

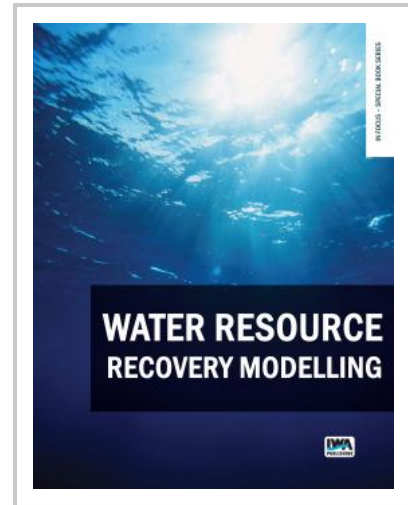
Water Resource Recovery Modelling

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As our infrastructure transitions from wastewater treatment to resource recovery, so must our models evolve to address the needs this transition brings. Nutrient recovery, energy production or neutrality, biomass specialization for new conversion pathways, green-house gas mitigation and more stringent effluent limits for water reclamation are driving new model development efforts and increasingly sophisticated applications of modelling. These new needs enlarge the range of biological, physical and chemical mechanisms that we need to consider in our models. Exchanging and capitalizing on this knowledge are key challenges for modellers that will bring benefits to design, operation, teaching and research.

These nine chapters were selected for this book as they contribute to various aspects of the field of modelling water resource recovery facilities (WRRFs). This includes a review on the outlook and challenges of WRRF modelling; plant-wide aspects of modelling; modelling biofilms for MBBRs; biological nutrient removal systems; process controls; compartmental modelling and thermal hydrolysis processes.

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