

President's Report

2013

21 Years of Innovation & Excellence





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Message from the President

The International Medical University (IMU) has had another successful year. The student population is at the time of writing, about 3,500 with an increasing number of international students. This had been the result of additional efforts by IMU to recruit more students from overseas, in adherence to the government policy. This is good as it increases the diversity and enriches the student experience.

The various courses at IMU continues to receive strong support, as evidenced by the number of applications received for the different courses. The postgraduate courses have also been well supported, and we have about 62 students doing PhD by research and 31 students doing the taught Masters programmes. We are also increasing the number of taught Masters programmes.

Research

The research at IMU continues to do very well as seen by the success in obtaining external research grants, and the number of publications and presentations in 2013. Undergraduate student research is also very active, and have contributed to the energy and vibrancy of the research environment at IMU.

Community Services

IMU's vision of producing graduates that can take a leadership role and make a difference to the community can be realised in many ways. One way to be of service to the community will be through the "IMU Cares" programme. There are now numerous such activities emanating from champions in the Bukit Jalil, Seremban and Batu Pahat campuses. They are mostly student-led with active support and participation from all categories of IMU staff. These activities have also received strong support from the Khazanah IHH Healthcare fund, which had been specially created after the formation of IHH Healthcare Berhad, the company that owns IMU. This Fund is being used to help communities in Malaysia, Singapore and Turkey in many different ways.

The "IMU Cares" programme is being strengthened to ensure that its organisation, activities and sustainability will be enhanced. It will focus on serving the community in different ways and provide the opportunity for students and staff to contribute their services as well as for them to learn about teamwork, leadership, management, performance as well as to reflect and learn in many different ways. This performance will also be the living expression of the core values of IMU.

Quality

The emphasis on quality in everything that we do will be unending. We have many activities that reflect this. We have also looked at our performance up to 2013, implementing ASPIRE, our five-year plan. We will use this mid-term review of ASPIRE to look and prepare the next five-year plan, and activities have been planned for 2014 for this purpose. It is hoped that the launch of the next five-year plan will be in 2015.

We will look and learn from our past success, and this will help us prepare for the challenges for the future, as we work to continue to be successful as a university, where it is a great place to learn, and a great place to work.



YBhg Tan Sri Dato' Dr Abu Bakar Suleiman

President

MDBS (Monash), MMed (S'pore), DMedSc (UKM), DSc Hon (UPM),
PhD Hon (UMS), FRACP, FAMM, FAMS, FACP (Hon), FRCP, FRCPE, FRCP
(Glasgow), FRCPI, FRCSI (Hon), FRCSE (Hon), FAFPM, FASc, AMP (Harvard)

Our Vision

IMU shall be an innovative global centre of excellence in learning and research, supporting a community of scholars and professionals committed to serving society, promoting the development of students to reach their true potential in becoming competent, ethical, caring and inquiring citizens; and visionary leaders. IMU is committed to academic freedom and the principles of equal opportunity in the pursuit and application of knowledge, the highest standards of intellectual, educational and research productivity; and the establishment of a learning organisation that respects the individual.

Quality Policy

We aim to be an innovative centre of excellence in learning and research, producing competent, caring and ethical professionals who are lifelong learners. We are committed to achieving the highest standards of intellectual, educational and research productivity.

Our Core Values

Our organisational culture is to be based on our value system: We will be an organisation driven by its values. These core values, encapsulated in the acronym **TRUST**, are:

Trustworthy – we are trustworthy and stand for integrity, reliability and commitment

Responsive – to change, and to the needs of individuals and communities

Unity – of vision and in working towards the achievement of common goals

Service – a commitment to providing outstanding service

Tenacity – in the pursuit of excellence

We expect staff and students to embrace, live and demonstrate these values, so that they may become role models. These values are integral to our culture: They underpin our work, communication and interaction, and explain why we do business in the way that we do. Our culture and its embedded values will help us realise our vision of becoming a great organisation, and of producing graduates capable of being leaders.

Chancellor and Pro-Chancellor



Chancellor
YBhg Dato' Seri
Dr T Devaraj

DGPN, DSPN, DJN, KMN, BCK,
PKT MBBS (S'pore), FRCP
(Edin), Dip Pall Med (Cardiff),
FAM (Mal)



Pro-Chancellor
YBhg Dato'
Dr Amir Abbas

(DPMP), Dr Med Sc (Hon)
(UKM), FRCP, DTM&H (L'pool),
FAMM, MBBS (UM – S'pore)

Board of Governors



Chairman
YBhg Tan Sri Dato'
Dr Yahya Awang

MBBS (Monash), FRCS
(Glasgow), SMJ, KMN, DPMJ,
DMPN, DSAP



YBhg Prof Dato'
Dr Gan Ee Kiang

PhD (U Western Australia), PKT,
BCN, JMN, DSPN



YBhg Tan Sri Dato'
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YBhg Datuk
Dr Yeoh Poh Hong

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YBhg Prof Datin Paduka
Dr Aini Ideris

DVM (UPM), MVSc (Liverpool),
PhD (UPM), DSIS, PSK, KMN,
FASc, FIAS, FMCVS, FMSA



Dr Mei Ling Young

BA, MA (Hons) (Auckland) PhD
(ANU)



YBhg Dato' Dr Amir Abbas
(DPMP), Dr Med Sc (Hon) (UKM),
FRCP, DTM&H (L'pool), FAMM,
MBBS (UM – S'pore)



Prof Victor Lim

MBBS (Malaya), MSc (London),
MRCPPath, FRCPath, FAMM, FASc

Senate



YBhg Tan Sri Abu Bakar Suleiman
(Chairman)

President

Dr Mei Ling Young

Provost

Prof Peter Pook

Vice President

Prof Abdul Aziz Baba

Vice President

Prof Victor Lim

Vice President, Education

Prof Mak Joon Wah

Vice President, Research

YBhg Prof Dato' Dr (Mrs) Kew Siang Tong

Dean, School of Medicine

Prof Toh Chooi Gait

Dean, School of Dentistry

Prof Michael Rathbone

Dean, School of Pharmacy

Prof Khor Geok Lin

Dean, School of Health Sciences

Prof Chu Wan Loy

Dean, Postgraduate Studies & Research

Prof Allan Pau Kah Heng

Prof Ammu Kutty A/P K Radhakrishnan

YBhg Prof Dato' Jai Mohan A/L C.A Nayar

YBhg Prof Dato' Kandasami A/L Palayan

YBhg Prof Dato' Sivalingam A/L Nalliah

Prof Davendralingam A/L Sinniah

Prof Hematram Yadav

Prof Hla Yee Yee

Prof John Tilagachandran Arokiasamy

Prof Khoo Suan Phaik

Prof Lim Pek Hong

Prof Ong Kok Hai

Prof Peter Michael Barling

Prof Peter Roman Paul Diakow

Prof Stephen A/L Periathamby Ambu

Prof Taufik Teng Cheong Lieng

Prof Vishna Devi A/P V Nadarajah

Prof Winnie Chee Siew Swee

Prof Yeoh Peng Nam

By invitation

A/Prof Zainur Rashid Zainuddin

Dean, Clinical School

Ex-officio members

Christy Chiu

Chief Financial Officer

Norma Awang Had

Registrar

Zuhanariah Mohd Nordin

Chief Librarian

Academic Council (AC)

24th Meeting of the Academic Council
10 – 12 March 2013



Top : Academic Council (Medicine)
Bottom : Academic Council (Dentistry)

Academic Council comprises the deans/representatives from the Partner Medical Schools (PMS) and Partner Dental Schools (PDS) and they meet at IMU with senior staff and students of the IMU. It acts as a consultative body with regards to the medical programme of the IMU and makes recommendations on admissions, curriculum, assessment, faculty appointment and professional development. In addition, the AC determines the method of transfer of students to partner schools. Its members serve as contact persons between the IMU and partner schools.

The gathering of the deans/representatives, from the various medical schools from the different countries at the AC meeting is something very special. There is a great sense of camaraderie between the deans/representatives, who normally would not get the opportunity to meet like this.

The remit of AC, amongst others are:

1. To provide advice and recommendations on matters pertaining to the admissions process, curriculum and its delivery, assessment and faculty appointments and development, as well as research and postgraduate training in medical and dental programmes.
2. To monitor and help evaluate the implementation of the IMU medical and dental curricula, especially that of Phase 1.
3. To provide advice on the method of transfer and monitor the transfer of students to all the PMS and PDS.
4. To monitor student performance at both the IMU and the partner medical and dental schools and to provide regular feedback to the IMU on student progress at all the PMS and PDS.

The 24th AC was held from 10-12 March 2013. The Partner Dental School Meeting convened on 10 March 2013 at the Mandarin Oriental Hotel KLCC whilst the main AC meeting was held at the IMU Bukit Jalil Campus on 11-12 March 2013.

During the PDS meeting, Prof Toh Chooi Gait, Dean, School of Dentistry, IMU has given the following updated news to the PDS representatives:

1. The IMU Dental programme had obtained its full accreditation for a maximum duration of three years.
2. The University of Copenhagen is the latest university to join the PDS Consortium and it offers 7 places to the IMU Dental students. The programme at Copenhagen requires students to do 3½ years at the IMU and 2 years in Copenhagen. As a result of this, the School of Dentistry was able to accommodate more students, hence the intake of Dental students has increased this year.
3. The IMU BDS programme had graduated its first cohort. There were 9 students who had completed the programme successfully and were ready to enter the workforce.
4. The first cohort (DT1/10) who transferred to the University of Otago had also graduated in December 2012. There were 15 students in total.
5. There are now 14 Dental Schools in Malaysia comprising of 6 public universities and 8 private institutions. From 1 March 2013 onwards, a moratorium will be introduced to temporarily suspend any development of new dental programme and dental school for the next 5 years.
6. There was planned introduction of dental therapists in Malaysia under the new dental bill.

The meeting also discussed various issues as follows:

1. Introduction of Student Portfolio
2. Peer-Assisted Learning
3. Reflections on Impact of IMU-PDS Partnership Experience
4. Staff and Student Mobility

At the AC main meeting, the delegates were divided into 4 groups for the breakout sessions. The discussions that took place were on the following subjects:

1. Role of IRDI
2. Student Mobility
3. Inter-professional Learning
4. Academic Healthcare

During this meeting, three plenaries were also presented:

1. Update of the Revised Medical Curriculum
2. Student Competency at Point of Transfer
3. Student Preparedness Report

A forum on "Vision for the Future" was also held. Prof Vishna Devi Nadarajah chaired the forum which consisted of five panel members :

- YBhg Prof Dato' Kew Siang Tong from IMU, School of Medicine
- Prof Gary Mires from University of Dundee, School of Medicine
- Prof Craig Zimitat from University of Tasmania, School of Medicine
- Prof Toh Chooi Gait from IMU, School of Dentistry
- A/Prof Camile Farah from University of Queensland, School of Dentistry

The meeting deliberated on details on the issue of Housemanship and Foundation Year at the countries of PMS. This issue was brought up as the Higher Education Funding Council of England (HEFCE) has put a cap on the international student intake, which includes the IMU students who join in at Year 3 or Year 4. As a result, many English PMS have to cut their number of places immediately and this has posed a problem for IMU as the students have already enrolled here in Malaysia.

A possible solution was suggested: IMU, with the support of all UK PMS, will put up a proposal to GMC, as well as to Malaysian Medical Council and Ministry of Health Malaysia, to conduct F1 training in Ministry of Health hospitals in Malaysia. This will enable the graduates, upon successful completion of F1 training, to apply for full GMC registration.

This solution warrants a thorough investigation and well-defined implementation plan before they can be executed.

An update will be given in the next AC meeting in 2014.

Professional Education Advisory Committee (PEAC)

20th Meeting of the Professional Education Advisory Committee
7 - 8 October 2013



The Professional Education Advisory Committee was established to provide advice and guidance to the IMU on all matters relating to the education and training of students enrolled in the professional undergraduate, postgraduate and continuing professional development (CPD) programmes of the IMU.

The PEAC will advise IMU on all educational matters related to the IMU degree, postgraduate and continuing professional development programmes. This will include:

1. The intended product of the programme in terms of the needs of society in Malaysia.
2. The curriculum exit learning outcomes.
3. The curriculum content, including the core and options or electives.
4. The organisation of the content, including the sequencing of content and the progression of students through the different phases of the curriculum to the existing learning outcomes.
5. The educational strategies implemented including student-centred approaches to learning, problem and task-based learning, integrated teaching and learning, technology-based learning and community-orientated education.
6. Teaching methods and learning opportunities adopted including the roles of lectures, small group teaching and individualised learning; the opportunities for clinical and practical instruction and the role of the new learning technologies in particular the role of computers, the internet and simulations.

7. Assessment, including the principles underpinning the assessment process, the timing and form of assessment, the instruments used, the role of self-assessment, the role of external examiners and the provision of feedback to students.
8. Communication to students and staff about the curriculum, including the role of the curriculum brochures and handbooks, study guides, and electronic databases.
9. The learning environment and climate, e.g. research and scholarship orientation, co-operative or competitive orientation.
10. The management of the curriculum, including the roles of various committees, working groups, and individuals in the development, supervision and management of the curriculum; educational, administrative, technical and secretarial support; and the procedures for quality assurance and curriculum evaluation both from a local and from an international perspective.
11. Admission and selection of students to IMU in terms of the origin of students and selection and admission procedures.
12. Student support mechanisms and issues relating to student welfare.
13. Staff development for teaching, the expected roles of the teacher; the expectations, incentives and rewards for teaching.
14. Educational research
15. Issues raised by the Academic Council with respect to the above and other relevant matters.

PEAC will normally have one main meeting a year and two assignments of a maximum of one week duration each. One or two relevant external expert and one or two PEAC member would comprise the team for these assignments. These reviews will be scheduled over the year. For 2013, three reviews were conducted:

1. Review of Bachelor of Nutrition & Dietetics programme, 8-10 July 2013

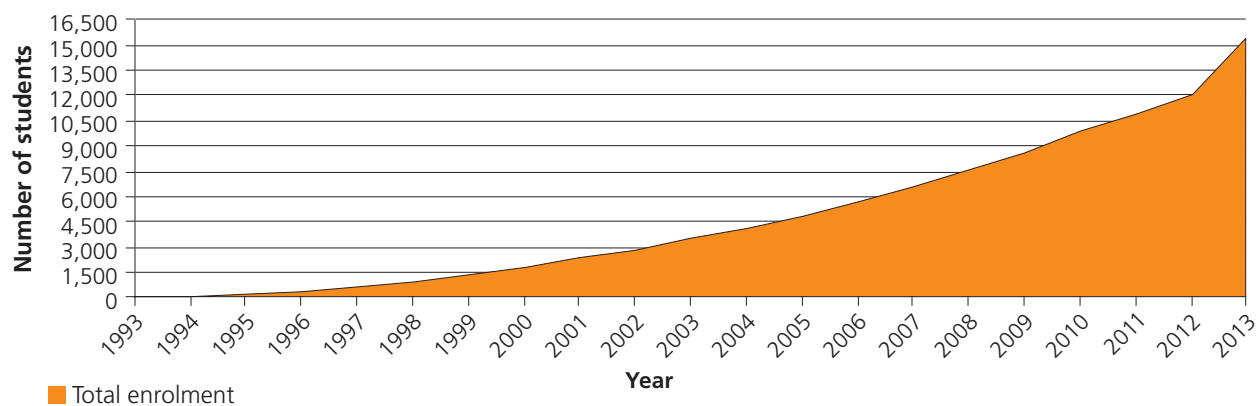
2. Review of Bachelor of Dental Surgery, 1-3 October 2013
3. Review of Assessment, 2-4 October 2013

PEAC main meeting convened on 7-8 October 2013. The meeting discussed various topics as follows:

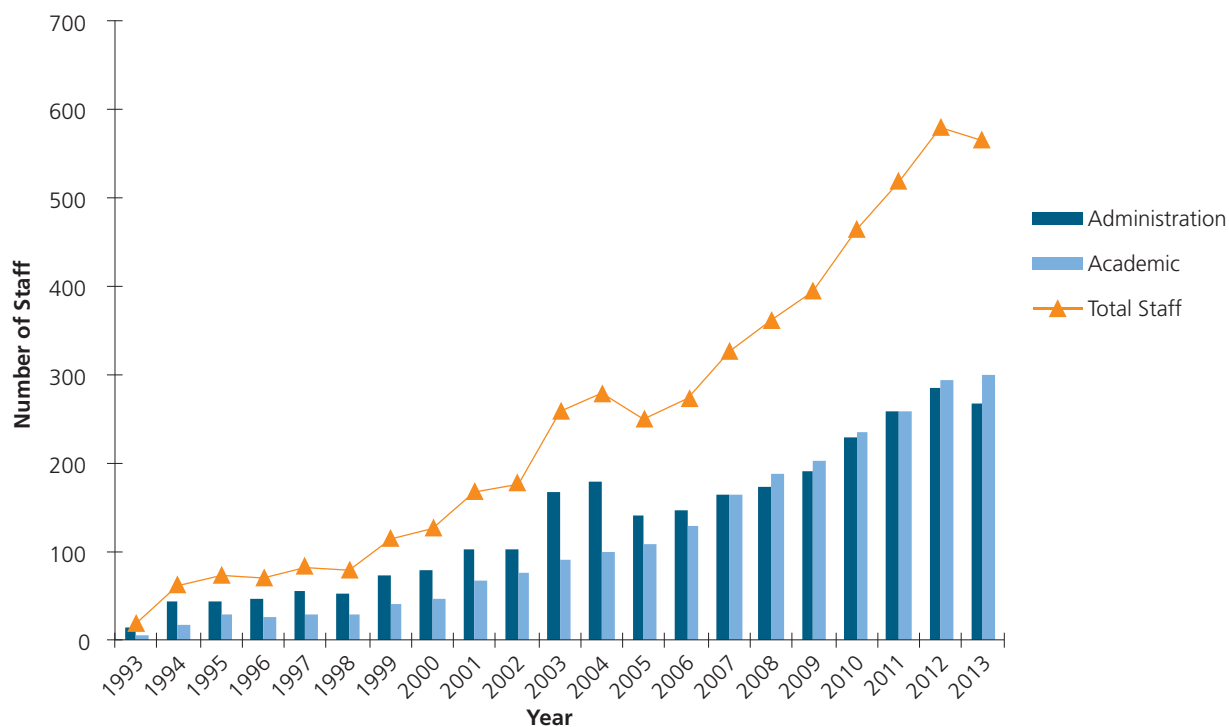
1. Quality Templates for all programmes
2. Response Update on the Review of Medical Biotechnology
3. Report on the Review of Nutrition & Dietetics & Response on the Review of the Nutrition & Dietetics
4. New Development in Skills Training at the IMU
5. Progress Update on Inter-professional Learning in IMU Programmes
6. Response Update on the Review of Student Feedback
7. Discussion on Updates of Admissions & Enrolment of Students, Attrition, and Staff: Student Ratio & Staff Development
8. Positioning IMU as the Preferred University for Quality Students
9. IMU Centre for Education 5-Year Strategic Plan
10. Report on the Review of Dentistry
11. Report on Assessments of IMU Programmes
12. Challenges in Integrating Healthcare and Education
13. Discussion on New Areas of Quality Improvement at the IMU

PEAC members have given their feedback and made their recommendations on all the issues discussed. The recommendations have been circulated to all persons-in-charge for further action and to close-the-loop, to be deliberated in the 2014 PEAC meeting.

Total Student Population (1993 – 2013)



Staff Population



University Day 2013

University Day is celebrated to mark the highly significant milestone in 1999 when the International Medical College was granted university status. Of more practical significance than prestige, becoming a university enabled us to offer our own degrees. The first students to benefit were Malaysians who now had the option of completing a medical degree course at a private university, entirely in Malaysia. Although the invitation was dated 4 February 1999, it has been the practice to celebrate University Day in March or April, because February is critical time for examinations at the Clinical School. In 2013, University Day was celebrated on Friday, 22 February, followed by Health Awareness Day on 23 February.

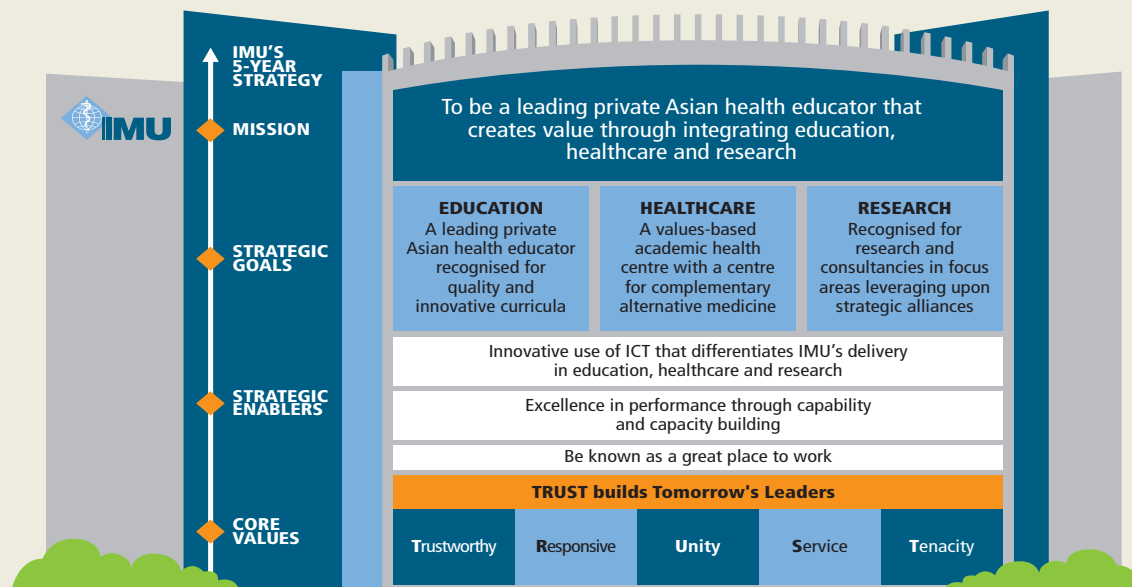


The Pro-Chancellor, YBhg Dato' Dr Amir Abbas officiated the ceremony which was attended by students, staff and alumni. IMU President YBhg Tan Sri Dato' Dr Abu Bakar Suleiman delivered the annual State of the University Address, and this was followed by the presentation of the President's Report to the Executive Director of IMU Education, Dr Mei Ling Young. The Pro-Chancellor launched the commemorative book, *The IMU Journey*. There was a video presentation of highlights of the IMU 20th Anniversary celebrations, and Long Service Awards were presented to individuals who had served with the University continuously for 10 and 15 years. In addition to academic updates there were presentations from the School of Medicine and the School of Pharmacy, the Institute for Research, Development and Innovation, the Centre for Education and the Centre for Lifelong Learning.

The annual Health Awareness Day is a public event at which visitors can get information about health, see demonstrations and exhibits and be offered free screening, advice and counselling on matters relevant to health. The overarching aim is to increase awareness of common health problems, and to educate visitors on how these may be prevented or detected. Screening includes oral health checks; random blood glucose and total cholesterol measurement; estimation of Body Mass Index and body fat percentage with dietetic counselling; blood pressure and resting pulse measurement; spine examination; and counselling on stress management and smoking cessation.



Strategic Plan: ASPIRE



ASPIRE, the IMU Strategic Plan for 2011 to 2015, has completed its third year of implementation. Approximately 40% of these initiatives have been achieved with quarterly monitoring and reporting. In December, University leaders embarked on a mid-term review to fully identify and evaluate achievements and outcomes to date; to plan the final phase of implementation; and to identify key areas for development in the next strategic plan. The review group, comprising leaders of Schools and Centres, shared the findings of the review and performance evaluation of University's Schools and Centres, and elicited preliminary input on key areas for development. 2014 will see further evaluation and research to inform the development of the next Strategic Plan. This report summarises key ASPIRE achievements since 2011 in the domains of education, healthcare and research, and enablers.

EDUCATION

Collaborative education with local and international partners continues to be a key element for continuing improvement of our educational programmes, and enhancing the learning experience for our students. In this context, from 2011 to 2013, six Memoranda of Understanding and Agreement have been signed with industry partners, and five additional partner schools have joined our partner school network.

The Student Mobility Programme has been successfully launched and implemented. The Programme adds diversity to the learning experience and student interaction, helps strengthen relationships with our partner schools, and has received good feedback to date. In 2013 the Programme enabled 64 students from partner schools and other institutions to spend time at the University, and 117 of our students to undertake periods of learning at other universities or organisations. The University funded 73 of these students for placements in 27 institutions outside Malaysia. Singapore and Taiwan are among the popular choices for outgoing students, and we have received incoming students from the United Kingdom, Kazakhstan, Indonesia and Pakistan. The framework for a Staff Mobility Programme has also been developed and awaits approval for implementation.

ASPIRE also focusses on improving the total student experience in the continuing drive to make the University a great place to learn. The student experience framework has five key objectives:

1. Enhancing the total student experience by promoting active, meaningful learning;
2. Creating awareness of career ambitions and long-term professional goals;
3. Inculcating and nurturing leadership and humanistic values; and providing opportunity for individuals to develop and demonstrate their potential;
4. Creating a campus environment that supports students' needs, including pastoral care; and
5. Increasing student participation in the quality improvement process.

The framework has helped Schools and supporting departments formulate strategies for supportive learning environments, both in and outside the classroom. In November 2013, the University took part in the International Student Barometer survey, conducted over 5 weeks. The survey is run by iGraduate Ltd, UK and is aimed at eliciting feedback from students on University experience, mainly on learning and teaching environment, resources and support system. IMU Centre for Education (ICE) played role in facilitating this to ensure a smooth running of this evaluation. The results, which are to be released in February 2014, should inform decisions about improving the overall student experience.

In education, the University also seeks to grow its contribution to continuing professional learning and development. Since its establishment in 2011 the Centre for Lifelong Learning (ICL) has offered on average some 25 learning events annually. The table summarises the numbers and types of continuing development courses offered in 2013.

Continuing development events offered by ICL in 2013

Medicine	12
Dentistry	1
Pharmacy	1
Health Sciences	4
Research	2
Others	1
Total	21

ICL also offers events aimed at health improvement and education in managing health, to the general public. The Centre will continue to evaluate the needs of its potential clients, and to provide good quality learning events to meet these needs.

HEALTHCARE

Since 2011 we have established four clinics at the Bukit Jalil campus, offering medical, dental, chinese medicine and chiropractic treatment. Two chiropractic satellite clinics, in Taman Tun Dr Ismail, Kuala Lumpur and Setia Walk, Puchong were set up in 2012 and 2013. In offering services to the public these Academic Health



Centres also provide experiential learning for students, and increase and enhance IMU's contribution to the community.

RESEARCH

Since it was established in 2012, the Institute for Research, Development and Innovation (IRDI) has made significant progress in terms of securing external funding and increasing the number of publications. IRDI has identified four thrust areas of research: bioactive molecules and drug discovery; cancer and stem cell research; environmental and population health; and health professional education research. The centres of research excellence formed around each of these areas are to drive the growth of the Institute. At the same time the institute continues to grow its commercial activities through strategic alliances with industrial partners. Further detailed information may be found in the relevant section of this President's Report.

ENABLERS

As part of capability and capacity building to support our overall strategic direction, Human Resources is implementing several frameworks. These include the Learning Organisation framework, the Individual Development Plan, and the Succession Planning and Talent Management Framework. A flexible working hour initiative has been approved in principle, and is to be piloted soon. This initiative is aimed at providing flexibility to enable University staff to balance career and family commitments, and if successful, should enhance our work environment.

Information and communications systems continue to underpin our operations and provide tools for implementation of the Strategic Plan. The Student Lifecycle Information Management (SLIM) system was officially launched in December and the Finance Information System (FIS) is targeted to go live in April 2014. The e-Learning Unit continues to drive innovation in teaching and learning. The e-learning portal is already a vital part of the infrastructure of the University's degree programmes. The portal continues to be improved, and the Unit continues to support and train teaching staff in the effective use of educational

technology to improve learning, and in instructional design.

The IMU core values continue to be embedded into University activity and structures including all curricula, learning and teaching activity, and community service.

2013 HIGHLIGHTS



22-23 February 2013
University Day and
Health Awareness Day



26 April 2013
IMU Cares Programme
at the University, in
which the university has
adopted the village of
Kampung Tekir won
First Place in the
MacJannet Prize for
Global Citizenship



8 June 2013
IMU Graduates First
Cohort of MSc in Public
Health and Bachelor
of Dental Surgery at its
Graduation Ceremony



25 August 2013
IMU's School of
Medicine conferred
the AMEE ASPIRE to
Excellence Award in
the area of "Student
Engagement"



21 September 2013
More than RM 150,000
was raised at the
IMU Chariofare, a
Charity Carnival and
Charity Run with all
the proceeds going to
charity



30 September
The first intake of
students for the
Nutrition degree
programme

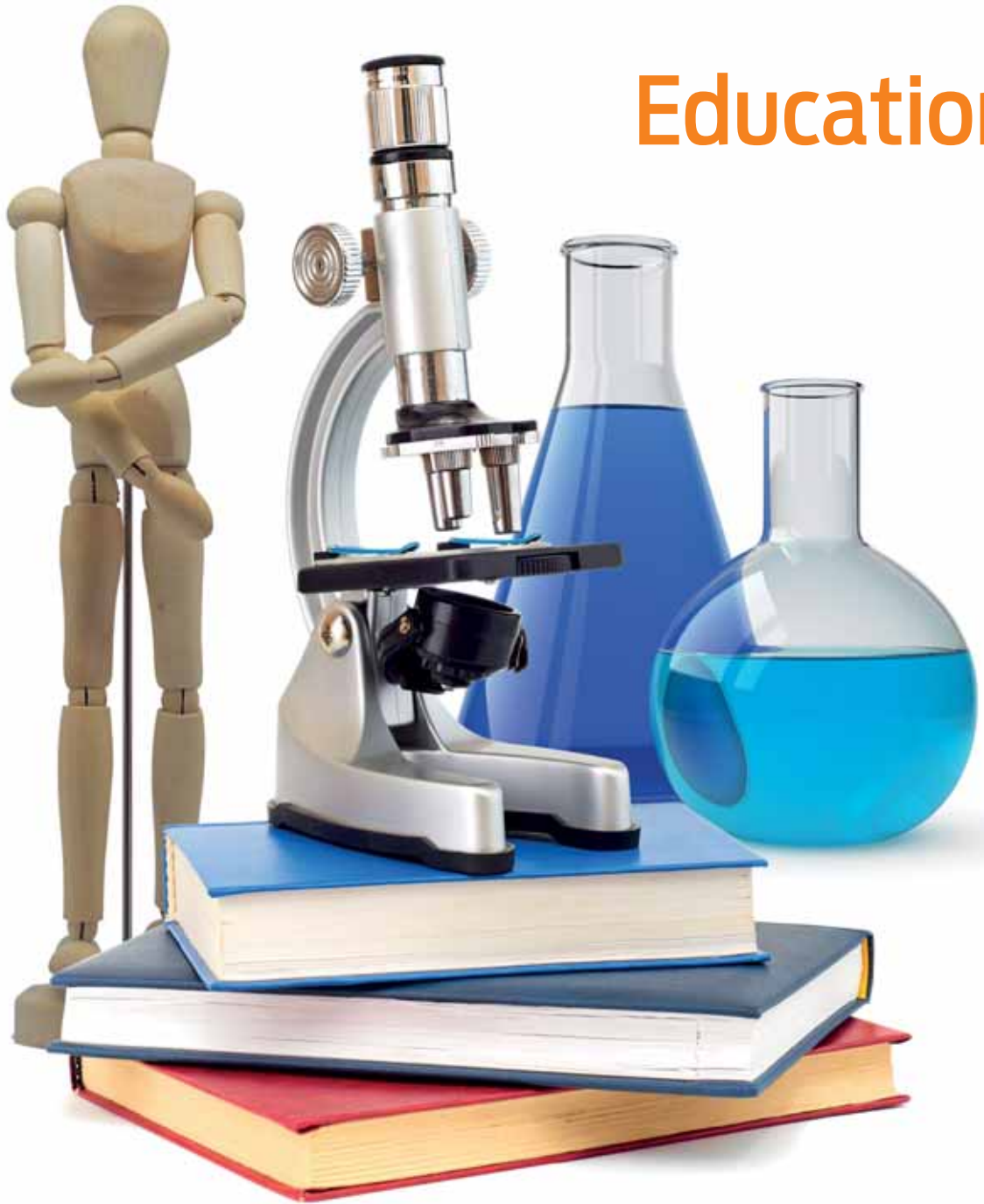


13 October 2013
Jom Kayuh II: An IMU
Health Awareness
Project in Batu Pahat



24 October 2013
IMU's Chiropractic
programme accredited
by the Council on
Chiropractic Education,
Australasia Inc. (CCEA).

Education



Centre of Pre-University Studies

Foundation in Science Programme

The one-year Foundation in Science marks the University's first venture into pre-university education. The primary aim is to offer pre-university studies in science which equip candidates with the knowledge and skills for successful completion of the University's health professional degree courses.

The Programme is to be launched in January 2014, and was designed and developed under the Centre of Pre-University Studies. The Programme has been approved by the Ministry of Education to be run from October 2013 to September 2018. The first cohort is expected on 6 January 2014, with further intakes in May and September 2014 of 60 individuals per intake. Students will undertake the four core subjects of Chemistry, Biology, Mathematics, and English for Academic Purposes, over three semesters. In addition, students take Computing Studies in the first semester, and Cross Boundary Studies in Semesters 1 and 2. Cross Boundary Studies is a key component of the Programme, and aimed at the holistic development of students to prepare them for careers in healthcare. Working in groups, students plan, execute and write up a project that necessarily draws from many disciplines. The objectives are to identify or define a problem, and to seek, evaluate and implement possible solutions.

