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Nota di contenuto	Wastewater treatment development / Guanghao Chen, Mark C.M. van Loosdrecht, George A. Ekama and Damir Brdjanovic --Basic microbiology and metabolism / David G. Weissbrodt, Michele Laurenzi, Mark C.M. van Loosdrecht and Yves Comeau --Wastewater characteristics / Eveline I.P. Volcke, Kimberly Solon, Yves Comeau and Mogens Henze --Organic matter removal / George A. Ekama and Mark C. Wentzel --Nitrogen removal / George A. Ekama, Mark C. Wentzel and Mark C.M. van Loosdrecht --Enhanced biological phosphorus removal / Carlos M. Lopez-Vazquez, Mark C. Wentzel, Yves Comeau, George A. Ekama, Mark C.M. van Loosdrecht, Damir Brdjanovic and Adrian Oehmen --Innovative sulphur-based wastewater treatment / Hui Lu, Di Wu, Tianwei Hao, Ho Kwong Chui, George A. Ekama, Mark C. M. van Loosdrecht and Guanghao Chen --Wastewater disinfection / Ernest R. Blatchley III --Aeration and mixing / Diego Rosso, Michael K. Stenstrom and Manel Garrido-Baserba --Bulking sludge / Mark C.M. van Loosdrecht, Antonio M. Martins, and George A. Ekama --Aerobic granular sludge / Mario Pronk, Edward J.H. van Dijk and Mark C.M. van Loosdrecht --Final settling / Imre Takacs and George A. Ekama -- Membrane bioreactors / Xia Huang, Fangang Meng, Kang Xiao, Hector A. Garcia, and Jiao Zhang --Modelling activated sludge processes / Mark C.M. Van Loosdrecht, George A. Ekama, Carlos M. Lopez Vazquez,

Sebastiaan C.F. Meijer, Christine M. Hooijmans and Damir Brdjanovic -- Process control / Gustaf Olsson and Pernille Ingildsen -- Anaerobic wastewater treatment / Jules B. van Lier, Nidal Mahmoud and Grietje Zeeman -- Modelling biofilms / Jules B. van Lier, Nidal Mahmoud and Grietje Zeeman -- Biofilm reactors / Kim Hellestøj Sørensen and Eberhard Morgenroth.

Sommario/riassunto

The first edition of this book was published in 2008 and it went on to become IWA Publishing's bestseller. Clearly there was a need for it because over the twenty years prior to 2008, the knowledge and understanding of wastewater treatment had advanced extensively and moved away from empirically-based approaches to a fundamental first-principles approach based on chemistry, microbiology, physical and bioprocess engineering, mathematics and modelling. However the quantity, complexity and diversity of these new developments was overwhelming for young water professionals, particularly in developing countries without readily available access to advanced-level tertiary education courses in wastewater treatment. For a whole new generation of young scientists and engineers entering the wastewater treatment profession, this book assembled and integrated the postgraduate course material of a dozen or so professors from research groups around the world who have made significant contributions to the advances in wastewater treatment.
