

**Characteristics of Microbial Communities in Biomethanization Processes** – Agnieszka Rożej, Agnieszka Montusiewicz, Magdalena Lebiocka

Summary

Biomethanization of mixed organic substances is the effect of coexistence of numerous groups of microorganisms. Methanogenic degradation of such substances involves at least three different trophic groups of anaerobes, namely fermentative heterotrophs, proton-reducing syntrophs and methanogenic archaea. The development of molecular techniques allowed to detect some new groups of bacteria and archaea, which often stay unculturable. The cultivation of uncultured organisms is of great significance in recognizing the function of these organisms. In the past few years, newly discovered microorganisms have been successfully isolated from anaerobic sludges, and the information regarding their physiology in connection with phylogeny is updated regularly.