School of Medicine

Medicine Programme

Developments in Teaching and Learning

We received a positive report from the visit in March by a monitoring team from the Malaysian Qualifications Agency and Malaysian Medical Council.

The first cohort (ME2/11 which enrolled in August 2011) to undertake the revised curriculum has completed Semester 5. The overarching objective of Semester 5 – the “clinical integration block” – is to prepare students for a smooth transfer to clinical training. Semester 5 is thus designed and structured to improve clinical skills, the ability to take a

comprehensive history, to integrate clinical findings, to improve clinical reasoning and to arrive at differential diagnoses, and to improve ethical reasoning and communication skills. This semester contains skills centre postings; hospital postings; forensic medicine and multi-system problem-based learning; integrated medical seminars; a selective; a community health survey and a basic life support course. The 4-week hospital postings undertaken in Batu Pahat and Kluang provide early clinical exposure, strengthening history taking and physical examination skills. This posting also brings Semester 5 and 10 students together for peer learning and supervision. The introduction of bedside teaching allows students to learn to clerk, present and discuss patient cases, and provides opportunities to revisit concepts of professionalism, ethics and patient safety. Integration of knowledge across body systems is achieved through case discussions, integrated medical seminars and multi-system problem-based learning.

Semester 5 is also aimed at enabling students to develop a holistic approach to clinical problems, stressing the importance of individual and family health. The forensic medicine and medical jurisprudence module introduces medico-legal and ethical aspects of medicine, and discusses the challenges posed by having to deal with death and post-mortem examination. Semester activities provide the experience of team working, inter-professional learning, an approach to field research and the organisation of a health district. Feedback on Semester 5 from students, lecturers and external assessors has been very positive.

In the newly introduced Direct Observational Procedural Skills teaching-learning activity in the Clinical Skills and Simulation Centre (CSSC), students in Semesters 6 through 9 develop and hone their skill at performing specified procedures. CSSC nurses observe and assess the students and provide feedback. The skills to be developed have been identified as fundamental competencies required of a fresh graduate in medicine. A nurse educator for Batu Pahat and Kluang has been recruited and trained to provide clinical instruction and supervision of Semesters 5 and 10 students.

Visiting Lecturers from Partner Medical Schools

Dr Richard Churchill, Director of Clinical Skills Simulation Centre from Nottingham University, helped

teach the course in Clinical and Communication Skills. Prof Leonard Eisenman, a neuroanatomist from Thomas Jefferson University was involved in the teaching of the Nervous System in Semester 4. The input of visiting teachers continues to be rewarding for students.

An Enrichment Course was conducted for students transferring to the North American Partner Schools to better prepare them for the transfer.

Developments in Assessment

Revision of the curriculum has addressed the over-assessment present in the old curriculum. Thus the number of major summative assessments has been reduced, and assurance of the quality of student clinical and communication skills, and professionalism, is derived from formative and workplace based assessment and feedback. Learning is continually assessed from presentations; the evaluation of case reports, reflective reports, field research reports; and theory tests. Apart from commitment, developmental training has formed part of the support that staff need to satisfactorily carry out all elements of this quality assurance process. The process is also informed by biannual student evaluation of courses and teaching. Final assessment of clinical and communication skills occurs through the objective structured clinical examinations (OSCEs) in Part 2 of the First Professional Examination. We have seen an improvement in student performance, particularly in OSCE, in comparison with students undertaking the old curriculum. This better performance has been echoed by very positive feedback from external examiners.

With the deletion of End-of-Semester 7 examinations, formative assessment from Semester 6 through 9 has required strengthening to enable timely feedback, the earlier detection of underperformance and for remediation. To help address these needs, a programme of student mentoring at the Clinical School has been established. Students' clinical logbooks and clerking sheets have been revised; students will receive continual guidance on their clinical performance, assessment of required attributes and immediate direct feedback. The clinical logbook is a major source of evidence upon which performance is assessed at the Student Progress Committee meetings at the end of Semesters 6, 7 and 9.

Portfolio-based assignments are now distributed throughout Semesters 8 to 10. Supervision of all portfolio work continues until the submission date before Part 2 of the Final Professional Examination. This allows students more time to improve clinical reasoning and skills to achieve expected levels of competency. Work performance is monitored and evaluated using multi source feedback, including the clinical logbook and clinical progress reports. Clinical Competency list was successfully implemented as a pilot project in all semesters.

There has been no change in learning objectives, desired learning outcomes and sequence of postings in Semester 10. Consideration of student to bed and teaching staff ratios divides the placement of students at Batu Pahat or Kluang hospitals.

Exam questions for the previous ten end-of-semester examinations have been collated into an online question bank. This has been a large undertaking for all departments who helped organise the questions by date, department and type before inserting them into individual department folders. The Clinical School question bank has also been set up.

e-Learning

A significant amount of online learning continues into the revised curriculum. The e-learning portal (<http://elearn.imu.com.my>) provides student access to curriculum map, module maps, study guides, Assigned Independent Learning, the Online Interactive Learning System, and online formative assessments and portfolios. Module maps are theme based and state broad expected learning outcomes. The expected outcomes of individual lessons and activities are linked to downloadable learning resources such as i-lectures and lecture notes. To help develop clinical reasoning and enhance clinical skills, case-based learning using e-learning resources have been developed in all modules. The portal also enables students to construct their e-portfolios, and students and teachers have undergone training in the use of the Mahara e-portfolio application. Clinical School staff continue to add online resources, with over 140 updates in 2013 of which about 60% were new items.

Other significant developments include the conduct of the first ever online summative assessment in Semester 5 (comprising single-best-answer multiple choice questions and observed structure practical examination questions). The e-learning team in Medical Sciences continues to work closely with the Medical Museum team to digitise the learning resources in the Museum, with the longer-term aim of creating a virtual museum. At the 2013 University's e-Learning Festival, Medical Sciences had the highest participation held this year with 6 posters, running 3 workshops and showcasing 2 e-learning initiatives.

Clinical School Expansion

A proposal for expansion of the Seremban Clinical School is being developed, with on-going negotiation to purchase two plots of land in the vicinity of the School. The development working committee is tasked with delivering space to accommodate increasing numbers of students and staff; and good learning spaces, particularly for interactive activity, peer group learning, simulation and virtual learning; and facilities for extra-curricular activity. The repainting of existing buildings and landscaping of the grounds were completed in 2013, and 2014 will see upgrading of academic staff rooms on Level 4.

The Clinical School in Kluang opened on 1 April 2013. The new School has Internet access; a library, seminar and discussion rooms, a faculty room, a video conferencing room, a prayer room and a pantry.

Educational Collaborations

The medical schools of the University of Miami in Florida, and of St Bartholomew's Queen Mary University, London joined the Partner Medical School network this year.

In the revised curriculum, students are provided clinical exposure in every semester. This may take the form of a nursing week, clinical rotations, and general practice postings. The hospitals and clinical facilities visited by Semesters 1 to 4 students include Hospitals Tuanku Ja'afar Seremban, Port Dickson, Kuala Kubu Baru, Gombak; and community health clinics, general practice clinics, National Kidney Foundation Dialysis Centres and the National Blood Centre. As previously mentioned, Semester 5 students undertake 4-week

clinical integration postings at Hospital Batu Pahat or Hospital Kluang.

The Ministry of Health continues to develop and expand Hospital Tuanku Ja'afar to help meet the demands of a rising patient load. The most recent addition is a six-storey Women and Children's Hospital which will be operational in the first half of 2014. The Clinical School is developing plans to maximally utilise these new facilities for the training of students of the BMedSc programme, dentistry, Semester 5 medical students and our clinical students. School of Medicine clinical teachers continue to contribute to clinical services in the teaching hospitals at Seremban, Port Dickson, Kuala Pilah, Batu Pahat and Kluang; and at various Ministry of Health primary care clinics. Teaching staff continue to contribute to Continuing Medical Education and the training of junior doctors and budding specialists. Several members of the faculty are involved in National Postgraduate Boards.

Student Progress and Achievement

At the time of writing, students are progressing smoothly in all semesters of the revised curriculum. In February and August, Parts 1 and 2 of the First Professional Examination were satisfactorily conducted for the first cohort to undertake the revised curriculum, with 98.7% passes in Part 1 and 99.1% in Part 2.

Very good feedback was received from external examiners regarding the conduct of the examination, its quality, and performance of candidates.

Student achievements in 2013 include:

- Phase 1 students, Genevieve Keizha Leon, Lalitha a/p S P Sivalingam and Lim Koo Koon, received awards under the Maxis Scholarship for Excellence.
- Clinical students, May Lau Fei Cheng, Idzman Idros and Teh Je Vin presented on "Depression in Patients Undergoing Chemotherapy in Hospital Tuanku Ja'afar" at the 2013 Asian Oncology Summit in Bangkok. Their paper has been published in the European Journal of Cancer.
- Clinical students, Tham Yue Keen and Goh Cheng Chun were finalists in the Inaugural College of Surgeon Medical Students Surgical Skills Workshop and Competition.

- Clinical students, Goh Cheng Chun and Goo Zhen Qiang presented on “Pioneering the First Student Surgical Society in Malaysia” at the College of Surgeons, Academy of Medicine Malaysia Annual Scientific Meeting.
- Bryan Chew Khai Sern, at the MOHE-Nilai University Fencing Championship.

In team events, the University's Debate Society raised its ranking to 268 in 2013 from 788 in 2012. At the Malaysian Association of Private Colleges and University annual games, the IMU team was placed second overall in athletics.

Staff Strength and Achievements

The University's continuing recruitment drive has added a significant number of new faculty members, bringing the full-time faculty strength in Medical Sciences to 85, against a student population of 1098. This is in comparison to 87 to the same time last year. The Clinical Schools have 53 full-time faculty members, 24 visiting lecturers and 67 honorary lecturers, with a student population of 416. The targeted Clinical School staff strength is 72 by the end of 2014.

The School won the 2013 Inaugural ASPIRE Award for Recognition of Excellence in Student Engagement from the Association of Medical Education of Europe (AMEE). This Award was presented at the AMEE Conference in August, in Prague. The University was awarded First Place in the prestigious and coveted MacJannet Prize for Global Citizenship 2013. We are proud of this recognition of our long-term programme of screening and healthcare for the residents of Kampung Tekir, in Labu, Negeri Sembilan.

In March, Prof Pilane Liyanage Ariyananda was made an Emeritus Professor of the University of Ruhuna in Galle, Sri Lanka.

Appointments

- 1 January: Prof Kwa Siew Kim; Head of Family Medicine, replacing Prof C L Teng.
- 16 March: Dr Rajandran Muthoo; Head of Psychiatry, replacing Dr Shane Varman.
- 1 April: Dr Sushela Devi; Head of Pathology.
- 15 August: Dr Gnanajothy Ponnadurai; Acting Dean, Medical Sciences.
- 15 August: Dr Purushotham; Acting Associate Dean, Medical Sciences.
- 1 October: Prof James Michael Menke; Head of Psychology & Behavioral Sciences.
- 1 October: A/Prof Sharifah Sulaiha Syed Aznal; Director of Clinical Training in the School of Medicine.
- 16 November: Dr Koh Kwee Choy; Head of Family Medicine replacing Prof Esha Gupta.

Research and Publications

In 2013 the School of Medicine published 93 papers with a cumulative total impact factor of 188. School researchers obtained external research funding totalling RM 998,840. A Clinical Research Interest Group has been formed to support research by faculty members. The Group meets monthly to discuss, strategise, develop and help mobilise ideas and suggestions for clinical research. There is participation of individuals from the Clinical Research Centre at Hospital Tuanku Ja'afar. Group activity has also helped students to understand the philosophy of research.

At the Clinical School Research Day on 17 October, students in Semesters 8 and 9 presented the results of 36 research projects, of which 9 won awards. This event is to be held yearly as continuing motivation to undertake research leading to good quality results. The Clinical School plans to establish a bio-bank. A freezer of required specifications has been acquired and a laboratory manager has been identified.

Continuing Education and Professional Development

The School of Medicine organised and ran a number of events throughout the year:

Courses

- The IMU FRCPA and MRCPPath Surgical Pathology Preparatory Workshop
- Surgical Emergencies
- The MRCP PACES Examination of the Royal Colleges of Physicians

Training in procedures and clinical skills

- Phlebotomy
- Pap smear screening

- Basic Suturing
- ECG Workshop
- Airway Management

Educational Workshops

- An Evidence-Based Approach to Clinical Epidemiology
- Structural Equation Modelling in Educational Research
- Task-Based Learning
- Teaching Medicine to Dental Students
- The Cardiac Life Support Facilitator Course
- “Doc Mum” : Bringing Up Children – The Positive Way
- Promoting Quality Care

Academic staff undertook the following training:

- The University's e-Learning License Certification
- e-Learning clinic sessions on PowerPoint and Prezi Presentations
- Use of the Mahara e-portfolio platform
- Using RefWorks

Staff attended medical education workshops conducted by Prof Ed Piele, on Task Based Learning; Objective Structured Clinical Examinations; workplace-based assessment; providing feedback; the assessment of professionalism and ethics, clinical teaching and clinical skills assessment.

The School held its first ever Ethics Debate this year. The motion “This house believes that spousal consent is unnecessary to undergo sterilization” was debated by teams of students from Phase 1 (in opposition) and Phase 2, and won by the opposition.

The 2013 Retreat was aimed at improving the integration of academic staff from different campuses, underlining the need to work as a single School of Medicine. The Retreat also served to update all academic staff on the progress of the revised curriculum, to discuss the way forward in its implementation, and to explore collaborative research between campuses.

Community Service

Students and staff have continued their long-term community service which forms a significant part of the IMU Cares programme. The School has continued to provide healthcare to the residents of a number of villages including Kampung Muhibbah Kuala Lumpur, Kampung Orang Asli Bukit Kala Gombak, Kampung Orang Asli Serendah and Kampung Tekir in Labu. The IMU Cares programme also supported and participated in the work of the National Autism Society of Malaysia and National Stroke of Association Malaysia.

School of Dentistry

Dentistry Programme

2013 has been a significant year for the School of Dentistry. All the students enrolled in its first two cohorts successfully completed the dentistry programme, the first cohort in February and the second in December. The first group of students who transferred to our Partner Schools in Australia, namely Universities of Adelaide, Queensland and Western Australia, graduated in November. A second group, which transferred to the University of Otago in New Zealand, graduated in December.

Curriculum Developments in Dentistry

With the completion of planning of all modules in the Dentistry Programme, a comprehensive curriculum map was developed in 2013. This maps module outcomes; teaching-learning activity; learning time; schedules of activity and assessments, against expected outcomes. Such mapping allows the identification of gaps, overlaps and redundancies; the development of the complementary document and the assessment blueprint. An assessment blueprint for all high stakes examinations had been successfully developed and has been used during the development of high stakes examinations to ensure that expected outcomes are appropriately assessed. This blueprint will now be extended to include formative assessment.

A template document, “The Expected Progressive Competencies of Dental Students” has been developed to allow students and their mentors to track the development of competencies as students progress

through the course. This progress is to be periodically discussed and remedial action identified and advised. The template is to be introduced in 2014.

Similarly, to promote the development of ethics and professional behavior, and to help address issues which call into question fitness to practise, the "Professional Practice Assessment" tool has been developed. The tool uses well-defined rubrics to assess performance in specified areas of ethics and professionalism; and may be used by patients, support staff, peers and academic supervisors. This assessment is to be piloted and evaluated in 2014.

The increasing emphasis on reflective learning, the achievement of expected competencies and outcomes-based practice has led to an expansion in the use of portfolios in the education of healthcare professionals. The student portfolio was introduced into the curriculum, with the 2013 cohort. The student will construct a portfolio of evidence of skills, knowledge and competencies acquired throughout their course, with reflection on the content and process. A training workshop familiarised academic staff with the use of the Mahara platform that supports e-portfolios. The workshop also trained staff on expected progressive competencies, and in providing effective feedback on portfolios to students.

Quality Management

A quality framework for the School has been developed. The results of the monitoring of quality targets are reported at Dental Curriculum and Assessment Committee meetings, and at School Meetings for the attention of all staff. A workshop on the "care bundle" approach to monitoring quality enabled staff to develop "quality bundles" to monitor key processes including patient care and follow-up; the availability of instruments and materials in Oral Health Centre and Dental Skills Centre, and their use; the vetting of assessment items; and student placements.

Review by the Professional Education Advisory Committee (PEAC)

In October the dentistry programme was reviewed by Prof John Stamm (School of Dentistry, University of North Carolina), Prof Richard Ibbetson (Institute of Dentistry, St Bartholomew and the London School of Medicine and Dentistry), Dr Chris Stephens (Faculty

of Medicine, University of Southampton) and Prof Jim McKillop (School of Medicine, University of Glasgow). The review panel concluded that the programme "is fit for purpose and is of an international standard" and commended the Dean and senior team for this remarkable achievement. The panel provided useful recommendations to assist in the future expansion of the School.

Postgraduate Diploma

A 1-year postgraduate diploma programme in implant dentistry has been planned and is to be offered to working dental practitioners. The programme comprises 6 modules. Students undertaking the course would attend intensive classes at the University's Bukit Jalil campus for 1 week per module, and to continue working on the remaining content online, supported by webinars. The programme is to be launched in the third quarter of 2014, once approval has been obtained from the Malaysian Qualifications Agency.

Student Achievement in Research

Under the Special Study Module all students undertake research projects in Semesters 8 and 9. This research is often reported at local and international conferences. In 2013 students from cohort DT1/09 received the following awards for their presentations:

- At the 35th Asia Pacific Dental Congress, Tan Zeng Zhou received the second best poster award for "Grading the invasion of oral squamous cell carcinoma"; whilst Chua Eu Gene received the Merit Award for oral presentation of "Antifungal action of various intracanal medicaments against *Candida albicans*".
- At the 13th International Association for Dental Research (Malaysian Section) Annual Scientific Conference, Joyce Chin received the Junior Travel Award, worth USD 500, to compete at the IADR Southeast Asian Division Scientific meeting in Bangkok. Her paper was entitled "The Role of Angiogenesis in the Progression of Potentially Malignant Oral Lesions". The Best Poster Award Junior Level, was won by Tan Zeng Zhou for "Grading the invasion of oral squamous cell carcinoma".

The 5th National Dental Students' Scientific Conference

IMU had the honour of being the first private university to organise and host this annual scientific meeting for dental students, which was attended by 270 dental students and staff from 11 Malaysian universities.

Many students presented the results of research that had been carried out as part of their dentistry course. Each participating university sponsored two students in each category to compete for the best poster and oral presentation awards, with the judges being academic staff nominated by each participating university. Each category carried a first prize of RM1,500; a second prize of RM1,000 and a third of RM500. Non-competing presentations were also accepted. IMU was the only participating university with winners in both poster and oral presentation categories. Chan Li Xing won the Second Prize for her poster "The effect of bleaching gels on surface hardness and topography of two CAD/CAM veneer materials". Joseph Tan Meng Ern won the Third Prize in the oral presentation category for "Intracanal placement of calcium hydroxide: A comparison of specially designed paste carrier technique with other techniques using Cone Beam Computed Tomography". The Research Challenge Trophy was presented to the university with the best performing students, and was jointly won by IMU, Universiti Sains Malaysia, and International Islamic University of Malaysia.

Staff Research and Achievement

The University's thrust areas in research are in bioactive molecules; natural compounds and nutraceuticals; cancer biology and related stem cell research; pharmaceuticals and drug delivery systems; clinical research; environmental health; and health professions education. Research clusters or working groups have been formed in these areas. The School has formed a dental research working group, and runs monthly research meetings. Besides supervising dentistry students undertaking research under the Special Study Module, several academic staff are also supervising research by medical students undertaking the intercalated BMedSc. Staff from the School, working in multidisciplinary teams with the School of Pharmacy, have secured research grants from the Ministry of Science, Technology and Innovation.

A/Prof Seow Liang Lin was promoted to Clinical Professor in July.

- In January, Prof Alan Pau, A/Prof Seow Liang Lin and Dr Priya Ahlawat were keynote speakers at the 3rd Borneo Dental Conference in Kota Kinabalu.
- Also in January, Profs Toh Chooi Gait and Khoo Suan Phaik were keynote speakers at the 33rd Myanmar Dental Conference and the 14th FDI-MDA Joint Education Meeting.
- In September Dr Haider Al-Waeli was the keynote speaker at the 2nd Quintessence International Grand Prix 2013 in Singapore.
- Dr Pulikkotil Shaju received the Best Oral Presentation award at the 35th Asia Pacific Dental Congress (APDC) 2013.

The 5th Hiroshima Conference on Education and Science in Dentistry

By the invitation of the University of Hiroshima, Prof Toh Chooi Gait attended this Conference and the Dental Deans' Meeting held in conjunction with the conference. The Deans' Meeting, attended by deans of dentistry schools in Europe, Asia and the United States, shared information and discussed collaboration to facilitate staff and student mobility. Associate Dean, Prof Khoo Suan Phaik and final year dentistry student, Chan Li Xing also attended the conference as representatives of the School, and to present papers.

Patient Care

2013 has seen a healthy increase in the numbers of patients seeking treatment at the Oral Health Centre (OHC). Nine additional dental units have been installed in the OHC to cater for the increased number of students who need to treat patients. The University, working with sponsorship from Malaysian Dental Association Foundation and Subang Jaya Lions Club, has offered complimentary dental treatment to the residents of several charity homes.

School of Pharmacy

Pharmacy Programme

The overarching aim of the Bachelor of Pharmacy (BPharm) (Hons) degree programme is to produce graduates with competencies comparable to Provisionally Registered Pharmacists who are 3 to 6 months into their training year. With the recent expansion of registration training into private settings, the School of Pharmacy is strengthening the BPharm curriculum in the area of teaching and learning of pharmacy practice in primary care, and aligning the curriculum with future needs of healthcare professionals.

The BPharm (Hons) programme has grown significantly in an annual enrolment, from 40 pioneer students in 2004 to 194 students in 2013. This growth in enrolment reflects not only the demand for a pharmacy degree qualification, but also the increasing reputation of the IMU BPharm (Hons) as the leading pharmacy programme in Malaysia.

In 2013 the programme underwent minor change with the implementation in July of the new Mata Pelajaran Pengajian Umum (MPU) units specified by the Ministry of Higher Education. Curriculum delivery has been restructured so that the MPU modules are delivered within a semester of 8 weeks which commences in July each year. Following this short semester, students commence Semester 1 of the BPharm in September. This restructuring thus allows two commencement dates - July and September- for each intake into the BPharm. Students who commence in September undertake the MPU modules after Semester 8.

A major review of the curriculum was initiated in September 2013 and is expected to be completed by March 2014. In 2013 Curtin University became a new School of Pharmacy partner, and we will jointly offer a 2+2 credit transfer BPharm programme starting in the academic year 2014-15.

The collaborative twinning programme between the IMU and the University of Strathclyde in Scotland continues to grow and develop; 61 students enrolled in 2013.

The Master of Pharmacy (MPharm) curriculum is being completely revised by the University of Strathclyde following a review by the General Pharmaceutical Council (GPhC) of the UK. The main objectives of the revision are to develop an integrated structure for the curriculum and to incorporate experiential learning components into it. The revised curriculum will be implemented from September 2014.

The Director of the IMU-University of Strathclyde MPharm programme and Vice Dean (Academic), of the University of Strathclyde visited in 2013 to audit teaching & learning activities in the MPharm programme. They were delighted with their findings and complimented our staff on their efforts and dedication. Several eminent scientists from the University of Strathclyde also visited in 2013; including Professors Brian Furman and Gillian Eccleston, Dr James Johnson, Dr Susan Currie and Ms Derna Campbell. Two IMU staff members spent residential periods at the Strathclyde Institute of Pharmaceutical and Biomedical Sciences and participated in knowledge transfer.

Research and Publications

The School of Pharmacy successfully secured RM1,589,200 of external research grant funding and has published 26 publications, with a total impact factor of 37.2.

Student Mobility

Twenty-five BPharm (Hons) programme students undertook their Year 4 research projects at foreign institutions that included:

- The University of Strathclyde, Glasgow: 12 students
- Robert Gordon University, Aberdeen: 4 students
- The University of South Australia: 5 students
- Hacettepe University, Turkey: 2 students

Six students from overseas partner school (University of Strathclyde, Scotland) spent a total of 6 weeks in IMU under the IMU-Strathclyde Mobility Programme.

Staff Achievements

Dr Vivienne Mak was appointed BPharm (Hons) Programme Coordinator and Dr Dinesh Kumar was appointed MPharm Programme Coordinator.

Student & Graduate Achievements

Ms Yip Lin Fong, who was the first credit transfer student to Otago University, Dunedin, New Zealand, graduated with distinction on the 30 November 2013. She successfully secured an internship in the city of Christchurch.

Ms Jennifer Kua, a BPharm (Hons) graduate, and Ms Intan Zuhaslin Dzulkefli, a MPharm 2.5+1 graduate, have both successfully completed the Overseas Pharmacists Assessment Programme and are practicing in the United Kingdom.

Ms Tan Kai Hsin, a BPharm (Hons) graduate, was selected by the International Pharmaceutical Students' Federation for an exchange programme at the University at Buffalo, United States of America.

The School of Pharmacy is proud of all these graduates' high achievements.

Teaching, Learning and Assessment

The MAHARA Professional Development Portfolio (PDP), an online professional development tool, was introduced to new 2013 cohorts of students in both the BPharm (Hons) and the BSc (Hons) Pharmaceutical Chemistry programmes. This tool is used for student education and training in professionalism and ethics, through reflection. Training workshops were organised for faculty and students to familiarise them with the MAHARA system, and with the principles and practice of reflective writing.

In 2013 we held a series of faculty training workshops on student / learner engagement, including the concept and practice of the "flipped classroom". Faculty returned to their classrooms and applied these methods to their large group (plenary) teaching. Feedback from students has been favourable and encouraging.

Inter-professional learning activity was expanded in the various programmes offered by the School of Pharmacy. Formal activities were scheduled with other Schools, including a workshop on the management of diabetes, between BPharm and Nutrition & Dietetics students, and a community project on toxicology with Health Sciences students.

Assessment for learning was further strengthened within the various programmes offered by the School of Pharmacy, with emphasis on timely feedback. A comprehensive e-learning strategy and implementation plan was developed for the School of Pharmacy in collaboration with the University e-Learning Unit and Learning and Teaching leaders. Many paper based in-course tests have been converted into Computer Aided Learning (CAL) quizzes, with the added benefits of being more environmentally friendly, and optimising the use of contact time and other resources.

Finally, the School has adopted a policy of extensive use of interactive lectures to engage and guide students in their learning. Moreover i-lectures are now being used in a clerkship preparatory course to sharpen their prescription screening skills, pharmaceutical care plan preparation and Therapeutic Drug Monitoring knowledge. In addition, parts of the course content have been converted to online games to make the content engaging and interesting for students.

Bachelor of Pharmacy (BPharm) Programme

The BPharm programme started in 2004 with 40 students, and annual enrolment had grown to over 100 students by 2006. Student numbers continue to increase: The 2013 cohort has 194 students.

Developments in Teaching, Learning and Assessment

The School of Pharmacy continues to develop the BPharm curriculum with initiatives to strengthen the teaching and learning of professionalism and incorporating inter-professional learning into the programme. To effectively monitor these initiatives, the School of Pharmacy Learning and Teaching Committee was re-organised in June. Members of this Committee include champions or leaders of key existing and new learning and teaching initiatives. The Committee is a forum for discussion of educational development and its remit is to aid and track implementation of the Learning Model, and the progress of initiatives.

E-learning continues to be integral to the structure, management and delivery of the BPharm programme. E-learning is used in problem-based learning, online formative and summative assessments, and interactive online learning, via the University's virtual learning environment which uses the Moodle platform. A

significant development for 2013 has been the introduction of the MAHARA e-portfolio for personal and professional development. This facilitates the development of professionalism and practice skills via reflective learning.

Curriculum Review

A major review of the BPharm curriculum was initiated in September 2013 and is expected to be complete by March 2014. The School periodically reviews all its curricula, and this particular review aimed at:

1. Incorporating new approaches and syllabus elements such as inter-professional learning; community service; use of the virtual hospital in training; and the flipped classroom approach to active learning. New approaches in delivery are aimed at enhancing student engagement, their learning experience and the quality of their learning in terms of outcomes.
2. Strengthening the curriculum in the teaching and learning of pharmacy practice in non-government healthcare settings, with a particular focus in primary care. In 2012 the Pharmacy Board of Malaysia reverted to the pre-2005 policy of allowing registration training to be undertaken at non-government facilities.
3. A comprehensive review of student and teaching staff workload associated with the curriculum, as recommended by the University's Professional Education Advisory Committee (PEAC).
4. Allowing the programme to accommodate two enrolments per year, from 2015, whilst facilitating credit transfer options.

Ensuring Effective Workplace-Based Education and Training

Securing work-based placements for students continues to challenge, particularly with increasing numbers of students enrolled in BPharm programmes in Malaysia. The problem is particularly acute at Ministry of Health facilities, but is also expected to affect pharmaceutical industrial. The School is exploring the development of a virtual hospital pharmacy, to allow the use of simulations in early skills acquisition. Simulations are of proven value and should support more advanced skills development in actual workplace based training.

Student Progress & Achievement

In 2013, 25 students successfully undertook their final year research projects at foreign institutions, namely the University of Strathclyde, Glasgow (12 students), the Robert Gordon University, Aberdeen (4 students), the University of South Australia (5 students), Hacettepe University, Turkey (2 students) and the National University of Singapore (2 students).

BPharm and MPharm students participated in the 5th National Pharmacy Quiz 2013/2014 hosted by the University of Malaya in November. Our student team was placed 9th out of some 35 teams.

Programme Expansion

The University of Curtin has been added as a new partner School, and we will jointly offer a 2+2 credit transfer BPharm programme starting in the academic year 2014-2015.

Master of Pharmacy (MPharm) Programme

Developments in Teaching, Learning and Assessment

In 2013, we continued to implement the experiential learning and the personal skills development (PSD) components of the MPharm. There was minor revision in the structure of the MPharm curriculum where some modules were interchanged between semesters. Flipped classroom sessions and interactive lectures are being used, and e-Learning continues to be used in the programme, in the form of computer-aided learning and construction of personal skills development portfolios.

Four visiting lecturers from the University of Strathclyde taught at Bukit Jalil during 2013.

Our collaboration with pharmacy sector employers continues to provide experiential learning in community/retail pharmacy (Guardian Pharmacy) and hospital pharmacy experience at Hospital Tuanku Ja'afar, Seremban.

Research and Publications

All faculty members continue to be involved in research and publishing.

Student Progress and Achievement

All students have made good progress through the programme. Students participated in a number of extra-curricular activities both in and outside the campus, including the Open Day and IMU Cares activities, including Chariofare 2013, our annual charity event. Some students also took part in a blood donation drive conducted in October 2013.

Staff Strengths and Achievements

In 2013 two members of academic staff spent visited the University of Strathclyde for educational purposes.

Pharmaceutical Chemistry Programme

The BSc (Hons) Pharmaceutical Chemistry programme graduated its third cohort (PC 1/10) in September 2013, awarding two First Class Honours, five Second-Class Honours Upper Division and six Second-Class Honours, Lower Division degrees. Ms Yap Chai Hong and Ms Lee Pei Sian were in the Dean's List for their high academic achievement, and the Merit Award was presented to Ms Yap Chai Hong who was the top student in the Dean's List. Following this graduation, all graduates have either been employed in the pharmaceutical industry or have registered for postgraduate studies, an achievement that attests to their preparation, training and competence.

Two BSc (Hons) Pharmaceutical Chemistry programme graduates from the first cohort (PC1/08) have been accepted into the University of Sydney MPharm programme. They have been given an exemption of 18 credits (equivalent to one semester). With this exemption, they will be able to complete the programme in one and a half years instead of two years. They started their course on 31 July 2013. Graduates of this MPharm programme can register to practice as pharmacists in Australia and Singapore.

A MoU has been signed with Curtin University, Australia, for credit recognition of the IMU BSc (Hons) Pharmaceutical Chemistry graduates into the Curtin MPharm programme. IMU graduates will be given credit exemption from several modules in Year 1 of the MPharm programme. After graduating from the Curtin University MPharm programme they will be able to register to practice as pharmacists in Australia and Singapore.

The most significant achievement of 2013 was the successful accreditation of the Pharmaceutical Chemistry programme by the UK Royal Society of Chemistry (RSC). The RSC accreditation is a rigorous evaluation process that commands respect both in the UK and internationally. The RSC Panel of Assessors, led by Dr Christine Lamont, University of Huddersfield, was very impressed with the programme's curricular structure, assessment, and its mode of delivery. Achieving RSC accreditation is an endorsement of the quality of the Pharmaceutical Chemistry programme. This accreditation serves as a benchmarking exercise to establish comparability between the IMU BSc (Honours) Pharmaceutical Chemistry programme with other internationally recognised chemistry courses.

School of Health Sciences

Developments in Teaching, Learning and Assessment

The BSc (Hons) programmes in Medical Biotechnology and in Biomedical Sciences have successfully implemented revised curricula up to Semester 3.

The Nursing Division has provided all documentation required by the Malaysian Qualifications Agency (MQA) for accreditation of the B Nursing (Hons) programme. An MQA inspection visit is to take place in April 2014. At the time of writing, the Nursing Boards of Malaysia and Singapore are reviewing the Bachelor of Nursing Science curriculum.

The Chinese Medicine Division has begun preparation of accreditation documents for the BSc (Hons) Chinese Medicine programme.

