



The Institution of Engineers, Malaysia

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TALK ON

“Enzyme Immobilization Technology”

Organised by the Agricultural and Food Engineering Technical Division, IEM

BEM Approved CPD/PDP Hours: 2 Ref No: IEM16/HQ/281/T

Date : 9th Aug 2016 (Tuesday)
Time : 5.30 pm – 7.30 pm (*Refreshments will be served at 5.00 pm*)
Venue : C&S & TUS Lecture Room, 2nd Floor, Wisma IEM, Petaling Jaya, Selangor
Speaker : Dr. Mohd Noriznan Bin Mokhtar, Grad IEM

SYNOPSIS

Enzymes are well-known as green biocatalysts and sustainable technology that possess of high degree of specificity, selectivity and efficiency, which enables them to discriminate between substrates, molecules, and optical isomers. Unfortunately, free or native enzyme application is relatively expensive, chemically or thermally unstable, and difficult for handling, purification and reuse. Enzyme immobilization is a special technique to solve enzymatic problems (in the application of native enzyme). There are two main reasons why enzyme immobilization has the potential to be implemented in an effective way: i) immobilization facilitates separating between enzyme molecule and product, and ii) immobilization improves enzyme reusability. There are several immobilization techniques such as entrapment, encapsulation, adsorption, cross-linking, and covalent binding. The selection of immobilization techniques and immobilization support plays important role in the immobilized enzyme loading, enzyme stability and enzymatic performance. In this talk, the preparation of enzyme immobilization, design of immobilized bioreactor system and enzymatic process performance will be discussed in detail.

BIODATA OF SPEAKER



M.N. Mokhtar obtained B.Eng. in Chemical and Process Engineering from Universiti Kebangsaan Malaysia in 2000. In 2004, he obtained M.Sc. degree in Chemical Engineering with specialization of Biochemical Engineering from Technische Universität Dortmund, Germany. His master thesis related to the study on dynamic mathematical modeling and simulation of enzymatic process using packed bed reactor. In 2009, he received his *Doktoringenieur* (Ph.D.) in Bioprocess Engineering from Technische Universität Chemnitz, Germany. His Ph.D. research focused on the enzymatic production and separation of large-ring cyclodextrins produced from starch. Since 2009, he is a senior lecturer, and currently as head of Department of Process and Food Engineering, Faculty of Engineering, Universiti Putra Malaysia. He published 35 CIJ journals and 5 patents related to bioresource and bioprocess engineering. He is graduate member of IEM, associate member of IChemE and member of Association of German Engineers (VDI).

Ir. Yong Hong Liang
Chairman
Agricultural and Food Engineering Technical Division, IEM

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- Preferential admission to talk shall be accorded to IEM members (pre-registration and online registration are NOT required). Telephone and/or fax reservation will NOT be entertained.
- Non members may also attend the talk but will need to pay a registration fee of RM50 and an administrative fee of RM15. GST is inclusive.
- For members of affiliated organisations, there will be no registration fee payable. However, they are requested to produce their membership card as proof of membership. For the list of affiliated organisations, please refer to IEM website at www.myiem.org.my under International/MoU.
- Limited seats are available on a "first come first served" basis (maximum 100 participants).
- IEM members are required to produce membership cards for confirmation of attendance (CPD purpose).
- Latecomers will not be allowed to enter if the lecture hall is full nor be entitled to CPD.
- *IEM members who fail to produce their membership cards will be charged a fee of RM25.00. GST is inclusive.*

ADMINISTRATIVE FEE

- Kindly be informed that an administrative fee of RM15 is payable for talks organized by IEM. GST is inclusive.
- The fee would be used to cover overhead costs, building maintenance expenses as well as contribute to Wisma IEM Building Fund.
- All contributions will be deeply appreciated by IEM.
- Student Members are however exempted.

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