HICoE HIGHER INSTITUTION CENTRE of EXCELLENCE

INFORMM

INSTITUTE FOR RESEARCH IN MOLECULAR MEDICINE

USM

UNIVERSITI SAINS MALAYSIA

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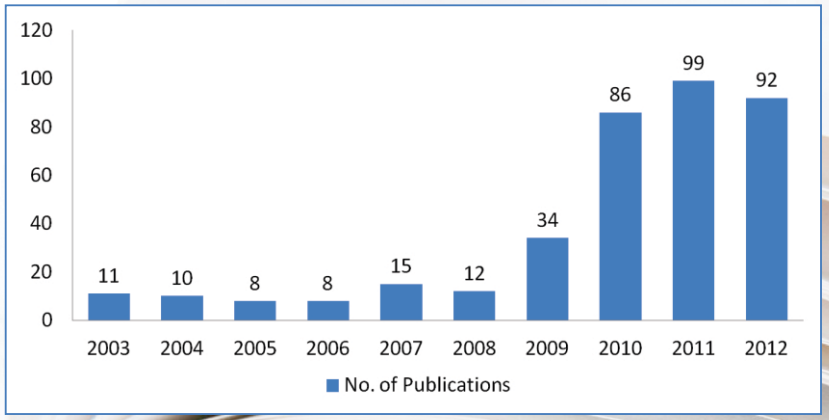
INFORMM AT A GLANCE

- ***Total number of academic staff: 24***
- ***Total number of support staff: 42***
- ***Total amount of research grants received (2003-Sept 2013): RM30 million (USD 9.0 million)***
- ***Total number of commercialized products: 3***
- ***Total number of international awards : 48***
- ***Total number of national awards : 35***
- ***Total number of patents granted : 16***
- ***Total number of patents filed : 44***
- ***Total number of postgraduate students enrolled from 2003 to September 2013: 150***

INFORMM's Publications 2003 – 2012
Cumulative Impact Factor: 480.08
Cumulative Citations: 1032



Post Graduate Studies at INFORMM

INFORMM offers postgraduate courses by research at both M.Sc. and Ph.D levels. Research topics are usually centered around the areas covered by the three research clusters at INFORMM. Postgraduate students perform their research in well-equipped laboratories in a conducive environment. Students have the opportunity to acquire training in research methods, broad based as well as specialized knowledge and laboratory skills that make them well equipped in for their future careers. Students also acquire ancillary soft skills and knowledge like public speaking and making effective presentations, project planning, exposure to an ISO regulated environment, and, exposure to research, medical and animal ethics. Apart from academic training, students have the opportunity to be involved in community engagement projects which gives the students the opportunity to realise the relevance of their expertise, knowledge, skills, resources and facilities to the needs of both society and the market place. Students may also have the opportunity to be attached to INFORMM's collaborators like the Academia Sinica of Taiwan and RIKEN through appropriate fellowships.

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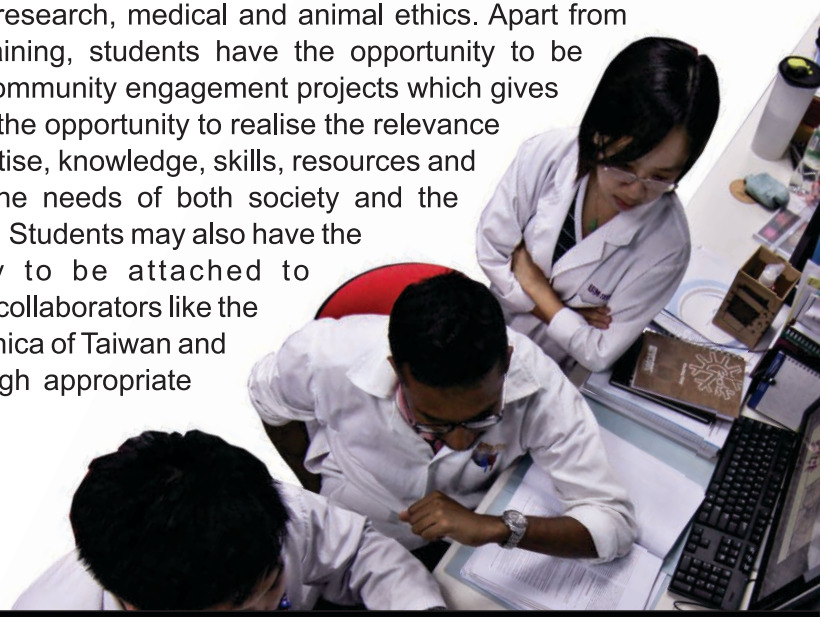


INFORMM is also currently making preparations to offer an M.Sc Mixed-Mode program in 2015/2016. As the details of this program is finalised, it will become available on our website.

Further details of INFORMM and our research can be found at www.informm.usm.my. For enquiries please contact us at admin_informm@usm.my or via telephone at +06097672402/+6046534801

Diagnostic for Infectious Diseases

This is another strong research area in INFORMM, with good track record as it has achieved research breakthroughs in discovering biomarkers for typhoid and filiariasis. The focus area of this cluster is to expand into biomarker discovery and diagnostics into other infectious and parasitic diseases that affect people in low resource settings, using the latest research tools available. Along with biomarker discovery, new diagnostic tests can be associated with relevant treatment options to combat these infectious diseases, especially re-emerging ones where drug resistance has become a problem.