The Chiropractic Division submitted documentation to the MQA for its BSc (Hons) Chiropractic in July 2013, and is expecting an MQA site visit in the first quarter of 2014. Meanwhile, the Council of Chiropractic Education, Australasia (CCEA) has given the chiropractic programme full accreditation for a period of 3+1 years.

The Professional Education Advisory Committee (PEAC) reviewed the Nutrition and Dietetics programme in July, and the Division has responded to all its

comments and recommendations. September saw the enrolment of the first cohort of students into the BSc (Hons) Nutrition. The revised BSc (Hons) Psychology programme that was successfully launched in 2012 is to be reviewed by PEAC in 2014.

e-Learning

Seven members of teaching staff in the Nursing Division have received the e-Learning Certificate. The flipped classroom approach is gradually being incorporated into the delivery of our programmes, including biomedical science, nutrition and dietetics, and nursing.

Programme Expansion

The Chiropractic Division proposal for the Master in Clinical Chiropractic programme has been passed by the Board of Studies, and is expected to be submitted for MQA approval in early 2014. A new IMU Healthcare chiropractic clinic opened in Puchong at Setiawalk, and Semester 8 students have already been involved in patient care at this clinic.

The Management Committee has approved the Chinese Medicine Division proposal for a progressive three-tier (Certificate, Diploma and Master) postgraduate programme in Acupuncture. Members are being identified to constitute a Board of Studies, and the proposal is to be submitted for MQA approval in the second quarter of 2014.

Collaborations

Under the Student Mobility initiative, the Medical Biotechnology programme received two students from the University of Sharjah of the United Arab Emirates for a 6-week placement. Likewise, the Biomedical Science programme received two students from VIA University College in Denmark.

All programmes with practicum placements have actively engaged with industry partners and hospitals in Malaysia and in other countries including Singapore, Taiwan, China and Thailand. The Division of Nutrition & Dietetics has been allocated two additional Ministry of Health hospitals for clinical practical training, Hospital Sandakan, Sabah and Hospital Miri, Sarawak. The Chinese Medicine Division continues to work with Tung Shin Hospital and Malaysian Buddhist Association for student placements involving observation

and supervised practice. The Nursing Division has commenced a 3+1 programme with the University of Queensland.

The Chiropractic Division has worked closely with the Division of Traditional and of Complementary Medicine of the Ministry of Health to develop a model for chiropractic internship / registration training. A full report of this training framework is expected to be ready in early 2014. Two chiropractic faculty members have become committee members of the new representative body for chiropractors, the Association of Chiropractors in Malaysia.

Student Progress and Achievement Graduations, Transfers and Intakes

The Biomedical Science Programme graduated its third and largest cohort to date, of 50 individuals, six of whom achieved First Class Honours. The Medical Biotechnology Programme graduated a class of 12; all are now employed or in graduate study in Malaysia. There were 41 Nutrition and Dietetics graduates, two with First Class Honours.

The enrolment of 28 students into the Psychology Programme in September is the largest single intake since the programme commenced in 2008. In July, Chung Kai Li of the Psychology cohort PS1/09 graduated with First Class Honours from the University of Strathclyde. Kai Li was the first transfer student of the Psychology Programme. The first 4 students to undertake the Chiropractic transfer programme left for RMIT University in the spring of 2013. Feedback from RMIT has been favourable. In 2014 one chiropractic student will transfer to RMIT, one to the Anglo-European College of Chiropractic and two to the University of South Wales in the United Kingdom. The Chiropractic Division is set to graduate its first cohort in February 2014. Having completed the first three years of their programme, the first cohort of five students in Chinese Medicine will transfer to RMIT (2 students) and to the Shanghai University of Chinese Medicine (3 students) in early 2014.

Several graduate and undergraduate students in Nutrition and Dietetics and Biomedical Science received awards for oral and poster presentations based on their thesis work. In April, Jocelyn Tang Phaik Lin, a student in the Psychology programme PS1/12 cohort, received Maxis Scholarship for Excellence.

Staff Strengths and Achievements

The School continues to recruit academic staff experienced in interdisciplinary education, curriculum development, assessment and research. School staff have continued to engage in student recruitment, participating in several education fairs, and contributing to the University's Student Exploratory Workshops and Open Days.

Staff and students contribute significantly to the community work undertaken under the IMU Cares programme. Some staff are leaders of the community service flagship projects that have been ongoing for several years.

Academic staff have also organised and run continuing professional development events throughout the year. Lecturers in the Nursing Division helped conduct workshops on "Best Practices in Clinical Instruction" and "Critical Thinking in Nursing".

Research and Publications

2013 has been a productive year for the School in terms of research funding and publications. School researchers secured nearly RM500,000 of funding as principal investigators, and 33 papers have been published. School researchers also continue to be active in research collaborations and to report the results of research at Malaysian and international conferences.

Nursing and Nursing Science Programmes

Developments in Teaching, Learning and Assessment

Having provided all necessary documentation to the MQA, the Division awaits a site inspection visit in April 2014 for accreditation of the B Nursing (Hons) programme. The Bachelor of Nursing Science curriculum is being reviewed by the Nursing Boards of Malaysia and Singapore. The Division has developed a collaborative degree programme in nursing with the University of Queensland (UQ) in which students will spend 3 years at IMU and 1 year at UQ, graduating with a Bachelor in Nursing from UQ.

Inter-professional learning between nursing and medical students is being developed during the nursing students' clinical postings at Hospital Tuanku Ja'afar in Seremban and at Hospital Port Dickson. In December,

Prof Lim Pek Hong, Siew Wei Fern and Wong Pak Fong ran a workshop for nursing preceptors at Hospital Ayer Keroh in Malacca.

e-Learning

Basic e-learning certificates have been awarded to Prof Lim Pek Hong, Tang Wai Mun, Patricia Matizha, Leela Chellamuthu, Chow Suh Hing, Mini Jackson and P Inthira. Patricia Matizha has incorporated i-lecture content and the flipped classroom into classes in the Sociology module; i-Lectures have been developed by Chow Suh Hing for Gynaecological Nursing; and she has used the e-learning portal for a reflective session on the Nursing Process in the Nursing framework module.

Student Progress and Achievement

All cohorts are progressing well. NU1/13 has completed Semester 1; NU1/12, Semester 3; NU1/11, Semester 5) and NU1/10 Semester 8. All the graduates of NU1/09 passed their nurse registration examination. The Bachelor of Nursing Science programme has an enrolment of 170 students, all of whom are progressing as expected. Lai Pei Kuan completed the Master of Science Programme by research and graduated in September. Pei Kuan had been supervised by Prof Lim Pek Hong.

Staff Strengths and Achievement

Wong Pak Fong won the best poster award on Venus at the University's e-learning Festival in September. In November Lim Swee Geok was awarded Second Prize for her poster at the Second NUS – NUH International Nursing Conference, and the 18th Singapore – Malaysia Nursing Conference in Singapore.

Mini Jackson, Saraswathy Thangarajoo and Chow Suh Hing obtained Good Clinical Practice certification in October. Siew Wei Fern was awarded the first prize in the teaching excellence category at University Day in February.

In collaboration with the International Medical College, the Division ran two continuing development events in 2013: A seminar in March on "Best Practices in Clinical Instruction" and a conference on "Critical Thinking in Nursing" in October.

In March we received an eight-member delegation from Bangladesh who visited us as part of a fact-finding tour of nursing education and accreditation in

Malaysia. The group comprised Bangladeshi Ministry of Health nursing service managers and senior nurse educators from nursing colleges. They were briefed on the key aspects of our nursing degree programmes, attended a teaching session in the nursing skills ward and discussed nurse education and training with all members of the Division. Some members of this delegation are to make a return visit in 2014.

Prof Lim Pek Hong was a committee member for the Central Region Qualitative Research Workshop at University Malaya in March, and a committee member for the International Qualitative Research Conference in Shah Alam in November. At the First Annual Healthcare Forum in Kuala Lumpur, she presented on the impact on nursing of the Asian Economic Community 2015 initiatives. Prof Lim served as external examiner to the Master of Nursing Programme University Kebangsaan Malaysia in June, and is an external examiner to Sunway Nursing College from October 2012 to September 2014. She has been appointed to the Board of Directors of Penang Adventist Hospital, and is a Panel Member of the Board of Directors of Tung Shin Hospital in Kuala Lumpur. She is also Academic Advisor to International Medical College.

Research and Publications

Two research projects await approval by the University's Ethics Committee:

- "The level of health profession students' preparedness for clinical learning: perspective of the supervisors" – Leela Chellamuthu; project leader Prof Vishna Devi Nadarajah.
- "Development and validation of a script concordance test (SCT) to assess healthcare ethics and professionalism" – Saraswathy Thangarajoo (project leader), Patricia Matizha and Wong Pak Fong.

Publications

- Tang WM, Soong CY, Lim WC. Patient satisfaction with nursing care: A descriptive study using interaction model of client health behaviour. *International Journal of Nursing Science* 2013; 3(2): 51-56
- Inthira P. & Lim PH. Development of concept among clinical nurse practitioner (CNS) in Malaysia. *The Malaysian Journal of Nursing* 2013; 5(1):12-15.

- Lai PK and Lim PH. Comparison of Professional Socialization among the Diploma and Degree Nursing Students: A Pilot Study *The Malaysian Journal of Nursing* 2013
- Kelly Ee Lu Ting, Maria Sau Sim Ng, Wei Fern Siew. Patient perception about preoperative information to allay anxiety towards major surgery. *IeJSME* 2013;7(1): 29-32.

Dietetics with Nutrition and Nutrition Programmes

Developments in Teaching, Learning and Assessment

The PEAC curriculum review of the BSc (Hons) Nutrition and Dietetics in July was successful.

In 2013 the Ministry of Health approved the use of two hospitals in East Malaysia for our student placements. These are Hospital Sandakan in Sabah and Hospital Miri in Sarawak. These hospitals are a welcome addition to the existing five placement hospitals (Seremban, Johor, Pulau Pinang, Kuala Terengganu, Serdang and Kajang) used for training in clinical dietetics. We are grateful to the Ministry for their support. For food service clinical training, we are still maintaining Hospital Kitchens run by BESTA Food Services.

The flipped classroom approach has been introduced into classes in Professionalism and Ethics (Semester 1), Food Service Management 2 (Semester 5) and Clinical Dietetic Practicum (Semester 7) and has been well received by students. The new rotation system introduced into the Semester 7 and 8 community placements should improve learning by providing basic clinical training prior to the students undertaking their community practicum. In 2013 the programme welcomed visiting lecturer Ms Penny Churchill, a primary care dietitian in Nottingham who is also involved in the training of dietetics students at Nottingham University. The semester 7 students undertaking the Community Nutrition Practicum particularly benefited from her visit as she was able to accompany them on home visits.

e-Learning

All faculty members have been using e-Learning to enhance teaching-learning activities. To date, the e-Learning platform has been used to engage (Articulated i-lectures, videos, practice questions and forums) and assess (online quizzes and uploading of assignments) students across all cohorts. The MAHARA platform has been utilised for student e-portfolio development starting with the ND1/13 cohort. Step-by-step guides, specific to our needs, have been developed to ease adoption of newer e-learning processes. For the Division, Lee Ching Li has championed e-learning, with the role of consolidating training and use of e-Learning within the Division, and ensuring consistency with University goals.

Programme Development

In compliance with MQA recommendations, the Bachelor of Science (Hons) Nutrition & Dietetics has been renamed the Bachelor of Science (Hons) Dietetics with Nutrition. The Division has developed and launched a separate, second undergraduate programme, the 3-year Bachelor of Science (Hons) Nutrition. This outcomes-based programme is designed to produce competent graduates who have good grounding in basic and nutritional sciences, as well as equipped with state-of-the-art skills to pursue careers to meet the work demands of the modern day nutritionists. The inaugural intake of 12 students entered the programme in September 2013.

Student Progress and Achievement

The renamed BSc (Hons) Dietetics with Nutrition programme enrolled its sixth cohort, of 68 students. All 76 students of the second cohort (ND109) graduated, with two students being awarded First Class Honours. The 41 students of the third cohort (ND110) successfully completed Semester 7 while 43 students of the fourth cohort (ND111) successfully completed their 5th semester.

In June, PhD candidate Sangeetha Syam won the First Prize for the Best Oral Presentation at the Malaysian Dietetic Association Annual Scientific Conference Petaling Jaya. Her presentation was titled "Low Glycaemic Index Diets Improve Fasting Blood Sugar, Triglycerides and Weight Loss among Post Gestational Diabetes Mellitus Women". Masters candidate Mazlyn

Mena won the 2nd Prize in the Best Paper Award for her presentation at the 2012 Annual Scientific Meeting of the Malaysian Society of Gastroenterology and Hepatology. At the Nutrition Scientific Conference of Malaysia in May, Chan Sin May won the undergraduate Young Investigator Oral Presentation Award (First Prize).

Staff Strengths and Achievement

In July, Prof Khor Geok Lin was elected a Fellow of the Academy of Science Malaysia. In October, she was made an Emeritus Professor of Universiti Putra Malaysia. Prof Winnie Chee was elected President of the Malaysian Dietetics Association.

Ng Ai Kah and Jamilah Ab Jamil graduated from the IMU Master of Science programme in Public Health. Three other members of academic staff are undertaking PhD study and are expected to complete in 2015-16.

The Nutrition and Dietetics team made good contributions to four major multidisciplinary IMU Cares projects in 2013. Projek Perumahan Rakyat in Kota Damansara involved collaborative work between Nutrition and Dietetics, Dentistry, Chiropractic and the Counselling Unit; with three visits made to the community in 2013. The project was generously sponsored by Mead Johnson Nutrition Malaysia. The team also helped in the Ti-Ratana welfare home project initiated by the Division of Nursing; in the on-going community service activity at Kampung Serendah coordinated by Community Medicine; and the Adolescent Health project organised by the Clinical School. Kampung Serendah is an Orang Asli settlement which has been adopted by the University. Staff and students took part in the University's charity events: Chariofare, Healthcare Jamboree and Jom Kayuh.

Continuing Education

The Division ran two continuing professional development events. One was on motivational interviewing, aimed at enhancing the ability of clinical dietitians and other practitioners to facilitate behavioural change for health. The other event was entitled "Healthy Food Preparation: Foods for Healthy Eyes" and was attended mainly by members of the University community.

Research and Publications

A/Prof Tony Ng has secured research grants totalling RM759, 000 from the Malaysian Palm Oil Board for three projects in which he is a supervisor or co-supervisor. Lee Sin Tien, PhD candidate at UPM is investigating the effects of Novelin, olive oil and coconut oil-diets on insulin sensitivity, weight gain and selected markers of cardiovascular disease risk. IMU Masters student Simon Toh Wai Hong is working on a project entitled “The acute effects of sn-1 and sn-3 palmitic or stearic acid-rich fats on postprandial lipaemia, haemostatic and inflammatory markers, gut hormone concentrations, satiety and insulinemic response in human volunteers”. IMU Masters student Ng Yen Teng's project is entitled: “Chronic effects of natural palm-margarine, inter-esterified margarine and modified soy-based margarine on cardiovascular disease risk, inflammation, insulin resistance and obesity Malaysian adults”.

Prof Khor Geok Lin has received grants for two projects in which she is the principal investigator:

- (i) “Maternal intake, breast milk composition and infant fecal microbiome” fully funded by Friesland Campina (RM 80,000)
- (ii) Validation of WHO Indicators of breastfeeding and complementary feeding. Fully funded by the the International Life Sciences Institute, SEA (RM 61,000).

This year the Division has published 7 papers in the Journal of Gastroenterology and Hepatology, the Asia Pacific Journal of Clinical Nutrition, the Malaysian Journal of Nutrition and Sains Malaysiana.

Biomedical Science Programme

Developments in Teaching, Learning and Assessment

The third semester of the revised curriculum has been successfully implemented for the 37 students of cohort BM1/12. The introduction of the practical assessment in Microbiology (Semester 2) was also well received, with the introduction of video recordings of laboratory techniques developed by Dr Fabian Davamani. Lesson outcomes of the revised curriculum have been mapped to the module and programme outcomes. Although there were no major curriculum revisions, changes in individual units such as the Biotechnology module

enhanced the relevance and cohesiveness of the course content. Mapping of assessment items to module learning outcomes has been improved to distinguish between factual recall and application type questions, consistent with Bloom's Taxonomy.

The Radiobiology module now includes a visit to a Positron Emission Tomography (PET) centre, and from 2014 Semester 5 students will undertake two newly introduced practical sessions, using the Imaging and Diagnostic Laboratory of the Faculty of Medicine and Health Sciences at Universiti Putra Malaysia. These sessions offer crucial hands-on experience in handling radioactive material for diagnostic investigations.

Flipped classroom activity is gradually being incorporated into delivery of the curriculum, including modules on Forensic Science and Pathology, and has garnered very positive feedback from students. I-lectures continue to be developed, and the e-learning portal is well utilised for online learning resources in all modules. Under the Student Mobility initiative, two students from VIA University College, Denmark will undertake Semester 4 (December 2013) with BM1/12 students.

Collaborations

Fifty students of BM1/10 students undertook placements from March to May with various organisations in Malaysia and abroad, with support from the Student Mobility programme. Placement institutions included Pantai Premier Pathology, Assunta Hospital, Tropicana Medical Centre, Universiti Malaya, National Chiayi University of Taiwan, the Taiwan Veteran's General Hospital, and Duke-NUS Graduate Medical School in Singapore.

A Memorandum of Understanding was signed with Fisher Scientific (M) Sdn Bhd, which will, as our industry partner, provide placements to students of laboratory-based programmes such as Biomedical Science.

Staff Strengths and Achievement

Staff members, Tsen Min Tze, Anil Philip Kunnath and Valsala Ramachandran are undertaking PhD study. At the University's e-Learning Festival in September, Dr Archana Sikarwar won an award for her project '3-Step Model: Using a Blended Approach to Conduct a Quality e-Keynote (WizIQ Skype). A number of staff

presented the results of their research at international conferences.

In the IMU Cares programme, Dr Archana Sikarwar led community service activity in support of the the National Autism Society of Malaysia with various programmes to enhance inter-professional learning and corporate social responsibility. Biomedical Science staff including Drs Chye Soi Moi, Ebenezer Chitra and Lim CL also contributed to service in Klang Valley National Stroke Association centres. Biomedical Science faculty co-organised the 'IMU No Tobacco Day' activity in June in association with the IMU Healthcare Jamboree.

Research and Publications

In 2013 Biomedical Science academic staff secured research grants for the following projects:

1. Development of a Novel Chitosan-Propolis Nanoformulation Against Biofilm Formation by *Enterococcus faecalis* Using In Vitro and Ex Vivo Models and Validation by Gene Expression Profiling (ERGS, RM221,000) – Dr Fabian Davamani as principal investigator and Dr Ebenezer Chitra, co-investigator
2. Reversal of Age-Related Hyposalivation by Upregulation of Salivary Gland Aquaporins (ERGS, RM141,000) – Dr Lim Chooi Ling as co-investigator
3. Orientin Protects Neuronal Cell Lines from Hydrogen Peroxide Induced Oxidative Damage via Up-Regulating P13K/Akt Survival and Nrf2/Keap1 Redox Signaling Pathways While Down-Regulating MAPK/ERK Apoptosis Pathway (FRGS, RM147,500) – Dr Koh Rhun Yian as co-investigator
4. Development of Ternary Copper (II) Complexes as Effective and Selective Anticancer Drugs via ROS-Induction and/or Proteasome Inhibition (MOSTI E-Science, RM279,000) – Dr Chye Soi Moi as co-investigator
5. Synthesis, Characterisation and Evaluation of Amphiphilic Star-branched Folate-Terminated PLA-(PEG)2 Block Copolymers as Nanocarriers for Targeted Drug Delivery (MOSTI E-Science, RM241,000) – Dr Chye Soi Moi as co-investigator

Biomedical Science staff also continue to develop and supervise undergraduate research projects.

Publications

1. Kang YB, Mallikarjuna PR, Fabian DA, Gorajana A, Lim CL, Tan EL. Bioactive molecules: Current trends in discovery, synthesis, delivery and testing. Review. *IeJSME*, 2013; 7(Suppl1): 32-46. (IF: 0.024; H-index: 1).
2. Lee SY, Sew JY, Chin KL, Tee EC, Tang MW, Chee CF, Koh RY, Chin SY, Ling APK, Yarmo MA. Isolation and identification of antioxidant compounds in methanolic extract of both female and male plants of *Ficus Deltoidea*. *Malaysian Journal of Chemistry*, 2013; 15(1): 055-066.
3. Mitra NK, Krishnan K, Chong CH, Yen ND, Hsiao LE, Sikarwar A. Evaluation of the neurotoxic effects of ethanol on the cerebellar and cortical neurospheres isolated from E14 mouse embryo. *Journal of Clinical and Experimental Investigations*, 2012; 3(4): 443-450. (IF: N/A).
4. Ong CE, Pan Y, Mak JW, Rusli Ismail. In vitro approaches to investigate cytochrome P450 activities: Update on current status and their applicability. *Expert Opinion on Drug Metabolism and Toxicology*, 2013; Doi: 10.1517/17425255.2013.800482. (ISI IF: 3.119; SJR SCIMAGO IF: 3.298; HI: 33; Tier: Q1).
5. Pan Y, Mak JW, Ong CE. Heterologous expression of human cytochrome P450 (CYP) 2C19 in *Escherichia coli* and establishment of RP-HPLC method to serve as activity marker. *Biomedical Chromatography*, 2013; Doi: 10.1002/bmc.2872. (ISI IF: 1.966; SJR SCIMAGO IF: 1.96; HI: 37; Tier: Q2).
6. Sikarwar AS, Wong TH, Ambu S. Development of a dual target rapid diagnostic dot-elisa system for identification of cobra and viper snake venom antigen in snake bite cases. *The Experiment*, 2013; 13(2): 837-842. (IF: N/A).

Conference Posters

1. Amalraj FD, Ramamurthy S, Chew YM, Surendran D, Thomas FK. Anti-cancer property of *Hopea odorata* plant extract in vitro. *International Symposium on Biological Engineering and Natural Sciences (ISBENS)*. July 2013, Bangkok, Thailand.
2. Chitra E, Davamani F, Chidambaram K, Leong CO, Muhammad Omar Bin Habib Rahuman, Kee STS, Yugavathy N, Wen WX, Kuok HW, See JW. Pro-carcinogenic role of anti-hyperglycemic

drug sitagliptin in fibroblast cell lines in vitro. In: International Symposium on Biological Engineering and Natural Sciences (ISBENS). July 2013, Bangkok, Thailand.

3. Koh RY, Ling APK, Wong YP, Chye SM. Neuroprotective effect of *Strobilanthes crispus* extracts on hydrogen peroxide-induced SH-SY5Y Cells. The 11th International Conference on Alzheimer's and Parkinson's Disease. March 2013, Florence, Italy.
4. Ling APK, Law BNT, Koh RY, Chye SM, Tiong YL, Wong YP. Neuroprotective effects of orientin on hydrogen peroxide-induced apoptosis in SH-SY5Y neuroblastoma Cells. The 11th International Conference on Alzheimer's and Parkinson's Disease. March 2013, Florence, Italy.
5. Sikarwar AS. Weight status of children with autism in Kuala Lumpur, Malaysia. The 13th Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine Congress. October 2013, Bali, Indonesia.
6. Wong YP, Law BNT, Koh RY, Chye SM, Tiong YL, Ling APK. Investigating neuroprotective effects of methanol extract of *Ocimum sanctum* on hydrogen peroxide-induced SH-SY5Y cells. The 11th International Conference on Alzheimer's and Parkinson's Disease. March 2013, Florence, Italy.

Student Progress and Achievement

Our third cohort, BM1/10, graduated in September with 6 graduands awarded First Class honours. This cohort of fifty individuals is the largest Biomedical Science class to graduate to date. At the time of writing BM11 students have completed Semester 5, and BM12 students Semester 3, whilst BM13 students are in Semester 1.

With the support and guidance of Dr Yam Wai Keat, Ashwinder Kaur and Chee Phui Mun of BM 1/10 presented the results of their final year research at the 24th Intervarsity Biochemistry Seminar on 11 May at Taylor's University. Ashwinder made us proud by winning the best oral presenter award, whilst Phui Mun won the best poster award out of over 60 participants.

Medical Biotechnology Programme

Developments in Teaching, Learning and Assessment

The revised Medical Biotechnology curriculum has been fully implemented up to Semesters 2 and 3. Newly introduced approaches to teaching and learning include the flipped classroom and e-posters. These approaches and computer aided learning have replaced some didactic teaching, including some lectures in modules such as Toxicology and Toxinology. Portfolios of learning and reflective writing have been incorporated into the curriculum. Their use begins with the 2013 cohort. These innovations are supported by applications in the University e-learning portal.

Assessment methods in three modules: Biodiversity of Life; Cell & Tissue Culture Techniques and Forensic Sciences have been revised in line with recommendations from PEAC reviewers to increase in-course assessment and to reduce final (end-of-semester) assessment. Online tests replace paper-based assessments in some modules. The e-learning portal continues to be used to provide online access to learning resources such as i-lectures, lecture notes and computer aided learning activity.

Collaborations

Some modules include visits to research institutes and industrial companies such as the Malaysian Genome Institute, REM Corporation Sdn Bhd, and HOE Pharmaceuticals Sdn Bhd. Students undertake eight-week internships at BioValence Sdn Bhd, CellSafe International Sdn Bhd, Snack Boss Sdn Bhd, InQpharm Group Sdn Bhd, Altona Diagnostics Asia Pacific and National University of Singapore.

We have worked closely with the Malaysian Biotechnology Corporation to better prepare students to enter the biotechnology sector. To enhance their employability, students of cohort MB1/11 undertook the Graduate Employability, Adaptability and Reshaping (GEAR) Program offered by the Corporation.

Under the Student Mobility programme, two biotechnology students from the University of Sharjah in the United Arab Emirates, undertook a 6-week internship supervised by Dr Anna Ling, Ms Wong Ying Pei and Dr Kok Yih Yih.

Student Progress and Achievement

All student cohorts are progressing well. The pioneer cohort of 12 students, MB 1/10, graduated in 2013. These graduates have either been employed by companies including UG Medical Disposable Sdn Bhd., AIA Shared Services, B-crobes Sdn Bhd, Zuellig Pharma and BP Healthcare, or have gone on to postgraduate study in Malaysia, some at IMU. In May, Lim Zhi Ni and Yue Si Mei of MB 1/10 presented the results of their final year research projects at the 24th Intervarsity Biochemistry Seminar 2013 held at Taylor's University in Petaling Jaya.

Medical Biotechnology academic staff have participated actively in student recruitment activity including education fairs, Foundation in Science Day, University Open Days and Student Exploratory Workshops.

Staff Strengths and Achievements

Dr Wong Chiew Yen joined the Medical Biotechnology team in February. Dr Wong is research active in global warming, environmental toxicology and anti-oxidative stress enzymes. She served on the Technical Committee and was the Chair of the 6th Malaysian International Seminar on Antarctica held Penang, in October.

In March and June, Dr Anna Ling was appointed external examiner for three MPhil and MSc students at University Malaysia Sabah. In October Dr Anna Ling and Wong Ying Pei obtained Good Clinical Practice (GCP) certification. In October Dr Shar Mariam was an invited speaker for bio-careers and bio-education 2013 held in conjunction with Biomalaysia & Bioeconomy Asia Pacific 2013 in Johor Baharu. Other members of the medical biotechnology team also participated in this event. Staff members, Premdass and Wong Ying Pei are undertaking PhD study.

The team helped organise the University's No Tobacco Day, which was held on 9th June in association with the IMU Healthcare Jamboree. The team also contributed to the community service provided under the IMU Cares programme.

Research and Publications

Medical Biotechnology academics secured a number of research grants in 2013:

- Orientin protects neuronal cell lines from hydrogen

peroxide induced oxidative damage via up-regulating P13k/Akt survival and Nrf2/Keap1 redox signalling pathways while down-regulating Mapk/Erk apoptosis pathway (FRGS, RM 147,500). Dr Anna Ling as principal investigator.

- Investigation of the structure-activity and mechanism of action of anti-inflammatory flavones (FRGS, RM 122,164). Dr Anna Ling as co-investigator in collaboration with Universiti Sains Malaysia.
- Development of in vitro tissue cultures of Sargassum species with enhanced biochemical properties through application of gamma irradiation (FRGS, RM130,000). Dr Anna Ling as co-investigator in collaboration with Taylor's University.
- Allergenic potential of airborne algae isolated from Malaysia (FRGS, RM 149,500). Dr Kok Yih Yih as principal investigator.
- Comparison of transcriptomics profiling between polar and tropics microalgae in response to the effect of UV radiation stress (Universiti Malaya Research Grant, RM86,500) Dr Wong Chiew Yen as co-investigator.
- Proteomic footprinting of tocotrienol-treated human breast cancer cells (FRGS, RM142,000). Mr Premdass Ramdas as co-investigator in collaboration with the Faculty of Medicine, University Malaya
- DNA methylation pattern induced by tocotrienols in CD4 T-Lymphocytes isolated from a mouse model of breast cancer (FRGS, RM 142,000). Mr Premdass Ramdas as co-investigator with the Pathology Division.
- The efficacy of antimicrobial mouthwash and toothpaste formulations against selected oral pathogens : an in vitro study (WIPRO-UNZA – RM 50, 216.00). Dr Kavitha Mohandas as co-investigator with the School of Dentistry.
- Identification of chemical pharmacophores for the development of new generation broad spectrum antibiotics effective against multi-drug resistant bacteria (eScience – RM RM143,400.00). Dr Kavitha Mohandas as co-investigator with the School of Pharmacy.

Academic staff continue to supervise undergraduate research projects in the BMedSci, Biomedical Science and Medical Biotechnology programmes.

Publications

1. Law, BNT, Ling, A.P.K., Koh, R.Y., Chye, S.M., Wong Y.P. 2013. Neuroprotective effects of orientin on hydrogen peroxide-induced apoptosis in SH-SY5Y cells. *Molecular Medicine Reports* (In press).
2. Ling, A.P.K., Ung, Y.C., Hussein, S., Harun, A.R., Tanaka, A, Yoshihiro H. 2013. Morphological and biochemical responses of *Oryza sativa* L. (cultivar MR219) to ion beam irradiation. *Journal of Zhejiang University SCIENCE B*. 2013;14(12):1132-1143.
3. Ling, A.P.K., Tan, K.P., Hussein, S. Comparative effects of plant growth regulators on leaf and stem explants of *Labisia pumila* var. *alata*. *Journal of Zhejiang University Science B* 2013; 14(7):621-631.
4. Lee, S.Y., Sew, J.Y., Chin, K.L., Tee, E.C., Tang, M.W., Chee, C.F., Koh, R.Y., Chin, S.Y., Ling, A.P.K., Yarmo, M.A. Isolation and identification of antioxidant compounds in methanolic extract of both female and male plants of *Ficus deltoidea*. *Malaysian Journal of Chemistry* 2013; 15(1):55-66.
5. Bacterial constituents of indoor air in a high throughput building in the tropics. Tee Chin Li, Stephen Ambu, Kavitha Mohandas, Mak Joon Wah, Lokman Hakim Sulaiman, Malathi Murgaiyah. *Tropical Biomedicine* (In press)
6. In vitro antibacterial effects of *Cinnamomum* extracts on common bacteria associated with wound infections with emphasis on Methicillin - Resistant *Staphylococcus aureus*. Ayuba Sunday Buru, Vasanthakumari Neela, Kavitha Mohandas, Mallikarjuna Rao Pichika. *Journal of Ethnopharmacology* (In press)
3. Dr Kok Yih Yih: 'The effect of single-walled carbon nanotubes on marine algae' at the International Symposium on Biological Engineering and Natural Sciences, July 2013, Bangkok.
4. Mr Premdass Ramdas: 'Curcumin exerts antiproliferative effects and ultrastructural changes in 4T1 mouse mammary cancer cells via the down-regulation of API5 gene', at the 6th Joint Meeting of the Societies for Free Radical Research of Australasia and Japan, September 2013, Sydney, Australia.
5. Dr Wong Chiew Yen: 'Response of polar *Chlorella* to elevated CO₂ and temperature' at the 6th Malaysian International Seminar on Antarctica, October 2013, Penang.

Psychology Programme

Developments in Teaching, Learning and Assessment

No major revisions of the Psychology curriculum were carried out in 2013 due to the recent implementation of the comprehensively revised curriculum that was launched at the start of 2012. A PEAC Review of the psychology programme will be conducted in May 2014.

Sensory experiments for the Sensation and Perception module were conducted in various locations within the Bukit Jalil, including the driveway and the chemistry lab, to provide students with an innovative and creative approach to teaching and learning activities.

Staff training in sound educational practice is on-going. Alexius Cheang completed the IMU Basic Teaching Licence course in 2013. Other members of academic staff were keen to attend this training but have been unable to do so due to conflicting commitments, such as PEAC 2013, and will attend in 2014. Faculty training in using MAHARA, a fully featured web application to build electronic portfolios, was conducted by Dr Gavin Macdonell in September 2013, as part of the online integration of MAHARA with portfolio in the Psychology curriculum.

