease, University of Louisville School of Dentistry, 501 S. Preston St., Louisville, KY 40292, and Department of Microbiology, Faculty of Biochemistry, Biophysics, and Biotechnology, Jagiellonian University, Krakow, Poland
Ann Progulske-Fox
Department of Oral Biology, University of Florida College of Dentistry, Gainesville, FL 32610

Robert G. Quivey, Jr.
Box 611, Center for Oral Biology, Eastman Institute for Oral Health, Department of Microbiology and Immunology, University of Rochester School of Medicine and Dentistry, Rochester, NY 14642

Burton Rosan
1001 City Ave., Apt. WB912, Wynnewood, PA 19096

Karen F. Ross
Department of Diagnostic and Biological Sciences, 17-174 Moos Tower, University of Minnesota, 515 Delaware St., SE, Minneapolis, MN 55455

Louis Rossman
Suite 1114, The Medical Arts Building, 1601 Walnut Street, Philadelphia, PA 19102

Michael W. Russell
Departments of Microbiology & Immunology, and Oral Biology, University at Buffalo, Buffalo, NY 14214

Matti Sällberg
Division of Clinical Virology, F68, Karolinska Institutet at Huddinge University Hospital, S-141 86 Huddinge, Sweden

Frank A. Scannapieco
Department of Oral Biology, School of Dental Medicine, University at Buffalo, The State University of New York, Foster Hall, Buffalo, New York 14214

Stephen J. Stefanac
Department of Biologic and Materials Science, School of Dentistry, University of Michigan, 1011 N. University, Ann Arbor, MI 48109-1078

Gena D. Tribble
Department of Periodontics, School of Dentistry, University of Texas Health Science Center at Houston, Houston, TX 77039
Preface

In the seven years since the first edition of this book, the world of microbiology and immunology has seen incredible technological and conceptual advances. It is now almost routine to sequence the genome of a bacterium, and for that matter, a community of bacteria; the catalog of proteins for which the crystal structure is known has increased apace; knockout mice deficient in numerous components of the innate and adaptive immune system are widely available; and the regulatory interplay between the innate and adaptive arms of immunity is now better understood. Development of high resolution and 3D imaging techniques has allowed novel studies of communities growing in biofilms, as well as the more intimate interactions between microbes and host cells. High-throughput techniques and extended computer power have made population biology and epidemiology research more comprehensive. This burgeoning knowledge has changed our understanding of both the etiology of oral diseases and the nature of the pathogenic mechanisms and host responses. These changing perceptions are reflected in the updated and expanded chapters. What has (disappointingly) not improved over the last seven years is the incidence of caries and periodontal disease. It is more important than ever for dental practitioners and the clinical scientists to understand the basic science underlying oral health and disease in order for such knowledge to be translated into future health improvements.

As with the first edition, each chapter is self contained and represents the particular insights and priorities of the authors. Taken separately or together, we hope that the chapters provide the reader with the basic facts as well as with the ecological and biological context.
About the Editors

**Richard J. Lamont** received a bachelor of science degree in bacteriology from the University of Edinburgh; he received a doctorate from the University of Aberdeen in 1985. After a postdoctoral fellowship at the University of Pennsylvania focusing on streptococcal adherence mechanisms, he joined the faculty at the University of Washington, in 1989. He is currently the Delta Dental Endowed Professor of oral microbiology at the University of Louisville. His research interests include the molecular mechanisms of polymicrobial synergy and the cellular interactions between oral bacteria and the host epithelium. He has taught microbiology and immunology to dental students and residents for over 25 years.

**George Hajishengallis** was originally trained as a dentist (DDS, 1989, University of Athens, Greece) before pursuing doctoral studies in cellular and molecular biology (PhD, 1994, University of Alabama at Birmingham). His postdoctoral training combined research in mucosal immunology (University of Alabama at Birmingham) and periodontal pathogenesis (State University of New York at Buffalo). He has held faculty appointments at the Louisiana State University, the University of Louisville, and, most recently, the University of Pennsylvania, which he joined in 2012 as a Professor of Microbiology. His field of interest lies at the host-microbe interface focusing on mechanisms of periodontal immunopathogenesis and inflammation. He has taught microbiology and immunology to dental students and residents since 1997.

**Howard F. Jenkinson** received his bachelor’s degree in microbiology and virology from the University of Warwick, England. He completed his PhD training in 1978 at the University of Nottingham. He worked at the University of Oxford for five years as a postdoctoral researcher on the biochemistry and genetics of sporulation in *Bacillus subtilis*. He was appointed Lecturer in Oral Biology at the University of Otago, New Zealand, in 1983 and progressed through the ranks to Professor of Molecular Oral Biology at Otago (1996). He was a visiting Commonwealth
About the Editors

Medical Fellow at the Department of Biochemistry, University of Cambridge (1989–1990), and at the Institute of Molecular Medicine, University of Oxford (1995–1996). In 1997, he moved to the University of Bristol, England, as Professor and Chair of Oral Microbiology. His research interests include the genetics and biochemistry of microbial cell surfaces, principally streptococci and Candida, intermicrobial interactions, polymicrobial communities, and infective cardiovascular disease. He has taught molecular microbiology and biochemistry to dental, medical, and basic sciences students since 1983.