## Caister Academic Press



# Corynebacterium glutamicum

From Systems Biology to Biotechnological Applications

Edited by: A Burkovski x + 198 pp, May 2015

Hardback: ISBN 978-1-910190-05-0 £159, \$319 Ebook: ISBN 978-1-910190-06-7 £159, \$319

Topics: • Trends in Corynebacterium glutamicum Research and Application • Proteomics of Corynebacterium glutamicum • Developing Interpretation of Intracellular Metabolism of Corynebacterium glutamicum by Using Flux Analysis Technology • Growth and Production Capabilities of Corynebacterium glutamicum: Interrogating a Genome-scale Metabolic Network Model • Metabolic Engineering of Corynebacterium glutamicum for Alternative Carbon Sources (Utilization • Manipulation of Nitrogen Metabolism and Alternative Nitrogen Sources for Corynebacterium glutamicum • Transport, Degradation and Assimilation of Aromatic Compounds and their Regulation in Corynebacterium glutamicum • Engineering Corynebacterium glutamicum for Production of Organic Acids and Alcohols • Microbial Factory for the Production of Polyesters: A New Platform of Corynebacterium glutamicum • Biotechnological Application of Corynebacterium glutamicum Under Oxygen Deprivation • Corynebacterium glutamicum as a Platform Organism for the Secretory Production of Heterologous Proteins • Genetically-encoded Biosensors for Strain Development and Single Cell Analysis of Corynebacterium glutamicum



# **Antifungals**

From Genomics to Resistance and the Development of Novel Agents
Edited by: AT Coste, P Vandeputte

x + 334 pp, April 2015

**Hardback**: ISBN 978-1-910190-01-2 £159, \$319 **Ebook**: ISBN 978-1-910190-02-9 £159, \$319

Topics: • Molecular Mechanisms of Resistance of Candida spp. to Membrane-targeting Antifungals • Point Mutations and Membrane-targeting Antifungals Resistance in Aspergillus fumigatus and other non-Candida Species • Echinocandins: Resistance Mechanisms • Biofilms and Antifungal Resistance • Drug Combinations as a Strategy to Potentiate Existing Antifungal Agents • Approaches to Detect Alternative Mechanisms of Resistance to Systemic Antifungals • New Antifungal Discovery from Existing Chemical Compound Collections • Exploring New Insights into Fungal Biology as Novel Antifungal Drug Targets • Strategies for the Identification of the Mode-of-action of Antifungal Drug Candidates • Genome Integrity: Mechanisms and Contribution to Antifungal Resistance • Modulation of the Host Response to Control Invasive Fungal Infections • Antifungal Vaccines and Immunotherapeutics • Animal Models to Study Fungal Virulence and Antifungal Drugs



#### **Antibiotics**

**Current Innovations and Future Trends** Edited by: S Sánchez, AL Demain xii + 430 pp, January 2015

**Hardback**: ISBN 978-1-908230-54-6 £180, \$360 **Ebook**: ISBN 978-1-908230-55-3 £180, \$360

Topics: • What is an Antibiotic? • Main Applications of Antibiotics • Microorganisms Producing Antibiotics • The Need for New Antibiotics • Tackling Antibiotic Resistance • Eradication of Dormant Pathogens • Toxicity of Antibacterial Drugs • Overuse of Antibiotics: Non-medical Applications • Antibiotics for Emerging and Re-emerging Diseases • Endophytes as a Potential Source of New Antibiotics • Antibiotics from Micro-organisms from Hot springs/Geysers • New Sources of Antibiotics: Caves • Animal Venoms as Natural Sources of Antimicrobials • New Targets for Antibiacterial Compounds • Novel Antimicrobial and other Bioactive Metabolites Obtained from Silent Gene Clusters • Combinatorial Biosynthesis for Antibiotic Discovery • Lantibiotics and Other Antibacterial Peptides • Antiviral Compounds of Natural Origin • New Compounds with Antibacterial Activity • Use of Antibiotic Core Structures to Generate New and Useful Macrolide Antibiotics • Antibiotics in the Pipeline

"a useful resource" (Book News)



### Biofuels

From Microbes to Molecules Edited by: X Lu x + 248 pp, July 2014

Hardback: ISBN 978-1-908230-45-4 £159,

\$319

Ebook: ISBN 978-1-908230-63-8 £159, \$319

Topics:• Metabolic Engineering: Key for Improving Biological Hydrogen
Production • Biogas Producing Microbes and Biomolecules • Engineering
Recombinant Organisms for Next-generation Ethanol Production • Production of
Biobutanol, from ABE to Syngas Fermentation • Higher Chain Alcohols from Nonfermentative Pathways • Isoprene-derived Biofuels from Engineered Microbes •
Engineering Microbial Fatty Acid Biosynthetic Pathways to Make Advanced
Biofuels • Biofuel Production by Genetically Engineered Cyanobacteria

"a timely overview" (Biotechnol. Agron. Soc. Environ.)