Lecture notes and learning resources for every module of the psychology programme are accessible to students via the new University Learning Portal. Integrated online tests and i-lectures have also been developed for some modules. For example, Alexius Cheang has incorporated an online quiz and student

Conference Papers

1. Dr Anna Ling: 'Neuroprotective effects of orientin on hydrogen peroxide-induced apoptosis in SH-SY5Y neuroblastoma cells' at the 11th International Conference on Alzheimer's and Parkinson's Disease, March 2013 in Florence, Italy.
2. Ms Wong Ying Pei: 'Investigating the neuroprotective effects of a methanol extract of *Ocimum sanctum* on hydrogen peroxide-induced SH-SY5Y cells' at the 11th International Conference on Alzheimer's and Parkinson's Disease March 2013 in Florence, Italy.

feedback on teaching and learning activity for the Sensation and Perception module. In order to enhance our use of e-learning in the psychology programme, academic staff have been attending workshops offered by the e-Learning unit. Workshops attended during 2013 include:

- Introduction to the new Learning Portal
- Introduction to Instructional Design Workshop
- i-Lecture Advanced and Basic Workshops
- QR Codes for Teaching and Learning
- Prezi for Creating Presentations
- Mahara Training for Trainers

Collaborations

A number of collaborations with industry occurred during 2013 in the form of work-based placements for our Psychology students. These organisations included Hospital Lam Wah Ee, Penang; Wisma Harapan Special School, Kuala Lumpur; Hospital Sungai Buloh, Selangor; HL Management Corporation Sdn Bhd, Kuala Lumpur and Petronas Carigali Sdn Bhd, Kuala Lumpur.

Courses and Other Events Conducted

Dr Gavin Macdonell presented on 'Fussy eating: What can parents do?' as a plenary speaker at the University's public workshop entitled 'My child refuses to eat anything - What do I do?' organised by the Division of Nutrition and Dietetics on 6 July.

A one-day educational field trip was conducted in December 2013 to Hospital Bahagia Ulu Kintar, Perak, organised by Saravanan Coumaravelou. Four academic staff members and two Psychology cohorts (PS1/11 and PS2/11) attended the field trip. A write-up by Marketing for the Psychology programme, which will include this field trip, will be published in the Malaysian press.

Student Recruitment, Student Progress and Achievement

The psychology programme is growing in student numbers. Our most recent intake in October 2013 consisted of 28 students, which is the largest single intake since the programme commenced in 2008. All active cohorts (PS2/13, PS1/13, PS2/12, PS1/12, PS2/11, and PS1/11) are all progressing well. Teaching and learning activities are progressing as planned.

Jocelyn Tang Phaik Lin of the PS1/12 cohort received a Maxis Scholarship for Excellence Award in April 2013. This award is made to outstanding young talents to pursue their academic aspirations at top institutions of higher learning in Malaysia or overseas. Dr Gavin Macdonell attended the award ceremony to represent the IMU Psychology programme.

In November, two Thesis II final year students from the PS1/11 cohort, Aishah Diyana Binti Baharudin and Jot Gin Ver'n, both supervised by Dr Gavin Macdonell, and several Psychology graduates from the PS2/10 cohort presented the results of their individual research studies at the Malaysian Psychological Conference 2013 in Perak. Dr Gavin Macdonell and Dr Ke Guek Nee presented plenary lectures, representing the IMU Psychology Programme at the conference.

Our first Psychology transfer student to the University of Strathclyde, Ms Chung Kai Li, from the Psychology cohort PS1/09, graduated with a First Class Honours degree in Psychology from the University of Strathclyde in July. Ms Chung studied the first two years of her degree at IMU and the final two years at the University of Strathclyde. Ms Chung's final year dissertation received the highest mark in her year and has been submitted to Manchester Metropolitan University's Psychology Journal (Dissertations), an online journal which publishes final year dissertations that were awarded a mark of 70% or above. Ms Chung has subsequently been offered a PhD studentship at Edinburgh Napier University, to continue her studies in psychology.

Research and Publications

1. Beck CJA, Menke JM, Figueredo AJ. Validation of a measure of intimate partner abuse (Relationship Behavior Rating Scale-Revised) using item response theory analysis. *Journal of Divorce and Remarriage*, 54:58-77, 2013.
2. Fiese RJ, Menke JM. Simplifying documentation and the physician quality reporting system. *Dynamic Chiropractic*, 31(6), March 15, 2013.
3. Feise RJ, Crowther ER, Menke JM. Out on a limb: are you misdiagnosing your extremity patients? Submitted to *Dynamic Chiropractic*, July 2, 2013.
4. Menke JM, Diakow PRP, Crowther ER. Ethical uses of placebo. First Annual UNESCO IMU Bioethics Conference, May 8-9 2013, Kuala Lumpur, Malaysia.

5. Ong KW, Mohr T, Menke JM, Hannah DW. Exploring chiropractic insurance in Malaysia. First Annual UNESCO IMU Bioethics Conference, May 8-9 2013, Kuala Lumpur Malaysia.
6. Henry K, Menke JM, Hubka MJ. Effectiveness as the criterion for chiropractic healthcare education. First Annual UNESCO IMU Bioethics Conference, May 8-9 2013, Kuala Lumpur Malaysia.
7. Menke JM, Diakow PRP, Hannah DW. Sequential Triage to Create Greater Access and Lower Costs in Health Care Systems. First Annual UNESCO IMU Bioethics Conference, May 8-9 2013, Kuala Lumpur Malaysia.
8. Dane DE, Menke JM. Case study: the use of integrative medicine in complex cases. First Annual UNESCO IMU Bioethics Conference, May 8-9 2013, Kuala Lumpur Malaysia.
9. Diakow PRP, Menke JM. Stimulating reflective learning in chiropractic students. 8th International Medical Education Conference (IMEC-2013), March 13-15, 2013, Kuala Lumpur, Malaysia.
10. Dane DE, Campbell M, Menke JM. Ways to ethically promote chiropractic student teaching clinics. 8th International Medical Education Conference (IMEC-2013), March 13-15, 2013, Kuala Lumpur, Malaysia.
11. Raghavan C, Beck C, Menke JM. Structure of intimate partner violence in male same sex relationships: an exploratory factor analysis. Annual Conference of the American Psychology-Law Society, March 7, 2013, Portland, Oregon.
12. Pau A, Chen YS, Jeevaratnam K, Fall AA, Khoo CSM. A Systematic Review of the Multiple Mini-Interviews (MMI) – Preliminary findings, SEAADE 23rd Annual Scientific Meeting, Hong Kong, November 2012
13. Pau A, Chen YS, Jeevaratnam K, Fall AA, Khoo CSM, Nadarajah VD. The Multiple Mini-Interview (MMI) for Students' Selection in Health Professions Training - A Systematic Review. Medical Teacher 2013;35(12):1027-1041.
14. Nyamayaro PC & Saravanan C. The relationship between adjustment and negative emotional states among first year medical students. Asian Journal of Social Sciences & Humanities 2013;2(3):227-278.
15. Saravanan C. & Wilks R. (2013). Medical students' experience of and reaction to stress: The role of depression and anxiety. The Scientific World Journal (in press).
16. Shobana M & Saravanan C. (2013) Comparative study on attitude and psychological problems of mothers towards their children with developmental disability. East Asian Archives of Psychiatry. (In press).
17. Saravanan C & Alizi A. (2013). An experimental study on the intervention for depression to reduce homesickness among international students in Malaysia. At the 13th Congress of ASEAN Federation of Psychiatry on Mental Health in Singapore.

Chiropractic Programme

Developments in Teaching, Learning and Assessment

The Chiropractic Programme is completing its first full academic cycle with the roll out of Semesters 7 and 8. The Division has worked closely with IMU Healthcare and Marketing to ensure adequate patient flow for the chiropractic practicum and the quantitative requirements for our first cohort. The Division has completed a detailed review of the curriculum and is preparing a report with recommendations for implementation beginning in 2015. The Division is awaiting a response to our submission and a site visit from the Malaysian Qualifications Agency as the next step in the Malaysian accreditation process. Meanwhile, the Council on Chiropractic Education, Australia has given the chiropractic programme full accreditation for a period of 3+1 years.

As part of our drive for innovation, the programme is planning to incorporate the concept of effectiveness (of patient management) as a competency for evaluating intern progress during Semesters 7 and 8 in 2014. The Division continues to encourage and support academic staff to increasingly use the e-learning portal and its associated applications in the delivery of the course, including posting of course materials, assignments and auxiliary teaching aids.

A new IMU Healthcare chiropractic clinic has been opened in Puchong at Setiawalk. Semester 8 students were involved in patient care at this facility and practices were developed.

The Division has developed a proposal for the Master in Clinical Chiropractic programme and this has been passed by the Board of Studies. The proposal will undergo scrutiny by the Chiropractic Curriculum and Assessment Committee, Faculty Board and Senate before being submitted for MQA approval in early 2014.

Collaborations

The Department of Traditional and Complementary Medicine of the Ministry of Health has engaged members of academic staff from our Division to develop the internship (registration training) framework and that project is nearing completion. A full report of framework will be available in the first weeks of 2014.

The Division has maintained contact with Hospital Tuanku Ja'afar in Seremban, including two formal presentations related to chiropractic practice and integrated care. However, no significant progress has been made on the inclusion of chiropractic services at the hospital.

A presentation and preliminary discussions were held with Dr Mohamad Hafez Bin Hussain of SOCSO. Dr Mohamed is involved in the SOCSO Health Screening Program and is very much interested in the inclusion of chiropractic in the care of injured workers.

A new chiropractic association, the Association of Chiropractors in Malaysia, was formed and has received recognition by the Board of Societies. Faculty members were involved in the preliminary meetings and are now committee members.

Staff Strengths and Achievement

Several new chiropractic faculty members were added in 2013. Dr Barry Draper joined us from RMIT and assumed the Coordinatorship for the Bachelor of Chiropractic Programme. He brings a depth of administrative experience and a meticulous nature that complements our faculty strengths. As well, Drs Katherine and Kenneth Reckelhoff joined the Division this year. The latter is a Board Certified chiropractic radiologist and has added greatly needed expertise to that area of the curriculum. The arrival of Dr Keith Henry has increased the Division's expertise in chiropractic accreditation and quality assurance processes. Dr Edward Crowther brings extensive

experience in interdisciplinary education and integrated models of healthcare. Both were very effective in smoothing out the operation of clinical education and developing appropriate clinical competencies and other assessment tools for our first cohort in Semesters 7 and 8. We continue to recruit academic and clinical staff with diverse skill sets and experience in research, interdisciplinary education, curriculum development, evaluation and assessment and specialisations.

Research and Publications

During 2013 members of the Chiropractic Division presented papers locally and abroad, including at the IMEC 2013, the Bioethics & Professional Practice Conference, the Preakness Health Conference and the World Federation of Chiropractic Congress. The Division's academic staff and students authored 11 scientific posters for the Bioethics Conference. Academic staff have produced 10 papers, published or in press, in peer-reviewed journals.

Student Progress & Achievement

Attrition rates have decreased from the previous year, and our enrolment continues to increase. The chiropractic faculty continued to actively engage in student recruitment in 2013, participating in several education fairs, the University's Student Exploratory Workshops, and Open Days. Presentations on chiropractic as a career choice were made to prospective pre-university students at schools throughout the Klang Valley, Kota Kinabalu, Mandalay and Yangon, Myanmar and Pekanbaru, Indonesia. Internally, the division continues to engage in interdisciplinary educational campaigns with IMU staff and faculty.

The Division is set to graduate its first cohort in February 2014. This cohort is currently finishing the clinical year at IMU Healthcare Clinics. At the time of writing, two thirds of this cohort have completed the minimum requirements and the rest should complete within the next month. Through curricular and module content changes, the second cohort should be even better prepared for their clinical training. Our first partner programme transfer students left Malaysia for RMIT in the spring of 2013. Feedback from this institution has been favourable. In 2014 one student will transfer to RMIT, one to AECC and two to USW.

Chinese Medicine Programme

Developments in Teaching, Learning and Assessment

Implementation of the Chinese Medicine curriculum is on-going and will be complete by the end of 2014. At the time of writing, academic staff are focusing on the development of appropriate assessment and evaluation tools for the upcoming Semesters 5, 6 and 7, and particularly for the clinical courses in Semester 8. A review of the use of portfolios and the assessment of professionalism has revealed opportunities for modification and inclusion of advanced instruments already developed at other institutions. The Division continues to increase the utilisation of the University e-learning platform. The Division continues to work closely with the Malaysian Buddhist Association and the Chinese Medical Division of Tung Shin Hospital to run clinical placements for students to observe practice and to practice under supervision.

Continuing Education and Development

In May the Division ran a workshop on Chinese Medicine themed "To read Classic Literature! To be an Excellent Chinese Physician!". This event attracted some 100 participants and helped create an avenue for enhanced communication with Chinese Medicine practitioners in Malaysia. Members of the Division also participated in the University's Health Awareness Day, and continue to be active in student recruitment, via the University Open Days and participation in education fairs.

Research and Publications

Research has significantly increased and interdisciplinary projects are in development. The coordination of research efforts has allowed the development of several student projects within the context of larger areas of faculty inquiry.

A collaborative project with Monash University Malaysia to investigate Malaysian undergraduates' perceptions of complementary and alternative medicine in chronic hepatitis B was carried out between October, a study conducted from October 2012 to April 2013. Other projects carried out in 2013 included a study of the perceptions and knowledge of Malaysian women of the use of Traditional Chinese Medicine for

gynecological conditions, and a study of the effects of the Chinese herb *Radix astragali* in normal humans through urine analysis.

Postgraduate Programmes

The Division has developed a proposal for a three-tier postgraduate programme in Acupuncture, with Postgraduate Certificate, Postgraduate Diploma and Master of Science levels through which the student may progress. The proposal is proceeding through various levels of approval and will be submitted to the MQA in 2014.

Student Progress and Achievement

In 2013, we started to receive a second intake each year into the Bachelor of Science (Hons) Chinese Medicine programme. The intakes for 2013 were in January and August, whilst those for 2014 will be in February and September. The February 2014 intake will be our fifth cohort of students. At the time of writing, CM 1/11, the first cohort, has completed 6 semesters or the first three years of the Programme. Two transfer students from this cohort will join RMIT University in February 2014, and three students will transfer to the Shanghai University of Chinese Medicine in April 2014.

The Chinese Medicine students successfully ran a charity sale and poster presentation during the first week of May. Proceeds were donated to the non-governmental organisations involved with Chinese Medicine: Tung Shin Hospital, Malaysian Chinese Medical Association and the Malaysian Buddhist Association.

School of Postgraduate Studies and Research

The School offers two higher degree programmes by research, namely the Master of Science (MSc) in Medical Sciences and Community Health, and the Doctor of Philosophy (PhD) in Medical and Health Sciences. 2013 has been a very successful year for the School, particularly in the training of MSc and PhD students. The University began offering higher degrees by research in 2004, and to date 13 individuals have graduated with PhD and 33 with MSc degrees. Of

these, four and nine respectively graduated in 2013. Two of the MSc graduates have gone on to PhD studies at the University, whilst some of the others plan to continue at other institutions locally or abroad. Fourteen Masters and five PhD candidates registered in 2013; of these 3 individuals are academic members of the University. Research projects undertaken by our postgraduate students are funded by University grants, and external grants, mainly from the Ministry of Education (FRGS and ERGS) and the Ministry of Science, Technology and Innovation (MOSTI).

The School is also responsible for organising and coordinating taught Masters programmes, namely the MSc in Public Health; MSc in Analytical and Pharmaceutical Chemistry; Masters of Formulation Science and MSc in Molecular Medicine. The MSc in Public Health programme received full accreditation from Malaysian Qualifications Agency in February. The first 3 individuals enrolled in this programme – the pioneer cohort – graduated in June, whilst 10 students enrolled this year. Students have undertaken mandatory and elective workplace based placements, organised in collaboration with Dewan Bandaraya Kuala Lumpur and the National Family Planning Board of the Ministry of Health. The MSc in Analytical and Pharmaceutical Chemistry is now in its second year with 8 students enrolled. The MSc in Molecular Medicine was launched in March, with a pioneer cohort of 8 students.

The University's Student Mobility Programme enabled PhD candidate Mai Chun Wai to spend six months at Strathclyde Institute of Pharmacy and Biomedical Sciences in Glasgow, as a visiting researcher. At the Institute, Chun Wai conducted part of the analytical work in his project, which involves the characterisation of bioactive compounds against cancer. He found the experience of living and working abroad at a partner university invigorating.

Published results of postgraduate research in 2013 include the following papers in refereed journals:

- Magalingam KB, Radhakrishnan A, Haleagrahara N. Rutin, a bioflavonoid antioxidant protects rat pheochromocytoma (PC-12) cells against 6-hydroxydopamine (6-OHDA)-induced neurotoxicity. *International Journal of Molecular Medicine*, 2013; 32: 235-240. (IF: 1.681; H-index: 56; Tier: Q3)

- Mai CW, Kang YB, Pichika MR. Should a Toll-like receptor 4 (TLR-4) agonist or antagonist be designed to treat cancer? TLR-4: Its expression and effects in ten most common cancers. *OncoTargets and Therapy*, 2013; 6: 1573-87. (IF: 2.756; H-index: 7; Tier: Q2)
- Yap FL, Cheong SK, Ammu R, Leong CF. Transfected human mesenchymal stem cells do not lose their surface markers and differentiation properties. *Malaysian Journal of Pathology*, 2009; 31: 113-120 (IF:N/A)
- Yap PSX, Chong YET, Wong YY, Lim XY, Ang JH, Goh HSL, Lai SMX, Mai CW, Ayuba SB, Mallikarjuna RP, Lim ESH. Antibacterial and antifungal testing of the different extracts of *Dillenia obovata* (Blume) Hoogl. *World Journal of Pharmacy and Pharmaceutical Sciences*, 2013; 2(5): 3946-3962 (IF: N/A)
- Yap PSX, Lim ESH, Hu CP, Yiap BC. Combination of essential oils and antibiotics reduce antibiotic resistance in plasmid-conferred multidrug resistant bacteria. *Phytomedicine*, 2013; (in press). (IF: 3.637; H-index: 59; Tier: Q1)

Research findings reported at international conferences include:

- Kumari M, Haleagrahara N, Ramdas P, Kutty MK, Radhakrishnan AK. Modulation of genes involved in oxidative stress, mitochondrial integrity and cell signaling by alpha-tocotrienol in a 6-OHDA rat model of Parkinson's disease. *Genomics Research* 2013, 9-10 May 2013, Boston, USA.
- Mai CW, Kang YB, Ahmad Sazali Hamzah, Pichika MR. Discovery of naturally occurring toll-like receptor-4 signaling inhibitors: their anticancer effects and mechanisms of action. *European Cancer Congress*. 27 September-1 October 2013, Amsterdam, The Netherlands.
- Yap FL, Cheong SK, Ammu R, Leong CF. Generation of gene engineered mesenchymal stem cells and its efficacy against human breast cancer. *The 15th International Congress of Immunology*. 22-27 August 2013, Milan, Italy.
- Yap FL, Leong CF, Ammu R, Cheong SK. Generation of gene engineered stem cells and its efficacy against breast cancer cells. *The 5th International Singapore Symposium of Immunology*. 7-8 June 2012, National University of Singapore.

- Yap PSX, Yiap BC, Hu CP, Lim ESH. Synergistic antibacterial and membrane permeability effects of peppermint essential oil alone and in combination with piperacillin on plasmid-conferred multidrug resistant bacteria. EMBL Symposium: New Approaches and Concepts in Microbiology. 14-16 October 2013, Heidelberg, Germany.
- Yap PSX, Beow Chin Yiap, Cai Ping Hu, Swee Hua Erin Lim. Synergistic antibacterial and membrane permeability effects of peppermint essential oil alone and in combination with meropenem on plasmid-conferred multidrug resistant bacteria. CSH-Asia Conference: Bacterial Infection & Host Defense. 18-22 November 2013. Suzhou, China

Continuing education and development events run by the School in 2013 included on-going series of Research Talks, which provide regular opportunities for postgraduate students to present and defend their work, in a University-wide audience. The School also organised talks by guest speakers, a course on Good Clinical Practice; and a workshop on best practices in postgraduate supervision.

Research Graduands and Theses, 2013	
Doctor of Philosophy	
Yap Fei Ling	The efficacy of mesenchymal stem cells transfected with Interleukin-12 and/or Interleukin-18 against breast carcinoma cells
Dr Anthony Leela a/p Anthony Muthu	A study of risk factors for gross congenital abnormalities among newborns in Penang
Sangeetha Shyam	The efficacy of low glycaemic index diets in the management of glucose homeostasis, cardiovascular risks and body weight among women with a history of gestational diabetes mellitus: a randomised controlled trial
Tiong Kai Hung	RNAi screening of human kinome identified fibroblast growth factor receptor 4 (FGFR 4) as a potential molecular target in basal-like breast cancers (BLBC)
Masters	
Fong Yewin	The effects of crude <i>Carica</i> papaya leaf extract and its water and methanol fractions on dengue type-1 infected human monocytes, Vero, C6/36 and glial cell lines.
Mazlyn Mena a/p Mustapha	A randomised controlled trial of fermented milk containing <i>L. casei</i> Shirota on functional constipation in adults
Ling Suk Jiun	The production and use of polyclonal and monoclonal antibodies against <i>Glycycometus malaysiensis</i> for immunological studies
Tan Jessie	The production of monoclonal antibodies against <i>Aleuroglyphus ovatus</i> and their use in immunological studies of <i>A. ovatus</i> sensitisation in a mouse model
Chua Ming Jang	Inhibition of cancer cell proliferation and survival through synergistic effects of traditional anti-cancer drug action in combination with targeted knockdown of cancer-related genes
Harvinder Kaur a/p Gilcharan Singh	Effects of oral whey protein supplementation on nutritional status, quality of life and physical function in malnourished patients on haemodialysis
Lai Pei Kuan	Professional socialization among the diploma and degree nursing students in Malaysia
Haema Thevanayagam	Photoprotective effect of carrageenan in UVB-induced apoptosis and mutagenesis in immortalized normal human keratinocyte (HaCat) cells

Convocation

June

On 8 June, more than 260 graduands took centre-stage in the auditorium of the Bukit Jalil campus for the graduation ceremony which marked the official completion of their study. Certificates of completion were awarded to transfer students who had completed the first phase of their medical, dental, pharmacy and chiropractic programmes. These students would go on to undertake the second phase at a Partner University, from which they would graduate. Convocation also acknowledged academic excellence in the graduands of all programmes by their inclusion in Dean's Lists of high academic achievers, and the award of graduation prizes. The auditorium was packed to capacity with parents and guests, members of the Board of Governors, the Senate, academic and administrative staff. A live broadcast of the proceedings as they unfolded in the auditorium was streamed to other lecture theatres in the university, for the benefit of family members and friends who were unable to be in the auditorium.





The June Convocation was a milestone for the School of Dentistry, marking the graduation of its first cohort of students. Prof Toh Chooi Gait, Dean of the School, said *"Today is a momentous and joyful day for us as we witness the graduation of our pioneer cohort of students, all of whom successfully completed the full local track of the IMU Dentistry Programme. Our academic staff have strived to develop and deliver a contemporary integrated curriculum that provides a wide learning experience. It has been most gratifying to watch students exhibit creativity, leadership and teamwork in many of their course activities. They have demonstrated that they are able to competently provide a wide variety of dental treatments to individual patients as well as communities, with empathy and good communication skills. We are indeed so proud of them!"*

Chong Jun Ai, the top graduand and recipient of the Tan Sri Datuk Dr Amar Sulaiman Merit Award, said, *"IMU has a good reputation in medical education, and despite being the first batch of dentistry students, the strong academic team led by Prof Toh Chooi Gait gives us much confidence. Dentistry wasn't easy for me as it requires good manual dexterity and I often struggled with my course work. Sometimes I was at the brink of giving up, but I often reminded myself that hard work and persistence will pay off, and if others could do it, so could I! Also, the satisfaction gained from happy, grateful patients motivates me to give my best and all for them."* Jun Ai, a recipient of the PTPTN loan and Maxis Scholarship, hopes to be able to train dental graduates in the future: her dream job. Her advice to individuals who wish to pursue a career in dentistry is to enjoy every moment of it.

The June Convocation also marked the graduation of the first cohort of students to undertake the Master of Science programme in Public Health, which began in 2011. Graduand Mangala Rubini A/P Sudharson was included in the Dean's List of high academic achievers. Professor Hematram Yadav, coordinator of the programme said *"Today marks an important milestone for the MSc in Public Health, and for the Division of Community Medicine. The MSc is the first taught postgraduate degree course developed by the University, and we are proud that the first cohort has successfully completed the programme. The graduates have completed 1½ years of University life to become qualified public health professionals. They not only have good knowledge of the field of public health but have also demonstrated competencies in communication skills, teamwork, research skills and leadership. With this new expertise they are ready to contribute to their communities and to society. This is indeed a proud day for the graduates and their lecturers"*.

The recipient of the Dr John Joseph Bosco Memorial Gold Medal for medicine was Nurhuda Nadzri, a Jabatan Perkhidmatan Awam scholar. *"I felt so blessed when I heard I am the top student and recipient of the Gold Medal. Studying medicine has always been my dream, as I feel that it offers the best option for me to do charity. It also provides a great platform for me to explore my potential especially leadership and social skills. Medicine is a field that is constantly changing – which encourages me to constantly learn something new. To me, in order to succeed, your desire for success should be greater than your fear of failure. You need to always aim for the best and to be sincere in everything that you do. The only way to do great work is to love what you do. Always think positive and be positive. It is our sincerity that will ease our journey,"* said Nurhuda, who as a student has been active in extra-curricular activity and community projects.

September

The September Convocation also took place in a packed auditorium at the Bukit Jalil campus. On this occasion more than 270 graduands received their degrees, and the Convocation was once again presided over by the University's Chancellor, YBhg Dato' Seri Dr T Devaraj. The graduation ceremony on 7 September was preceded by the presentation of prizes on 6 September 2013.



On 6 September Tee Fwo Yi, the highest achieving graduand of the nursing programme received the Tun Zahir Merit Award. Fwo Yi had consistently done well throughout her course. She had been inspired to become a nurse by Mother Teresa and a nurse who had looked after her grandfather, and believes nursing to be a very challenging but enjoyable and satisfying profession. Concerned that having to fund her university course would be very difficult for her parents, she applied for and was awarded the IMU Nursing Scholarship which covers the full tuition fees of the 4-year degree programme in nursing. Speaking of her achievement Fwo Yi said *"I was very excited and happy when I heard that I am the top student of my class. I believe that studying in IMU prepares us well to face the working environment after we graduate. I enjoyed going for clinical postings as I like working in hospitals and spending time with the patients. As a nursing student, I also had the opportunity to participate in community service activities such as giving health talks to children."*

Another graduand who achieved the highest marks in her convocating class was Amanpreet Kaur Dhanoa, graduating with MBBS. Amanpreet received the Dr John Joseph Bosco Memorial Gold Medal. As a student Amanpreet was the student coordinator for the Kampung Angkat project and a member of the Student Representative Council of the Clinical School.

Of her experience at university she said *"I believe that it is important to remain consistent and to work hard throughout the course, so that it will be easier to revise as exams come up. I found discussions with my housemates and fellow students to be very helpful. If I had studied alone, I might have overlooked or incorrectly understood certain points and topics."*

The discussions helped to enlighten me regarding the things that I did not know, and taught me to look at things from a different point of view. After completing 5 years in IMU, I definitely think that having an IMU education is beneficial to me. This is mainly in terms of the self-directed learning skills that I have cultivated. Although initially I found it difficult to adapt to this concept, with time I understood its importance in helping me to become an independent learner. This attitude of self-directed learning will also help me in keeping up to date with the on-going advances in medicine and also for when I wish to pursue my postgraduate studies."

Ho Yan Le was the medical student who had achieved the highest marks in phase one of the medical programme. Yan Le is now at the Clinical School in Seremban. *"I had lots of fun in IMU at Bukit Jalil and met a bunch of good and crazy friends. I joined some extra-curricular activities as I believed these activities will build your character, shape your personality and make you a better person in the future. I was secretary of the badminton club during Semester 1, president of the First Aid Club during Semester 3 and IMU's Student Ambassador. I was also in the orientation committee as well as IMU Cup committee during my second and third year in IMU,"* said Yan Le, a recipient of the Maxis Scholarship. Yan Le's advice for those who would like to pursue a career in medicine is to *"really make sure that you like medicine and would like to join this career. Try to do an attachment before choosing medicine as your career. Interest and passion are very important if you want to thrive in this challenging profession. Of course, you have to have the right mind and attitude, a good brain, a kind heart and a love for medicine."*

Enhancing Services and Resources

Library

Introduction

The Library continually strives to improve its performance in today's rapidly changing teaching and learning environment, whilst at the same time supporting the University's vision to be a leading private Asian health educator recognised for quality and innovative curricula. The Library planned several initiatives to be implemented in 2013 to meet pressing challenges and to ensure that the University community clearly understands the value of the Library to their learning, teaching and research. Because of manpower constraints and other unforeseen circumstances, only some of these initiatives were implemented this year, and others will be tackled in 2014.

The Collections: Print versus Online and e-Format

Since 2012 the Library began a cull its print collection by identifying and removing outdated, little used, or poorly relevant editions in an on-going effort to create shelf space for more useful editions. Most of the 394 books culled have been discarded but some have been donated to Hospital Kluang Library, at their request. From January to December 2013, 5,053 new books had been purchased, bringing the total collection to 59,511 books.

Concurrently the e-book collection has increased tremendously, with a total collection of 85,323 titles at December 2013. Two important and well-used databases were added during the year, the Science Direct database (2,318 e-journals and 108 e-books) and the UpToDate Point of Care reference database. The latter is particularly useful for clinicians and medical students in clinical training. The overwhelming availability of online editions of journals means that the Library now subscribes to only 18 print editions, enabling better access and significant savings in storage space.

Service Enhancement

The service units of the Learning Resources Department continue to integrate and work collaboratively. In 2013 the Library designed and published four library quizzes

online via the e-Learning Portal to test and enhance users' knowledge of the Library's digital resources. Specimens in the Medical Museum have been assigned QR Codes and linked to the Primal Pictures database which is accessible via the Library Portal. QR Coding allows students to access additional online information about the specimens. The creation of the Library Blog and Facebook page has enabled better social integration with our users.

A new Circulation Counter was installed in November to increase the efficiency of checking out and returning books. Monthly circulation statistics (table) indicates that print editions are still in wide use.

Month	Bukit Jalil	Seremban	Batu Pahat	Kuala Pilah	Kluang	Totals
Jan	2203	833	69	Books for use only within library	-	3105
Feb	1671	455	8		-	2134
Mar	3546	793	102		-	4441
Apr	3026	753	110		-	3889
May	2358	599	94		-	3051
Jun	1724	554	135		-	2413
Jul	1657	640	91		-	2388
Aug	1655	442	20		-	2117
Sep	2179	832	85		-	3100
Oct	2803	952	106		26	3887
Nov	2817	642	38		10	3507

The Reference Librarian's workstation in the library lobby was upgraded into a proper Reference Desk where the Reference Librarian can conduct small group sessions with users who need personal help in searching for and retrieving information, or who need research assistance.

The refurbished Library Café with its new look, service area and increased seating has been fully operational since early December 2013. It can now better accommodate customers during the peak hours of 12 noon to 2 pm.

The Library service has gained a good reputation nationally. In 2013 we received several groups of

visitors from other libraries seeking to learn from us and to use us as a benchmark for their services. We also benefited from the feedback gained from our visitors.

New Initiatives: The Central Digital Repository (<http://rep.imu.edu.my/xmlui/>)

This Library initiated the Central Digital Repository (CDR) to archive and manage access to the University's intellectual and academic output. The initial aim is to collect, collate and archive (upload) all student research dissertations and theses. The CDR will also hold the published work of academic staff, and other intellectual property resources for use by the University community. The CDR is being developed in-house by Senior Librarian Norhalim Mohd Nor.

User Appreciation Days

Library User Appreciation Days were held in July at the Clinical School, and in August 2013 at Bukit Jalil. Activities included a Photographic Contest; Database Clinic: Learn & Win; the Library Info Hunt; exhibition of books; Publishers' Product Highlights and a lucky draw. The activities were aimed at increasing awareness of library facilities, services and resources, and building effective relationships with users.

Peer Sharing

The Library continually assists users with identifying and retrieving information resources. The Information Literacy sessions teach students how to formulate an effective search strategy and carry out the search,

modifying the approach as needed. In addition to these timetabled sessions, the Library works with the Student Representative Council, part-time Student Librarians and members of academic staff to conduct additional sessions during lunch breaks and in the evenings. These additional sessions benefit from peer sharing. Sessions conducted by part-time Student Librarians are conducted weekly. Monthly lunchtime sessions for academics, conducted by their peers, have been held since July 2013. Facilitators share their expertise and experience in searching the databases, e-journals and e-books; enabling participants to explore a wider range and greater volume of published literature. It also helps participants gain a broader understanding of their field of inquiry, making their search more innovative and thorough.

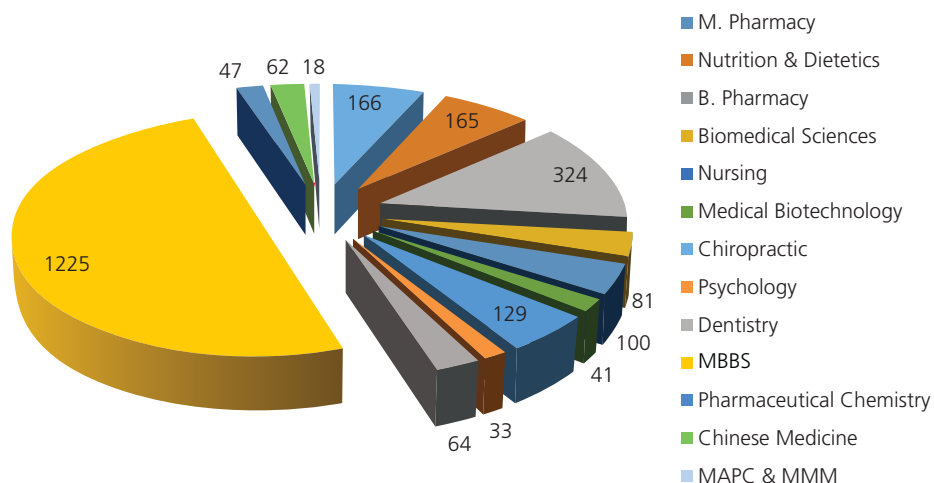
At the Knowledge Café sessions for Library staff, new knowledge and experience gained from workshops or courses is shared, and these sessions are also useful for developing communications and presentation skills.

