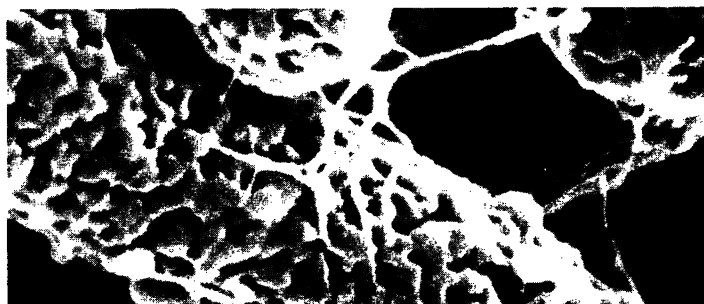


A fascinating look at the variety of multicellular interactions of microbes...

Microbial Cell-Cell Interactions



Edited by **Martin Dworkin**, *University of Minnesota, Minneapolis*

This well-considered compilation of reviews and discussions has as one central theme that the historical concept of microbes as essentially unicellular organisms existing independently of other organisms is conceptually incomplete and misleading; instead, microbial systems manifest a variety of cell-cell interactions and a real understanding, not only of the role of the microbe in nature but also of the nature of the microbe itself, requires that researchers begin to think of microbes as interacting biochemically, genetically, and physiologically with each other. Thus considered, it becomes apparent that the variety of cell-cell interactions manifested by microbial systems represent excellent model systems for examining the mechanistic bases of the cell-cell interactions themselves, with application to the study of multicellular interactions in higher organisms.

The authors provide a representative sampling of the types of interactions among microbes, including mating interactions, involving the exchange of genetic information and including studies of exchanges of mating signals preceding mating; developmental interactions, with a close look at myxobacteria and cellular slime molds; ecological/colonization interactions, represented by discussions of coaggregation, especially in the oral ecosystem, and of bacterial luminescence in fish; and predator-prey interactions, including a look at the mechanisms involved in the *Bdellovibrio* developmental cycle that ultimately kills the host cell.

This book is directed toward any microbiologist, and the list is a long one, who must deal in a practical sense or in a research context with cell-cell interactions, as exemplified by examinations of mechanisms of pathogenesis, ecological interactions, mechanisms of mating, developmental biology, predator-prey interactions, plant-microbe interactions, and formation of mixed culture communities.

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2. **Mating Interactions in Gram-Positive Bacteria** (*Dunny*)
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10. **Coaggregation: Adherence in the Human Oral Microbial Ecosystem** (*Kolenbrander*)
11. **Intercellular Signalling in the *Bdellovibrio* Developmental Cycle** (*Gray and Ruby*)

November 1991. Hardcover (ISBN 1-55581-037-3). 382 pages, illustrated, index.

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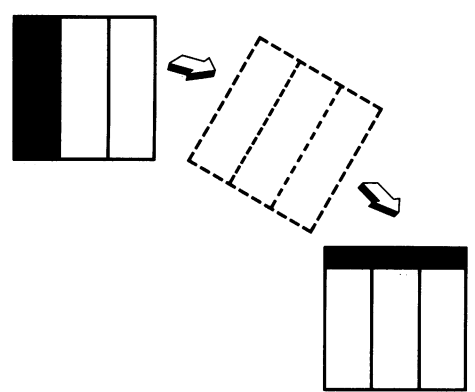
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Autoimmunity, Immunodeficiency, Malignancy

Viruses That Affect the Immune System

Edited by **Hung Y. Fan**, *Cancer Research Institute, University of California, Irvine*; **Irvin S. Y. Chen**, *UCLA School of Medicine, Los Angeles, California*; **Naomi Rosenberg**, *Tufts University School of Medicine, Boston, Massachusetts*; and **William Sugden**, *McArdle Laboratory, University of Wisconsin, Madison*

Viral infections in humans or animals almost always affect the host's immune system. In most cases, the immune system responds by developing a humoral or cell-mediated response, but some viruses can infect immune system cells, causing abnormalities such as autoimmunity, malignancy, or immunodeficiency. Understanding the properties of these viruses, particularly with regard to cells of the immune system, is important to elucidating the mechanisms by which they cause immunological damage.

Many of the viruses that cause immune system abnormalities are retroviruses or herpesviruses. The book commences with the editors' introductory overview of these major immune system viruses, then continues with four comprehensive sections on their mechanisms and effects. Human and other immunodeficiency viruses, retroviruses including human and murine leukemia viruses, Epstein-Barr virus, and cytomegalovirus are among the pathogens examined in depth.