### Probiotics and Prebiotics

Current Research and Future Trends Edited by: K Venema, AP Carmo

c. 560 pp, August 2015

**Hardback:** ISBN 978-1-910190-09-8 £180, \$360 **Ebook:** ISBN 978-1-910190-10-4 £180, \$360

Topics: • Probiotics and Prebiotics: Current Status and Future Trends • Functional Aspects of Prebiotics and the Impact on Human Health • Lactobacilli as Probiotics: Discovering New Functional Aspects and Target Sites • Bifidobacteria: Regulators of Intestinal Homeostasis • Propionibacteria also have Probiotic Potential • Non-LAB Probiotics: Spore Formers • Mechanisms of Action of Probiotic Yeasts • Yeasts as Probiotics: Established in Animals, but What About Man? • Escherichia coli: More Than A Pathogen? • The Paradoxical Role of Enterococcus Species in Foods • Use of recLABs: Good Bugs to Deliver Molecules of Health Interest. From Mouse To Man The Indigenous Microbiota and its Potential to Exhibit Probiotic Properties • Improving the Digestive Tract Robustness of Probiotic Lactobacilli • Biology of Reactive Oxyger Species, Oxidative Stress, and Antioxidants in Lactic Acid Bacteria • Functional Aspects of the Endogenous Microbiota that Benefit the Host • Studying the Microbiota and Microbial Ecology of the Gastrointestinal Tract in the Omics Era: Tools for Stools Metagenomics of the Gut Microbiota as a Tool for Discovery of New Probiotics and Prebiotics • Emerging Applications of Established Prebiotics: Promises Galore • Prebiotics: Technological Aspects and Human Health • New and Tailored Prebiotics: Established Applications • Immunomodulating Effects of Prebiotics and Fibres Prebiotics Beyond Fibers • Synbiotics: More Than Just the Sum of Pro- and Prebiotics? • Pro- and Prebiotics: The Role of Gut Microbiota in Obesity • The Role of the Gut Microbiota in Brain Function • Infant Development, Currently the Main Applications of Probiotics And Prebiotics? • Pro- and Prebiotics in Management of Patients with Irritable Bowel Syndrome • Pro- and Prebiotics for Oral Health • Cholesterol-lowering Effects of Probiotics and Prebiotics • Perspectives on Differences Between Human and Livestock Animal Research in Probiotics and Prebiotics • The Use of Probiotics to Enhance Animal Performance • Pharmaceutical Aspects of Probiotics and Prebiotics • Is The Sky The Limit? • Web Resources

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## Thermophilic Microorganisms

Edited by: F Li c. 250 pp, August 2015

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Topics: • Ecology and Genetics of Deep-sea Thermophiles • Diversity of Thermophilic Microorganisms and Their Roles in Carbon Cycle • Biochemical Properties and Applications of Heat-active Biocatalysts • Lignocellulosic Biomass Deconstruction by the Extremely Thermophilic Genus Caldicellulosiruptor • Cellulases from Thermophilic Fungi • Alcohol Dehydrogenases and their Physiological Functions in Hyperthermophiles • Roles of Polyamines in Thermophiles • DNA Replication in Thermophilic Microorganisms • Metabolic Engineering of Thermophiles for Biofuel Production • Thermophilic Viruses and Their Association with Thermophiles



# Halophiles

Genetics and Genomes

Edited by: RT Papke, A Oren xii + 196 pp, May 2014

Hardback: ISBN 978-1-908230-42-3 £159, \$319 Ebook: ISBN 978-1-908230-65-2 £159, \$319

Topics: • Ecology and Evolution of Haloquadratum walsbyi Through the Lens of Genomics and Metagenomics • Salinibacter ruber: The Never Ending Microdiversity? • Horizontal Gene Transfer in Halobacteria • Comparative Genomics of Haloarchaeal Viruses • Microbial Adaptation to Saline Environments: Lessons from the Genomes of Natranaerobius thermophilus and Halobacillus halophilus • Staying in Shape: The Haloarchaeal Cell Wall • Cell Cycle and Polyploidy in Haloarchaea • Cell Regulation by Proteolytic Systems and Protein Conjugation

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# The Cell Biology of Cyanobacteria

Edited by: E Flores, A Herrero x + 308 pp. May 2014

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"up-to-date information" Book News; "I recommend this book" (Biospektrum)



### Omics in Soil Science

Edited by: P Nannipieri, G Pietramellara, G Renella x + 198 pp, January 2014 Hardback: ISBN 978-1-908230-32-4 £159, \$319 Ebook: ISBN 978-1-908230-94-2 £159, \$319

Topics: • Soil as a Biological System • Functional Genomics Analysis of Key Bacterial Traits Involved in Rhizosphere Competence during Microbial-Host Interactions • Soil Metagenomics: Potential Applications and Methodological Problems • Screening Phylogenetic and Functional Marker Genes in Soil Microbial Ecology • Soil Metatranscriptomics • Soil Proteomics • Soil Volatile Organic Compounds as Tracers for Microbial Activities in Soils • Proteogenomics: a New Integrative Approach for a Better Description of Protein Diversity Found in Soil Microflora • Analysis of Soil Metagenomes using the MEtaGenome ANalyzer (MEGAN) • Classical Techniques versus Omics Approaches

"a recommended reference" (Biotechnol. Agrom. Soc. Environ.); "a must for Soil scientists" (Fungal Diversity)

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