On-going Programmes and Services

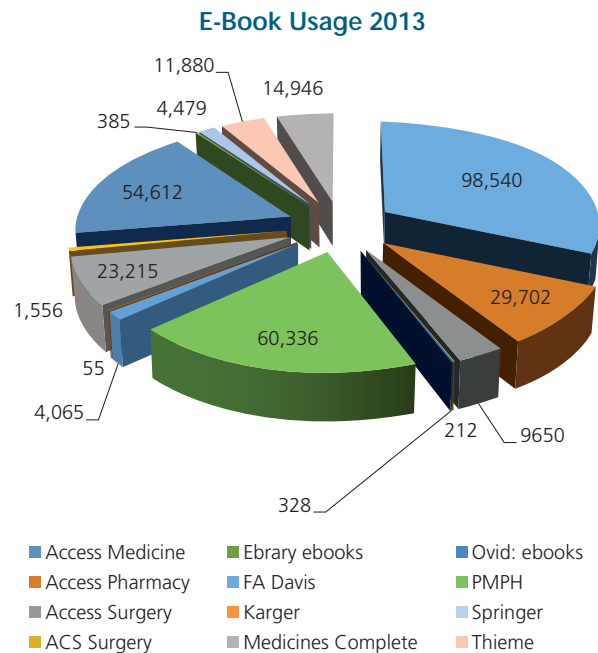
Information Literacy

The Library's contribution to the University's degree programmes includes Information Literacy sessions for all students. As shown in the chart below, 2,455 students from all programmes attended these sessions in 2013. Apart from guidance on effective searching for information, the sessions inform students about all Library resources and their utility, one factor that has increased the use of major e-resources compared to 2012.

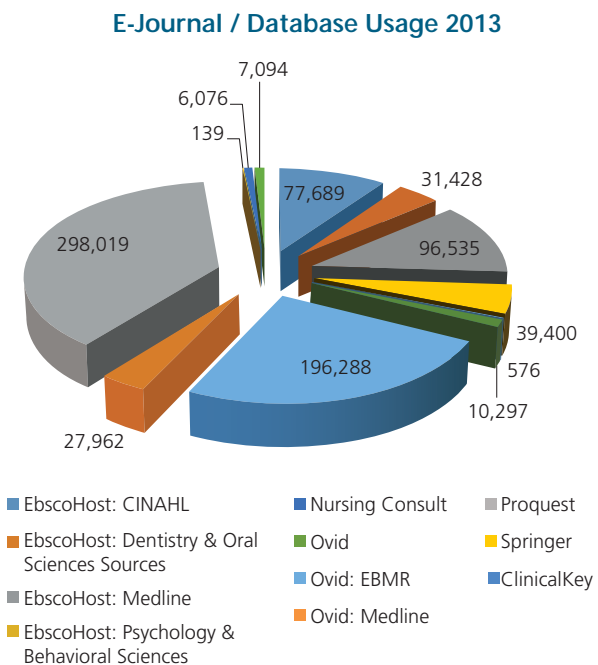
**Information Literacy
Participants, 2013**



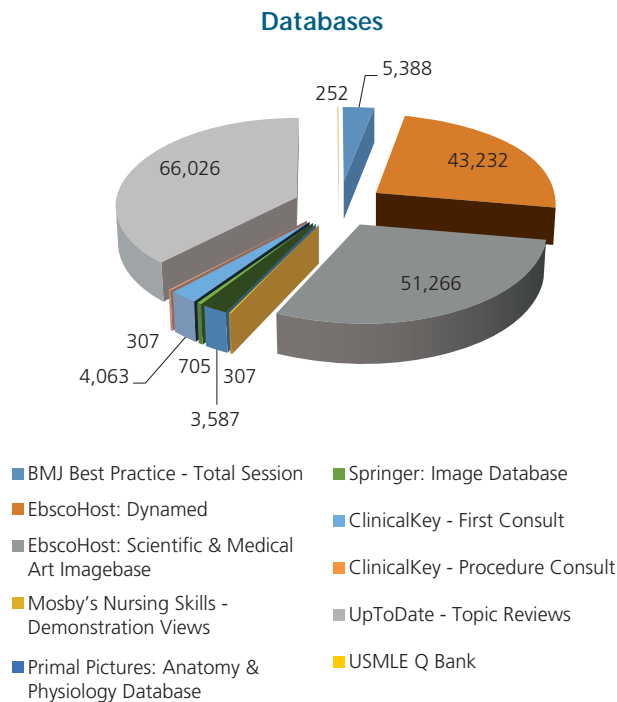
E-Book Usage	2012	2013
Access Medicine	61,928	98,540
Access Pharmacy	3,810	29,702
Access Surgery	20,856	9,650
ACS Surgery	927	212
ASHP	3,389	328
Ebrary e-books	40,081	60,336
FA Davis e-books	-	4,065
Karger e-books	104	55
Medicines Complete	-	23,215
Nursing Consult	623	1,556
Ovid	1,513	54,612
PMPH	548	385
Springer	1,310	4,479
Thieme	5,251	11,880
Clinical Key	-	14,946



E-Journal Usage	2012	2013
EbscoHost: CINAHL	65,614	77,689
EbscoHost: Dentistry & Oral Sciences Sources	40,284	31,428
EbscoHost: Medline	34,934	96,535
EbscoHost: Psychology & Behavioral Sciences	31,218	39,400
Nursing Consult	380	576
Ovid (LWW Journals)	9,087	10,297
Ovid: EBMR	-	196,288
Ovid: Medline	-	27,962
Proquest	179,943	298,019
Springer	698	139
ClinicalKey	-	6,076
Pediatrics In Review	-	7,094

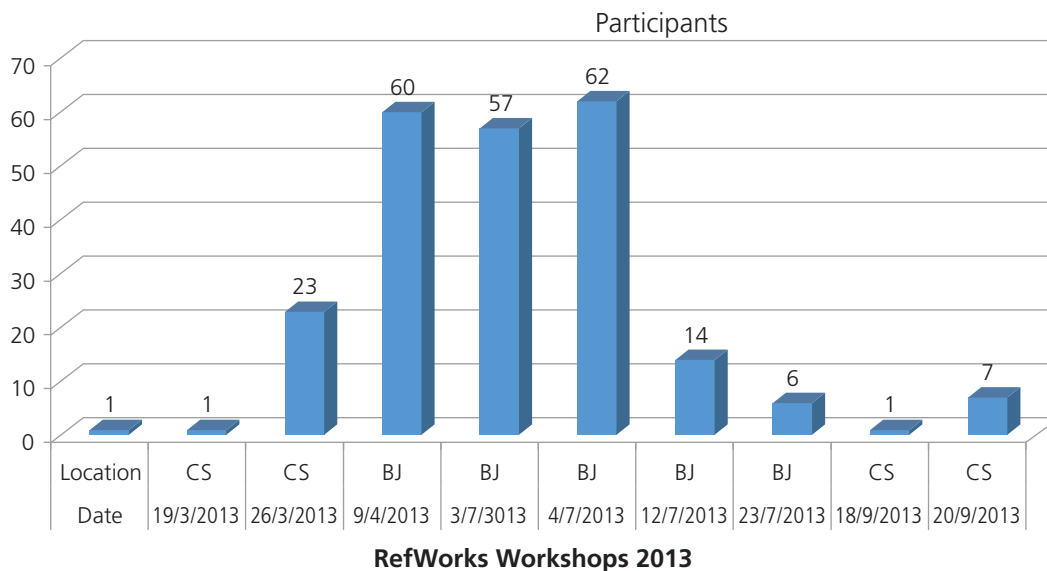


Database Usage	2012	2013
BMJ Best Practice	17,461	5,388
EbscoHost: Dynamed	34,934	43,232
EbscoHost: Scientific & Medical Art Imagebase	-	51,266
Mosby's Nursing Skills	380	307
Primal Pictures: anatomy & physiology database	704	3,587
Springer: Image Database	3,287	705
ClinicalKey - (First Consult)	-	4,063
ClinicalKey - (Procedure Consult)	-	307
UpToDate - Topic Reviews	-	66,026
USMLE Q Bank	-	252



Refworks Workshops

The Library runs Refworks Workshops for students and academic staff in support of literature search and referring for research. In 2013, 6 workshops were held at the Bukit Jalil Campus and 4 at the Seremban Clinical School, with a total attendance of 232 participants.



Document Delivery Services

The Library continues to be part of a network of Malaysian and overseas libraries. Robust working relationships with these libraries enable the Library to source resources not in our collection, particularly for the use of academic staff. In 2013 library users across all user categories made 1,960 requests for documents not available via Library resources. Most of these requests were met via the library networks and 141 documents were purchased from the Southeast Asian Medical Information Center (SEAMIC) in Japan. The addition of the Science Direct database to our e-resources collection in August has resulted in a significant decrease in the number of requests since then, evidence of the usefulness of that database.

User Category	Monthly Requests												Totals
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Academic	97	81	124	132	169	121	124	75	51	37	51	12	1074
Undergraduate	25	76	83	74	46	15	66	49	35	54	10	3	536
Postgraduate	11	12	17	7	9		9	1	6	7	7		86
Alumni						1	1	1	1	4	-	2	10
External	10	9	10	24	36	16	14	16	17	12	9	9	182
Management	11		5	2			5	4		4	1		32
Clinical School Libraries				2		7	8	5	4	5	1	2	34
Other					5	1					-		6
Totals	154	178	239	241	265	161	227	151	114	123	79	28	1960

Workshop on Evidence-Based Library and Information Practice (E-BLIP)

The EBLIP approach has been used in Europe for over 20 years. In June the Library ran a 3-day workshop on E-BLIP for librarians in Malaysia with the aim of promoting exploration of new approaches to Library practice. The low attendance may have been due to the mistaken perception that EBLIP is directed at medical librarians: All 13 participants were librarians from institutions that offer degree courses in medicine.

Staffing

In 2013 the Library has functioned well despite its minimal staffing, with most of the support personnel being part-timers. A highly experienced Library Officer at the Bukit Jalil campus left in April and has not been replaced, and the librarian at the Seremban Clinical School resigned in December. A Librarian has been appointed to manage the Kluang Clinical School Library commencing December 2013. She is assisted by one part-time staff member who will help service Semester 5 students on posting, and Semester 10 medical students.

As part of our drive to assure consistency of standards and services, we provided training for two librarians from our sister institution, the International Medical College. Three series of training sessions were held on key areas including the acquisition of library resources and the servicing of library users.

Looking Ahead

The year has been one of strengthening and enhancing library services and resources, continuing to educate users on the profitable use of library resources, promoting new ways of providing library services and working with other units to enhance teaching and learning. Significantly, 2013 has seen increases in the acquisition and use of electronic resources, and this is expected to continue.

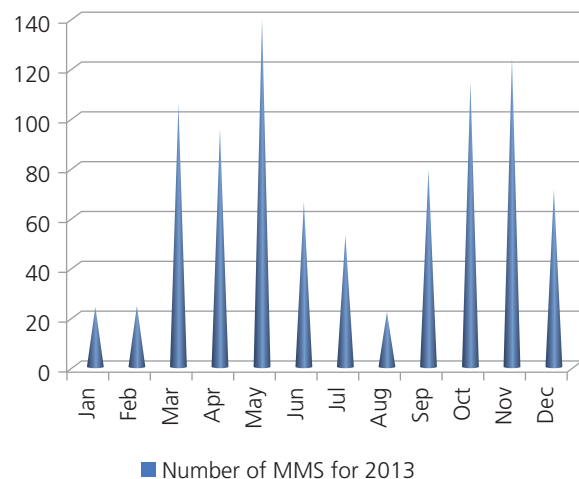
Medical Museum

The Medical Museum has had a smooth and productive year. We are an integral part of the delivery of the integrated curricula used in IMU degree programmes, primarily (but not exclusively) providing support to learners and teachers in medicine, dentistry, pharmacy, chiropractic, chinese medicine, biomedical science and medical biotechnology. Our learning resources are organised according to the organ systems of the human body, and our pedagogic philosophy is to promote and develop self-direction in learning.

In 2013, we acquired 7 orthodontic models for dentistry and 31 other models to be used by students in medicine, dentistry, pharmacy, chiropractic and chinese medicine. Several pathology specimens were potted for display, taking our total to 110. In 2014, we will continue to add to the collection of potted specimens. Verlyn Yang of the MBBS Semester 5 programme generously donated a bone set. Verlyn is the first student to donate a learning resource to the Museum and we thank her for her goodwill.

The Museum can now accommodate 920 interactive sessions (MMS) for medicine and dentistry (Semesters 1 through 5); chiropractic (Semesters 1 and 2), Chinese Medicine (Semesters 1 through 4), nursing (Semester 5), nutrition (Semester 3), the BPharm (Semester 4), and Biomedical Science and Medical Biotechnology programmes. All sessions are structured with clearly defined learning objectives, lesson plans and activity designed to promote integrated learning. In 2013 we established a 10-member multidisciplinary Working Group whose remit is to critically evaluate the sessions. The Group meets quarterly to review and evaluate Museum session content and delivery to achieve good consistency and standardisation.

Number of MMS for 2013



A target of one lesson plan per student is to be used during all the timetabled sessions. Fifteen Fixed Learning Modules (FLM) for system based pathology, microbiology and parasitology resources have been added this year, bringing the total to 1029, with 207 model guides as of December 2013. In 2014 model guides are to be digitised and made accessible online via their QR codes.

Moving Forward: Digitising the Museum

We are critically evaluating key aspects of the Museum with the aim of making its learning resources readily accessible online. This exploits the now common ownership of mobile devices with Internet connectivity to increase access, maximise use, facilitate and improve learning and promote self direction. Two projects are ongoing:

QR Coding

As a small but significant step towards digitising the Museum, QR codes are being assigned to learning resources. By scanning the QR code using their mobile device, the Museum user is able to access instructions, further information or links, or online versions of printed guides and manuals. This approach also offers the advantage of allowing rapid access to updates.

e-FLM Pathology Image Navigation

A web-based programme will allow users to navigate through the image bank, promoting more self-directed and active learning. This programme will be used to highlight key areas of learning, image identification and understanding the pathological process of disease. The programme can be used to develop online formative and summative assessments, for example allowing learners to be tested, or to test themselves on image identification, labelling and description. This programme also has the potential to provide web-based objective structured picture examinations (OSPE), and the content need not be limited to pathology but can be extended to other domains of medicine.



Welcoming Visitors in 2013

Apart from teaching and learning activity, the Museum played a large role in "No Tobacco Day" on 9 June, organised under the IMU Cares programme. This was popular with visitors to the University on the day.



At University Open Days in January, June and August, the Museum ran themed displays and demonstrations, with input and help from medical students from Semesters 3 and 4, and anatomists and pathologists in the teaching staff. The themes were respectively Cancer; Old Age and health; and Geriatric Disease and the Aging Process. Display material included posters, potted specimens and video demonstrations.

Senior students in medicine were on hand to provide explanations and help answer visitors' questions. The Museum also welcomed visitors on the Pharmacy and Health Sciences Days on 14 July and 12 September. On the Foundation in Science (FIS) Days on 6 October and 1 December, medical students from Semesters 3 and 4 took prospective FIS students on a guided tour of the Museum.



A Student Exploratory Workshop for pre-university and secondary school students was held on 10 and 11 December. Activity was designed for participants to learn about allergic conditions and protozoan infection. We began with an explanation of the concept of allergy, giving examples of common agents which can trigger an allergic response. Hands-on activity included demonstrations of live amoebae cultures, and participants were engaged in discussions on gastro-intestinal infections caused by helminthes and protozoans.

In November, the Museum welcomed a study tour delegation from the Vietnamese Ministries of Health and of Education, which was visiting Malaysia to learn about the accreditation of health professional educational programmes and professional licensing in Malaysia. We briefed the delegation on the Museum's mission, and on how it is organised so that its resources may be maximally utilised by users.

Looking Ahead

To evolve into a virtual resource, the Museum continues to work closely with the e-Learning unit and with teaching staff to exploit learning technologies. At the same time we continue to add interesting, useful and innovative learning resources for the benefit of students across the programmes offered by the University.

e-Learning 2013: Technology for Transforming Classroom Learning

The main focus of 2013 has been to equip University teachers with the tools needed for transforming students' learning experiences, based on the concept of the "flipped classroom". The significant (and increasing) proportion of University lectures that have been converted to i-Lectures now provides lecturers more freedom and time to facilitate learning rather than engage in didactic teaching during face-to-face contact time. E-Learning continues to be a key driver for promoting and supporting interactive, engaging face-to-face learning sessions which develop higher-order cognitive skills such as analysis, the application of knowledge and problem solving.

Significant e-learning milestones and achievements for 2013 were:

- The launch and implementation of a new e-Learning Portal based on Moodle
- Implementation of the e-Portfolio System based on MAHARA
- IMU Basic e-Learning Licence certification of more than 50 members of academic staff
- Development of more than 1700 i-Lectures across all University programmes
- The launch of the Learning Resources Newsletter
- Organising and hosting the online Learning Innovation Seminar 03
- Organising the University's first e-Learning Festival
- Empowering more academics to use interactive web tools in the classroom.

The e-Learning Portal

In early 2013, the e-learning portal was redesigned to simplify navigation, improve accessibility and usability. The Portal was upgraded to a newer version of Moodle (2.4.5). All existing programmes had been migrated to the new version by the last quarter of the year.



Screenshot of the new e-Learning Portal

All the University's educational programmes (courses) now use the Moodle platform to make course materials readily accessible to students. An increasing number of programmes are introducing more online learning activity, including discussion forums, online assignments and quizzes, in a drive to engage students and provide timely feedback on learning. For example, since 2009 more than one thousand online quizzes have been conducted via the Portal, for both formative and summative assessment.

Learning Resource Type	Number
Courses	+800
Teaching & learning video tutorials	+50
Quizzes	+1,000
Forums	+1,200
i-Lectures	+1,700
Assignments	+3,500
Shared files: Lecture notes, articles, URLs etc.	+26,000

The Table shows the numbers of learning resources which have been provided online since 2009. These resources have been developed by teaching staff with support from the e-learning team. Students and academic staff also have access to online databases and electronic journals via the Library.

The i-Lecture Collection

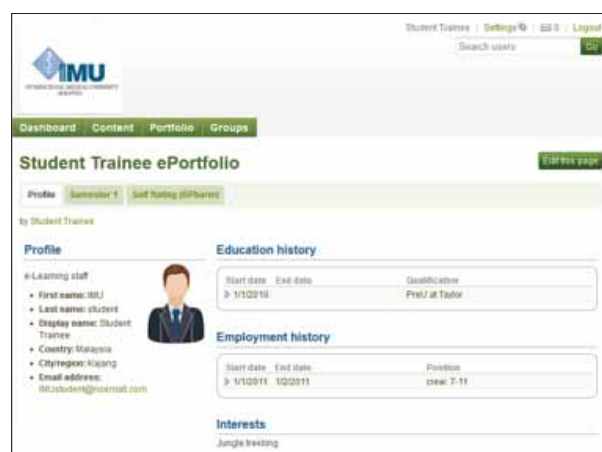
i-Lectures are interactive voice-narrated PowerPoint presentations developed using Articulate®. Since 2009, more than 1700 such lectures have been produced by University lecturers with training and support from the e-Learning team. Since 2011, the focus has been on improving the quality of this material, and infusing more interactive and engaging learning activity into all new i-Lectures being developed. To assist this process, teaching staff and the e-Learning team have worked together to create quality checklists; templates based on proven principles of instructional design; quality audits, and conducted numerous workshops to enhance skills in designing and constructing PowerPoint presentations, using Articulate interactive tools such as Quiz Maker and Engage. Articulate Storyline® is now being piloted for the development of scenario and case-based learning content.

The Basic e-Learning Licence Certificate

It is now mandatory for new members of teaching staff to complete the online training course leading to basic e-Learning certification. All existing lecturers are also urged to undergo certification, if they have not already done so. To date more than 50 lecturers have obtained certification. The training has been developed in-house; comprises four modules with learning resources and 30 online self-assessments, and covers the essential skills needed to effectively use the e-Learning Portal / Moodle, and Articulate Studio. In 2014, e-Learning certification training is to be updated and expanded to include key principles of instructional design and their application.

e-Portfolios on the MAHARA Platform

MAHARA is a web application used to build an electronic portfolio. Its use was piloted in a group of medical students in early 2013, and the e-portfolio system is now being taken up by most of the University's Schools and Programmes. Mahara allows the student to incorporate elements in various formats into a portfolio of learning, and to organise, share, and obtain feedback on this content. The system is thus essential for professional and personal development, storing and demonstrating evidence of progress in knowledge and skills. The content can readily be shared online with peers and mentors for feedback, aiding and enhancing reflective learning.



Screenshot of the e-Portfolio System

The Flipped Classroom

The “flipped classroom” strategy (Baker, 2000) for promoting active learning in teacher-led classes involves pre-class learning by students, for example, listening to a pre-recorded mini-lecture. Classroom contact time is then devoted to interactive activity instead of didactic information delivery. This teaching-learning strategy is increasingly being used across all the University's programmes. To support the strategy, and to make interactive sessions fun and engaging, interactive web tools (such as Poll Everywhere, Socrative, Infuse-Learning and Padlet) have been introduced to teaching staff, since 2011. These tools enable students to answer questions, take quizzes and play learning-related games using their mobile internet devices. Students receive immediate feedback as they are able to see the results on screen or online; and the lecturer is able to pace and quickly modify a learning session according to the learners' needs. Most importantly, this technology-facilitated approach engages students at higher cognitive levels than passive information gathering, promoting deeper learning.



Pictures: Flipped Classroom Sessions

Use of Social Media in Learning and Teaching

IMU lecturers increasingly use wikis, blogs, Facebook, QR Codes, etc. to enhance learner engagement, collaborative learning, and students' learning experience. For example, students using the Medical Museum can now scan tailored QR codes on the Museum's models and specimens, to obtain more information and access interactive multimedia resources online. This both enables and encourages independent and self-directed learning. Blogging is being used as a student assignment tool to encourage reflective learning, and collaborative working between peers and with lecturers.

Support & Training: Workshops and e-Learning Clinics

In 2013 twenty-five training workshops were conducted. These were aimed at developing lecturers' skills in designing and developing e-Learning content; using the portal to facilitate online learning; and exploring innovative learning tools, especially social media and Web 2.0.

e-Learning Clinics are one-to-one 30-60 minute training sessions conducted by an e-Learning expert for the benefit of a lecturer. Sixty-five such sessions were run in 2013. Each Clinic is focussed on a particular area, such as i-Lecture development (use of Articulate tools); instructional design; Moodle; social media and web 2.0 tools.

The e-Learning Festival 2013, “Learning Together”, 9 – 11 September

More than 100 University students and staff attended this three-day Festival, which showcased emerging aspects of e-Learning; and featured Learning Innovation Talks, Nano Workshops, and Mobile Game activities.



The Learning Resources Newsletter

The first issue of this digital newsletter was published in March 2013, and is to be issued quarterly thereafter. The Newsletter keeps University staff updated with the latest happenings, events, and activities in e-Learning at IMU and globally.

Learning Innovation Talk 03 (LIT03)

<http://lit03.blogspot.com/>



LIT03 - Online Speakers

The Learning Innovation Talks are seminars hosted by educational experts. The third such seminar was successfully held in May, and was the first to be delivered as a fully online event, reaching at least 225 people from 21 countries who had registered for LIT03. The event also made history by being the first ever one-day online seminar to be held by any university in Malaysia. The seminar benefited enormously from the input of ten exceptional educators and experts (8 Malaysians and 2 International), who each provided exceptional, inspiring and unique contributions.

External Workshops, Talks & Research

During the year Zaid Ali Alsagoff spoke at a number of educational events, to both international and Malaysian audiences.

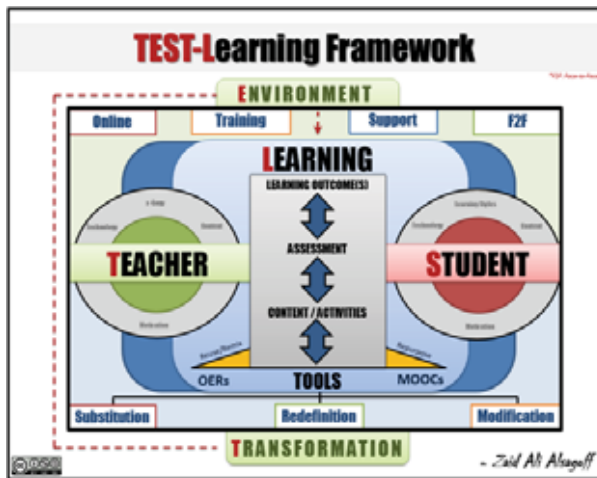


Hasnain Zafar Baloch, Senior Instructional Designer of the e-Learning team also had a busy year, presenting at several conferences including

- The National Public Health Conference, November 2013 (Using Social Media for Research and Knowledge sharing)
- The 2nd Association of Pharmacy Professionals Conference: "Social Media and E-Learning in Pharmaceutical Sciences: A Symbiotic Role".
- Learning and Technology 2013: Tenth Conference on Cloudscaping the Global Learning Environment, February 25-26, 2013: "Integration of Mobile Collaborative Technologies in Global Learning Environment".
- The 2nd International Higher Education Teaching and Learning Conference, Curtin University Sarawak, December 2013. "Faculty Experiences in using media and technology to enhance pedagogical practice", co-authored with A Navamoney.

Moving Forward

Higher education continues to be characterised by massive, fundamental change and disruptive innovations. These include personalised learning, mobile learning; learning analytics, e-portfolio and online assessment; simulation and augmented reality; gamification; Massive Open Online Courses (MOOCs), Small Personalized Online Courses (SPOCs), and Open Educational Resources (OERs). To remain relevant the University must continually innovate and take the lead in both blended and online learning. The challenge is to periodically rethink and re-examine how we use technology in learning and teaching, and to embrace and effectively incorporate emerging trends and developments which have the potential for transforming learning or enhancing the learning experience. The University's new and evolving TEST-Learning Framework will continually remind us to use technology to redefine, and transform the way we facilitate learning and teaching.



Centre for Education (ICE)

Faculty Development Activity

2013 has been a busy year for the Centre. We organised, conducted or facilitated more than 60 events throughout the year, summarised in the table. Events were well attended, with a total participation of over 1700 individuals. Prof Ed Peile, the IMU Ron Harden Visiting Professor, conducted four weeks of training at both the Bukit Jalil and Seremban campuses. Ed brings to his training a wealth of experience and skills in clinical practice and health professional education, particularly in the area of professionalism.

The Centre's net revenue for 2013 was RM219,513 against gross receipts of RM504,862, with the main sources of revenue being the International Medical Education Conference (IMEC) 2013, a leadership course, and consultancy services provided to the Ministry of Health of Vietnam.

Type of event	Topic	Participants
Mandatory faculty training	Interviewing candidates for admission IMU Basic Teaching Licence Facilitating Problem Based Learning (PBL) Mentoring	223
Workshops	Mastering Survey Monkey SPSS Training e-Learning Learning and teaching training	608
Training by visiting professors	Construction of quality multiple choice questions Inter-professional education Programmes by the University of Adelaide adjunct professors & the IMU-Ron Harden Visiting Professor	523
Consultations	Delegates from Myanmar attended the PBL training The Ministry of Health, Vietnam Universitas Islam Sultan Agung, Semarang, Indonesia Leadership Course	116
IMEC 2013	Celebrating Teachers in Health Professions Education	250
		1720

Building the Centre's Regional Training & Consultancy Role

The Centre's drive for excellence in "training the trainers" in health professional education saw significant progress in 2013 when it conducted six training programmes for educationists from Vietnam, Myanmar and Indonesia.

Building on the IMU Basic Teaching License

The Centre continues to run the University's Basic Teaching Course, which is mandatory for all teaching staff. This Course, which runs over five days, builds fundamental conceptual understanding and good practice in teaching and learning, with a particular conceptual alignment to the University's Learning Model. The Course will become a four-credit module in the soon-to-be-offered IMU Master in Health Professions Education.

Building Educational Research: Grants for Innovation in Learning and Teaching

The Centre also continues to run workshops and clinics aimed at stimulating, supporting and nurturing educational research by academic staff. A key initiative is the grant scheme to encourage innovation in learning and teaching. In 2013 grants were awarded for:

- A study of the formative assessment of medical students' clinical competencies by a team of clinicians headed by A/Prof Sharifah Sulaiha Hj Syed Aznal
- A project, intriguingly entitled "Let's start with restaurant type", aimed at improving Problem-Based Learning in the Chiropractic Programme by a team headed by Dr Ni Ni Win

Course & Faculty Evaluations

The Centre conducts student evaluations of all courses and teaching staff, a huge logistic undertaking. The table provides a summary of the focus, frequency and numbers of these evaluations in 2013. In July the reporting format of evaluations was revised to aid the interpretation of these reports by teaching staff, enabling staff to evaluate their performance with respect to others. From August, evaluation reports have been accessible online via the University portal, <http://imuportal.imu.edu.my/ice/SitePages/Home.aspx>.

Focus & frequency of evaluation	Number in 2013
Courses Every course (module) is evaluated once a year.	450
Teachers Each teacher is evaluated for 1 large group event & 2 small group events, annually.	1126
The learning environment Each programme is evaluated annually. In 2013 we participated in the i-barometer evaluation.	46

Centre for Lifelong Learning (ICL)

The year following the re-naming of the Centre for Continuing Education to the Centre for Lifelong Learning has seen steady growth in the numbers of continuing education events offered, numbers of participants, revenue and most importantly, quality. The Center has developed standards of service benchmarked against those of leading continuing education providers, and covering the promotion of events, handling of enquiries, registration and payment. We are keen to ensure that participants have a good experience and would return for other courses or events.

In 2013, some 20 events were run. Courses attracted more than 1000 healthcare professionals from five different countries. Some events were jointly conducted with local or international industrial partners. Of particular note was the First International Conference on Bioethics and Professional Practice that was co-organised with the International Bioethics Committee of UNESCO. This Conference attracted some 100 participants from several countries, enabling exciting exchange of knowledge and perspectives on the topics discussed.

Apart from offering continuing education and development to healthcare professionals, the Centre also seeks to provide health education for the public. One such event, called "Doctor Mom", covered essential topics such as positive parenting, improving the parent-child relationship and managing temper tantrums. The course was very well received by the participants, which included parents, kindergarten teachers and caregivers of young children. To deliver this event, we enlisted the help of experienced trainers in clinical psychology, paediatrics and paediatric psychiatry.

Another fun-filled course offered to the general public was the Workplace Wellness Programme, "Securing Wellness, Securing Wealth". This holistic, one and a half day residential course was especially aimed at individuals with work related stress and disorders. Participants included chief executive officers, company directors, managers and other executives.

The table summarises the events run in 2013.

Month	Course / Event	Trainers	Participants
January – March	FRACGP Part 2 Preparatory Course	Family Medicine	15
January	FRCPA / MRCPath Surgical Pathology Preparatory Workshop	Pathology	10
February – March	Conjoint MAFP/ FRACGP Step 2 Examination Preparatory Course	Family Medicine	14
March	Family Medicine Clinical Skills Course		104
	The Science and Art of Counselling: Empowering Healthy Lifestyle Changes	Nutrition & Dietetics	52
	12th Annual Scientific Meeting of International Association for Dental Research (Malaysian Section)	Dentistry	20

Month	Course / Event	Trainers	Participants
May	Workshop: Clinical Applications of Shang Han Lun Formula	Chinese Medicine	97
	Bioethics Conference		108
June	Evidence Based Library and Information Practice Workshop (EBLIP)	The Library	13
	Bioethics Conference		108
June	Evidence Based Library and Information Practice Workshop (EBLIP)	The Library	13
	Airway Management & Practical Skills	The Clinical School	30
	Doctor Mom	Family Medicine	55
July	Promoting Quality Care	The Clinical School	49
	The Picky Eaters Workshop	Nutrition & Dietetics	55
August	Workshop on Pap smear screening	Pathology	32
	Workshop: Communicating Science and Grantmanship for Medicine, Health Sciences	Pharmacy & Life Sciences	32
September	Workplace Wellness Programme - Securing Wellness, Securing Wealth	CSSC	23
September – November	9th MRCP PACES Preparatory Course		56
	FRACGP Part 1 Preparatory Course	Family Medicine	41
October	10th Good Clinical Practice Seminar	IRDI	55
	Phlebotomy Training Workshop	The Skills Centre	31
November	Workshop on Rodent Transmitted Diseases	IRDI	23
	Application of Cone Beam Computed Tomography in General Dental Practice	Dentistry	36

Quality Improvement

ISO 9001:2008 Quality Management System Internal Audits

The ISO 9001:2008 internal audits were conducted in July and November 2013. The July audit involved 26 internal auditors who carried out the audit exercise accompanied by Mr Mycho Kan, our ISO 9001:2008 Quality Management System (QMS) consultant. The team carried out an audit of compliance to 31 Standard Operating Procedures by 16 departments. Mr Mycho's monitoring role was to ensure that our QMS is operating within ISO 9001 standards. The audit team identified one non-conformance and recorded 27 observations. In the second internal audit of 2013, 10 departments were audited by 25 internal auditors. The team did the compliance audit with 23 Standard Operating Procedures, and identified 19 observations and four non-conformances. Preliminary investigations showed that some departments had not been updating their standard operating procedures, and that some procedures needed clarity, for example with respect to responsibilities or timelines. To make audit management more effective, in 2013 pre-internal audit briefings for internal auditors were used as refreshers on the audit and corrective processes.

