## Chemical Communication among Bacteria

### Table Of Contents:

<table>
<thead>
<tr>
<th>Contributors</th>
<th>ix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface</td>
<td>xv</td>
</tr>
<tr>
<td>I. CELL-CELL SIGNALING DURING DEVELOPMENT AND DNA EXCHANGE</td>
<td>1 (130)</td>
</tr>
<tr>
<td>Intercompartmental Signal Transduction during Speculation in Bacillus subtilis</td>
<td>3 (10)</td>
</tr>
<tr>
<td>David Z. Rudner</td>
<td></td>
</tr>
<tr>
<td>Thierry Doan</td>
<td></td>
</tr>
<tr>
<td>Extracellular Peptide Signaling and Quorum Responses in Development, Self-Recognition, and Horizontal Gene Transfer in Bacillus subtilis</td>
<td>13 (18)</td>
</tr>
<tr>
<td>Jennifer M. Auchtung</td>
<td></td>
</tr>
<tr>
<td>Alan D. Grossman</td>
<td></td>
</tr>
<tr>
<td>New Insights into Pheromone Control and Response in Enterococcus faecalis pCF10</td>
<td>31 (20)</td>
</tr>
<tr>
<td>Heather A. H. Haemig</td>
<td></td>
</tr>
<tr>
<td>Gary M. Dunny</td>
<td></td>
</tr>
<tr>
<td>C-Signal Control of Aggregation and Sporulation</td>
<td>51 (14)</td>
</tr>
<tr>
<td>Dale Kaiser</td>
<td></td>
</tr>
</tbody>
</table>
The Dif Chemosensory System Is Required for S Motility, Biofilm Formation, Chemotaxis, and Development in Myxococcus xanthus
Lawrence J. Shimkets

Heterocyst Development and Pattern Formation
M. Ramona Aldea
Krithika Kumar
James W. Golden

Diverse Cell-Cell Signaling Molecules Control Formation of Aerial Hyphae and Secondary Metabolism in Streptoloinycetes
Joanne M. Willey
Justin R. Nodwell

Metabolites as Intercellular Signals for Regulation of Community-Level Traits
Russell D. Monds
George A. O’Toole

II. CELL-CELL SIGNALING IN MUTUALISTIC AND PATHOGENIC ASSOCIATIONS WITH HUMANS, ANIMALS, AND PLANTS

LuxR-Type Proteins in Pseudomonas aeruginosa Quorum Sensing: Distinct Mechanisms with Global Implications
Martin Schuster
E. P. Greenberg

Quorum Sensing in Vibrio cholerae Pathogenesis
Fiona R. Stirling
Zhi Liu
Jun Zlm
Signal Integration and Virulence Gene Regulation in Staphylococcus aureus  
Edward Geisinger  
Richard P. Novick
Quorum Sensing in the Soft-Rot Erwinias  
Sarah J. Coulthurst  
Rita E. Monson  
George P. C. Salmond
Role of Quorum-Sensing Regulation in Pathogenesis of Pantoea stewartii subsp. stewartii  
Susanne B. von Bodman  
Aurelien L. Cartier  
Ann M. Stevens
Cell-to-Cell Communication in Rhizobia: Quorum Sensing and Plant Signaling  
J. Allan Downie  
Juan E. Gonzalez
Quorum Signaling and Symbiosis in the Marine Luminous Bacterium Vibrio fischeri  
E. V. Stabb  
A. Schaefer  
J. L. Bose  
E. G. Ruby
Acylated Homoserine Lactone Signaling in Marine Bacterial Systems  
Elisha M. Cicirelli  
Holly Williamson  
Karen Tait  
Clay Fuqua
III. PRODUCTION, DETECTION, AND QUENCHING OF CHEMICAL SIGNALS

Acyl-Homoserine Lactone Biosynthesis: Structure and Mechanism
Mair E.A. Churchill
Jake P. Herman

Cell-Cell Signaling within Crown Gall Tumors
Stephen C. Winans

A New Look at Secondary Metabolites
Michael G. Surette
Julian Davies

Signal Integration in the Vibrio harveyi and Vibrio cholerae Quorum-Sensing Circuits
Brian Hammer
Bonnie L. Bassler

Signal Trafficking with Bacterial Outer Membrane Vesicles
Lauren Mashburn-Warren
Marvin Whiteley

Cooperative Regulation of Competence Development in Streptococcus pneumoniae: Cell-to-Cell Signaling via a Peptide Pheromone and an Alternative Sigma Factor
Marco R. Oggioni
Donald A. Morrison

The A Factor Regulatory Cascade That Triggers Secondary Metabolism and Morphological Differentiation in Streptomyces
Sueharu Horinouchi
Quorum Quenching: Impact and Mechanisms
Lian-Hui Wang
Yi-Hu Dong
Lian-Hui Zhang

Quorum-Sensing Inhibition
Staffan Kjelleberg
Diane McDougald
Thomas Bovbjerg Rasmussen
Michael Givskov

IV. EUKARYOTIC QUORUM SENSING AND INTERACTIONS WITH QUORUM-SENSING BACTERIA
Interdomain Cross Talk
Carla Cugini
Roberto Kolter
Deborah A. Hogan

Intercellular Signaling by Rhomboids in Eukaryotes and Prokaryotes
Matthew Freeman
Philip Rather

Quorum Sensing in Fungi
Claire C. Tseng
Gerald R. Fink

Quorum Sensing in Rotifers
Julia Kubanek
Terry W. Snell

``Quorum Sensing'' in Honeybees: Pheromone Regulation of Division of Labor
Yves Le Conte
Zachary Huang
Gene E. Robinson

Index 469