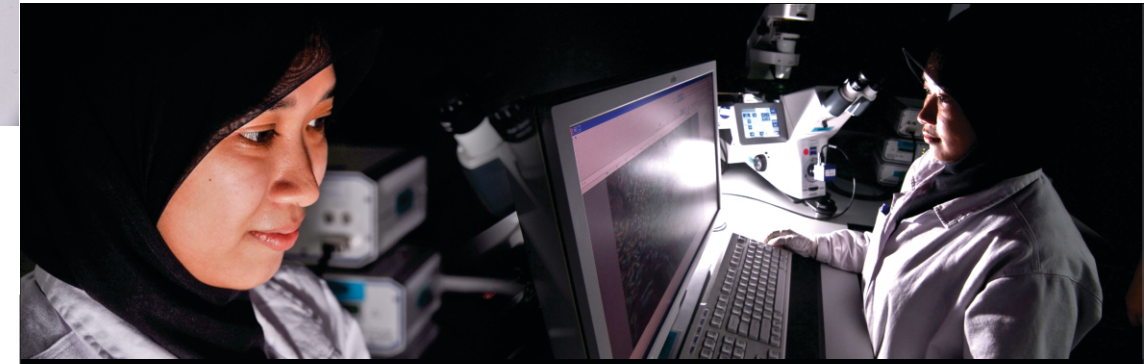
Biomaker Discovery and Novel Therapeutics

Medicine has evolved from its traditional drug based treatments to new novel therapies today, ranging from gene therapy to personalized medicine. Novel therapies enable a more targeted approach towards treatment of diseases thus leading to potential therapeutic candidates minus the side effects developed by conventional drug based treatments. INFORMM now has the critical mass in scientists, trained in vaccine design and development. This cluster seeks to spearhead research in design and development of vaccines for diseases affecting humans and animals and has developed the necessary collaborations and partners for this challenging research.

BACKGROUND

INFORMM started as a multi-disciplinary cluster-based research programme spearheaded by 11 main researchers from the USM Health Campus in Kelantan. The achievements and track record of the cluster was audited in 2001. The cluster met the stringent criteria imposed of the audit and hence in 2003, the Institute for Research in Molecular Medicine (INFORMM) was established following a formalised recognition accorded by the University and the then Ministry of Higher Education. This was also the first time in the history of USM that an institute was formed “bottom-up” through the efforts of a group of researchers in a cluster.

From the initial members of the loose research cluster, INFORMM now boasts 24 full-time PhD qualified lecturers. The multidisciplinary character of the institution has been maintained and is reflected in the recruitment of its younger staff members, who have been trained in the latest techniques in biotechnology and molecular biology, ranging from recombinant antibody development, protein expression and characterization, in silico modelling, biomarker discovery and nanobiotechnology.



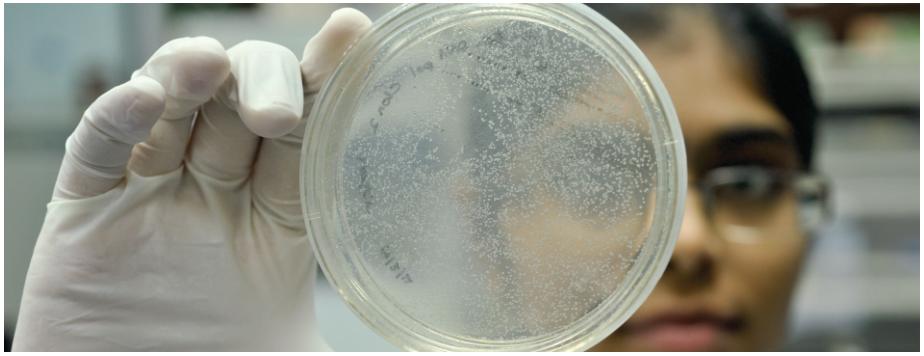
INFORMM is also unique in USM in that it has two physical facilities, one in the Health Campus in Kelantan and the other at the Main Campus in Penang. This allows INFORMM to benefit from close collaboration with scientists from the basic sciences and engineering faculties as well as having access to the rich resources afforded by its presence in the Health Campus.

INFORMM as a HiCoE

INFORMM adopts the R-D-C-E concept in its research and innovation where research, development and innovation are performed under one roof, to bring the innovation to the market place in a timely manner. This has allowed it to achieve a measure of success in the invention and commercialization of diagnostic kits for the rapid diagnosis of typhoid and filariasis. Based on these initial successes, INFORMM was awarded the status of a HICoE (Higher Institution Centre of Excellence) by the Ministry of Higher Education in 2010, an honour afforded to only five other institutions in the country. This special status guaranteed research allocations for an initial period of three years to enable the institution to achieve a regional and global presence in the research arena.

Research at INFORMM

As a research institution existing and competing in the global arena, INFORMM adopted the Blue Ocean Strategy to determine its research direction and boldly explore markets lacking in competition. INFORMM's Blue Ocean Strategy revolves around performing research into the causes, treatment, prevention and diagnostics of infectious diseases affecting people in low resource countries where more than half of the world's population are located.



Research at INFORMM is organized into **three research clusters:**

Diagnostics Platform Development

INFORMM constantly seeks to invent and innovate diagnostic platforms for DNA and protein based diagnostic tests. Traditionally the strength of INFORMM, the diagnostics platform continues to lead the way to achieve more significant regional and global presence. Diagnostics from INFORMM are sustainable point-of-care diagnostics which are original, of high quality and affordable. Developments in this cluster acts as an enabler for biomarkers and diagnostics tests to be developed for use and commercialization. Current research interests include utilizing the latest antibody design and development, microfluidic and nanoparticle based technology into its diagnostic tests and kit development.