Surveillance Audits

In April and September 2013, Lloyd's Register Quality Assurance Limited carried out surveillance audits of procedures in all 16 departments and found that the Quality Management System (QMS) was in compliance with the requirements of ISO 9001:2008. No serious breach was found in the System.

Management Review

Two Management Review Meetings were held during the year to ensure that we continually improve the effectiveness of the QMS through the use of its quality policy, quality objectives, audit results, data analysis and corrective and preventive actions. The first Meeting was held in February and the second in September 2013. At the meetings, 54 Quality Objectives (QOs) from 16 academic support and corporate departments were discussed. Corrective actions for shortfalls in QOs have been identified and improvement is expected during subsequent measurement cycles.

Two new procedures, Development of Policies and Development of Procedures, have been established to streamline the approval of academic and corporate policies and procedures by approval bodies. The policy documents are held in a central depository accessible to all relevant staff. Facilities Management and Administration have established new procedures relating to "Physical Arrangements", and the management of the security closed circuit television system (CCTV). "Physical Arrangements" is aimed at securing timely arrangement of University events to protect the teaching and learning schedule from disruption. The CCTV procedure is to ensure that the CCTV System complies with guidelines on the installation and management of CCTV systems.

ISO / IEC 17025 Research Laboratory Management System: Accreditation

In 2012 we began preparing for accreditation of the Research Laboratories with the aim of achieving ISO recognition of their technical competence as facilities for sample testing and evaluation. The scope of accreditation includes three assays for contaminants in water, with their associated assay methods:

- (1) Metal ions, using inductively coupled plasma mass spectrometry
- (2) Nitrites, using photometry
- (3) Chemical oxygen demand, using photometry

In 2013 we commenced the three-stage assessment by Standards Malaysia that leads to accreditation, and have completed two of the three stages as indicated in the table. The Stage 3 Compliance Assessment is targeted for January 2014. All non-conformities identified are required to be satisfactorily addressed before accreditation can be awarded.

Stage	Type of Audit	Comments	
1	Adequacy Audit	April 2013	We responded satisfactorily to the 4 slight inadequacies identified by Standards Malaysia in June.
2	Pre-Assessment	July 2013	We responded to 8 non-conformity requests & 2 observations by assessors, in December.
3	Compliance Assessment	January 2014	
Final	Accreditation awarded		

Internalising Quality Improvement into Educational Programmes

Schools have started internalising quality activities, beginning with the discussion of quality indicators, for example the results of Course and REEM evaluations, in meetings of their Curriculum and Assessment Committees (CAC). Quality assurance has been made a standard item to be included in CAC meeting agendas.

Dr Indra Pathmanathan, the Quality Improvement Consultant, facilitated five workshops on quality improvement in learning and teaching. The aim was to lead participants to a shared understanding of the principles of quality and of the quality improvement cycle, applied to the teaching and learning processes in their School or educational programme. Participants reviewed existing quality initiatives relevant to their School or programme against the strategic goals and objectives of their Schools or programme; and against the University's core values and goals. Based on the workshop discussions, Dr Pathmanathan summarised the challenge faced to be two-fold:

- (1) Rationalising existing quality improvement initiatives, their indicators and monitoring-reporting systems.
- (2) Staff ownership of quality improvement as integral to their work in education, such that quality improvement is sustained and sustainable.

Recommendations include:

- (a) Critical review of the existing Quality Improvement (QI) system, including existing indicators and reports and the reporting structure; to streamline reporting by devolving responsibility for monitoring and improving quality, whilst retaining strategic oversight at higher levels.

- (b) Providing periodic support at the request of Schools, Centres and Departments and informing them of the procedure for obtaining support on quality improvement.
- (c) Establishing a mechanism for troubleshooting so as to identify Schools, Centres or Departments that have difficulty moving forward with QI and for intervention as appropriate.

These measures were initiated in the second half of 2013, and are to be implemented in stages throughout 2014.

Quality Governance Structure

A description of the quality governance structure is to be published by the second half of 2014. This includes an explanation of how the structure will operate, and an outline of the practice of continuous improvement in a Plan – Do – Check – Act Cycle.

Customer Feedback Management System (CFMS)

The Customer Feedback Management System (CFMS) has been in operation since mid-January 2013, and is aimed at informing and improving service quality. Formal announcement of the CFMS was made to the students and staff in February and November 2013. University customers (which for the purposes of the Feedback System include students, parents, alumni, staff, and the general public), may submit feedback online using the Customer Feedback Web-form available via the IMU Website. A recommended time frame for responding to feedback is in place, with recommended times based on the type of feedback received. In 2013 88% of all feedback received a response within the recommended time. If feedback prompts an investigation, the Feedback Administrator

of the Quality Improvement Unit documents the investigation and monitors the implementation of any remedial action taken.

Surveys

Student Satisfaction Survey

This year the survey was conducted using a new instrument, the Student I-Barometer, currently deployed by more than 800 universities worldwide. The survey was run from 11 November to 6 December, and is to be a bi-annual activity. We will benchmark our students' experience against that of students at other Malaysian universities and at partner universities. This evaluation includes the experience of arrival / enrollment; learning; living; and support, for both undergraduate and postgraduate students. The results of the first survey, expected in February 2014, will identify areas that need improvement.

Student Preparedness Survey

Each semester, a survey is conducted of students who have transferred to partner schools and to the Clinical School, with the aim of gauging how well these students have been prepared for transfer. Students' performance is evaluated against that of fellow students at the same stage who enrolled directly at the partner school. The survey is conducted six months after transfer and information is elicited from the students, and from their academic supervisors.

In 2013 two cohorts of students were evaluated: Dentistry students who transferred to New Zealand in 2012, and medical students who transferred to the Clinical School in 2013. Supervisors of the dentistry students identified weaknesses in treatment planning and technical skills. The dentistry students felt that they had the most problems in treatment planning, followed by diagnosis and treatment. Clinical School supervisors rated the students satisfactorily in all of the attributes evaluated and did not identify weakness in any area. The medical students were least confident about their medical knowledge. The Schools of Dentistry and Medicine have used these results to inform curricular change.

Supervisors at Partner Schools and the Clinical School have been very supportive in providing feedback on student performance. However, contacting and eliciting survey responses from students who have transferred

to Partner Schools continues to be challenging. Suggestions for increasing the response rate include briefing students about the survey and its purpose before they transfer, and giving them a token of thanks and appreciation for their participation.

Training and Awareness

Training events were run throughout 2013 to enhance awareness of quality in teaching and learning, the requirements of ISO 9001:2008 and ISO/IEC 17025:2005. A total of 135 staff, academic and corporate, participated in the training.

Training Events in 2013	
April	Workshop: Quality Improvement in Teaching and Learning
August	ISO 9001:2008 Awareness training
September	ISO 9001:2008 Internal audit training
	ISO/IEC 17025:2005 Awareness training
	ISO/IEC 17025:2005 Internal audit training

Student Services

Introduction

The overarching role of the Student Services is to support students in the non-academic aspects of their University journey. These aspects complement academic learning to develop students into the practitioners we envisage they should be. The qualities that the University aims to develop include organisational ability and leadership, good people and communication skills, empathic and ethical outlook, and a spirit of community service. Student Services provides financial, administrative and infrastructural support for the Student Representative Council; student sports, clubs and societies; inter-university activity; students' participation in conferences; community service and student work in emergency relief. The Department's pastoral role is carried out through its Counselling Unit, and the Department supports the University Alumni Association with administrative and coordinating help for alumni events.

We are very pleased that students across all our campuses have been particularly active in charity and community services this year.

Student Participation in Conferences

The University encourages and supports student participation at conferences and other meetings, for presenting the results of their research; taking part in other learning activity or in support of humanitarian or environmental causes. In 2013, many students attended conferences and other events in Malaysia, Bangkok and Japan. Details are provided in the table:

Student	Presentation	Event
Lai Pei Kuan	Pilot study: Professional socialisation among the Diploma and Degree nursing students	International Conference of Nursing, Pharmacy and Health Sciences, March 2013, Kuala Lumpur
Dairshini Sitihambaram	IMU Student Ambassadors: The Faces of IMU, but what do they see? (Poster)	8th International Medical Education Conference (IMEC 2013) March, Bukit Jalil
Chong Jun Ai	Clinical audit teaching in record-keeping for dental undergraduates (Poster)	
Sangeetha Shyam	A low glycaemic index diet improves the management of fasting blood sugar, body weight and fibre intake in women with previous gestational diabetes mellitus	Nutrition Society of Malaysia, March 2013, Kuala Lumpur

Student	Presentation	Event
Tan Zeng Zhou	Angiogenesis and keratin pearl formation in oral squamous cell carcinoma (Poster)	35th Asia Pacific Dental Conference, May 2013, Kuala Lumpur
Yew Kai Shang	In-vitro color change of discoloured composite resins after bleaching procedure (Poster)	
Chua Eu Gene	Antifungal effectiveness of various intracanal medicament against Candida albicans	
Teh Jae Rene	Ethical beliefs and attitudes of Malaysian medical students towards individual with HIV/Aids	7th IAS Conference on HIV Pathogenesis, Treatment and Prevention, 30 June-3 July 2013 at KLCC
Sangeetha Shyam	Low glycaemic index diets improve fasting blood sugar, triglycerides and weight	Malaysian Dietetic Association Annual Scientific Conference, June 2013, Kuala Lumpur
William Goh Wei Liang	Case summary	Malaysian International Medical Student Conference, April 2013, Sunway Hotel/Monash University, Petaling Jaya
Kang Ik Hui	Case summary	
Low See Wei	Case summary	
Muhammud Anwar Bin Azrin	Participation in Debat Perpaduan at Kota Kinabalu, Sabah	
See Jie Siang	11th Inter-Medical School Physiology Quiz at University Malaya, Kuala Lumpur	
Siew Janice	Effect of aqueous extract & Phycocyanin from Spirulina platensis on the expression of Epstein-Barr virus latent and lytic genes in lymphoblastoid cell lines (poster)	International Symposium on Biological Engineering and Natural Sciences. July 2013, Bangkok
Joyce Chin	Correlation between blood vessels & severity of oral epithelial dysplasia (Poster)	35th Asia Pacific Dental Conference, May 2013, Kuala Lumpur
Leong Yin San	Nutrition status, sleep quality and daytime sleep in a selected population of the elderly in the Klang Valley (Poster)	Nutrition Society of Malaysia 28th Scientific Conference, May 2013, Kuala Lumpur
Teo Mei Chin	Health and nutritional status indicators of a selected community of the elderly in the Klang Valley	
Chan Sin May	Dietary intake and urinary excretion of sodium and potassium among female adults in a university in Kuala Lumpur.	

Student	Presentation	Event
Koh Jia Min	Perceived and normative orthodontic treatment need among International Medical University students. (Poster)	National Dental Student Scientific Conference, IMU, May 2013, Kuala Lumpur
Joyce Chin	Expression of micro vessel density as a diagnostic marker of potentially malignant oral lesions. (Poster)	
Chia Sin Yein	Impact of malocclusion & orthodontic treatment on the self-esteem of IMU students (Poster)	
Ivy Wong Hui Chai	Knowledge and behavior of IMU dental student concerning the treatment of special needs patients. (Poster)	
Tan Wan Yi	Knowledge and practices of needle stick injury in dentistry academics, dental nurses & dental students at IMU & UM. (Poster)	
Yew Kai Shang	Effect of bleaching gel on discovered composites. (Poster)	
Lee Han Hing	Detection of metabolomic profile of saliva in healthy Malaysian adults. (Poster)	
Tan Meng Ern Joseph	Intercanal placement of calcium hydroxide	
Chua Eu Gene	Comparison of antifungal effectiveness of 2% chlorhexidine gel and propolis as an intercanal medicament against Candida albicans.	
Chan Li Xing	Effect of bleaching on surface roughness & surface topography of veneering materials: an atomic force microscope study. (Poster)	
Chong Mei Xin	Occlusal force in healthy Malaysians aged over 60. (Poster)	
Siti Fatimah Binti Hussin	Impact of dental aesthetic on self-perceived orthodontic treatment need. (Poster)	
Mohammad Arsalan Sheikh	Prevalence of malocclusion among the student of IMU and its effect on self image (Poster)	

Student	Presentation	Event
Rezzuan Rahim	A measure of knowledge, attitude & confidence in IMU dental students towards managing medical emergencies (Poster)	
Tan Zheng Zhou	Vascularity and keratinisation in oral squamous cell carcinoma. (Poster)	
Diviya Rubini Subramaniam	Infection knowledge and practice (Poster)	
Sangeetha Shyam	Glycaemic index in the management of body weight, body fat and high-sensitivity C-reactive protein in woman with previous gestational diabetes mellitus (Poster)	The Nutrition Society of Malaysia 28th Scientific Conference, May 2013, Kuala Lumpur
Tey Suit Teng	Stages of behavioural change in relation to fruits and vegetable consumption in a selected population of independent living elderly individuals. (Poster)	
Chang Wai Ken	Diet quality and cognition in a selected population of independent living elderly individuals. (Poster)	
Chong Cheng Wen	Correlates of the stages of change, self-efficacy & decisional balance on intake of fruit & vegetables in a selected population of independent living elderly individuals. (Poster)	
Low Tze Tying	Sugar intake among females in Kajang. (Poster)	
Shamala Naderaju	Poster presentation at the 2nd Pharmaceutical Research Conference for Pharmacy, CUCMS May 2013, Cyberjaya	
Chong Li Chin	Validation of subjective global assessment of malnutrition in surgical patients at admission to Hospital Tunku Jaafar. Seremban	Malaysian Dietitians Association Scientific Conference & 19th Annual General Meeting, June 2013
Sangeetha Shyam	Low glycaemic index diets Improve fasting blood sugar, triglycerides and weight loss in post-gestational diabetic women with higher fasting insulin levels	
Chan Li Xing	Participation at the 5th Hiroshima Conference on Education & Science in Dentistry	

Student	Presentation	Event
Khor Jie Xun Goo Zhen Qiang Satchid Dev Loo Wen Chern Darshini Chong Jun Ai Joanne Pereira Phang Gin Ga Lim Shin Tom Vaishnavi Jayasingam	Participation at the 8th International Medical Education Conference (IMEC 2013) March, Bukit Jalil	
Goh Cheng Chun	Perceptions of Problem-Based Learning in pre-clinical medical students in IMU. (Poster)	8th International Medical Education Conference (IMEC 2013) March, Bukit Jalil
May Lau Fei Cheng, Idzman Idros & Teh Je Vin	Depression in patients undergoing chemotherapy at Hospital Tuanku Ja'afar, Seremban. (Poster)	Asian Oncology Summit 2013 on March, Bangkok
Goh Cheng Chun & Goo Zhen Qiang	Pioneering the first student surgical society in Malaysia	College of Surgeons, Academy of Medicine Malaysia Annual Scientific Meeting & General Meeting, May & June 2013, Kuala Lumpur
May Lau Fei Cheng	Quality of life in patients with breast or colorectal cancer undergoing chemotherapy at Hospital Tuanku Ja'afar, Seremban. (Poster)	Annual Scientific Congress of the Malaysian Oncological Society November-December 2013, Kuala Lumpur
Goh Cheng Chun Goo Zhen Qiang Tham Yue Keen Khor Jie Xun Lai Weng Soon Satchid Lim Wei Khang Adnesh Kenneth Michelle Paris Dina Syazana Ho binti Imran Ho Vegneshwaran Ong Li Teng Wong Wai Kit	The Inaugural Medical Student Surgical Skills Workshop and Competition 2013, College of Surgeons, Academy of Medicine Malaysia. The Clinical School Team successful undertook the preliminary round in February & contested the finals in April	
Lee Wei Cheng Lawrence Ng Soo Teong Hzu Fernn Cheah Xin Ying Liong William Lai Weng Soon	Participation in the 3rd Silent Mentor Workshop, April 2013, Universiti Malaya	

Student	Presentation	Event
Goh Cheng Chun Goo Zhen Qiang Khor Jie Xun Teegeena Jeeva Kumar Liow Ying Tian NorJulaika Ismail Loke Wei Xiang Lim Wei Khang Chee Jiunn Heng Tham Yue Keen Wong Wei Xiang Lee Wei-Yee Eunice Lee Vegneeshwaran Nadarajan Yee Pui Mun	The 5th Malaysian International Medical Students' Conference, May 2013 was jointly organised by the Society of Malaysian Medical Association Medical Students, the IMU Surgical Society & the Monash University Malaysia Medicos Society	
Goh Cheng Chun Chee Jiunn Heng	Pioneering the First Student Surgical Society in Malaysia	College of Surgeon, Academy of Medicine Malaysia (CSAMM) Annual Scientific Meeting & Annual General Meeting 2013, May to June 2013, Kuala Lumpur
Goh Cheng Chun Chee Jiunn Heng	At the 2nd Medico-Legal Conference: The Invisible Chain, August 2013. Jointly organised by the Department of Obstetrics & Gyanaecology, Hospital Tuanku Ja'afar & the Malaysian Medical Association.	
Goh Cheng Chun Chee Jiunn Heng Wong Wei Xiang Eunice Lee Ng Chun Sien Yong Kai Yunn	At the Annual Scientific Meeting on Infectious Disease of the College of Physicians, Academy of Medicine Malaysia, September 2013.	
Goh Cheng Chun Eunice Lee Wong Wei Xiang Patrina Chan Ke Jing All Semester 10 students	At ECG Workshop, October 2013. Jointly organised by Hospital Enche' Besar Hajjah Khalsom, Kluang and International Medical University	
Goh Cheng Chun Wong Wei Xiang Yong Kai Yunn Ng Chun Sien Ho Yen Zheng Eric Tan Cheung Kiat	Organising Committee for the Laparoscopic Partial Nephrectomy Workshop in October 2013. Organised by the Advanced Surgical Skills Centre, University Kebangsaan Malaysia	

Student	Presentation	Event
Dina Syazana Ho binti Imran Ho Nur Liyana binti Dzulkafli Nigel Loke Chun Hoe Siow Ee Lin Lim Ming Yao Alexander Li-Sen Satish Goh Keng Yuen Teo Li San Selvaraja A/L N. Palaniappan Lee Teng Huei Yew Chun Kai Yong Chun Hou Renee Wah Ee Na Woon Tong Yuan Yong Cai Yeen Ho Wai Leng		Participated at Cardiotocography (CTG) Workshop, October 2013. Organised by Department of Obstetrics & Gyanaecology, Hospital Tuanku Ja'afar.
Chiang Kar Mun Ch'ng Chen Nee Goh Jin Hong Ida Nadia Reme Juliana Tan Shook Shin Kashika Valiappan Koyer Singh Leong Jia Ern Michelle Marie Peris Nagraj A/L Velasan Rachel Chung Kar Yee Rafidah binti Mohd Thameem Ansari Syaza Aminah binti Jamaluddin Tey Candy Vickram A/L Sugumaran Wan Ming Wai		Participated at Cardiotocography (CTG) Workshop, October 2013. Organised by Department of Obstetrics & Gyanaecology, Hospital Tuanku Ja'afar.
Goh Cheng Chun Ryan Lee Eunice Lee Gan Kai Xin Wong Wei Xiang Chee Jiunn Heng		Participated at Cardiotocography (CTG) Workshop, October 2013 Organised by Department of Obstetrics & Gyanaecology, Hospital Tuanku Jaafar.
Goh Cheng Chun Wong Wei Xiang Ashley Nicholas Dong Ho Yan Zheng Yong Kai Yunn Ng Chun Sien Eric Tan Cheung Kiat		Basic Surgical Skills Workshop for Pre-Clinical School Students, November 2013 Chairperson Organising Committee IMU Surgical Society

Student	Presentation	Event
Daniel Eh Zhen Wei Pak Jun Wee Joanne Pereira Lee Kok Weng Navin Raj	Participation at the Malaysian Medical Association Second Seminar on Housemanship Training, November 2013, Kuala Lumpur	
May Lau Fei Cheng	Quality of Life among breast and colorectal cancer patients at Hospital Tuanku Ja'afar, Seremban undergoing chemotherapy (Poster)	Annual Scientific Congress of Malaysian Oncological Society, Nov – Dec 2013, Kuala Lumpur

Scholarships & Financial Assistance

IMU Scholarships

The Department administers the IMU Scholarship Scheme. University scholarships are available for the medical, pharmacy and nursing programmes. In 2013, the pharmacy and medical scholars were selected from 25 applicants. The scholars in medicine were PG Lingshan and Tiffany Lee Rouyen. Recipients of the pharmacy scholarship were Shanta a/p Sankaran and Emilia Yeo Tze Ying. No recipients were selected for the nursing scholarship.

Other Scholarships and Study Loans

Some 1,900 students received financial assistance in 2013 from a number of sources including government bodies and private organisations as indicated in the table:

Sponsor	Students
Perbadanan Tabung Pendidikan Tinggi Nasional	1123
Jabatan Perkhidmatan Awam (JPA)	521
JPA Negeri	12
Kementerian Pendidikan Tinggi	15
MARA	96
Kumpulan Wang Simpanan Pekerja	2
Pejabat Set Kerajaan Negeri Selangor	1

Yayasan Pahang	4
Yayasan Sabah	4
Honda Malaysia Fund	2
Hong Leong Foundation	5
Yayasan Khazanah	2
Kuok Foundation	41
Lee Foundation	8
ECM Libra Foundation	2
Yayasan Sime Darby	2
Sunrise Education Foundation	2
Malaysian Palm Oil Berhad	7
Assunta Hospital	3
Gleneagles Hospital (KL) Sdn. Bhd.	5
Loh Guan Lye Specialist Centre Penang	1
Penang Adventist Hospital	18
Yayasan Peneraju Pendidikan Bumiputera	2
1Malaysia Development Berhad (1MDB)	2
IMU Scholarship Scheme	17
IMU BPharm Allowance Scheme	1
Total	1898

Alumni Association

The Association was established in 2002, the University's tenth anniversary year. We now have more than 6,000 alumni, resident in Malaysia and other parts of the globe including the United Kingdom and Ireland, North America and Australasia. The Association's newly refurbished website <http://alumni.imu.edu.my> provides information on events, postgraduate training and job vacancies, although alumni are more likely to network and connect using social media such as the Alumni Facebook page.

Alumni Association events, 2013		Speaker	Organiser
13 Jan	Alumni Talk – 4th Year in Australia	Rudy	Student Services
27 Mar	Pharmacy Alumni Committee Reunion	Gan Pou Wee	School of Pharmacy
30 Apr	Pharmacy Alumni Committee Reunion	Mark Cheong	School of Pharmacy
22 Jul	Edinburgh Alumni Talk	Dr Jade Liew Dr Abdul Karim	Student Services Student Representative Council
18 Sep	Talk - Working Life in the UK	Dr Andy Ng	Student Services
07 Dec	Nutrition and Dietetics Reunion Night	Ng Kar Foo	ND108 Alumni

Counselling Unit

The Counselling Unit offers confidential support and guidance to all students enrolled at the University. The Unit also seeks to facilitate and assist in the social, developmental and academic aspects of students' journey through university. The Unit has two full-time and one part-time counsellors at the Bukit Jalil campus, and one part-time counsellor for the Seremban Clinical School. Students at the Clinical Schools in Kluang and Batu Pahat have access to a counselling service provider.

Counselling is available for students who may face difficulties or crises associated with ill health, stress, relationships, self-esteem etc. and which often affect their ability to cope with their study. Students may seek help personally or be confidentially referred by peers or University staff. Counsellors offer individual attention, empathic support, advice and guidance, which may include career guidance. The Unit plans, organises and runs events and programmes for student self-discovery and development. These activities may be categorised as covering:

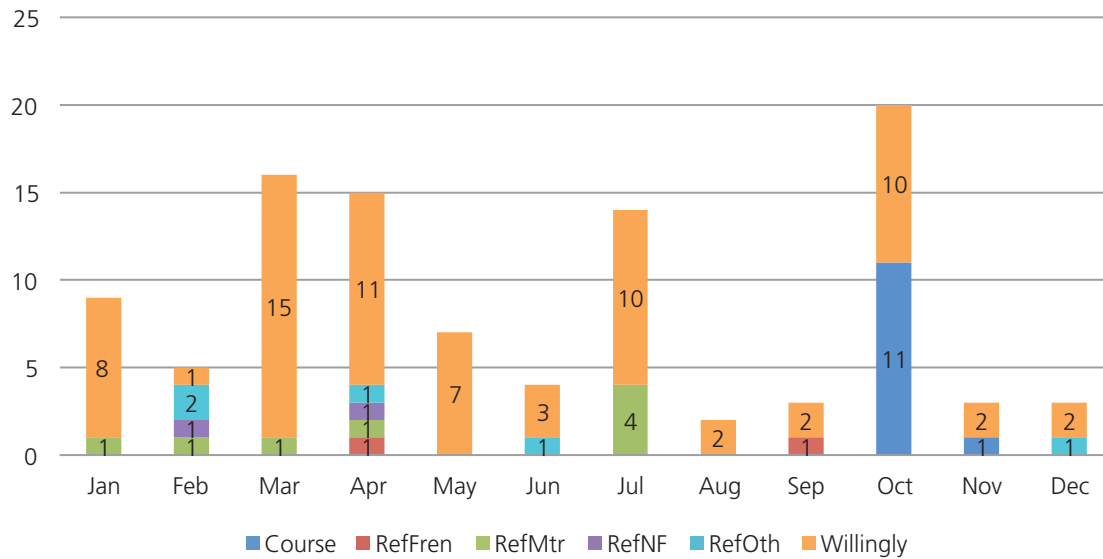
- Student and career development (talks and workshops; self-discovery sessions)
- Peer support: Training for peers
- Training for staff mentors of students under the Mentor Mentee Programme
- Community service by students

Counselling at Bukit Jalil in 2013

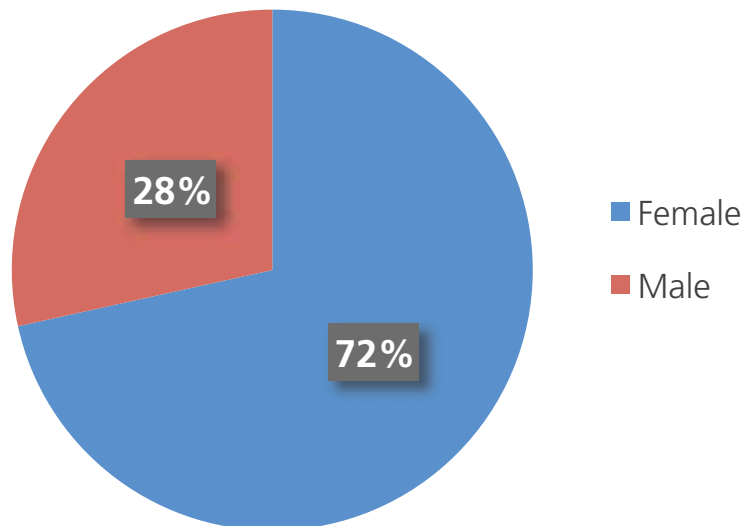
During the year, 130 students were counseled; of these 111 were seen for the first time and 72% were female. The total counselling hours were 496, with the largest number of sessions from March through May, and in October and November; these being examination or enrolment months.

Stress, relationships and mental health problems were the most common presenting problems in 2013. Clients were mainly from the MBBS programme, followed by Psychology and BPharm programmes. The number of clients from each programme are generally proportionate to the enrolment in that programme, except for the Psychology and MPharm programmes. Some Psychology students attended counselling sessions because they were recommended to do so by staff teaching classes on counselling. Compared to students in other programmes, MPharm students generally had more time to attend for counselling and self-discovery sessions.

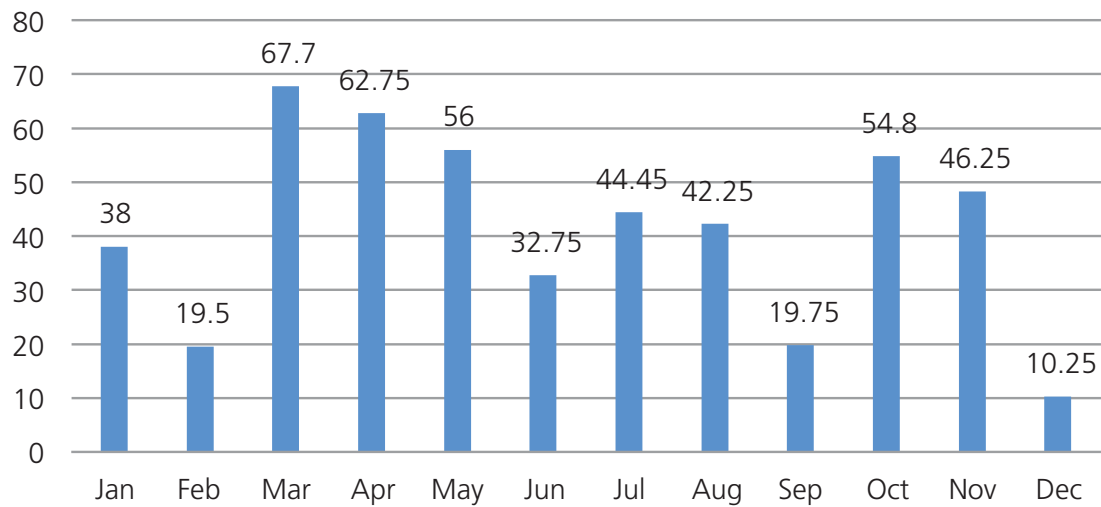
Attend Counselling due to Referral/Course/Free Will by Month 2013



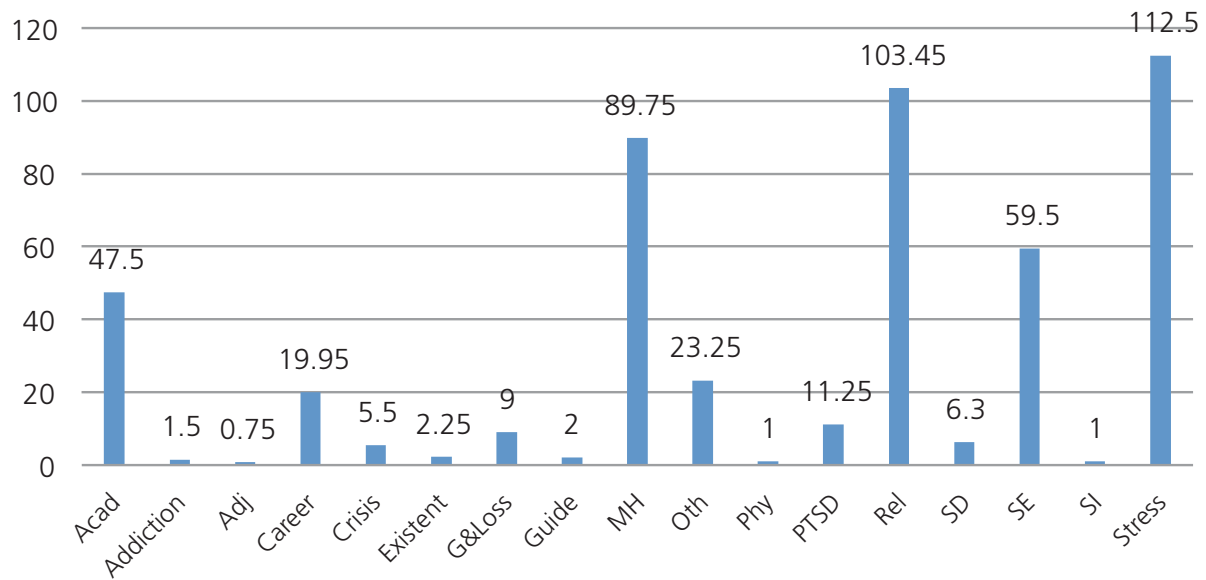
Percentage of Total Clients by Gender 2013