Molecular biologists, virologists, and researchers into oncology, autoimmunity, and the immunodeficiency syndromes will find this book, the third in a popular series arising from the ICN-UCI Conferences on Virology, a valuable addition to the literature.

May 1991. Hardcover (ISBN 1-55581-032-2), 264 pages, illustrated, index. **Prices:** Member, \$49.00; Nonmember, \$62.00 (Canadian customers add 7% G.S.T.). **Shipping charges:** U.S., \$1.50/book (1-3 copies) or \$0.75/book (4+ copies); non-U.S., \$2.50/book (1-3 copies) or \$1.25/book (4+ copies).

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Microbial Cell Surface Hydrophobicity

Edited by **R. J. Doyle**, *University of Louisville, Louisville, Ky.*, and **Mel Rosenberg**, *Tel Aviv University, Ramat Aviv, Israel*

Despite the voluminous journal literature on the hydrophobicity of microorganisms, its structural basis, and its role in microbial adhesion to surfaces, in differentiation, and in morphogenesis, this is the first book devoted to this subject. There has been a growing realization that hydrophobic interactions play a role in many, if not most, microbial adhesion phenomena, including microbial adhesion to soft host tissues, implants and prostheses, contact lenses, glass, oil, steel, teeth, submerged aquatic surfaces, plants, and fish.

This monograph covers in clear detail the hydrophobicities of fungi, especially *Candida* spp., and of staphylococci, streptococci, oral bacteria, soil and aquatic bacteria, the *Enterobacteriaceae*, and other Gram-negative bacteria. Each chapter is richly referenced, for those interested in delving further into a specific topic. The authors in this book were selected based on their substantial contributions to the field. Medical, applied, and environmental microbiologists; environmental, microbial, and petroleum engineers; infectious-disease physicians and researchers; and oral biologists will all benefit from this excellent summary and review.

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14. Hydrophobicity of Oral Bacteria (*Doyle, M. Rosenberg, and Drake*)

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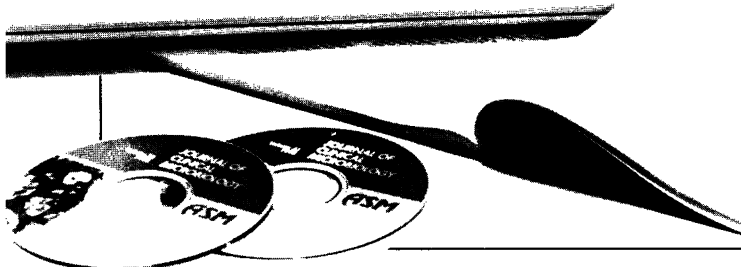
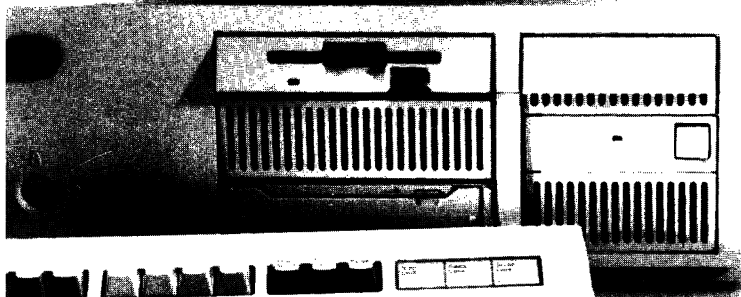
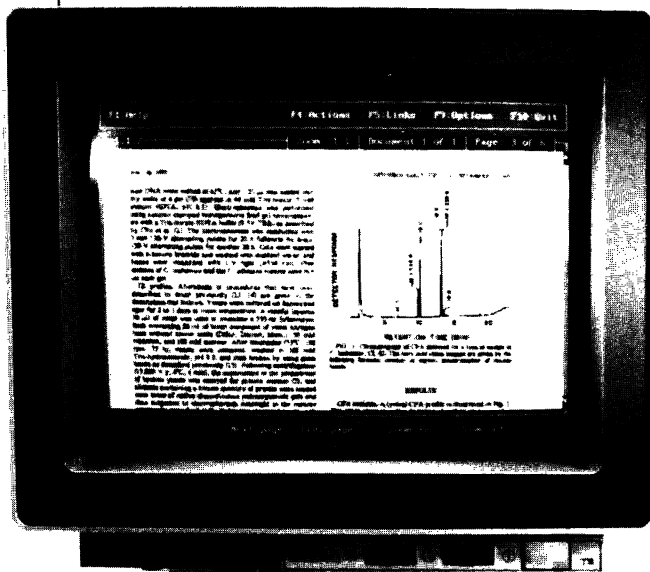
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