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Cover photograph (Copyright © 2011, American Society for Microbiology. All Rights Reserved.): Dark-field photomicrograph of a thin section of an aerobic granule. Large bacterial cluster structures, shown in pink/purple, dominate the outer landscape of the granule. Aerobic granules are dense microbial aggregates with the potential to become the core component of next-generation plants/reactors for the treatment of low-strength wastewaters. “*Candidatus Accumulibacter phosphatis*,” a bacterium responsible for enhanced phosphorous removal, comprises a large proportion of the microbial population of the granules. The dynamics of the microbial community and the phosphorous removal activity differ notably in granules cultivated with propionate or acetate in bubble column reactors. Photo by G. Gonzalez-Gil. (See related article on page 8041.)