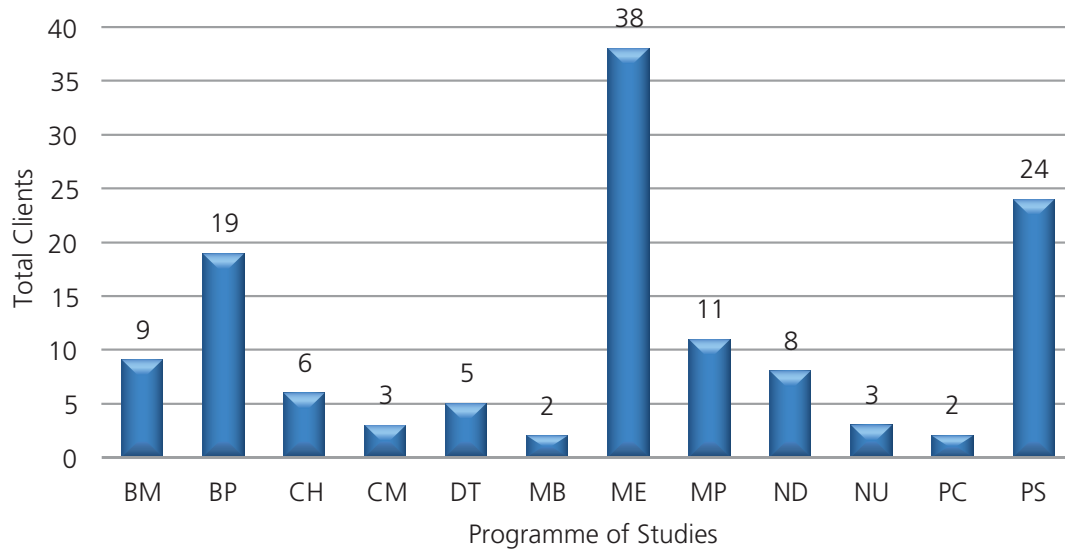
Total Hours by Month
2013



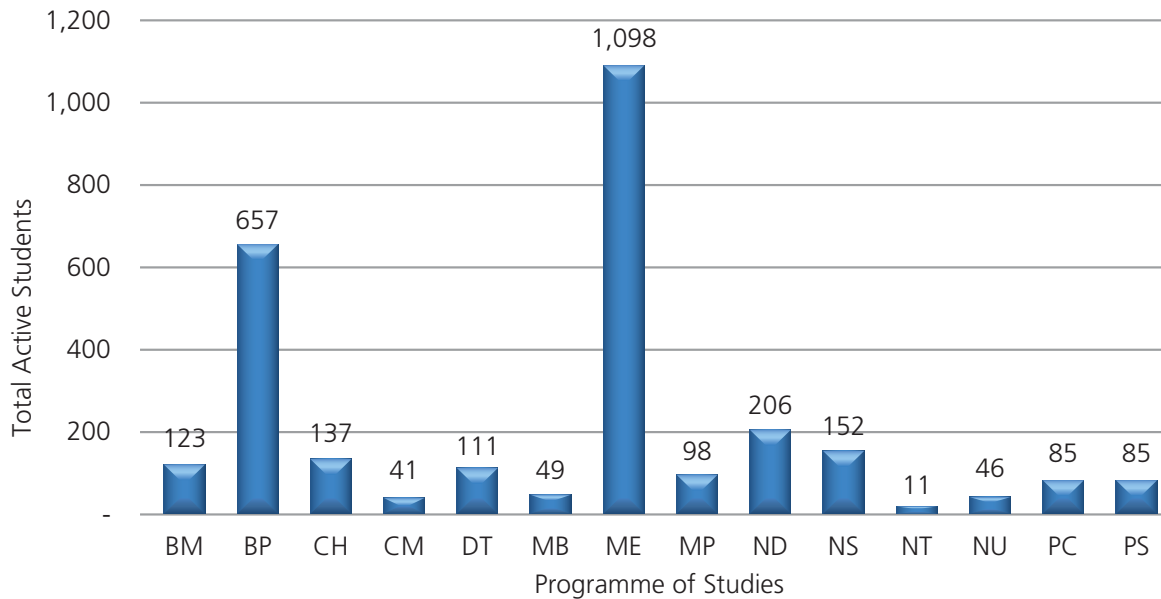
Total Hours by Issue
2013



**Total Clients by Programme
2013**

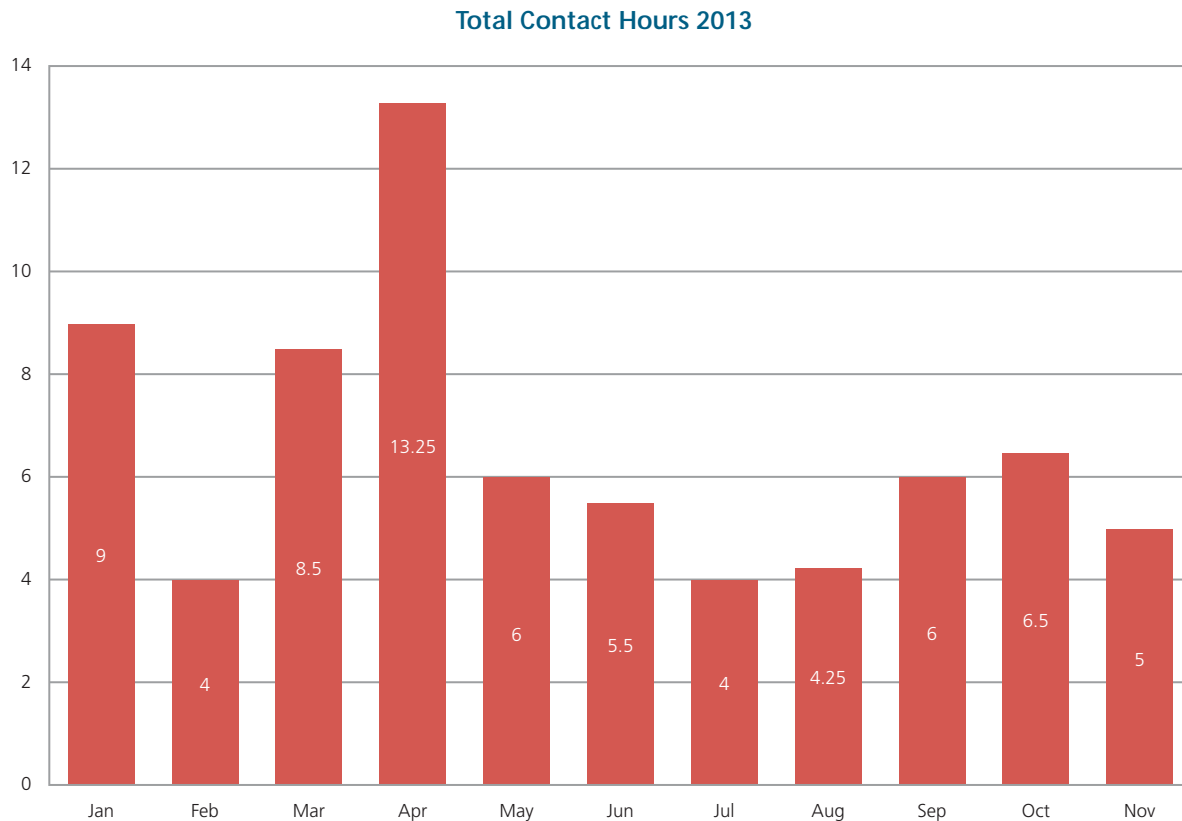
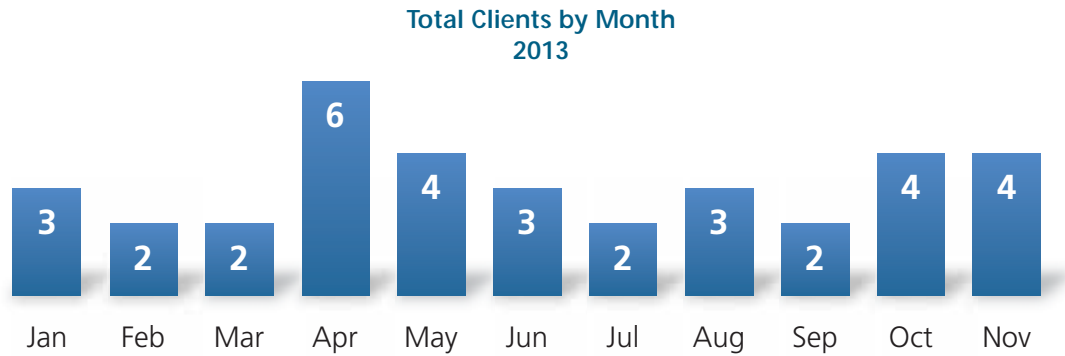


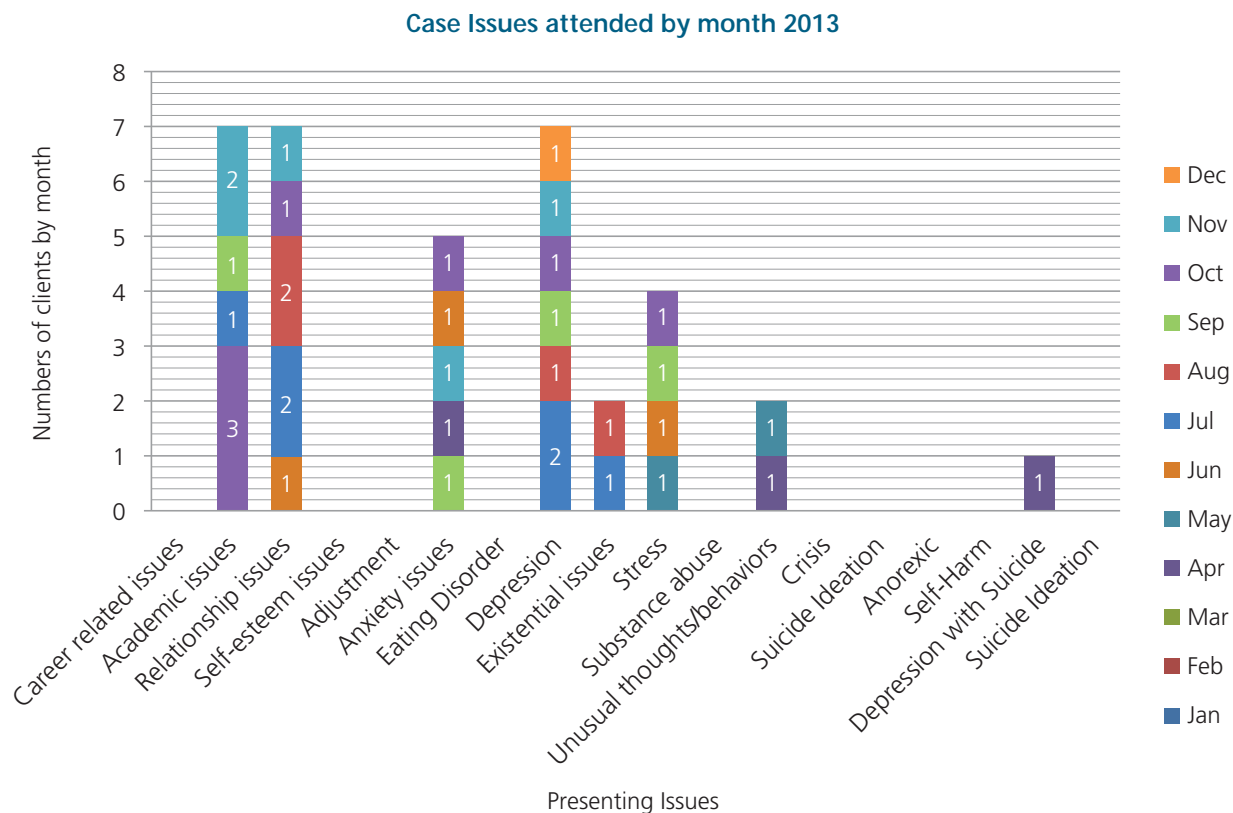
Total Active Students as at 29th Nov 2013



Counselling at the Seremban & Batu Pahat Clinical Schools

Twenty-eight students received counselling over 35 sessions, with the largest number in April. The most common problems presented were associated with academic work, relationships, and depression.





Support for Sabahan Students during the Sulu Incursion

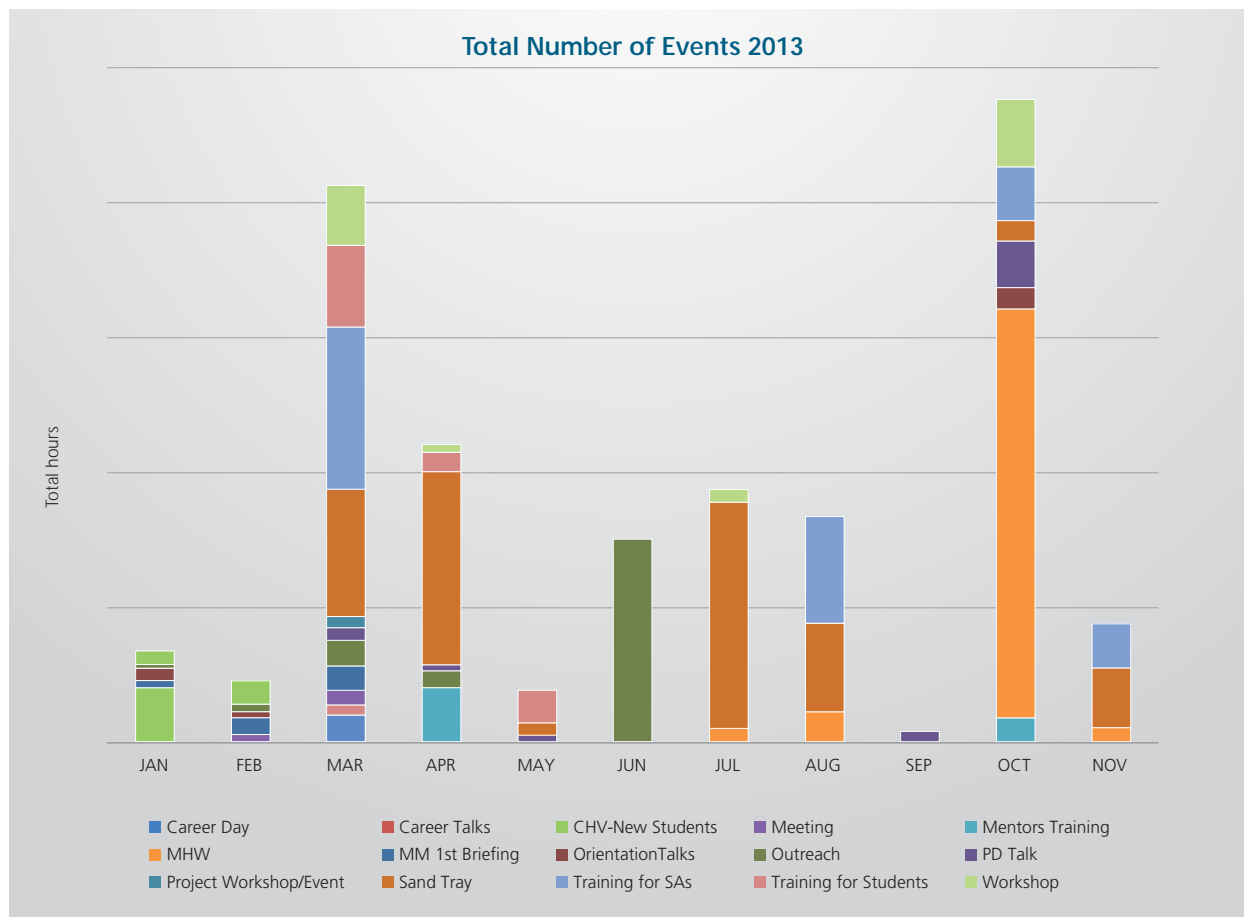
The Unit contacted all Sabahan students enrolled at the University; individual calls were made to each student from Lahad Datu, to offer support. An unexpected outcome was that two students used the counselling service on matters unrelated to the crisis in Sabah.

Developmental Events in 2013

Events were run throughout the year with more in March and October when the student population on campus is highest.

Category	Theme or Title	Hours	Participants
Career preparation & development	Health Sciences Career Day 2013	4	200
	Career Talks by various Companies	1.5	155
	Workshop: "The Power of Image"	4	87
	Workshop: "Interviewing Skills and Resume Construction"	4	174
	Grooming Workshop	1	42

Category	Theme or Title	Hours	Participants
Community service	"Giving Back to the Community" for newly enrolled students	8	140
Peer support	Meeting of Campus Friends	4	30
	Campus Friend Activities	35	95
	Peer Support Training Level 1	20	23
Mentor-Mentee	Workshop: Mentoring Students	11.5	12
	Mentor Mentee Programme: First briefing for students	7.5	414
Mental Health	Mental Health Week	39	359
	Mental Health Week Preparation Meetings	30.5	13
Orientation	Personal Safety	6	697
	"Meet Your Counsellor"	2.5	174
	My Behavioural Style Workshop	15.5	226
Study Skills	Seniors share: Adjustment to the BPharm	1	60
	Seniors share: Study Skills	7	354
	Time Management Workshop	2	144
	Study Skills Workshop	1	95
Personal Development	Workshop: "The Five Love Languages"	1.5	1
	Talk: "The Five Love Languages"	2	45
	Talk: "Barefoot Leadership"	1.5	30
	"Self-Discovery using sand"	109	99
Student Ambassadors	Leadership Camp	24	33
	Workshop: The Dynamic Student Ambassadors	16	30
	Workshop: Communication Skills with Color Brain Profiling	8	30
	Workshop: Conflict Management	6.5	12



Career Development

Health Sciences Career Day 2013

The Career Day is aimed at enhancing graduands' prospects in an increasingly crowded job market. Career Day activity includes talks and workshops. Graduating cohorts in 2013 were NU1/09, BM1/10, MB1/10, ND1/09, PC1/10 and PS1/10.

Workshops

The Power of Image workshop underlined the importance of image and a professional appearance. The Resume Construction & Interview Skills workshop by JobStreet was about writing effective resumes which stand out from others, and help secure an interview. The workshop highlighted what to do and what not to do during a job interview. The Clinique Workshop focused on make-up appropriate for job interviews and for the workplace.

Talks

Hoe Pharmaceuticals provided an overview of the pharmaceuticals market and the role of the pharmacist in the pharmaceutical production and marketing sector. In "Opportunities for Healthcare Professionals in the Fitness Industry", Yeoh Ee Ling of Fitness Innovations Malaysia presented on career opportunities for nutritionists and dietitians in the fitness industry.

Careers Day

The annual Careers Day is an opportunity for companies to publicise themselves and for our graduating students to obtain first hand information on career opportunities. Some 200 students attended Careers Day 2013, and 19 companies participated: All Eights (M) Sdn Bhd., Altemed Wellness Professionals Sdn Bhd., Chemical Company of Malaysia Berhad, DKSH Malaysia Sdn Bhd, Dutch Lady Malaysia,

Fisher Scientific (M) Sdn Bhd, Fitness Innovations (M) Sdn Bhd, GlaxoSmithKline, Guardian, Himalaya, Hoe Pharmaceuticals Sdn Bhd, jobscentral.com.my, JobStreet.com, Mahkota Medical Centre Sdn. Bhd., Menarini, MyStarJob.com, Pantai Holdings Berhad, Pfizer (Malaysia) Sdn Bhd and Sun Pharmaceuticals Sdn Bhd. IMU Postgraduate Programmes & Clinique each had a display booth as well. The companies' feedback was that it provides them with good exposure and publicity. Most participating companies reported that they were able to find their target group of potential candidates for employment. Generally, the students found the Day helpful and they got to know job availability and opportunities in industry.

Careers Day Event	Participants and Feedback	
Careers Talk; Hoe Pharmaceuticals	~150	Students gained a good general overview of the company and the jobs available. Students' feedback was that the talk was good, but that they wished for more detail on the various job opportunities.
The Power of Image; Hafiz Mustapha, AMP, Image consultant, writer, fashion blogger & founder of CuteCarry Enterprise.	87	Students realized the importance of the first impression made at interviews. They learnt the ethics and dress code for interviews.
Interviewing Skills and Resume Writing; Daryl Wong, Regional Corporate Care Manager for JobStreet, NLP Practitioner and Coach.	174	Students gained confidence about writing a good resume and gained insight into job interviews.
Careers Talk: Job Opportunities for Health Professionals in the Fitness Industry; Ee Ling	5	Students found the talk good and informative. They saw the options available to them.
The Clinique Workshop	42	Students learnt the essentials of appropriate make-up for the workplace.

Student Development Events at Bukit Jalil

The orientation programme for new students is aimed at helping newly enrolled students adjust to University life. The briefing on Personal Safety highlights the need for vigilance, awareness of surroundings and immediate environment, potential dangers and risks; and outlines the prevalence and common types of crime, with practical strategies and methods for self-protection. Students are introduced to the Counsellors and the services offered by the Counselling Unit. A workshop themed "My Behavioural Style" provides understanding of individual behavioural styles, and thus insight into how individuals might work together. At the session on Study Skills, senior students from each programme share their knowledge and insights about the learning environment; strategies they use to effectively manage their academic work, the study skills new students will find useful; and the vital need for good time management and development of self-direction in learning. The orientation programme is repeated for each new incoming cohort.

Other Developmental Events

In 2013 talks were also given on time management, "The Five Love Languages", relaxation techniques, stress management and "Barefoot Leadership" and "Giving back to the community". The total attendance at events was 714.

Student Development Events at the Clinical School

Talks on "Stress and Self Care" (March; Dr Ng Wai Sheng) and on "My Behavioural Style" (September; Ms. Carina Lai) were given as part of the orientation of Semester 6 students to the Seremban Clinical School.

Outreach

Students who need help may have various reasons for not using the Counselling Service. For instance they may perceive seeking help to be a sign of weakness. The Counsellors therefore seek to disseminate information on the role of the Unit to students, in a non-threatening way. To do this the counsellors have introduced one-to-one sessions for self exploration and discovery using various techniques such as use of sand-

play, cards and art. The aims are to facilitate student self-exploration and to enable the student to acquire deeper understanding about themselves.

Sand-play therapy is a form of expressive art therapy which typically brings to the surface unconscious or subconscious material. It is usually very satisfying for sand players to see an external representation of their internal state. In the period from 8 March to 29 November, 76 students undertook this activity. It has been the most popular, is being offered more frequently, and has resulted in several students seeking help who would not otherwise have done so.

Support for IMU Student Ambassadors

Events to help the development of our Student Ambassadors were conducted in May, August, October and November. These include a 3-day leadership camp, a workshop of conflict management, on poise and on communication skills. Most of these events were conducted by external trainers, and the total attendance / participation was over 70 individuals.

The Campus Friends Programme

In this peer support programme, students – Campus Friends – are trained and equipped with essential helping skills to pro-actively offer help to their peers. The programme emphasises mutual respect and support, grounded in care for one another and the creation of a supportive university community. The programme develops awareness of common mental health problems faced by students; provides information about available resources; encourages students to seek early help and serves as a referral system for students with problems of mental health. Campus Friend training is on two levels, totalling 24 hours. Campus Friends are required initially to complete at least 12 hours of training in basic helping skills. Upon completion of this training, they are supervised by the Counsellors for a year.

Event Type	Date	Topic	Facilitators/ Speaker	Attendance
Meetings	23 Jan 13	Evaluation of "Mend-A-Friend" Website	Prof Vishna	
	23 Jan 13	Campus Friend Meeting #1	Lynda Ling / Xin Yuan	23
	7 Mar 2013	Recruitment Drive	Xin Yuan / Maljini	23
	28 Mar 13	Campus Friend Committee Election	Xin Yuan / Kah Hwei	12
	5 Apr 13	Welcoming Party for New Members	New Committees / Xin Yuan	35
	30 May 13	Committee Meeting	Xin Yuan	6
Peer Support Training	5 Mar 2013-28 May 13	Peer Support Training Level 1 (6 three-hour sessions) and two follow-up sessions	Lynda Ling / Xin Yuan	23
Fundraising	10 Jun 2013-14 Jun 2013	Fundraising	Maljini / Theepika / Xin Yuan	20
Mental Health Week Meeting & Preparation	19 Jul 2013-20 Oct 2013	Mental Health Week Committee Meeting (11 meetings)	Xin Yuan / Sue Fern	13

Event Type	Date	Topic	Facilitators/ Speaker	Attendance
Mental Health Week	21 Oct 2013- 26 Oct 2013	Mental Health Week Exhibition	Xin Yuan	150
	21 Oct 13	MHW-Positive Quotes	Xin Yuan/Nabilah	100
	20 Sep 2013- 24 Oct 2013	MHW-Photography Competition with theme "Happiness"	Xin Yuan/Carina/Sue Fern	22
	22 Oct 2013	How to Find My Mr / Mrs Right? Is He / She the One or Should I Run?	Ms Aveline Teh	9

Mentor Mentee Scheme

Mentoring Students

This workshop is conducted twice yearly to train new mentors on their role and responsibilities. Case studies are used to illustrate the management of different types of mentee situations and feedback is elicited to inform development and improvement of workshop content and structure. In 2013, the workshops were run in April and in October for 16 participants each.

At the associated briefing on the Mentor Mentee scheme, the relevant Dean of School or Programme Coordinator introduces newly enrolled students to the purpose of the programme and how it operates, before mentees are introduced to their mentors. The mentees meet with their mentors after the briefing. In August 2013, responsibility for organising briefings has passed to Programme Coordinators. In 2013, briefings were conducted for all incoming cohorts, with a total participation of 414 students.

Student Community Work

Community service is a key component of the orientation of each incoming cohort of students, and serves to underline the University's commitment to engaging with and helping less fortunate communities. The incoming cohort is asked to organise fundraising and a visit to one of the University's adopted residential homes for children or the elderly. Administrative support is provided by Student Services. For example, in January, the incoming cohort of 70 students, helped the children's homes Rumah Shalom in Bandar Puchong, and the home run by Beautiful Gate Foundation for the Disabled, in Petaling Jaya.

Student Extra-curricular Activity

The Department oversees all extra-curricular activity, most of which takes the form of club and society events, categorised as socio-cultural, religious, and sports. The Department offers funding and administrative support for events, and organises the rental of off-campus sports facilities. The table summarises student extra-curricular activity in 2013.

January	<ul style="list-style-type: none"> • MPQ1/13 Orientation • Exhibition of Japanese culture • T-shirt sale for Project Nepal • Graduation Ball, Dentistry 	<ul style="list-style-type: none"> • University Open Day • Gaza Awareness Week • Food sale by nutrition & dietetics students
February	<ul style="list-style-type: none"> • MPQ 1/13 Orientation • MEDCTP 113 Orientation • C2/10 MBBS Oath Taking (Declaration) Ceremony 	<ul style="list-style-type: none"> • 6th Avicenna Inter-Medical Varsity Debate, University Malaya
March	<ul style="list-style-type: none"> • C1/13 White Coat Ceremony • Helen Keller Society Annual Meeting • Table Tennis Club Annual Meeting • ND 1/10 Health Promotion & Nutrition Week 	<ul style="list-style-type: none"> • Infinity Milers – Nottingham Run • Health Sciences Debate • Blood donation drive at Hospital Tengku Ampuan Rahimah, Klang
April	<ul style="list-style-type: none"> • Orientation Night C1/13 • Christian Fellowship Easter Celebration at Clinical School • Kampung Angkat Project: Kampung Tekir, Labu, Negeri Sembilan • Psychology Week • Asian Medical Students Association (AMSA) pre-sales fundraising for Medic Inter-Varsity Games 	<ul style="list-style-type: none"> • CM02/12 Collect Reusable Items For Charity • Thinyan Myanmar Water Festival • Dentistry DT 1/12 Oral Health Week 2013 • Helen Keller Society sign Language class • World Health Day, AMSA • Community Service Club Empowered Health Screening Training
May	<ul style="list-style-type: none"> • Acoustic Night • KPT Squash Circuit in UMT • Malaysian Association of Private Colleges & Universities organ donation drive 	<ul style="list-style-type: none"> • National novice debating championship • Singapore Management University Hammers Debates
June	<ul style="list-style-type: none"> • C2/10 Graduation Dinner • IMU Goodwill Games 2013 at Clinical School • Housemanship Briefing, Batu Pahat • Community Service Club training: The Empowered Patient Programme • Buddhist Society Dharma talk • University Convocation 	<ul style="list-style-type: none"> • Campus Friends fundraising • IMU Voice fundraising • Helen Keller language class • Muslim Society Arabic class • Community Services Club Fundraising for Laos Humanitarian Expedition • Kampung Angkat Project, Bukit Bala, Gombak
July	<ul style="list-style-type: none"> • Housemanship Interview at Clinical School, Batu Pahat • Talk on Disaster Medicine & debate “Is Malaysia prepared for major disaster?” Semester 10 • AMSA IMU Quiz • Muslim Society exhibition for Ihya Ramadhan • Muslim Society Grand Iftar 	<ul style="list-style-type: none"> • Muslim Society talk • Orientation at Clinical Schools • Breast & Cervical Cancer Awareness Campaign • 30-Hour Famine 2013 • Australian Inter-varsities • Taylor’s University Debate 2013
August	<ul style="list-style-type: none"> • Merdeka Week • Oral Health Committee Dentistry Ball fundraising • The Nurturing Club Annual Meeting • Malay Cultural Society Hari Raya Celebration 	<ul style="list-style-type: none"> • Amsep 2013 Welcoming Party for Taiwan Developer • Ministry of Health Talk • C1/11 MBBS Oath Taking (Declaration) Ceremony & Graduation Ball

September	<ul style="list-style-type: none"> • C2/13 White Coat Ceremony • Gelar 10,000 Langkah Merdeka, Paroi Stadium, Negeri Sembilan • Buddhist Society Dharma talk • The IMU Cup championships • Leadership talk • Dinner Party – Opening of Pandan Serai 	<ul style="list-style-type: none"> • Mental Health Week Fundraising by Campus Friends • Kampung Angkat Project: Donation drive for Kampung Orang Asli Serendah • IMU Festival of Arts • IMU Chariofare • Taylor's Inter-Varsity Debate • KDU Pro-Ams Debates
October	<ul style="list-style-type: none"> • IMU Cares: Jom Kayuh II, Dataran Penggaram Batu Pahat • IMU Cares: Public Health Screening, Tesco Extra, Seremban • Helen Keller Society Waves 2013 • N&D Senior Junior Night • Mental Health Week 2013 • "Rhythms of IMU" Chinese Singing Competition • Dance Club Dance Concert 	<ul style="list-style-type: none"> • Community Service Club fundraising for paediatric ward visit • Muslim Society: Sharing session with seniors on life at Partner Schools • First Aid Club training for Chariofare • Kampung Angkat Project: Kampung Orang Asli Serendah • Buddhist Society blood donation drive • 5th Asian British Parliamentary Debate Tournament
November	<ul style="list-style-type: none"> • Housemanship Briefing at Batu Pahat & Kluang Clinical Schools • Hindu Society Navarathri Celebration • International Student Society International Week • Biomedical Science Senior & Junior Night • Catholic Society talk • Malay Culture Week • Buddhist Society Dharma Talk 	<ul style="list-style-type: none"> • IMU Halloween Night • Staff vs. Students volleyball match • Indian & Sri Lankan Cultural Society Diwali Night • AMSA UPM Diabetes Week Promotion • Muslim Society Big Heart project visit to Asrama Darul Taqwa • IMU Debate • Christmas Meal
December	<ul style="list-style-type: none"> • Housemanship interview, Batu Pahat Clinical School • Clinical School Christmas Gathering • HIV Awareness Week 	<ul style="list-style-type: none"> • Buddhist Society Dharma talk & video sharing • White Ribbon Run, Kuala Lumpur

Student and Alumni Achievements 2013

ACHIEVEMENTS	
Maxis Scholarship for Excellence Awards	
Genevieve Keizha Leon, Lalitha A/P S P Sivalingam, Lim Koo Koon, Jocelyn Tang Phaik Lin	
First Place in the MacJannet Prize for Global Citizenship 2013	
Prof Ong Kok Hai, Dr James Koh, and IMU students for the Kampung Angkat Project	
Conference Awards	
Chan Li Xing	2nd poster prize, 5th National Dental Students Scientific Conference
Joseph Tan Ern Meng	3rd oral presentation prize, 5th National Dental Students Scientific Conference
Chan Sin May	1st prize at the Nutrition Society of Malaysia Young Investigator's Symposium 2013

SPORTS

Bryan Chew Khai Sern MoHE-Nilai University Fencing Championship

Kalaiyasari A/P Arjunan Kecemerlangan Sukan Mahasiswa 2012

Mahasiswa Swimming Competition 2013

Hoh Hui Shan 100m Breastroke (Female) – *Gold*, 100m Freestyle (Female) – *Gold*

Cheng Zenli

50m Freestyle (Female) – *Gold*, 50m Butterfly (Female) – *Gold*, 50m Backstroke (Female) – *Bronze*

Hoh Hui Shan, Cheng Zenli, Tay Shea Nee, Tay Zhi Yan, Clare 4 x 50m Freestyle (Female) – *Bronze*

Hoh Hui Shan, Cheng Zenli, Tay Shea Nee, Chang Li Hui 4 x 50m Medley (Female) – *Bronze*

MAPCU Athletics 2013

Onesh Charles De Silva 100m Male – *Silver*, 200m Male – *Silver*

Azelia S.P. Renganathan 200m Female – *Bronze*

Kalaiyarasi 400m Female – *Gold*, 800m Female – *Gold*

Goh Ling Hui 400m Female – *Bronze*

Esther Yeam Sue Phin 1500m Female – *Gold*

Tay Vi June Long Jump Female – *Silver*

Joseph Cheah Ern Yao 1500m Male – *Silver*

Azelia S.P. Renganathan, Carys Lim Kai Li, Kalaiyarasi, Lai Syuyi 4 x 100m Female Relay – *Gold*

Onesh Charles De Silva, Yeoh Eng Seng, Dharmaraj A/L Salvadorai, Sean Tay Puo Xieh 4 x 100m Male Relay – *Silver*

Lai Syuyi, Goh Ling Hui, Kalaiyarasi, Esther Yeam Sue Phin 4 x 400m Female Relay – *Gold*

Graduations at Partner Medical Schools

Muhammad Belal Soobadar <i>University of Liverpool</i>	Awarded the Patrick McEvoy Prize in Haematology accompanied by a monetary award
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Sazziana Binti Abdul Jalil <i>University of Liverpool</i>	Graduated with Honours; in the top 10% of the year.
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Yap Jing Yi <i>University of Liverpool</i>	Graduated with Honours; in the top 10% of the year. The first author of an abstract to be accepted at the Royal College of Obstetricians & Gynaecologists World Congress 2013. (Yap J Y, Chan W Y, Duthie S J, Yunus-Usmani Q. "The place of antenatal CTG monitoring In diabetic pregnant women: how does it affect management?")
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Vinodhan a/l Vyapury <i>University of Liverpool</i>	Graduated with Commendation; in top 20% of the year
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Harpreet Kaur Sidhu <i>University of Aberdeen</i>	Graduated with Honours
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Yew Siew Lynn <i>University of Aberdeen</i>	Graduated with Commendation
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IMU Debate Society	IMU Debate Society is ranked 268 in 2013. Previously, the society was ranked 788 in 2012 May 2013
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Conclusion

The Student Services Department has had a very busy and successful year, and wishes to acknowledge the help and cooperation of the student body, and the Student Representative Council in particular. Without their goodwill, cooperation and effort, the Department could not have achieved all that it has in 2013.

