

Characterisation of Sludge Rheology and Sludge Mixing in Gas-mixed Anaerobic Digesters

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Propositions

Accompanying the dissertation

Characterisation of Sludge Rheology and Sludge Mixing in Gas-mixed Anaerobic Digesters

By Peng Wei

1. Flow and mixing assessment in full-scale anaerobic digesters considerably relies on appropriate rheological characterisation at low shear rates. (this thesis)
2. Model reliability cannot bend to the validation results, but should rely on uncertainty or inconsistency between the model setup and experimental conditions. (this thesis)
3. Regarding an engineering-oriented model, predictions of tendency or sensitivity rather than data accuracy are more important.
4. Challenge is like a yield-pseudoplastic fluid: you have to overcome the yield stress; then, the more force you use, the less you feel.
5. Commercial software is like a friend, when you are dedicated to work with it, you know what is reliable or what is fake; but in deep, there is still something unshared with you.
6. Innovation will happen when you hold all known with doubts, or even hold nothing known; but will not happen when you hold some known without any doubt.
7. For an environmental scientist, publication of results can be a stop-over, but finding a solution for an environmental problem should be the destination.
8. The ceiling of your vision is not determined by what you can see or accept, but by what you cannot.
9. In the COVID pandemic time, what we should learn is not only about self-protection, mutual understanding and support, but also about respect to nature.
10. Internet and modern social media help us to gain more information, but not more truth.

These propositions are regarded as opposable and defendable, and have been approved as such by the promoters Prof.dr.ir. J.B. van Lier, Prof.dr.ir. M.K. de Kreuk, and Prof.dr.ir. W.S.J. Uijttewaal.