

Stirred, Not Shaken; Mixing Myths in the Process Industries

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Abstract

The field of mixing has advanced significantly in recent years, especially the ability to select impellers appropriate to certain mixing tasks, “Process result”. Yet much of this increased understanding does not seem to have reached many industrialists or academics. It is suggested that the failure to recognise these advances is related to much of the earlier and extensively published work, especially concepts associated with impeller ‘flow’ and ‘shear’. The latter is especially misleading in bioprocessing. This lecture will discuss these issues in some depth and briefly cover some other traditional mixing ‘beliefs’ that have now been superseded. The importance of these misconceptions to the bioprocess industries (bacterial and mycelial fermentations, animal cell culture, gene therapy production, protein formulation) will also be outlined.