Development of Human Resources

In 2013 the University continued to implement the Human Resources strategy of building and strengthening our human capital capabilities for the future. Our talent management process includes annual talent reviews aimed at identifying and evaluating individuals who may have the potential to take on larger roles and responsibilities. The talent management process is integral to succession planning by helping high achieving individuals grow within the University, thereby directing their career paths such that, where possible, our ongoing need for good people can be met from within.

The annual reviews identify gaps in competencies or skill sets, training needs, and inform the construction of Individual Development Plans (IDP). The IDP format is integrated with performance management; talent reviews; and learning and development. It was designed to encourage holistic learning by encompassing professional development (technical knowledge and skills), personal development (soft skills, management and leadership) and teaching (pedagogical skills and scholarship in education). In-house training providers are the Centre for Education, the Centre for Lifelong Learning, the Institute for Research, Development and Innovation, the e-Learning Department and the Human Resources Department. These departments design, organise and run training and development events, co-opting the help of external facilitators and experts where needed.

In 2013, the University invested more than RM1.2 million in the training and development of our 565 staff, of whom 298 are academic, and 267 are academic support and corporate staff. The University continues to sponsor academic staff participation in local, regional and international conferences; and to support their development and training in pedagogy, instructional design, soft skills, management and leadership. There is a similar robust commitment to the development of corporate and academic support staff. Training and development will continue to play a pivotal role in enhancing our human capital capabilities to achieve our organisational goals.

Healthcare



The Academic Health Centre has made significant strides forward in 2013. The Clinics have continued to develop and expand, with more locations, patients and revenue. We treated 36,535 patients, a 60% rise over 2012; generating a total revenue of RM2.8 million, 38% more than 2012. These encouraging figures indicate growing public awareness of IMU Healthcare services.



By the end of 2013, IMU Healthcare had assumed operational responsibility and control of the four Clinics - Chinese Medicine, Chiropractic, Medical and Dental. The Clinics are now integrating and sharing services, thus reducing costs and maximising productivity. Sophisticated software has been introduced to amalgamate documentation, medicals records and images across all clinics in all locations. This integration of clinics and records should effectively support service utilisation and increase referrals between clinics.

In 2013, the students in the Chiropractic Programme began their clinical training in the chiropractic centers. The School of Dentistry expanded their use of the Oral Health Centre. The School of Pharmacy commenced utilisation of the medical clinic for clinical training of students. Students from Chiropractic and Dentistry programmes represent 40% of all patients treated and the number is growing. Teacher-practitioners among the academic staff supplement the operational costs of the clinics.

Medical Clinic

The Medical Clinic is focused on primary care, with specialist treatment available as needed. In 2013, the Clinic saw 19% more patients than in 2012, with a growth of 54% in revenue. Factors contributing to this increase were more walk-in patients and increased medical screening of students. Clinic care is delivered under the overall of a specialist in family medicine. During the year, two additional specialists were engaged, an orthopedic spine surgeon and an endocrinologist. The endocrinologist supported by a

PhD qualified diabetes nurse, runs the endocrinology & diabetes clinic at Bukit Jalil and at another centre. A fundus camera has been added to the diagnostic resources of the clinic. All diabetic patients treated have recorded at least a 1.0 reduction in their blood sugar levels. Seven clinical stations were added to the Clinic to accommodate the services of additional specialists.

X-ray radiography is provided at the Oral Health Centre and the Chiropractic Clinic at Bukit Jalil campus. A computerised picture archiving and communications system now enables x-ray images to be quickly sent online to the radiologist at the Seremban Clinical School who provides interpretive and diagnostic support.

Oral Health Centre

The Centre saw 45% more patients than in 2012 and revenue increased by 65%. Dental services showing significant year-on-year increases were orthodontics (245%), implants (233%), and endodontics (175%).

Nine new chairs were added; two earmarked for use by academic practitioners, and seven for students and paediatric patients. The actual utilisation of all chairs was extensively evaluated to inform planning and to maximise the use of the facility in terms of patient care, student training, and private practice by academic staff. Currently we have significant excess capacity with no need to purchase more chairs.



In 2013 the Centre acquired a state-of-the-art cone beam x-ray computed tomography unit for diagnostic and monitoring support of treatment procedures including implants, extractions and orthodontics. Use of this imaging resource has rapidly increased. Oral Health Centre and Medical Clinical radiography staff have been integrated to enhance efficiency and reduce operating costs. Acquisition of automated cleaning equipment for the large numbers of dental instruments which need cleaning each hour, has released three staff members to direct patient care. We continue to work on raising safety standards to internationally accepted levels.

Chiropractic Clinics

The new Chiropractic Clinic at Setia Walk in Puchong brings the number of Chiropractic Clinics to three. Revenue increased by 17% and the number of patients seen by 110%. This increase in patient numbers was made possible by the 28 students in their final year who began supervised clinical practice at the Bukit Jalil and Setia Walk Clinics; a total of 25 treatment bays and 8 therapy stations are now in use at these Clinics.

Chinese Medicine Clinic

The Chinese Medicine Clinic recorded a 2% increase in revenue as they extended their services. Support staff is shared with the Chiropractic Clinic. In treatment using Chinese medicinal agents, the Clinic uses pre-packaged sachets of standardised content, a novel approach.

Looking Ahead

The Clinics

In 2014, the integration of Clinic resources – including manpower, data and computing resources and equipment – will be facilitated by a single computer system that will support patient registration, appointments and contact; recording, maintenance and sharing of patient clinical data, including digitisation of images. Integration is aimed at reducing and containing costs; enhancing efficiency, and drawing staff together interactively to better meet the needs of patients, their care and experience of the service. The Clinics will continue to work with the Schools to raise the quality of student education and training with the continuing aim of ensuring that all students graduate fit for purpose.

Academic Medical Centre

The Board of Directors has been supportive of our planning towards the establishment of a Medical Centre as part of the University's development. A working team was tasked with identifying and evaluating potential sites; financial and operational planning. Significant effort has gone into this work and we expect finalisation of planning in 2014.



Research



Institute for Research, Development and Innovation (IRDI)

Research Activity and Output

Funding

Research activity and output have significantly increased since the establishment of the Institute for Research, Development and Innovation a year ago. Total external funding increased from RM1,943,904 in 2012 to RM 3,160,240 in 2013 (Figure 1), with a scheduled disbursement of RM 1,670,200 in 2013, RM 1,184,440 in 2014, and RM 305,600 in 2015. Projects funded by external agencies in 2013 included eight FRGS funded projects (RM967,740), four ERGS funded projects (RM1,193,000), three EScience projects (RM770,800), and one Malaysia Toray Science Foundation project (RM30,000). Key sources of external funding continue to be from the Ministry of Higher Education (FRGS and ERGS) and Ministry of Science, Technology and Innovation (EScience Fund). One collaborative project is funded by the Malaysian Palm Oil Board.

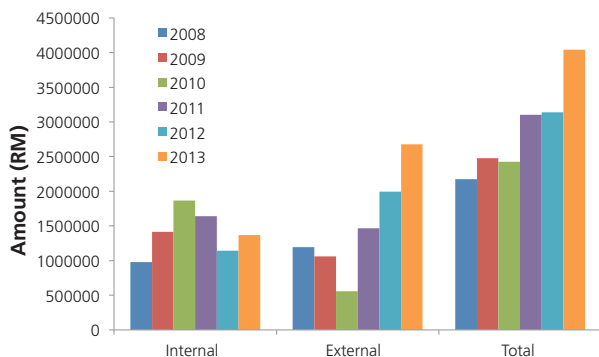


Figure 1: Research Funding 2008 – 2013

In 2013 the University continued to support research through internal funding amounting to RM1,409,255. These internal funds supported faculty, postgraduate (MSc and PhD) and undergraduate research. A substantial amount (RM 480,000) of internal funding was used to support the Bachelor of Medical Science projects, with RM 160,000 for postgraduate research and RM 137,581 for faculty research (Figure 2).

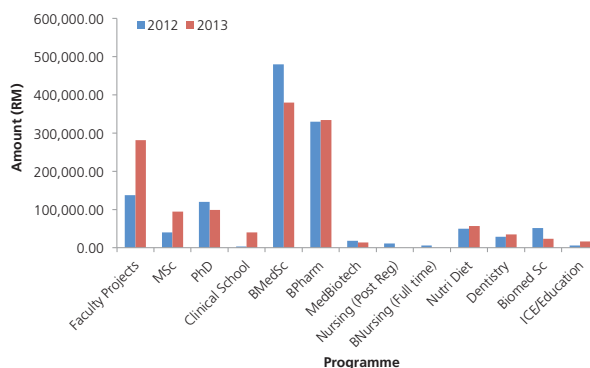


Figure 2: Distribution of internal funding, 2012 and 2013

Publications

There were a total of 190 publications in 2013 compared to 149 in 2012 (Table 1). Of the 2013 total, 162 (85.3%) were in indexed journals and 10 were books or book chapters. Of the indexed papers, 40 were in Tier 1, 54 in Tier 2, 39 in Tier 3 and 10 in Tier 4 journals. The total impact factor (IF) of the indexed papers was 255.382 compared to 148.298 in 2012. The average IF per indexed paper in 2013 was 1.577, compared with 1.809 in 2012. The total H-index value of the papers was 5077, compared to 2862 in 2012. In 2013, there were 241 conference presentations, comprising 166 oral and 75 poster papers.

Table 1: IMU research publications and presentations, 2008-2013								
Presentations				Publications			Impact Factor	
Year	Oral	Poster	Total	Indexed Papers	Others including books/chapters	Total	Total IF	IF/Indexed Paper
2008	148	84	232	37	86	123	77.979	2.108
2009	149	80	229	48	66	114	122.159	2.545
2010	130	71	201	81	65	146	206.006	2.543
2011	180	96	276	116	96	212	274.029	2.362
2012	78	55	133	82	67	149	148.298	1.809
2013	166	75	241	162	28	190	255.382	1.577

Commercialisation and Support Activity

The effort to increase revenue from commercialisation is driven by the Commercialisation and Support Arm of IRDI. The revenue generated in 2013 from providing testing services and consultancy was RM230,316, increased from RM159,575 in 2012. A Research Hub in Herbal Compounds was established between IMU and SRAS Sdn Bhd. Through this linkage, the Supercritical Fluid Extraction System facility at SRAS will provide a rapid, efficient, economically competitive and environmentally friendly method for extracting components of complex herbal compounds, wastes and other materials. This is highly advantageous for research into bioactive molecules in the drug development and herbal industry. The range of environmental testing services provided by IRDI has been expanded to include both outdoor and indoor air quality testing. The pricing of testing services has also been revised in an effort to make IMU more competitive.

In a drive to provide superior quality technical services to its customers through good professional practice, the IMU Research Laboratories (IMU-RL) are undergoing accreditation at ISO17025 standards. All accreditation phases – internal, adequacy and pre-assessment audits – for ISO 17025 have been completed, apart from the compliance audit which is scheduled for early 2014.

Continuing education and development activity organised by IRDI in 2013 included workshops entitled Best Practices in the Supervisory Process (April);

Communicating Science and Grantsmanship for the Medical and Health Sciences (August); Developing and Validating Questionnaires (August); Rodent and Rodent Borne Diseases (November). The workshop on questionnaire development was convened by Prof Tony Morris, of the Victoria University Institute of Sport, Exercise, and Active Living, Australia. In April, IRDA ran a short course on Research Management for a group of Masters students from West Kazakhstan University and Karaganda State University. In October, the Seminar on Good Clinical Practice (in the conduct of clinical trials) was once again run.

The Commercialisation and Support Arm oversees the IMU journal International e-Journal of Science, Medicine and Education (IeJSME). The IeJSME is currently indexed under MyCite and in 2012, was ranked 76 in the list of 112 Malaysian journals.

Highlights from the Research Centres

Centre for Bioactive Molecules and Drug Delivery (BMDD)

In 2013 we secured competitive grants amounting to RM1,658,700 from the Ministries of Education and Science and Technology, to fund 10 research projects. The total funding received represents a greater than 130% increase over 2012, when we secured RM567,000 to fund 5 projects. As of September 2013, BMDD researchers had published 31 publications with a total impact factor of 44.233; a significant increase over the 16 publications (total impact factor 23.798) for 2012.

In June, the synthetic chemistry laboratory was completed. This laboratory is a key addition to our infrastructure for research into bioactive molecules, drug discovery and drug delivery. The laboratory is fully functioning and being utilised by our team of synthetic chemists. We aim to synthesise at least 100 new and modified compounds by the first quarter of 2014. These compounds are stored in our compound depository and are shared among researchers and their collaborators. The compounds are categorised as potential (i) anticancer; (ii) antiobesity, (iii) neuroprotective and (iv) antimicrobial agents.

Also in the area of synthetic chemistry, Dr Wong Lai Chun of the Division of Pharmaceutical Chemistry has established a collaborative project with Prof Chung Lip Yong and Dr Kiew Lik Voon of the School of Medicine, University of Malaya. The synthetic and analytical work of the project will mainly be carried out at our facilities.

A project on bioequivalence has been piloted using ribavirin as a model drug. The researchers use a modified solid-solid extraction method for ribavirin as they have discovered that conventional extraction methods reported in the literature do not work. This pilot study will help determine the feasibility of offering bioequivalence evaluation as a service to the pharmaceutical industry.

Research collaboration was initiated with the Robert Gordon University at Aberdeen in Scotland, through the exchange of undergraduate students. In 2013, twenty-five BPharm students undertook their fourth year research semester (Semester 7) at partner institutions outside Malaysia. These were University of Strathclyde (UoS) in Glasgow; Robert Gordon University; University of South Australia; Hacettepe University in Ankara, Turkey, and National University of Singapore. We hosted six students from Strathclyde, who spent six weeks with us working on research on essential oils and seaweed extract. The Strathclyde students were jointly sponsored by IMU and the UoS through the British Council Prime Minister Initiative-2 programme that was initiated by Emeritus Professor Brian Furman.

Centre for Environmental and Population Health (CEPH)

The Centre's strategic planning for 2013 – 2017 involved engaging with researchers in brainstorming sessions, which identified key thrust areas including air and water quality; allergy; toxicology and bioremediation; biodiversity, infectious disease; non-communicable disease; nutrition; gastro-intestinal health; and public health and health economics.

To explore opportunities for collaboration in environmental and population research, there was an exchange of visits between our researchers and individuals from partner schools. Researchers from the University of Southampton, Prof Khakoo Salim (hepatologist), Dr Delphine Boche (neuroscientist), Dr Christopher McCormick (virologist) and A/Prof Sylvia Pender (mucosal immunologist) visited the University in mid-November. Prof Khakoo Salim gave a public lecture on 'Natural Killers for Liver Cancer', which was well attended. Collaboration with the University of Southampton is to be developed via joint supervision of postgraduate and undergraduate (BMedSc) students, and joint application for research funding. In November, we were visited by two other scientists at the University of Southampton, Drs Lucy Green and Jane Cleal, also for discussion of research collaboration. Drs Green and Cleal spoke on their research interests in 'Developmental Physiology – Nutritional Environment on Cardiovascular Development, Growth and Metabolism during Foetal and Postnatal Life'. Proposed joint research involves maternal vitamin D levels and placental amino acid transport.

Collaborative work with our commercial partner SRAS Sdn Bhd is ongoing, particularly in the detection of biological contaminants in edible birds' nest. Dr Ivan Yap and Dr Chong Chun Wie are working with Prof Chua Kek Heng of the University of Malaya on gut health, funded by a University of Malaya grant. Collaborative field-testing of rapid assay kits to detect Toxocara infections has produced encouraging preliminary results. The researchers are A/Prof Patricia Lim of the Centre, and Prof Yamazaki of Japan. In other developments, Prof Stephen Ambu has been appointed a consultant to the Ministry of Health for a health impact assessment in Bukit Koman, Raub, Pahang. In October, members of the Centre participated in the community project at Kampung Orang Asli Serendah

under the IMU Cares programme. Environmental samples were collected to determine the presence of parasites and other harmful microbes.

In 2013, members of the Centre secured 10 external grants totaling RM 1,412,540) and 77 publications related to environmental and population health were published. In November the Centre successfully conducted a workshop on rodent and rodent borne diseases in November. There were 23 participants.

Centre for Cancer and Stem Cell Research

In 2013 the Centre launched its strategic plan for the next five years. The overarching aim is to perform world-class research that will advance our understanding of cancer, improve its prevention and screening, diagnose cancer earlier and develop better treatments. In 2013, Centre researchers secured RM 1,361,620 research funding; RM 225,360 of internal funding and RM 1,136,260 from external sources (Figure 3). One of our researchers, Dr Mah Li Yen was awarded the Malaysia Toray Science Foundation (MTSF) Top Prize Award in the Science and Technology category. The main focus of Dr Mah's project is to investigate potential biological links between Type 2 diabetes and cancer. Centre researchers published 13 research articles on cancer and stem cell research in international peer-reviewed journals with a cumulative impact factor of 39.961 (median 3.330).

The Centre has initiated a free Seminar Series for all researchers, aimed at fostering talent, excellence and creativity at the research frontiers. The Seminar Series is a platform for sharing of knowledge; technical and technological advancement and collaboration. The Series has been made possible by sponsorship from leading biotechnology companies and academia. The first Seminar featured Dr Aaron Sin, Chief Scientific Officer of Proteomics at Sigma-Aldrich, USA. This 2-hour event was attended by more than 30 University researchers and undergraduates, and 48 scientists from outside IMU.

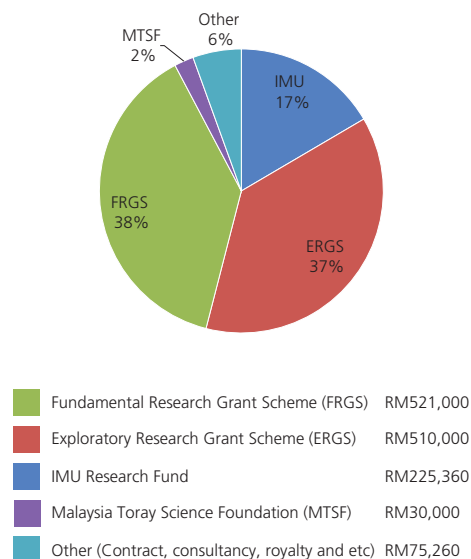


Figure 3: Funding of cancer and stem cell research 2013

The Centre has established a unique collection of 1650 bioactive chemical compounds for high throughput screening and high content screening. The bioactivity and safety of all components of chemical library have been confirmed by preclinical research and clinical trials. The Centre also houses a pre-arrayed lentiviral shRNA library targeting the whole human kinome, for fundamental study and drug discovery. Access to this library was made possible by collaboration with the RNAi Consortium (TRC) of the Broad Institute of Harvard and Massachusetts Institute of Technology (MIT). The Centre is currently consolidating cell lines from different principal researchers to establish a common cell bank which will facilitate the sharing of resources and enhance the cost effectiveness of projects using cell lines.



Together, serving community
for better health

COMMUNITY SERVICE: The IMU Cares Programme

IMU Cares is the University's on-going programme of community service, outreach and research, undertaken by staff and students. Service is focused on delivering healthcare to underprivileged communities, promoting wellness and preventing disease. The educational benefits for our students are the many opportunities for application of knowledge and use of skills; situated and inter-professional learning, for developing a service orientation and professionalism, and for learning from the people they serve. Working on shared responsibilities fosters teamwork between staff and students and builds bonds with communities. IMU Cares projects are planned to be sustainable and aimed at empowering communities to take responsibility for their health.

Initiatives include longer term 5-year plan projects aimed at identifying and meeting the health needs of specific communities in a prioritised manner. The planning of these projects involves engagement with community leaders to identify and prioritise health needs, formulation of strategies, plans of action and evaluation of expected benefits and outcomes. We also plan and carry out midterm projects (1-3 years), whilst ad hoc projects include raising funds in response to the needs of victims of natural disasters. Project leaders explore potential collaboration with industry and opportunities for research.

IMU Cares activity encompasses promoting health awareness and public health education; health screening and treatment; fund raising for charity; and championing environmental issues. In 2013, we have pro-actively engaged and partnered with industry, non-governmental organisations, community and government agencies to plan this activity. A team of dedicated project and programme coordinators, from the Schools of Medicine, Dentistry, Pharmacy and Health Sciences, has launched some 34 initiatives to help communities, with residents of homes for physically challenged children, orphans and the elderly. We have also held health awareness campaigns and raised funds in support of specific causes and charities.

"In the Communities"

In this programme, the University project leader engages with community leaders to clarify the objectives of the project. Students and staff then make visits to the community to provide free health screening and basic outpatient care. These visits are opportunities to raise awareness of health problems through educational talks and counselling. Health screening usually includes blood pressure measurements, calculating body mass index, determining random blood glucose levels, oral health checks and chiropractic screening. If problems are identified, the individual undergoes a medical check by a University clinician. Treatment may be carried out at an IMU Healthcare Clinic, with onward referral to a government clinic or hospital for follow-up and further treatment if needed.

Following the visits a community database is created. This becomes the template for planning future activity focused on specific health problems faced by the community. Follow-up meetings with community leaders provide useful feedback and suggestions that inform the planning of subsequent visits.

Working with children's homes and homes for the elderly

Needs assessment of these homes is carried out by engaging with their care givers and management. Health screening is carried out by University practitioners from a mobile clinic, with referrals for treatment at IMU Healthcare Clinics where needed. Follow-up visits provide regular screening and monitoring. Other key objectives include improving health and quality of life by educating and counselling residents and training care givers about balanced diets, regular physical activity, and personal and oral hygiene. Health education and counselling is reinforced at follow-up visits. In an effort to improve their futures, plans are in place to improve the education of children in care homes.

Working with non-governmental organisations (NGOs)

We continue to support the work of NGOs involved in healthcare, by increasing public awareness of the value of their work, and the help they can offer, including help with treatment or identifying treatment options. These NGOs include National Stroke Association of Malaysia (NASAM), National Autism Society of Malaysia (NASOM) and Breast Cancer Welfare Association. The University has recently created a public web page to provide information about cancer, its prevention, detection and treatment. Web page content is produced by staff and students of the University. Students also visit the NGOs to see their work first-hand, and to work with the individuals they help. These valuable experiences provide useful reflective learning. Other NGOs with whom we work include Ti-Ratana and the Hope Worldwide Free Clinic. Activity includes helping to provide free health assessments, medical consultations and dental checks to the residents and children of care homes.

Public health campaigns included an Anti-Dengue Campaign for Seri Petaling residents, a Diabetes Awareness Day at the The Store in Sri Petaling, a Health Awareness Campaign at Tesco in Seremban and Promoting Adolescent Health at schools in Negeri Sembilan. The most successful public awareness campaign in 2013 has been the MAPCU Organ Donation Campaign 2012-2013 themed "Give a Life, Gift of Life", aimed at increasing awareness of organ donation and transplantation, in support of the

National Transplant Resource Centre of Malaysia. We played the key role of coordinating this Campaign, which was also supported by ten other private education institutions namely Taylor's University, Sunway University, INTI International University, Nilai University, UCSI University, HELP University, Asia Pacific University of Technology & Innovation, KDU University College, KBU International College and Stamford College. By the end of the campaign, we had collected 2,082 organ pledges through a series of activities organised by students and staff of supporting institutions. Activities included a run, roadshows at shopping malls and car wash events.

Fund Raising

Our annual fund raising events are the Chariofare Charity Run and Carnival held at the Bukit Jalil campus, and "Jom Kayuh", a cycling event in Batu Pahat. These whole day events support charity organisations and NGOs by raising awareness of their work and raising funds for them. Funds were also raised for the victims of typhoon Haiyan.

Chariofare 2013

It was held on 21 September to raise funds for the Penang Hospice Society and National Stroke Association of Malaysia (NASAM). This year, over 1,500 individuals participated in the Charity Run, including Mr Suhel Elnshash, a vision impaired runner from Jordan. He came in tenth in the 10 km run and was accompanied on the run by his coach Mr Mohammad Alswait. Suhel Elnshash has participated in various runs around the world but this was his first run in Malaysia and part of his preparation for 2014 Paralympics.

Events at the carnival included performances by students; games; sale of food and beverages; a lucky draw and a dunking tank; medical screening, oral health checks and psychological assessments. The Carnival drew over 3,000 visitors and raised a grand sum of RM150,000, of which RM100,000 was earmarked for the Penang Hospice Society and RM50,000 for NASAM. Next Chariofare will be held on 20 September 2014.

Jom Kayuh II: Demi Harapan

It was held on 13 October at Dataran Penggaram, Batu Pahat in collaboration with the National Cancer Society of Malaysia (NCSM). Apart from fundraising for NCSM,

this event was aimed at educating and enlightening local people about symptoms and signs that could lead to the earlier detection of cancer. Activities included health screening; games for children; training in basic life support and trauma; and educational on cancer by the NCSM. The event raised RM7,200 for NCSM.

Project Aid: Typhoon Haiyan

Funds were raised for the victims of typhoon Haiyan in the Philippines through Project Aid: Typhoon Haiyan. This was initiated by medical students in Semester 1 who are members of the Asian Medical Students Association (AMSA). The students' fund-raising team solicited donations from staff and from the medical, dental and health science student cohorts. RM 14,400 was collected, of which RM 4,400 was donated to AMSA and RM 10,000 to Mercy Malaysia via the Sun Daily newspaper.



IMU Celebrates Earth Hour, 23 March 2013



Tree Planting at the Raja Musa Forest Reserve,
24 August 2013



Forest Rendezvous, 30 November 2013

Environmental Issues – Earth Hour, Annual Tree Planting, and the Forest Rendezvous

The University supports the students' EcoFriends Club work on environmental issues and support for environmental causes. The lights were out between 8:30 pm and 9:30 pm on 23 March at the Bukit Jalil campus, in observance of Earth Hour (World Wide Fund for Nature). At the Raja Musa Forest Reserve in Selangor in conjunction with National Day, 41 staff and students planted over 100 seedlings of *Euodia* trees, commonly known in Malaysia as *Tenggek Burung*. The Forest Rendezvous in November at the Kota Damansara Community Forest in Kuala Lumpur saw 32 students and staff helping to clean up forest trails. This event was jointly organised by the IMU EcoFriends' Club and Justine Vaz of Kota Damansara Community Forest (KDCF).

International recognition of our community work

The University's involvement in community service started in 2002, and the IMU Cares logo was created in 2005 as an image that captures the key activity of the Programme. In 2013 IMU Cares received two international award in recognition of its community engagement.

MacJannet Prize for Global Citizenship

Kampung Tekir in Labu received First Place in the MacJannet Prize for Global Citizenship, beating 65 other universities from 71 countries. The University receives USD 7,500 which is to be used to expand



First place in the 2013 MacJannet Prize for Global Citizenship

this project. The Prize was established by the Talloires Network and the MacJannet Foundation at the Tufts University to recognise exceptional student community engagement initiatives among Talloires Network member universities and contributes financially to their ongoing public service effort.

As a result of receiving the MacJannet Prize, the University was, in June, invited to share its experience at the ASEAN University Network University Social Responsibility and Sustainability workshop on university-community-industry engagement. Participants included academics and key practitioners from 24 higher education institutions in Malaysia and 20 from Brunei, Cambodia, Indonesia, Philippines, Singapore, Thailand and Vietnam.

Student Engagement Award from the Association for Medical Education in Europe, 2013

The School of Medicine was conferred the Association for Medical Education in Europe (AMEE) ASPIRE for Excellence Award in the area of "Student Engagement". Student engagement is highly valued in IMU as it enhances the student learning experience and provides evidence and direction for continuous improvement and strategic planning. Students are engaged in every aspect of the university life, including community projects, conferences, workshops etc.

Moving Forward

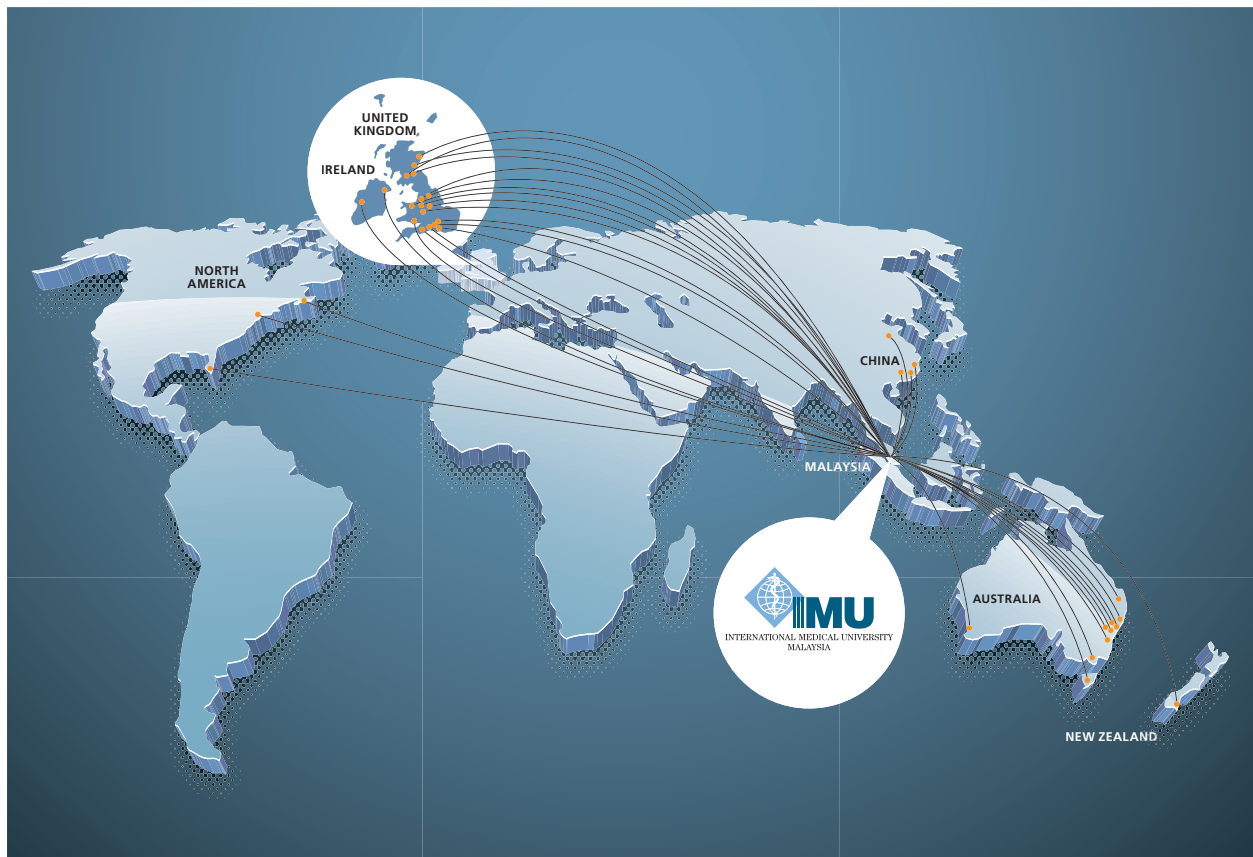
In 2014 financial aid provided through the Khazanah IHH Healthcare Fund which enable us to provide medical treatment for needy patients at various Pantai Group hospitals and at the IMU Healthcare clinics. Additional medical equipment has been purchased, and a new van to enable IMU Cares project teams greater access to certain locations poorly accessible by bus or on foot. This will enable us to provide medical screening in more remote areas. The University remains committed to serving the community and to making a difference in the lives of the individuals with whom we engage.



Prof Vishna Nadarajah (far right) and A/Prof Kang Yew Beng (second from left), receive the 2013 Student Engagement Award from AMEE President Madalena Patricio (second from right)

IMU in the World

The University has established a strong global network of 37 partner institutions of higher learning. These collaborations in health professional education cover most of the undergraduate programmes offered at the University. Indeed, the University is unique in fostering and establishing collaborations for the training of practitioners in complementary therapies. This reflects its historic commitment to opening doors to education and training opportunities outside Malaysia via credit transfer, opportunities that would not otherwise be available to Malaysians. Building and developing these worldwide relationships strengthens the University's ability to secure global talent, which in turn helps attract the brightest and the best to come and study at the IMU. Since 1995, IMU's Partner Schools have graduated more than 3,000 individuals. IMU has become a household name in Malaysia and is steadily gaining international recognition.



OUR PARTNER UNIVERSITIES

Australasia

University of Adelaide, Australia
Australian National University, Australia
Curtin University, Australia
University of Newcastle, Australia
University of New South Wales, Australia
University of Otago, New Zealand
University of Queensland, Australia
RMIT University, Australia
University of Sydney, Australia
University of Tasmania, Australia
University of Western Sydney, Australia

China

Beijing University of Chinese Medicine, China
Guangzhou University of TCM, China
Shangdong University of TCM, China
Shanghai University of TCM, China

United Kingdom & Ireland

University of Aberdeen, Scotland
Anglo-European College of Chiropractic, England
Brighton-Sussex Medical School, England
University of Dundee, Scotland
University of Edinburgh, Scotland
University of Glasgow, Scotland
National University of Ireland, Galway
Keele University, England
University of Leeds, England
University of Liverpool, England
University of Manchester, England
University of Nottingham, England
Queen Mary, University of London, England
Queen's University of Belfast, Northern Ireland
University of South Wales, England
University of Southampton, England
University of Strathclyde, Scotland
St George's University of London, England
University of Warwick, England

Canada & United States

Dalhousie University, Canada
Jefferson Medical College, United States
University of Miami, United States



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