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INTEGRATED CHEMICAL BIOPHYSICS RESEARCH

At **Integrated Chemical Biophysics Research (iCheBP),** we are looking at research topics through multidisciplinary lens. Researchers in various background comprising of **Chemistry**, **Physics** and **Biology** experts come together to find solutions for pertinent issues in drug design, development and delivery including toxicity study. Some of these studies are aided by theoretical calculation and modeling to gain better in sight of the mechanisms and interactions that play major roles. Along these processes we hope that we will lead the way towards better drug candidates and better science.

iCheBP research efforts are divided into three divisions: **Synthesis and Bioactive Materials, Nano Smart Delivery** and **Macromolecular Simulation**

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SYNTHESIS AND BIOACTIVE MATERIALS

The Synthesis and Bioactive Materials group aims to address a range of exciting challenges at the interface between chemistry and biology

Members:

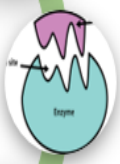
Dr. Haslina Ahmad

Dr. Emilia Abd Malek (**Head**)

Dr. Siti Efliza Ashari

Research Activities

Development of novel DNA probes and organic or inorganic based drug candidates for diabetic, anticancer, antibiotics etc



Enzymatic synthesis and optimization

Development of novel peptides as catalysts for organic reactions, wound treatment etc.

Current Postgraduate Students	PhD:	6
	MSc:	5

Total Amount of Research Grants
RM 693,700

Total Number of CIJ	30

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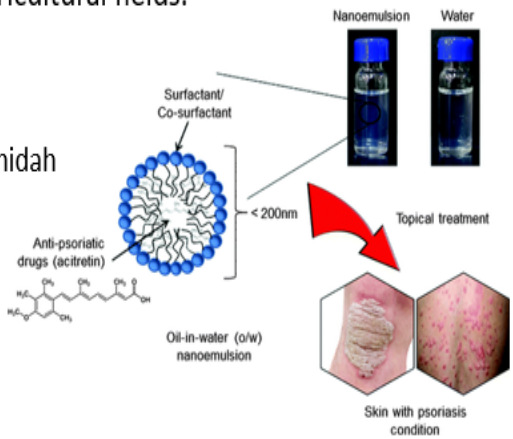
NANO SMART DELIVERY

The Nano Smart Delivery group aims to develop an effective nanodelivery system for actives to be used in the cosmeceuticals, pharmaceuticals and agricultural fields.



Members:

Dr. Norazlinaliza Salim

Dr. Che Azurahanim Che Abdullah

Dr. Wan Norhamidah Wan Ibrahim

Research Activities

Development and optimization of nano formulation loaded with different applications

- Pharmaceutical: anti-epilepsy, anti-psoriatic and anti-cancer drugs.
- Cosmeceutical: antioxidant, anti-aging and anti-acne.
- Agricultural: pesticides and herbicides

Ethics application and evaluation of nanoformulation *In-vitro* and *in-vivo*

Current Postgraduate Students	PhD:	3
	MSc:	5

Total Amount of Research Grants
RM 2,123,000

Total Number of CIJ	22

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MACROMOLECULAR SIMULATION

The Macromolecular Simulation group focuses on fundamental research at the atomic level using theoretical and computational chemistry methods for the design of new and functionalized nano-porous, bio-active materials as well as protein dynamics, drug discovery and drug delivery.

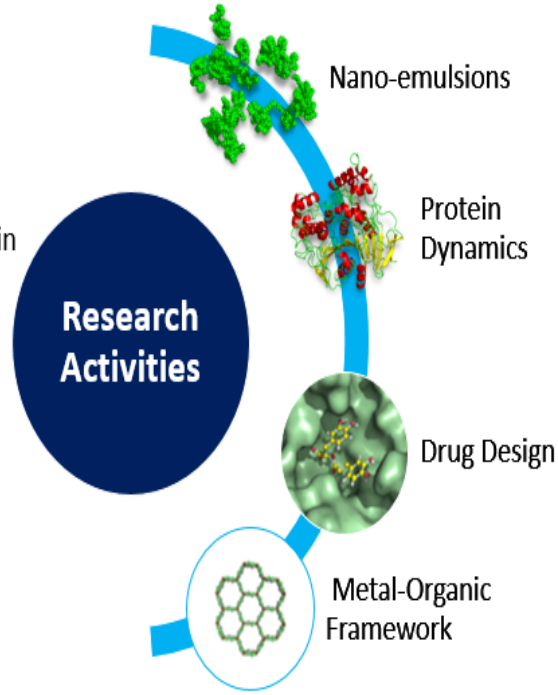
Members:

Dr. Muhammad Alif Mohammad Latif

Prof. Dr. Mohd Basyaruddin Abdul Rahman

Dr. Nurhana Faujan (associate)

Dr. Mohd Farid Ismail (associate)



Current Postgraduate Students	PhD:	5
	MSc:	2

Total Amount of Research Grants
RM 124,000

Total Number of CIJ	10